

Sustainable Progress in India's Union Territories: A Synergistic Pathway Aligned with the Sustainable Development Goals

Jasleen kaur Duggal, Prof. Pravin Saxena

(Research Scholar, Department of Accountancy & Law, Faculty of Commerce, Dayalbagh Educational Institute, Agra)

(Prof. Pravin Saxena, Department of Accountancy & Law, Faculty of Commerce, Dayalbagh Educational Institute, Agra)

Abstract

The achievement of Sustainable Development Goals (SDGs) is essential for promoting inclusive growth and ensuring environmental conservation. India, characterised by its varied Union Territories (UTs), encounters distinct challenges and opportunities in harmonising developmental initiatives with the Sustainable Development Goals framework. This study offers a comprehensive examination of the performance of UTs across a four-year span (2018–2024), utilising data sourced from NITI Aayog's SDG India Index. The study utilises descriptive statistics and ANOVA to assess changes in composite SDG scores, aiming to uncover notable temporal trends and differences among the UTs. The results demonstrate a steady increase in overall performance related to the SDGs, highlighting significant advancements in governance, capacity building, and advocacy initiatives. Nonetheless, significant differences persist, particularly highlighted in the 2018 baseline data. The study highlights the essential importance of institutional innovation, collaboration among stakeholders, and focused localisation strategies, including those suggested by the Sustainable Development Goals Coordination and Acceleration Centre (SDGCAC). The study concludes with practical insights aimed at improving the effectiveness of SDG implementation in UTs and proposes a model that could serve as a guide for sustainable governance in other developing areas.

Keywords: *Sustainable Development Goals, localization, capacity building, skill development*

I. Introduction

Humanity's advancement in recent decades has unequivocally resulted in adverse climate changes, catastrophic events, conflicts, and volatile political and economic systems. Human activities have adversely affected the ecosystem, jeopardising the planet's future and the existence of its inhabitants. In these circumstances, behavioural changes have emerged that demonstrate a more judicious and effective utilisation of all available resources, facilitating a decrease in weight and ecological footprint. The notion of sustainable progress, promoted during the 1970s and particularly in the 1980s, considers behaviours that will guarantee the enduring utilisation of resources without jeopardising future generations. The principles of requirements (redistributing resources to achieve universal personal satisfaction), advancement (financial enhancement within natural constraints), and future populations (sustaining long-term resource utilisation to ensure essential personal satisfaction for future generations) constitute the core of the concept of practical improvement. The Sustainable Development Goals (SDGs) enhanced the Millennium Development Goals (MDGs) and were effective on January 1, 2016.

Sustainable Development Goals

In 2015, the United Nations ratified the Sustainable Development Goals (SDGs), commonly known as the Global Goals, as a universal initiative to eradicate poverty, protect the environment, and ensure that all individuals experience peace and prosperity by 2030. The UN delineated 17 SDGs to attain sustainability. These goals are interrelated and recognise that decisions in one domain will influence others, necessitating a balance among environmental, social, and economic sustainability.

Emphasising the principle of "Leave No One Behind," the SDGs aspire to transform the world by addressing poverty, equality, social justice, and prosperity. Consequently, the SDGs represent an evolution of the Millennium Development Goals (MDGs) rather than a mere continuation of them.

India is making significant progress in attaining economic growth, enhancing terrestrial life, eradicating poverty, generating jobs, and addressing climate change. Despite the initiatives undertaken by NITI Aayog and several States, numerous challenges persist in addressing possible bottlenecks within the institutions and processes associated with the development, implementation, and monitoring of the SDGs, as well as access to

benefits. Initially, in the context of SDG localisation, the policy formulation, budget allocation, planning, strategy execution, and monitoring processes at the state and local government levels fail to sufficiently embody the objectives of the 2030 Agenda. India encounters significant hurdles in implementing Sustainable Development Goals, taking into account its diverse cultures, varying state populations, and the need for balanced economic development. The history indicates that we have failed to implement appropriate metrics to evaluate outcomes.



**Source : www.un.org/sustainabledevelopment/sustainable-development-goals/
Sustainability Development Indices**

The Sustainable Development Index (SDI) recognises that development must transpire within planetary limits and assesses the ecological efficiency of human advancement. It was designed to align the Human Development Index (HDI) with the ecological realities of the Anthropocene. Niti Aayog established the SDI Index in 2018 to provide a framework for monitoring the country's advancement in achieving the Sustainable Development Goals (SDGs).

Recent research have emphasised the significance of comprehending the interrelations among SDGs for the successful execution of policies. Fonseca et al. (2020) mapped the interconnections among various SDGs, illustrating that a comprehensive approach is vital for systemic transformation. This mapping demonstrates that concentrating on a singular objective can profoundly influence other goals, especially within the varied socio-economic landscape of India. Furthermore, Shayan et al. (2022) underscored the significance of the SDGs as a framework for CSR, demonstrating how enterprises may synchronise their social responsibility efforts with sustainable practices. This linkage promotes corporate accountability and advances broader societal objectives, hence improving the efficacy of SDG implementation in India.

Nicholls et al. (2020) examined the impact of small-scale food production, especially in urban settings, on the Sustainable Development Goals (SDGs). Their case study demonstrates that urban agriculture can significantly contribute to food security, especially in highly populated areas of India. This corresponds with SDG 2 (Zero Hunger) and underscores the capacity of local food systems to advance overarching sustainability objectives.

The shift towards a sustainable agricultural bio economy is essential in agricultural operations. Wang et al. (2022) contend that transitioning from conventional crop residue management to bio economy techniques can improve the sustainability of agro ecosystems. This move not only tackles the problem of crop residue burning, a major environmental issue in India, but also bolsters farmers' livelihoods and aids in climate change mitigation.

Health is a vital component of the Sustainable Development Goals, especially SDG 3 (Good Health and Well-being). Liu et al. (2019) performed a thorough investigation of under-5 mortality rates in India, uncovering substantial inequalities at national, regional, and state levels. Their findings highlight the pressing

necessity for focused interventions to meet SDG 3 objectives, as numerous districts demand significant enhancements in maternal and child health metrics. This underscores a crucial domain where India's policies must be adequately synchronised with the SDGs to provide fair health results. Although possible synergies exist across the Sustainable Development Goals (SDGs), conflicts may also emerge in the pursuit of their attainment. Boar et al. (2020) indicate that modifications in food production techniques aimed at improving sustainability may unintentionally contradict other objectives, including land resource conservation and climate change mitigation. This underscores the significance of meticulous policy formulation that takes into account the trade-offs and synergies among various objectives.

Likewise, Surana et al. (2019) underscore the necessity of enhancing incubators focused on science, technology, and innovation to attain the Sustainable Development Goals (SDGs). They warn that alterations in food production techniques may conflict with other sustainability efforts, highlighting the necessity for integrated strategies that include these possible issues.

The current literature offers significant insights into the interconnections among SDGs within the Indian context; yet, notable knowledge gaps persist. There is a deficiency of thorough research that examine the multifaceted effects of certain policies on many SDGs concurrently. Furthermore, additional empirical research is required to investigate the involvement of local populations in the execution of Sustainable Development Goals, especially in Union territories. Comprehending grassroots viewpoints and methodologies can enhance the efficacy and inclusivity of policy-making processes.

II. Objectives of the study:

In order for a business to succeed in a competitive environment, government policies play a crucial role. This study aims to assess the sustainability development index of each Union territory of India over a four-year period and to identify the notable differences in the performance of the Union Territories during the years 2023-24, 2020-21, 2019-20, and 2018-19. This study underscores the influence of capacity development and advocacy on the advancement of localisation in the Union territories.

III. Research Methodology:

Data pertaining to the SDG indices, advocacy, and capacity building has been collected from the NITI Ayog website for analytical purposes. The ANOVA test is utilised to determine whether there is a significant difference in the four-year performance of the Union territories of India. Descriptive research is conducted to analyse the effects of capacity development and advocacy on the advancement of localisation within the country. The analysis considers a sample of four years of SDG indices, specifically from 2023-24, 2020-21, 2019-20, and 2018-19, to determine whether there is a significant difference in the performance of the Union territories of India.

IV. Analysis:

Sustainability Development Index of Union territories of India:

Union territories	Composite Score (2023-24)	Composite Score (2020-21)	Composite Score (2019-20)	Composite Score (2018-19)
Jammu & Kashmir	74	66	59	0
Delhi	70	68	61	62
Ladakh	65	66	59	0
Chandigarh	77	79	70	68
Daman & Diu	66	62	61	63
Lakshwadeep	66	68	63	62
Puducherry	74	68	66	65
Andaman & Nicobar	70	67	61	58

Source: <https://www.niti.gov.in/reports-sdg>

Descriptive Statistics

COMPOSITE SCORE 23-24		COMPOSITE SCORE 20-21	
Mean	70.25	Mean	68
Standard Error	1.566957926	Standard Error	1.721710113

Median	70	Median	67.5
Mode	74	Mode	68
Standard Deviation	4.432026302	Standard Deviation	4.869731585
Sample Variance	19.64285714	Sample Variance	23.71428571
Kurtosis	-1.449002314	Kurtosis	4.836391349
Skewness	0.251065133	Skewness	1.811039675
Range	12	Range	17
Minimum	65	Minimum	62
Maximum	77	Maximum	79
Sum	562	Sum	544
Count	8	Count	8
Confidence Level(95.0%)	3.705266714	Confidence Level(95.0%)	4.071197488

COMPOSITE SCORE 19-20		COMPOSITE 2018	
Mean	62.5	Mean	47.25
Standard Error	1.33630621	Standard Error	10.35917468
Median	61	Median	62
Mode	61	Mode	0
Standard Deviation	3.77964473	Standard Deviation	29.30017065
Sample Variance	14.28571429	Sample Variance	858.5
Kurtosis	1.19756	Kurtosis	-0.05135755
Skewness	1.301709645	Skewness	-1.399999286
Range	11	Range	68
Minimum	59	Minimum	0
Maximum	70	Maximum	68
Sum	500	Sum	378
Count	8	Count	8
Confidence Level(95.0%)	3.159862071	Confidence Level(95.0%)	24.49555567

The data indicates that the average score for the period of 2023–2024 is 70.25. This central tendency metric provides a general overview of the group's performance. While this serves as a valuable indicator of the concentration of data points, we will examine in greater detail the extent of dispersion among these values. The median indicates that 50% of the scores fall below 70, while the other 50% exceed this value, with the median being slightly lower than the mean. While further measurements are necessary for confirmation, this proximity to the mean suggests a distribution that is fundamentally symmetrical and exhibits minimal skewness. The most frequently occurring score is 74, identified as the mode. The observation that it is slightly above both the mean and median adds an element of interest. It can be concluded that the majority of your scores are situated within the range of 65.82 to 74.68. This demonstrates a reliable performance due to the relatively small variation surrounding the average. The moderate variability is emphasised by the range of 12 (77–65). The analysis encompasses the complete spectrum of the data, illustrating the disparity between the maximum and minimum scores. The data points exhibit a moderate dispersion from the mean, as evidenced by the variance, which represents the square of the standard deviation. A distribution that is flatter than a normal distribution, known as platykurtic, is characterised by negative kurtosis. This suggests a scattered arrangement of data points, characterised by a reduced presence of extreme outliers and a lower density around the mean. A tail that drags slightly to the right suggests a minor positive skewness. While the data exhibits a largely symmetric distribution, this minor skewness indicates that a handful of elevated scores may influence the overall balance. The true mean

is likely to fall within a range of 3.71 points above and below 70.25, giving us a confidence interval of 3.71, with a 95% level of certainty. The limited range suggests that the sample mean possesses a high degree of reliability. The data exhibits limited variability, with most scores closely aligning with the mean. The distribution exhibits a high degree of symmetry, characterised by a slight positive skew and a flatter-than-usual shape, highlighting consistency while also revealing a handful of high-score outliers.

The average score for the period of 2020-21 is 68. This figure offers a reasonable approximation of overall performance; however, it may be affected by exceptionally high or low scores. The median indicates the central value of the dataset. The proximity to the mean suggests that the data exhibits minimal skewness; nonetheless, the skewness statistic will provide a more definitive confirmation of this observation. The mode, representing the most frequently occurring value, is 68. The alignment with the mean underscores the concentration of the data points within the dataset. This metric assesses the typical deviation of scores from the average value. The scores exhibit a standard deviation of 4.87, indicating a moderate distribution around the mean, reflecting some variability without significant extremes. Variance offers a quantification of the squared dispersion. This indicates the extent of variation present within the dataset. A greater variance signifies a wider distribution of scores. The range is calculated by subtracting the lowest score (62) from the highest score (79). A range of 17 suggests that although the majority of scores cluster around the mean, there are notable deviations on both ends. Elevated positive kurtosis indicates that the data exhibits a pronounced peak (leptokurtic) along with heavy tails. This indicates that most of the data points cluster near the mean, with a greater presence of extreme values (outliers) at both ends compared to a normal distribution. This notable positive skewness indicates a substantial tail on the right side of the distribution. This indicates that a small number of elevated scores are elevating the mean, suggesting the existence of outliers. This figure provides an estimation of the standard deviation of the sampling distribution derived from the sample mean. A reduced standard error suggests that the mean serves as a more precise reflection of the population mean. The 95% confidence level suggests that the actual population mean lies within ± 4.07 of the sample mean (68). The narrow confidence interval indicates that the sample data is dependable. The data exhibits a moderate level of variability and shows a strong concentration around the mean, accompanied by several notable outliers. The similarity among the mean, median, and mode suggests a central tendency. The significant positive skewness and kurtosis indicate a distribution that is both skewed and peaked, characterised by the presence of some extreme high values. This suggests that, although the majority of scores cluster around 68, there are several outliers exhibiting notably higher ratings. In light of these outliers, the data remains reliable and robust, attributed to the minimal standard error and narrow confidence interval. This distribution may not be perfectly normal, yet it offers a credible insight into the variability of natural performance.

During the period of 2019-20, participants achieved a score of 62.5 based on the criteria associated with this composite measure. The mean serves as a valuable initial metric; however, incorporating additional measures, like the median, is essential for a more comprehensive understanding. The median is considerably lower than the mean (62.5). This suggests that the data exhibits a slight bias towards higher scores (further details will be provided in the "skewness" section). In this situation, several elevated scores are driving the average higher. The observation that 61 serves as both the median and the mean suggests that it is a frequently occurring score within your dataset. This suggests that most individuals exhibited similar scores, clustering around 61. Although the scores exhibit a degree of consistency, there is a noticeable range present. A score of 62.5 with a standard deviation of 3.78 suggests that most scores are concentrated between 58.72 and 66.28, though there may be some that lie beyond this interval. The squared deviations from the mean amount to 14.29. While direct interpretation may pose challenges, variance is utilised in statistical analyses to assess the degree of dispersion within a dataset. A kurtosis of 1.198 suggests that your data exhibits a modest presence of extreme values compared to a normal distribution, indicating the potential for some outliers or extreme scores, yet it remains relatively close to normality. This indicates that certain individuals may have exhibited exceptional or subpar performance. The skewness rating of 1.302 suggests that the distribution exhibits asymmetry. A small number of individuals may have achieved significantly higher scores, leading to an extended tail on the right side of the distribution. The findings indicate a narrow range, with merely 11 points distinguishing the highest and lowest scores. This suggests that, although there is a degree of variation, it is not notably significant. The low score of 59 and the high score of 70 do not represent extreme outliers, indicating that the data points remain relatively consistent without significant deviations in either direction. Upon conducting this sampling process multiple times, one would find that in 95% of instances, the sample mean falls within this specified range. This enables a deeper understanding of the accuracy of the sample mean. In summary, the findings indicate that although most participants achieved scores around 61, a handful of higher scores are impacting the overall average. The scores exhibit a reasonable degree of similarity, accompanied by moderate variability, while the distribution shows a slight rightward tilt. The results provide a fairly reliable estimate of the mean score, accompanied by a slight degree of uncertainty.

In the year 2018, the participants achieved a score of 47.25. Nonetheless, considering the dataset exhibits a broad spectrum (with certain low scores, including a 0), the mean might not provide an accurate representation of the central tendency of the majority of the scores. The median exceeds the mean (47.25) by a notable margin, suggesting a skewed distribution of scores. This often occurs when extremely low values, like 0, pull the mean downwards. The mode of 0 suggests that several individuals achieved a score of 0, indicating that a portion of the participants may have underperformed or failed to yield any quantifiable outcome. This offers a crucial insight into the shape of the distribution and highlights a possible issue with a specific cohort of participants. In this instance, a standard deviation of 29.30 is quite significant, particularly given that the mean is merely 47.25. This indicates that the scores are notably dispersed, suggesting a considerable degree of variability among the individuals' scores. The significant standard deviation suggests that the scores are spread across a broad spectrum. This can be attributed to the notably low value (0) and the relatively high maximum score (68). A variance of 858.5 reflects a considerable degree of variability within the dataset. The significant variance indicates a broad distribution of the data, where certain subjects have rated extremely low (0) while others have achieved higher scores. In this scenario, the kurtosis is nearly zero (-0.051), suggesting that the distribution lacks heavy tails (extreme outliers) and is not excessively flat. The data distribution exhibits characteristics similar to a normal distribution when considering outliers. The analysis indicates that the dataset does not feature a notably elevated percentage of severe outliers. The negative skew of -1.40 suggests that the dataset exhibits a leftward tilt, indicating that a small number of low scores (like 0) are pulling the mean downward. The preponderance of data points resides at the higher end of the scale, and the presence of several zeros or low values skews the mean calculation. The range of 68 signifies a substantial disparity between the highest and lowest outcomes. This is primarily due to the presence of a score of 0, which results in a notable disparity between the minimum and maximum possible values. The score of 0 suggests that certain participants may not have engaged in the activity, whereas the maximum score of 68 signifies the upper limit of the scoring range. This illustrates the broad range of performance exhibited by the participants. At a confidence level of 95%, there is a 95% probability that the actual population mean lies within this interval. The margin of error in this case is 24.50. The estimated range for the true population mean is between 22.75 and 71.75, with a central value of 47.25 and a margin of error of 24.50. The considerable margin of error suggests that the mean estimate is accompanied by notable uncertainty, aligning with the data's broad distribution and variability. This dataset exhibits considerable variation, spanning from 0 to 68. The majority of participants achieved relatively high scores, with a median of 62, although a few scored significantly low, including a score of 0, which affected the overall average. The data exhibits a negative skew, suggesting that the distribution features an extended tail on the lower end. The extensive variation in scores is indicated by the elevated standard deviation and variance, whereas the confidence interval points to considerable uncertainty regarding the estimation of the population mean.

Hypothesis

- H₀ - There is no significant difference in the performance of the Union Territories of India in the four years.
- H₁ - There is a significant difference in the performance of the Union Territories of India in the four years.

Anova test

Anova: Single Factor						
	SUMMARY					
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>		
COMPOSITE SCORE 23-24	8	562	70.25	19.64286		
COMPOSITE SCORE 20-21	8	544	68	23.71429		
COMPOSITE SCORE 19-20	8	500	62.5	14.28571		
COMPOSITE 2018	8	378	47.25	858.5		
ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	2575	3	858.3333333	3.747596	0.022155624	2.946685266

Within Groups	6413	28	229.0357143			
Total	8988	31				

The comparison of the four groups indicates distinct categories (such as years or score ranges), implying a trend of increasing scores over time or that the COMPOSITE 2018 group reflects lower score ranges.

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COMPOSITE 2018 exhibits a notably high variance of 858.5, suggesting that the scores within this group are significantly dispersed. The other groups exhibit significantly lower variances, ranging from 14.29 to 23.71, indicating a higher level of consistency in their scores. The observed difference in variance indicates that COMPOSITE 2018 might encompass a broader range of data or contain outliers.

Sum of Squares (SS): Represents the total variation in the data.

The overall variation can be categorised into two distinct components:

- **Between Groups (2575):** Assesses the variation resulting from disparities among the group means.
- **Within Groups (6413):** Assesses the variation stemming from differences observed within each group (individual variation).

Degrees of Freedom (df): Represents the count of independent data points accessible for estimating variation.

Mean Squares (MS): The average variation (calculated as SS/df).

$$MS_{\text{Between}} = 858.33$$

$$MS_{\text{Within}} = 229.04$$

The F-statistic, calculated as 3.75, represents the ratio of MS_{Between} to MS_{Within} . This reflects the extent to which the differences between group means exceed the differences observed within the groups themselves. An elevated F-value indicates more significant disparities between group means in comparison to random variation. The p-value represents the likelihood of witnessing differences of this magnitude (or greater) between group means under the assumption that the null hypothesis holds true. Given that $p < 0.05$, we reject the null hypothesis, which posits that all group means are equal. This indicates that a notable disparity exists among the means of at least one group compared to the others.

The F critical value represents the threshold F-statistic required to determine significance at a 0.05 significance level. Should the computed F value of 3.75 surpass this threshold, the outcome is deemed significant. The comparison shows that 3.75 is greater than 2.95, thereby confirming statistical significance.

Interpretation of Results

Significant Findings:

The findings indicate that the variations in group means are statistically significant. This indicates that at least one group shows a significant difference from the others regarding its average composite score. The differences in variability between groups (SS Between) are sufficiently significant when compared to the variability within groups (SS Within), allowing us to infer that these differences are improbable to arise from random chance.

The COMPOSITE SCORE 23-24 group exhibits the highest mean, suggesting a potentially superior performance or elevated score range during this timeframe.

The COMPOSITE 2018 group exhibits the lowest mean alongside the highest variance. The diverse range of scores within this group may suggest variations in testing conditions, participant demographics, or other elements affecting performance

Recommendations for Next Steps:

Consequences of capacity development and advocacy on the progress of localization in the country

Sustainable Development Goals Coordination and Acceleration Centre (SDGCAC)

As we near the critical 2030 deadline, SDGCAC will uphold the existing SDGCC methodology while fostering innovative solutions, amplifying successful initiatives, and cultivating collaborative relationships among diverse stakeholders. SDGCAC aims to enhance the engagement of all government sectors and societal components in sustainable development. It will also function as a resource centre for stakeholders participating in budgeting, resource mobilisation, monitoring, and communication activities at the state, district, and panchayat levels.

SDGCAC approach towards localization

1. **Customised strategies** - Recognise and develop targeted methods to address critical obstacles and encourage systems thinking for prioritisation and policy formulation.
2. **Affordable options**- To enhance effectiveness, evaluate public investments using a sustainable development goals perspective and pinpoint areas where the greatest advantages can be achieved.
3. The use of **technological tools** encompasses data analysis, monitoring and evaluation, collaborations, communication, and knowledge management, among other functions.
4. **Enhanced governance and accountability** - To realise tangible advancements for marginalised communities and regions, including Aspirational Districts and Blocks, with the central aim of guaranteeing that "no one is left behind."
5. **Focus on collaboration among developing nations** - To leverage economic and technological benefits present in various countries while exchanging local successes.
6. **Enhancing knowledge sharing and skill development** - By creating frameworks for information exchange, such as repositories and digitised resources focused on the Sustainable Development Goals.

Implications

- The aftermath of the pandemic presents a chance to redefine institutional functions, foster innovative governance standards, and expedite advancements towards sustainable development goals.
- State Support Missions (SSMs) and State Institutions for Transformation (SITs) possess the potential to enhance sub-national planning, representing significant advancements in governance.
- An integrated approach is essential, focussing on identifying synergies and trade-offs among various objectives and sustainable development goals, while developing context-specific techniques for effective implementation.
- SIT could develop an institutional framework to analyse policies and programs in relation to the economic, social, and environmental pillars of the SDGs, aiming to uncover synergies and potential trade-offs.

V. Conclusion

The analysis of the data presented in the chart regarding the Mean of Sustainable Development Goals and the Sustainable Development Goals of Union Territories of India for the specified year reveals that India possesses a Sustainable Development Index exceeding 50. This suggests that the country is progressing towards the attainment of the Sustainable Development Goals set for 2030. The implementation of sustainable development goals presents a complex challenge, requiring navigation through various obstacles and the willingness to take risks in launching initiatives to achieve these objectives.

The Sustainable Development Goals are interrelated, as indicated by NITI Aayog, which developed the SDG India Index encompassing 15 SDGs (excluding Goal 14).

The indexes pertaining to sustainable development goals indicate a range of correlations, including moderate, negative, and positive relationships. The Index evaluates the advancement of all States and Union Territories (UTs) through a framework of 62 National Indicators, analysing the effects of the Government of India's initiatives and programs. The SDG India Index aims to offer a thorough perspective on the nation's social, economic, and environmental conditions. Consequently, the government's main objective for all Union Territories is to enhance these indices. An improvement in areas such as gender equality, economic growth, quality education, and other sustainable development goals will inherently contribute to the advancement of the No Poverty goal. To accomplish these objectives, it is essential that both the government and corporations embrace these aims as part of their commitment to social responsibility, thereby enhancing society. Additionally, individuals have a crucial role in caring for their environment and adhering to the principles of sustainability. Through the implementation of all measures related to sustainable development goals, India can achieve a level of recognition that may serve as a model for other nations.

Suggestions for the future research

This study examines the notable disparities in the performance of India's Union territories. The future investigations necessitate an emphasis on the various States within the country. The significant variance observed in the COMPOSITE 2018 group indicates the potential presence of outliers or a broader spectrum of participants within the data set. Additional examination may provide insights into the reasons behind the distinct characteristics of this group. The observed scores indicate a performance trend over time, with the declining means pointing to a potential decrease that could necessitate a closer examination of systemic factors such as education quality, test difficulty, or demographic shifts.

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