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An Analysis of Sustainable Development Goals (SDGs) achievements in Chhattisgarh

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Abstract

Chhattisgarh features a high tribal population alongside deep regional socioeconomic disparities. Despite these structural challenges, the state has made substantial progress toward the United Nations Sustainable Development Goals (SDGs). This study evaluates the state's progress and analyzes the social, economic, and environmental conditions at the district level using the SDG District Indicator Framework. This framework includes 15 goals, 45 targets, and 82 separate indicators sourced from the Rajya NITI Aayog of Chhattisgarh.

To evaluate performance, we calculated district composite scores and an overall SDG index. The findings show that Chhattisgarh has transitioned into the **'Front Runner'** category, demonstrating substantial developmental progress. By 2024, 28 districts achieved 'Front Runner' status, while the remaining 5 were classified as 'Performers'. **Damtari district** ranked first in the state with a composite score of 76. To maintain this momentum toward the 2030 deadline, the state must prioritize critical areas such as poverty reduction, zero hunger, healthcare quality, clean water, sanitation, and sustainable urban infrastructure.

Keywords: Sustainable Development Goals, Composite score, Front Runners, Performers.

Introduction

Rapid industrialization and modernization have driven economic growth worldwide, but they have also triggered severe environmental degradation and threats to public health. To mitigate these global issues, the United Nations and its member states adopted the 17 Sustainable Development Goals (SDGs) and 169 targets in 2015. This universal framework addresses intertwined environmental, social, and economic crises to curb global inequality and raise living standards by 2030. Sustainable development requires balancing economic growth, social equity, and environmental protection.

At the subnational level, Chhattisgarh has proactively built these goals into its policy architecture. For example, the state adopted a **Green GDP model** that factors the ecological value of forests into its economic accounting. Given the 2030 global deadline, analyzing Chhattisgarh's progress highlights areas of structural strength and reveals persistent policy challenges.

Objectives

This study addresses two primary objectives:

1. To evaluate the macro-level progress of SDGs across Chhattisgarh.
2. To analyze and map SDG performance across individual districts.

Study Area

Chhattisgarh is a rapidly growing state in central India with rich cultural heritage, diverse geography, and vast natural resources. The state covers 4.14% of India's geographical area. It

features a tropical climate with hot summers (42–48°C), and 80% of its annual rainfall arrives during the monsoon season. Chhattisgarh ranks third in forest cover in india., with 41.13% of its land under forests. This large forest canopy preserves biodiversity and sustains rural livelihoods. The state accounts for 2.11% of India's population, with a population density of 189 people per square kilometer and a sex ratio of 991 females per 1,000 males. The general literacy rate is 70.28% (80.27% for males and 60.24% for females). Notably, indigenous communities make up 30.6% of the state's population. Roughly 70% of the population works in agriculture, making the state predominantly agrarian. The broader economy relies heavily on mining, manufacturing, and energy production—specifically rice, coal, and steel. However, deep regional imbalances persist, with southern and eastern districts lagging in key human development metrics.

Database and Methodology

This study evaluates local performance using the **SDG District Indicator Framework (DIF)**, utilizing data from the 2024 Rajya NITI Aayog report. The framework tracks 15 goals, 45 targets, and 82 distinct indicators.

Methodological Adaptation: Unlike international models that use all 17 goals, Chhattisgarh's framework excludes **SDG 14 (Life Below Water)** due to its landlocked geography. It also omits **SDG 17 (Partnerships for the Goals)** to keep the focus purely on internal, state-specific indicators.

Raw indicator values were normalized onto a 0–100 scale, where 0 represents the lowest performance and 100 signifies target achievement. District goal scores represent the arithmetic mean of these normalized indicators. Based on their final composite scores, districts are grouped into four clear performance tiers:

- **Achiever:** Score of 100
- **Front Runner:** Score of 65–99
- **Performer:** Score of 50–64
- **Aspirant:** Score below 50

Results and Discussion

Macro-Level Trends (2015 vs. 2024)

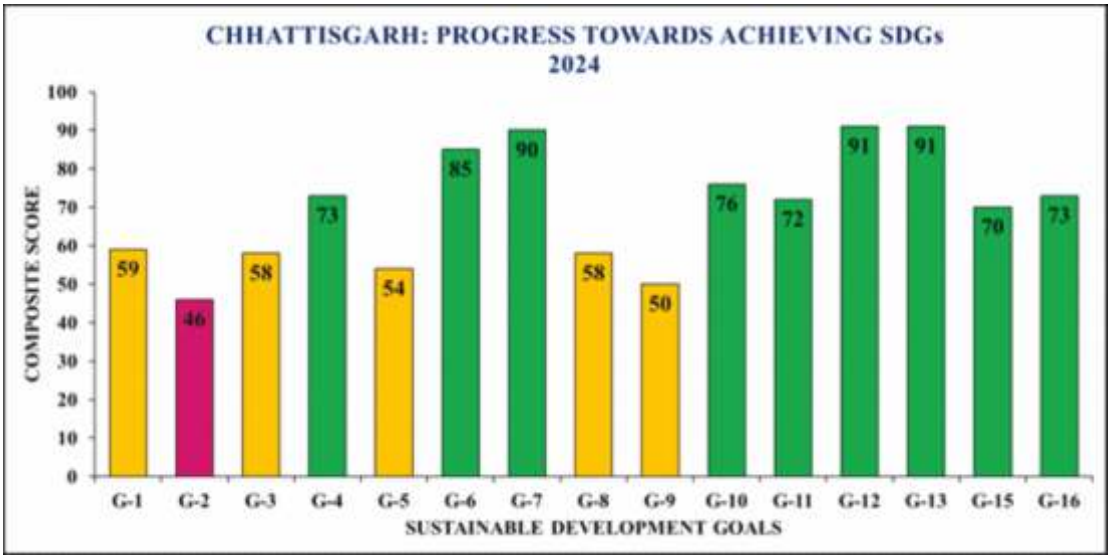
Between 2015 and 2024, Chhattisgarh's overall state composite score improved from **55 to 70**, moving the state from a 'Performer' to a 'Front Runner'. By 2024, 40 of the 82 tracked indicators met their 2030 targets. The state achieved notable milestones, including 100% household electrification under the Saubhagya Scheme, 99.29% rural access to clean drinking water, and functional female toilets in 94.7% of schools.

Table ***1Sustainable Development Goals : Achievements*****Sl. No.Sustainable Development Goals (SDGs)Goal Score**

201520241Goal 1No poverty32592Goal 2Zero hunger44463Goal 3Good health and well-being40584Goal 4Quality education63735Goal 5Gender equality54546Goal 6Clean water and sanitation53857Goal 7Affordable and clean energy 60908Goal 8Decent work and economic growth34589Goal 9Industry, Innovation and Infrastructure455010Goal 10Reduce inequalities 817611Goal 11Sustainable cities and communities367212Goal 12Responsible consumption and production679113Goal 13Climate action949114Goal 15Life on land497015Goal 16Peace, justice and strong institutions7073Source: *Rajya NITI Aayog, Chhattisgarh, 2024*

Chhattisgarh's SDG scores show varied progress, with nine goals in the Front Runner category (65-99): G-4 (73), G-6 (85), G-7 (90), G-10 (76), G-11 (72), G-12 (91), G-13 (91), G-15 (70), and G-16 (73), indicating excellent progress in energy, economic growth, and climate action. Five goals are in the Performer category (50-64): G-1 (59), G-3 (58), G-5 (54), G-8 (58), and G-9 (50). One goal is in the Aspirant category (0-49): G-2 (46). In 2024, Chhattisgarh's composite SDG score is 70, placing it in the Front Runner category and indicating steady progress (**Fig. 1**). Chhattisgarh's progress in achieving SDGs is linked to its geographical advantages, including abundant natural resources like iron ore, bauxite, and coal, driving economic growth and industrial development (G-8, G-7). Fertile plains, especially the Mahanadi basin, support agriculture, ensuring food security and rural development (G-1, G-2). The Mahanadi River and its tributaries provide water for irrigation, industry, and drinking (G-6). Forests support biodiversity, eco-tourism, and livelihoods (G-15). The state's strategic location boosts connectivity and trade, fostering economic growth. However, uneven terrain, limited infrastructure, and climate vulnerability pose challenges to progress in certain goals.

Figure 1



Disparities between districts stem from geographic and environmental factors:

The Mahanadi River Basin: Districts in this area (e.g., Dhamtari, Rajnandgaon, Balod) benefit from fertile plains, robust infrastructure, and intensive agriculture. Consequently, they lead the state in human development metrics. Dhamtari ranks first with a composite score of 76, fueled by perfect or near-perfect scores in clean energy (100) and sanitation (95).

The Godavari Basin and Bastar Plateau: Districts in these regions (e.g., Sukma, Bijapur, Dantewada) face rugged terrain, dense forest canopies, and limited connectivity. These geographic barriers isolate large tribal populations, keeping these districts in the lower 'Performer' category (scores between 57 and 64).

Primary Challenges

Despite these gains, Chhattisgarh faces several systemic obstacles:

· **Nutritional and Health Gaps (SDGs 2 & 3):** Food insecurity and natural ground contamination—such as high fluoride levels in the drinking water of regions like Korea district—cause persistent health problems.

· **Educational and Gender Barriers (SDGs 4 & 5):** Tribal students face infrastructure deficits and language barriers. Meanwhile, gender equality has stalled due to wage gaps and limited economic opportunities for women.

· **Economic and Industrial Imbalances (SDGs 8, 9, & 10):** High numbers of informal workers, youth unemployment, and poor infrastructure slow industrial growth outside major urban centers, worsening regional inequalities.

· **Environmental Pressures (SDGs 7, 13, & 15):** The state struggles to balance its heavy economic reliance on coal mining with its climate commitments and the need to protect indigenous landscapes.

Conclusion and Recommendations

Chhattisgarh's rise into the 'Front Runner' category, with a composite score improvement from 55 to 70, highlights successful long-term planning. However, persistent vulnerabilities in gender equality, hunger, and regional development show that growth has been uneven.

To achieve its long-term goals, the state must explicitly align its **Vision 2047** and future industrial policies with the SDG framework. Policy efforts should focus heavily on the lowest-performing areas: reducing poverty, eliminating hunger, expanding rural healthcare, protecting forested lands, and building inclusive infrastructure in lagging districts. Taking these steps will help Chhattisgarh secure equitable, sustainable development by the 2030 target.

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