Aligning with the SDG: The Strategic Adoption of National Multidimensional Poverty Index (NMPI) in Indian Governance

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ABSTRACT

This study shows the long waiting changement in India's poverty measurement framework, the transition from traditional income and consumption based metrics and models to the National Multidimensional Poverty Index (NMPI). From a long time, India relied on calorie-based and expenditure-based poverty lines (Lakdawala, Tendulkar, Rangarajan). These metrics faced continues critiques for their inability to capture non-monetary deprivations, intra-household inequalities, and the intensity of poverty. Grounded in Amartya Sen's Capability Approach and the UNDP's global standards, and the fulfillment of the SDG's requirements, the NMPI utilizes the dual cut-off methodology to measure deprivation across, Education, Health and Standard of Living. It uses the data input from the National Family Health Survey (NFHS), the NMPI allows for a district-level analysis of poverty that aligns with the Sustainable Development Goals (SDGs). This report analyzes the operational mechanics of the index, the institutional role of NITI Aayog, The MPI offers a superior, people-centered diagnostic Approach and tools but long-term success depends on data frequency, contextualized weighting.

Keywords: National Multidimensional Poverty Index (MPI), UNDP, Income-Based Measurement, NITI Aayog, SDGs.

Introduction

The Evolution of Development Measurement

From a long Time, India's development narrative was measured with income and consumption. This approach, prevalent during the Planning Commission era, operated on the theory of economic well-being specifically the ability to purchase a minimum basket of goods. Poverty was viewed as a binary condition where a household was either above or below a monetary threshold, often determined by the ability to purchase a specific number of calories.

While these income-based measures did a great job while budget allocations and shaped early Five-Year Plans but they failed to reflect the lived realities of the Indian population. High economic growth in the post-liberalization era did not always show the real picture of health, education, or living standards. Household could rise above the monetary poverty line yet still suffer from acute deprivations like lacking access to clean water, sanitation, schooling, or safe housing. This kind of divergence between economic data and on-the-ground reality necessitated a conceptual shift towards the emergence of the Multidimensional Poverty Index (MPI). MPI represents a move away from viewing poverty as a "lack of money" to viewing it as a "lack of capabilities." This report details that transition and examining the limitations of the old system and the operational strengths of the new multidimensional framework.

Review of Literature

Historically, India's poverty estimation relied on income and calorie-based metrics established by the Lakdawala, Tendulkar, and Rangarajan committees. While these frameworks shaped early planning, they have been widely critiqued for failing to capture non-monetary deprivations in health, education, and living standards. Influenced by Amartya Sen's **Capability Approach** and the UNDP's human development paradigm, the focus has shifted toward multidimensionality.

The emergence of the **Multidimensional Poverty Index (MPI)**, facilitated by improved data availability, utilizes a dual cut-off method to measure direct well-being outcomes. Studies utilizing NFHS data demonstrate that MPI reveals hidden deficits and regional disparities that traditional income estimates often miss. Despite challenges regarding indicator weighting and data frequency, the literature confirms that MPI offers a more accurate, actionable framework aligned with the Sustainable Development Goals (SDGs), justifying India's adoption of the national MPI. Overall, the literature affirms that multidimensional approaches provide a more accurate and actionable understanding of deprivation than traditional monetary metrics, strengthening the rationale for India's adoption of the National MPI.

Research Methodology

In this research study, to gather information and analyzes the data a secondary research methodology is used. Secondary sources include reports, existing literature, scholarly articles, and other published materials. The criteria for selecting secondary sources are as per their relevance and reliability. This study aims to contribute to the existing body of knowledge and provide a comprehensive overview of the chosen research topic.

Statement of the Research Problem

How and why India's development measurement has shifted from income-based metrics to a multidimensional approach and the research seeks to understand whether MPI provides a more accurate, meaningful, and understanding of deprivation compared to traditional income-based methods, and how this shift influences policy design, resource allocation, and progress toward the Sustainable Development Goals.

Objectives of this Study

- **To examine the limitations of traditional income-based poverty measures used in India**, including the Head Count Ratio and poverty lines.

- **To analyze the conceptual foundations and methodology of the National Multidimensional Poverty Index (MPI)** and how it differs from monetary metrics.

- **To trace India's transition from income-based assessments to the adoption of the National MPI**, highlighting key institutional, policy, and data-driven factors.

- **To assess the relevance of MPI for policy formulation**, especially in the context of targeted welfare interventions and the Sustainable Development Goals (SDGs).

- **To evaluate whether MPI provides a more comprehensive and actionable framework** for understanding and addressing poverty in India.

The Legacy of Income-Based Approaches

To understand the significance of NMPI, first examine the historical reliance on income and consumption-based measures. The recommendations of three major expert committees evolved the India's poverty lines, each attempting to refine the definition of deprivation within limitation of monetary framework.

- **The Lakdawala Committee (1993)**

The Lakdawala Committee defined poverty lines based on the expenditure required to meet a minimum daily intake of **2,400 calories in rural areas** and **2,100 calories in urban areas**. These lines were updated using the Consumer Price Index (CPI).

  - **Critique:** The methodology assumed that fulfilling calorie needs was the sole determinant of well-being. It relied on outdated consumption baskets and failed to account for changing consumption patterns where non-food expenditures (healthcare, transport) were becoming increasingly significant.

- **The Tendulkar Committee (2009)**

The Tendulkar Committee marked consumption basket as a tool of measurement rather than calorie norm to mark poverty lines. Acknowledging that the calorie anchor was no longer a sufficient for health or well-being, Tendulkar recommended a broader consumption basket.

- **Key Innovation:** It included essential expenditures on health and education, recognizing that out-of-pocket spending on these things was a major burden for the poor. It also proposed a uniform poverty line basket for both rural and urban populations. Differences.
- **Impact:** This resulted in higher poverty estimates than previous methods but it was more realistic. However, it still fundamentally viewed poverty as a function of consumption expenditure.

- **The Rangarajan Committee (2014)**

The Rangarajan Committee introduced a normative approach to household consumption.

- **Methodology:** It created different poverty baskets for rural and urban areas that factored in food (calories, proteins, fats) and non-food items (clothing, shelter, education, health, transport).
- **Outcome:** The recommended poverty lines were higher than Tendulkar's, that's result increased poverty estimates. It was more sensitive to urbanization and rising living costs.

Structural Limitations of Monetary Metrics

Despite the refinements Income-based measures faced fundamental theoretical and practical limitations. The research identifies seven critical failures of the traditional approach:

- **Narrow Focus on Consumption:** Life is not sustained by income alone. A "non-poor" household by income may also face lack of clean drinking water, or have illiterate members. Monetary lenses can't show these non-monetary deprivations.
- **Obsolescence of Calorie Norms:** calorie based threshold ignores beyond survival calories. Modern time needs digital access, mobility, and complex healthcare.
- **Inability to Measure Intensity:** Traditional metrics fails to distinguish between a family barely below the line and one in destitute poverty. It uses the **Head Count Ratio (HCR)**, which counts *how many* are poor. It ignores the *intensity* (depth) of poverty.
- **Intra-Household Inequality Blindness:** It assumes that income resources shared equally within a family.
- **Blindness to Public Services:** A household may have money but no access to services, a deprivation income metrics cannot capture.
- **Vulnerability to Volatility:** Informal and agrarian sector households, income is seasonal and volatile. A single survey can classify a vulnerable household as non-poor during a harvest month.
- **Ineffective Policy Targeting:** Income reveals that *who* is poor but not revels *why*. Policymakers cannot design surgical interventions without knowing if the poverty is driven by lack of housing, illiteracy, or ill health.

Theoretical Foundations of this New Standard

The shift to MPI was not merely a change in calculation but a change in philosophy. It was heavily influenced by the global evolution of development thought, spearheaded by **Amartya Sen's Capability Approach**.

- **The Capability Approach**

Sen argued that well-being should be assessed not by resources (income) but by capabilities the substantive freedoms people have to lead lives they value.

- **Functioning:** The "beings and doings" of life (e.g., being healthy, being educated, being safe).
- **Capabilities:** The real opportunities to achieve these functionings.
- **Resources:** Income is merely a means to an end. If a person has income but lacks a hospital nearby, their capability to "be healthy" is restricted.

- **The Human Development Index (HDI)**

The UNDP's HDI (1990) was the forerunner to the MPI. It combined health (life expectancy), education (schooling), and living standards (GNI per capita) into a single composite index. While HDI shifted the global discourse, it was still an aggregate country-level measure. The MPI was developed to apply this multidimensional logic at the household level.

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COMPONENTS OF HUMAN DEVELOPMENT INDEX
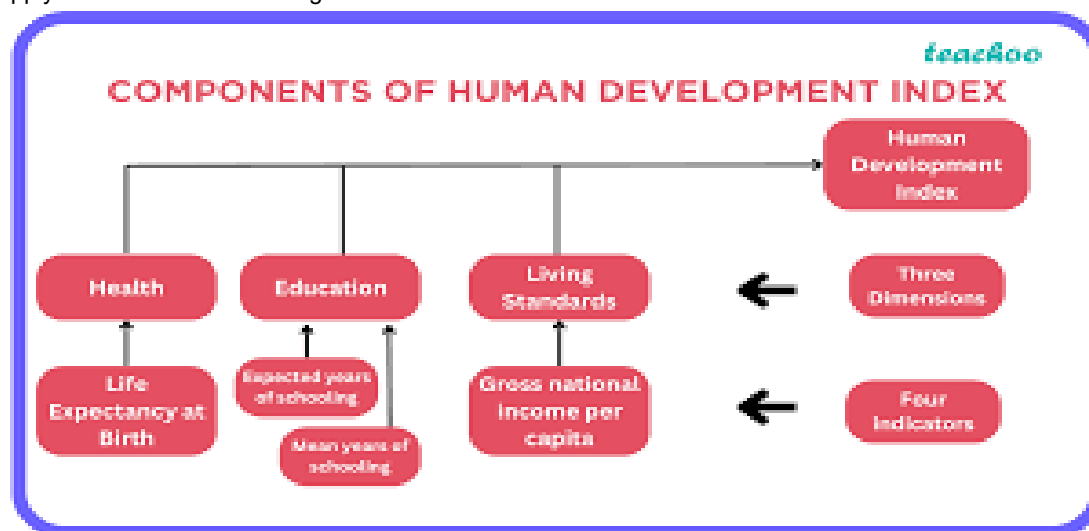
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The National Multidimensional Poverty Index (NMPI): Framework and Methodology

The National MPI, adopted by NITI Aayog, is an adaptation of the global MPI developed by the Oxford Poverty and Human Development Initiative (OPHI) and UNDP. Alkire-Foster (AF) method is used in MPI.

Dimensions and Indicators

The NMPI is composed with of three equally weighted dimensions (1/3 each), which is further divided into 10 indicators. This structure ensures that no single aspect of life dominates the measure.

- **Health Dimension (Weight: 1/3)**
  - **Nutrition (Weight: 1/6):** If any child or adult is undernourished then that household is deprived
  - **Child Mortality (Weight: 1/6):** Deprived if any child under 18 has died in the household in the five years preceding the survey.

- **Education Dimension (Weight: 1/3)**
  - **Years of Schooling (Weight: 1/6):** Deprived if no household member aged 10 or older has completed six years of schooling.
  - **School Attendance (Weight: 1/6):** If any school-aged child is not going to school than Deprived

- **Standard of Living Dimension (Weight: 1/3)**
  - **Cooking Fuel (1/18):** Lack of clean cooking fuel (LPG, electricity).
  - **Sanitation (1/18):** Lack of improved sanitation or shared facility.
  - **Drinking Water (1/18):** Lack of safe drinking water or source > 30 mins away.
  - **Electricity (1/18):** No electricity access.
  - **Housing (1/18):** Living in a *kutcha* (inadequate) house.
  - **Assets (1/18):** Ownership of basic assets (radio, TV, phone, etc.).

The Dual Cut-off Methodology

The *incidence* and the *intensity* of poverty Measurement in two steps make MPI unique process.

- **First Cut-off: Identifying Deprivation in Each Indicator**

For each of the ten MPI indicators, a specific deprivation threshold is defined.

  - A household is marked as "deprived" in an indicator if it falls below the threshold.
  - If a household meets the threshold, it is considered non-deprived in that indicator.

This cut-off reflects whether the household is experiencing deprivation in individual aspects of well-being.

- **Second Cut-off: Identifying Multidimensionally Poor Households**

Once deprivations across all indicators are identified, the MPI aggregates them using the weights assigned to each indicator. A household is classified as **multidimensionally poor** if its **weighted deprivation score** is **33.3% or more** of the total possible deprivations.

  - If the sum of weighted deprivations ≥ 1/3 → the household is *MPI poor*.
  - If it is below 1/3 → the household is *not MPI poor*, even if it faces some individual deprivations.

The final index is the product of two distinct metrics:

- **Headcount Ratio (H):** The proportion of the population that is multidimensional poor (Incidence).

- **Intensity (A):** The average proportion of weighted deprivations faced by poor households.

For example:

  - If poor households experience, on average, 45% of weighted deprivations, the intensity (A) = 0.45.

    MPI = H × A Finally, the MPI value is calculated as the product of incidence and intensity.

  - **H** (How many are poor)**×A** (How poor they are)**=MPI** (Aggregate multidimensional poverty level)

This dual cut-off method ensures that the MPI captures both the **breadth** and **depth** of poverty. It avoids oversimplification, reveals overlapping deprivations, and helps policymakers design targeted, multidimensional interventions.

Operational Mechanism: The Data Ecosystem

The implementation of the NMPI relies on robust, large-scale data systems.

National Family Health Survey (NFHS)

The primary data source for the NMPI is the **National Family Health Survey (NFHS)**, conducted by the Ministry of Health and Family Welfare.

- **Relevance:** Unlike economic surveys, the NFHS specifically collects bio-markers (nutrition), mortality history, and infrastructure data (housing/sanitation), making it the only dataset capable of supporting the MPI.

- **Granularity:** NFHS data allows for poverty estimation at the district level, a crucial requirement for local governance.

Census of India

Census provides complementary data on housing, demographics, and community-level infrastructure. It helps validate NFHS findings and provides the population frame for weighting.

Drivers of the Transition from Income based method to MPI

The shift from income metrics to MPI was driven by specific comparative advantages and policy necessities.

Superiority over Income Metrics

Criteria	Multidimensional Poverty Index (MPI)	Income-Based Poverty Measurement	Calorie-Based Poverty Line
Core Concept	Poverty is multidimensional and reflects multiple simultaneous deprivations.	Poverty is lack of sufficient income or consumption expenditure.	Poverty is inability to meet minimum calorie requirements.
Dimensions Covered	Health, Education, Living Standards (10 indicators)	Only income/expenditure	Only calorie intake (food consumption)
Key Indicators	Nutrition, child mortality, years of schooling, school attendance, sanitation, housing, electricity, drinking water, cooking fuel, assets	Household income or consumption spending	Food basket required to meet calorie norms (2,400 rural / 2,100 urban)
Identification Method	Dual cut-off: incidence + intensity of deprivation	Compare income to poverty line	Compare calorie intake to threshold
Captures Intensity of Poverty?	✓ Yes (how many deprivations poor households face)	✗ No	✗ No
Captures Non-Income Deprivations?	✓ Yes	✗ No	✗ No
Reflects Access to Public Services?	✓ Yes (sanitation, water, electricity, schooling)	✗ No	✗ No
Household-Level Accuracy	High – measures actual living conditions	Moderate – based on reported income	Low – based on calorie norms, not real living conditions
Vulnerability & Seasonal Variation	✓ Captures stable outcome indicators	✗ Income fluctuates; misclassification possible	✗ Calorie intake varies with season, work, and culture
Useful for Targeted Policy?	✓ Very—identifies exact deprivations	✗ Limited	✗ Very limited
Geographical Targeting	✓ District- and state-level MPI maps	Limited by income survey coverage	Not suitable
Alignment with SDGs	✓ Strong alignment	Moderate	Weak
Overall Strength	Comprehensive, human-centered, high policy relevance	Simple, easy for macro tracking	Outdated, narrow, incomplete
Overall Limitation	Data-intensive; requires large surveys	Misses non-income deprivation	Reflects only food consumption,

Need for Targeted Welfare Programs (Nutrition, Sanitation, Housing)

The most practical driver for the shift was the need for "surgical" policy targeting. Generic poverty lines could not guide specific welfare programs. The MPI breakdown allows for precise alignment:

- **Nutrition Indicators** Direct inputs for **POSHAN Abhiyaan** and **ICDS**.

- **Sanitation Indicators** irect performance metrics for the **Swachh Bharat Mission (SBM)**.

- **Housing/Fuel Indicators** Guide beneficiaries for **Pradhan Mantri Awas Yojana (PMAY)** and **Ujjwala Yojana**.

International Alignment (SDGs)

The adoption of NMPI was also a strategic move to align India with the **Sustainable Development Goals (SDGs)**.

- **SDG 1.2** explicitly calls for reducing poverty "in all its forms and dimensions."
- The 10 MPI indicators map directly to SDG 2 (Zero Hunger), SDG 3 (Health), SDG 4 (Education), SDG 6 (Water & Sanitation), and SDG 7 (Energy).
- By adopting NMPI, NITI Aayog ensured that India's national monitoring framework was coherent with its global commitments.

Challenges

NMPI is a significant advancement; the study highlights critical challenges that persist in its implementation.

- **Data Frequency:** The NFHS is conducted periodically (every 3–5 years), not annually. So it creates a lag where policy decisions may be based on data that is several years old. Unlike GDP or inflation data, MPI cannot be tracked in real-time.
- **The Weighting Debate:** The decision to weight Health, Education, and Living Standards equally (1/3 Each) is normative. Critics argue that in some contexts, nutrition might be more fundamental than asset ownership.
- **Governance Capacity:** The utility of the MPI depends on the ability of local officials to interpret it. District administrations often lack the technical capacity to analyze multidimensional data and translate it into local development plans.
- **Comparability:** Changes in survey design or indicator definitions between NFHS rounds can make inter-temporal comparisons difficult, complicating the tracking of long-term trends.

Conclusion and Future Roadmap

It signifies a move from a reductive, economic view of the poor to a holistic, human-centered understanding of deprivation. India's transition to the National Multidimensional Poverty Index marks a pivotal moment in development planning. NMPI has successfully exposed the hidden poverty that income measures missed.

However, this study concludes that for the NMPI to realize its full potential, India must work on:

- **Strengthen Data Systems:** Reduce the time lag between NFHS rounds or develop high-frequency substitute surveys.
- **Contextualize Weights:** Should work on state specific weighting adaptations.
- **Build Capacity:** Some Training programme should be mandatory for district-level planners to use MPI dashboards for resource allocation.

Ultimately, the MPI provides a diagnostic clarity required to eradicate poverty. It shifts the focus of the state from increasing incomes to expanding human capabilities, ensuring that development is inclusive, equitable, and tangible.

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