Assessing the Comparative Performance of India and Uttar Pradesh towards Gender Equality- SDG Goal 5

Mrs. Reshma Gupta[1], Dr. Swati Shastri[2]

[1]Research Scholar, Department of Economics, Banasthali Vidyapith
[2]Associate Professor and Head of the department, Department of Economics, Banasthali Vidyapith

Abstract

India continues to progress towards the Sustainable Development Goals (SDGs), with specific states, such as Uttar Pradesh, moving from "Performer" to "Front-Runner" in the overall SDG rankings. However, sustainable development cannot be attained without assuring equity and participation, especially for women, who represent over half of the population. This study critically assesses the economic aspects of gender equality, focusing on pay discrepancies, labour force participation, land ownership, and financial inclusion, within the framework of SDG 5. It compares the National Indicator Framework (NIF) and the District Indicator Framework (DIF) to assess whether the current indicators adequately capture the realities of women's economic empowerment at the state/district levels. The study utilises descriptive statistics and bivariate correlation analysis on data from the SDG India Index 2023–24 and the Uttar Pradesh SDG Index 2023–24, revealing that although Uttar Pradesh has enhanced its overall SDG performance, yet SDG 5 continues to rank among the lowest-scoring goals both nationally and sub-nationally, with the majority of districts remaining in the 'Aspirant' category. The analysis reveals significant regional disparities; notably, Eastern Uttar Pradesh performs relatively better on gender equality indicators than Bundelkhand. The study also identifies key interlinkages at the state level, SDG 5 shows a positive correlation with Goals 2 (Zero Hunger), 4 (Quality Education), 6 (Clean Water and Sanitation), 8 (Decent Work and Economic Growth), 9 (Industry and Infrastructure), 13 (Climate Action), and 16 (Peace, Justice and Institutions). However, at the district level, negative correlations are observed with Goals 3 (Good Health and Well-being), 8, and 13, which indicates inconsistencies in policy implementation. These findings underscore the need to strengthen the DIF by integrating more robust gender-sensitive economic indicators. The findings of the research suggest that for sustainable progress, women must be actively participating in all areas, including the economy, society, and politics.

Keywords: Correlation, Gender Equality, Indicators, SDG 5, Sustainable Development Goals

1. Introduction

The Sustainable Development Goals (SDGs) have been agreed by all Member States of the United Nations in 2015 under the Sustainable Development Agenda for 2030 that aims to address poverty, inequality, and environmental degradation while promoting peace and prosperity. The 17 SDGs and 169 goals support "leaving no one behind." Its main goal is to encourage growth that is fair, inclusive, and long-lasting in all areas of life, including the economy, society, and the environment. The SDGs target climate change,

ecological preservation, health, education, gender equality, and economic growth while reducing poverty and other deprivations. India's SDG Index improved from 99 in 2025 to 121st rank in 2021, accumulating 66.95 points (NITI Aayog, 2024). It also reflects on the state and district level score and their stepping aspirant to performer, front-runner and achiever levels. It has been improved over the years due to the policy measures taken by the centre, state and local level government as per the requirement of the goals target to improve, like Pradhan Mantri Jan Dhan Yojana (PMJDY), Kisan Credit Card (KCC), National Health Mission, Sukanya Samriddhi Yojana, Skill India, PM KUSUM and last but not least National Action Plan on Climate Change (NITI Aayog, 2024).

One sixth of the world population resides only in India; thus, it plays a pivotal role in the global pursuit of the SDGs. Since 2018, the NITI Aayog has led the monitoring and implementation of goals through its annual SDG India Index, which evaluates state and Union Territory performances across 17 goals using measurable indicators. The country's composite SDG index score improved from 57 in 2018 to 71 in 2023–24, showing augmented progress in areas such as poverty reduction, gender inequality, mitigating hunger, clean energy, infrastructure, and climate action (NITI Aayog, 2024). Several states, notably Uttar Pradesh, Chhattisgarh, Assam, and Rajasthan, transitioned from 'aspirants' to 'performer' or 'front-runners' within five years, underscoring enhanced policy implementation at district levels. States like Kerala, Himachal Pradesh, and Sikkim perform relatively well; a majority of others, including large states like Uttar Pradesh, Bihar, Rajasthan, and Madhya Pradesh, lag significantly behind, with scores below 50. At the district level, emerging data reveal even sharper disparities. Addressing the low participation rates of women in the labour force, 0.39, percentage of wages of casual labourers other than public work female to male ,0.66 and average agricultural wage earnings from casual labour work excluding public works female to male is only 0.75 (in percentage), ensuring their full participation in political and social domains (MoSPI, 2025).

Despite national improvement from a score of 36 in 2018 to 49 in 2023–24, SDG 5 remains the lowest-performing goal across India (Figure 2). Data shows 42 districts lie in the category of 'front runner'; 29 districts are in the second-best category 'performer', and only 04 districts are in 'Aspirant Category' (Uttar Pradesh SDG Index 2023-2024). Indicators such as female labour force participation, sex ratio at birth, decision-making autonomy, digital access, and land ownership rights reveal that women continue to face deep-rooted social and economic barriers.
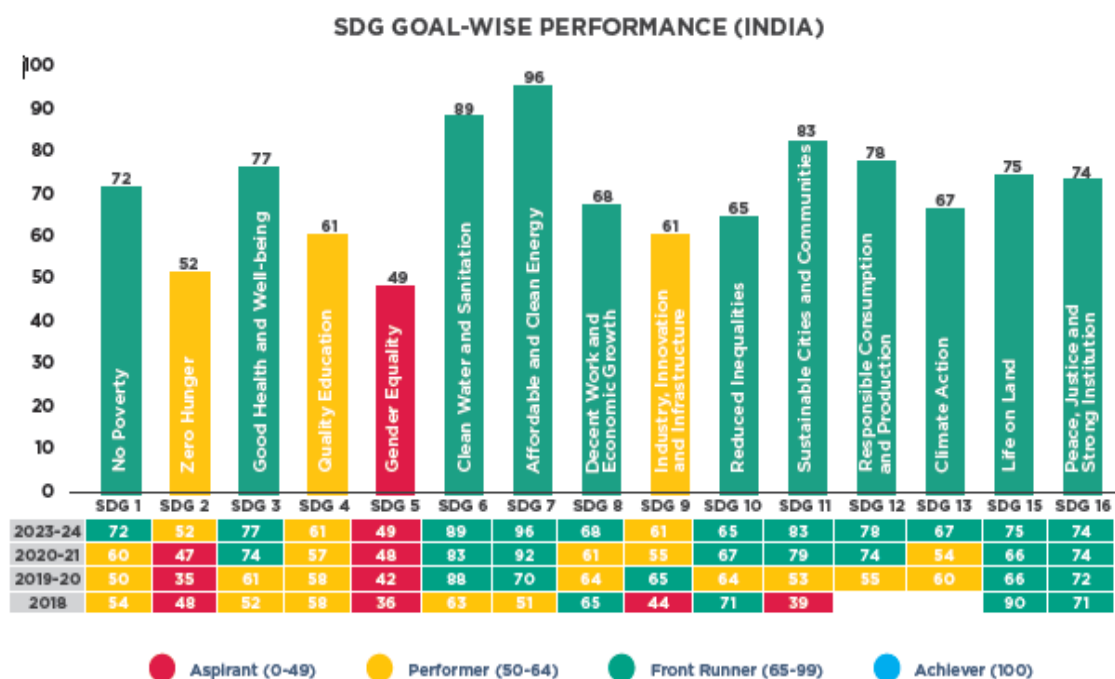
The widening disparity between overall SDG advancement and insufficient development in gender equality raises significant enquiries. Can a nation or state claim to be progressing as a whole if half of its population is left behind and disempowered? Does the increase in composite scores genuinely reflect equitable advancement while women remain systematically disadvantaged? This research seeks to critically analyse these contradictions by focusing on the district-wise performance of Uttar Pradesh state in SDG 5. Despite India's remarkable achievements, many areas need greater emphasis, e.g., Goal 5, Goal 8. It is important to provide necessary skills and opportunities to individuals for gainful employment to drive income growth.

Figure 1: Sustainable Development Goals 17 Targets

Source: United Nations, 2023

Figure 2: Goal-wise Performance of India

Source : NITI Aayog (2024)

2. Indicators

2.1 Global and National Indicator Framework

The Inter-Agencies along with Group of Experts on SDG Indicators (IAEG-SDGs) developed the global indicator framework (GIF) for SDGs, which was accepted during the 48th UN Statistical Commission session in March 2017The General Assembly enacted it on July 6, 2017, as part of the Resolution on the Work of the Statistical Commission concerning to the 2030 Agenda for Sustainable Development. It has been decided that every Member State must develop regional and national indicators.

NITI Aayog created the SDG India Index to track India's SDG development. In 2018, the SDG India Index was launched to assess Indian states and union territories' SDG performance. Four versions have been introduced to measure SDG development and boost the States/UTs' competitiveness. The fourth edition of the Index for 2023-24 contains all 17 Goals with 113 Indicators, 31 of which are Goal 5 indicators that meet 9 Global Targets (Table 1). The SDG India Index divides States and Union Territories (UTs) into four categories, 'Achiever', 'Front runner', 'Performer', and 'Aspirant', with 'Achiever' being the highest rank and 'Aspirant' the lowest.

Global Target	NIF	
5.1 End all forms of discrimination against all women and girls everywhere	5.1.1: Whether or not legal framework are in place to promote, enforce and monitor equality and non-discrimination on the basis of sex, (in percentage)	5.1.2: Per lakh women that have been subjected to dowry offences during the year
		5.1.3: Sex Ratio at Birth (in Per 1,000 male live births)
	5.1.4: Rate of crimes against women per 1,00,000 female population	5.1.5: Ratio of female to male average wage/salary earnings received among regular wage/salaried employees
5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation	5.2.1: Proportion of ever-married women age 18-49 years who have experienced physical, sexual or emotional	5.2.2: Proportion of women and girls aged 18-49 years subjected to sexual violence by persons other than an intimate partner in the previous 12 months
	5.2.3: Per lakh women who have experienced sexual crimes during the year (Per 1,00,000 females)	5.2.4: Proportion of sexual crime against girl children to total crime against children during the calendar year
	5.2.5: Proportion of trafficking of girl children to total children trafficked during the calendar year	5.2.6: Proportion of crime against women to total crime reported in the country during the calendar year
	5.2.7: Child Sex Ratio (0-6 years) (females per 1,000 males)	
5.3 Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation	5.3.1: Percentage of women aged 20-24 years who were married by exact age 18 years	5.3.2: Proportion of cases reported under the Prohibition of Child Marriage Act (early marriage of children below 18 years of age) to total crime against children
5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate	5.4.1: Proportion of time spent on unpaid domestic and care work (in %)	
5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life	5.5.1: Proportion of seats held by women in (a) national parliaments and (b) local governments (similar to 10.2.2 and 16.7.1)	5.5.2: Proportion of women in managerial positions
	5.5.3: Number of women candidates out of total candidates contesting elections (in percentage)	5.5.4: Ratio of female to male Labour Force Participation Rate (LFPR) (15-59 years)
5.6 Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences	5.6.1: Unmet need for family planning for currently married women aged 15-49 years (in percentage)	5.6.2: Whether the country has laws and regulations that guarantee full and equal access to women and men aged 15 years and older to sexual and reproductive health care, information and education
	5.6.3: Percentage of population aged 15- 24 years with comprehensive knowledge of HIV/ AIDS	
5.a Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws	5.a.1: Operational land holdings - (female operated operational holding),	5.a.2: No.of borrowers per 1,00,000 adults (Male and Female) Under Compilation
	5.a.3: Wages of casual labourers (gender wise) other than public works (Rs. Per day)	5.a.4: Average agricultural wage earnings from casual labour work other than public works (Rs. per day)
	5.a.5: Exclusive women SHGs in Bank linked SHGs, (in percentage)	
	5.a.7: Percentage of women having an account at a formal institution Under Compilation	5.a.6: Percentage of adult having an account at a formal financial institution Under Compilation
5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women	5.b.1: Percentage of women employed in IT and ITeS industry	
5.c Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels	5.c.1: Number of Central Ministries and States having Gender Budget Cells (GBCs)	

Table 1: Global Target and National Indicator Framework list for Goal 5
Source: Authors Compilation from United Nations, 2025 and MoSPI, 2024

2.2 State and District Indicator Framework

Uttar Pradesh, the most populous state in India, is crucial to the nation's overall success in achieving the SDGs. Uttar Pradesh, with a population of over 200 million, constitutes a substantial portion of India's economy, resources, and labour force. The implementation of SDGs at the district level is essential for achieving the 2030 Targets for Sustainable Development. The Uttar Pradesh SDG Index 2023-24 has been developed to offer a detailed assessment of the state's social, economic, and environmental advancements. emphasising the significance of data-driven decision-making and targeted initiatives. The Uttar Pradesh SDG Index 2023-24 assesses district-level advancement across several SDG objectives by monitoring the performance of all districts against 99 indicators.

Goal 5 intends to achieve and represent gender parity and empowerment of all women and girls using 6 Indicators out of 99 (Table 2). The objective is to eradicate all forms of discrimination, aggression, and harmful practices that are directed at women and children. This objective involves acknowledging and appreciating the value of unpaid care and domestic work, with significantly focusing on full and effective participation and equal opportunities for leadership at all levels of decision-making in economic, political, and public life. Uttar Pradesh's success in achieving the SDGs will be instrumental in India's ability to meet its 2030 targets.

Table 2: DIF (District Indicator Framework)

Sr.No.	District Indicator Framework(DIF)	Related to NIF Indicator
1	Sex Ratio at Birth (Per 1,000 male live births)	5.1
2	Percentage of women land holders	5. a
3	Exclusive women SHGs, in Bank linked SHGs,(in percentage)	5. a
4	Per 100000 women who have experienced cruelty/physical violence by husband or his relative	5.2
5	Percentage of women account holders in Pradhan Mantri Jan Dhan Yojana(PMJDY)	5. a
6	Percentage of currently married women aged 15-49 years who have their demand for family planning satisfied by any modern methods	5.6

Source: Authors' compilation from Uttar Pradesh SDG Index 2023-2024

3. Scores

3.1 SDG Goal Score of States/UTs

The arithmetic mean(A.M.) of the normalised values of all indicators associated with the goal for each State/UTs.

3.2 Composite Scores

It represents the arithmetic mean of the Goal scores across 16 Goals for each State/UT, with each Goal receiving equal weight in the calculation.

This score reflects the overall status of the States/UTs in their pursuit of the Sustainable Development Goals (SDGs). The composite score, ranging from 0 to 100, signifies the overall performance of the State/UT in meeting the

objectives outlined in the Goals. A score of 100 indicates that the State/UT has met the targets assigned, while a score of 0 signifies that the State/UTs ranks lowest in the chart.

4. Objective

This study aims to critically evaluate the performance towards SDG Goal 5 in elevating Uttar Pradesh from 'performer' to 'front runner.' It concentrates on examining the fundamental distinctions between NIF and DIF Indicators of Goal 5. It also examines the correlation between Goal 5 and other goals, along with their directional impact. The investigation will also encompass factors such as the percentage of exclusive women's Self-Help Groups (SHGs) affiliated with banks, female landholdings, and the number of women holding PMJDY accounts.

5. Methodology

This study use descriptive analysis and bivariate correlation to comprehend measurements and achieve its purpose, utilising data from the national SDG Index 2023-24 and the Uttar Pradesh SDG Index 2023-24. Secondary sources are utilised to get data and information by examining various literature and government websites, and report of United Nations, India and Uttar Pradesh.

6. Results and Discussion

The indicators 5.1, 5.4, 5.5, and 5.a of gender equality underscore the significance of economic equality and the advancement of women (Table 1). Economic equality is a prerequisite for the attainment of social and political empowerment, as these concepts are interrelated. SDG Goal Target 5 concentrates solely on Gender Equality across economic, social, and political aspects, with specific indicators established to assess improvements and the status of women in relation to these indicators. The NIF and DIF reveal significant differences, reliant upon the availability of data for all states, Union Territories, or districts considered for collecting information. State-wise and district-wise measurement and justification of indicators have been conducted; nine objectives were defined for 31 state indicators, and six targets for six district indicators have been determined (Tables 3 and 4). Through dedicated assessment, it is seen that the NIF has used the ratio of female to male average wages/salaries to assess Target 5.1; however, the DIF has not stressed the female to male wage ratio (Table 2 and Table 4).

Table 3: List of 9 Targets taken by SDG India to justify the global Target Goal 5

Global Target	Targets for goal 5
5.1	Sex ratio at birth
5.1	Proportion of average wage/salary earnings between female and male regular employees
5.2	Ever-married women between the age of 18-49 years who have experienced domestic violence in any form of physical/sexual (in percentage)
5.5	Labour Force Participation Rate (LFPR) ratio of female to male aged 15 to 59
5.5	Ratio of women in managerial roles, encompassing those on boards of directors, in listed companies (per 1,000 individuals)
5.6	Presently married women who have aged between 15-49 years and demanded for family planning, has been met by any modern approach (In Percentage)
5.a	Percentage of operational land holdings managed by females
5.b	Proportion of women aged between 15-49 years, possess a mobile phone for their own use
5.c	Presently married women aged between 15-49 years and generally engage in three household decisions (In Percentage)

Source: NITI Aayog (2024)

Data from NITI Aayog (2024) indicates that the ratio of female to male average wage/salary earnings among regular wage/salaried employees is 0.76 for India and 0.85 for Uttar Pradesh, demonstrating that females receive less pay than their male counterparts for equivalent work. Additional figures about the pay gap indicate that females receive 0.34 percent less in the category of wages for casual labourers outside of public work and 0.25 percent less for agricultural wage earnings from casual labour not associated with public works (MoSPI, 2025). Discrepancies in wages exist not only at the national level but also at the state level; thus, pay indicators and objectives should be integrated into the DIF to enhance the representation of Gender Equality Goal 5.

Table 4: list of 5 Targets taken by Uttar Pradesh SDG to justify the Global Targets, SDG India Index, NIF, and DIF

Global Target	Targets for Goal 5
5.1	Sex Ratio at Birth (Per 1,000 male live births)
5. a	female landowners (in percentage)
5. a	Proportion of exclusive women's Self-Help Groups in bank-linked Self-Help Groups
5.2	Per every 100,000 women who have encountered domestic violence
5.6	Percentage of presently married women whose demand for family planning is met
5.a	Percentage of female account holders in PMJDY

Source: Uttar Pradesh SDG 2023-24

According to the NITI Aayog (2024), Goal 5 (Gender Equality) registered the lowest average score among the sixteen evaluated goals. It is pertinent to mention that Goal 14 (Life Below Water) was excluded from the composite ranking, as it does not apply to many non-coastal states. Among the states, Assam reported the lowest score of 25, whereas Chhattisgarh recorded the highest score of 64. The national score of Goal 5 is 49. Furthermore, Goal 5 demonstrated the third-lowest standard deviation among all goals, suggesting a relatively uniform distribution of scores across states, with limited deviation from the mean (Table 5).

Table 5: Goal-wise summary statistics of all States/UTs

Var.	Observation	Mean	Standard dev.	Minimum	Maximum
Goal1	28	64.92857	15.72431	32	86
Goal2	28	53.21429	14.77073	19	80
Goal3	28	70.89286	7.593073	59	86
Goal4	28	55.67857	12.08934	29	80
Goal5	28	49.14286	9.046032	25	64
Goal6	28	83.53571	10.13787	54	100
Goal7	28	91.85714	12.5778	50	100
Goal8	28	59.53571	9.612808	36	78

Goal9	28	48.67857	15.17809	24	72
Goal10	28	66.39286	11.37684	41	88
Goal11	28	72.03571	13.78803	39	91
Goal12	28	74.78571	12.17878	47	99
Goal13	28	53.10714	13.56286	16	70
Goal14	9	55.44444	20.39063	11	82
Goal15	28	65.25	12.1064	43	93
Goal16	28	73.07143	6.632851	59	86

Source: Authors' Computation

Table 6 shows the summary statistics of the goal-wise distribution of scores for Uttar Pradesh. According to NITI Aayog (2024), Uttar Pradesh moved up from the 'Performer' to the 'Front Runner' category; nonetheless, the progress of any state is attributable to improvements within its smaller units, such as districts, blocks, and villages. The mean for gender equality is 65.81 for the entire district of Uttar Pradesh, which is 3 points below the average mean of all goals. The lowest score goes to Gautam Buddha Nagar (Western Uttar Pradesh) at 40.66, while the best score is from Maharajganj (Eastern Uttar Pradesh) at 84.7. The Goal 5 score is categorised as a 'Front Runner', indicating better performance at the district level; however, the scores are depended upon the selected indicators for calculation, revealing several differences from NIF. The minimum and maximum values of the districts indicate that there are disparities both district-wise and region-wise in Uttar Pradesh.

Table 6: Goal-wise summary statistics of all Districts of Uttar Pradesh

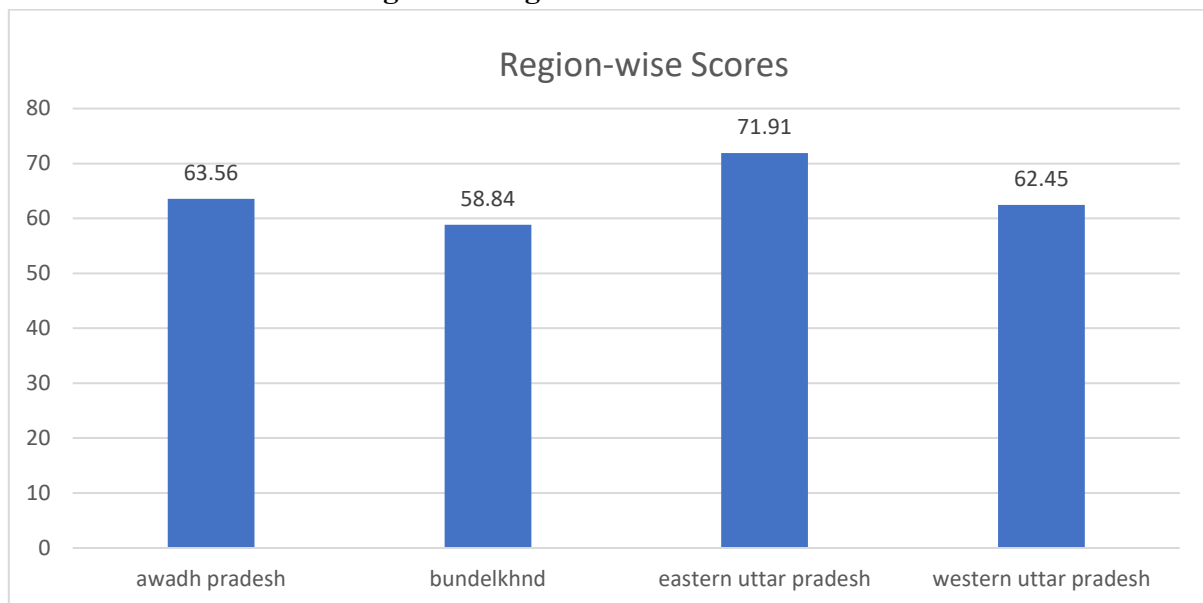| Var.	Observation	Mean	Standard dev.	Minimum	Maximum
Goal1	76	60.1875	7.223403	38.33	74.63
Goal2	76	54.87263	8.288107	34.33	72.08
Goal3	76	74.56829	9.267993	47.7	91.43
Goal4	76	67.29263	6.370417	47.44	80.24
Goal5	76	65.81079	9.361337	40.66	84.7
Goal6	76	82.22513	6.74209	54.99	91.87
Goal7	76	96.36947	9.765657	50	100
Goal8	76	30.6675	14.84392	6.09	100
Goal9	76	55.45803	11.37544	19.85	80.8
Goal10	76	77.18447	8.558429	50	96.58
Goal12	76	73.42776	8.951044	37.38	95.74
Goal13	76	45.65632	10.72154	8.79	75.38
Goal15	76	74.49171	13.75652	34.54	100
Goal16	76	75.26855	10.38885	48.59	94.23

Source: Authors' Computation

Uttar Pradesh has been subdivided into four geographical regions: Awadh Pradesh, Bundelkhand, Eastern Uttar Pradesh, and Western Uttar Pradesh. The scores of three regions in Uttar Pradesh are below 64, indicating their status as 'Performers'; only eastern Uttar Pradesh has demonstrated the potential to be

classified as a 'Front Runner', resulting in placing Uttar Pradesh overall in the front-runner category (Figure 3).
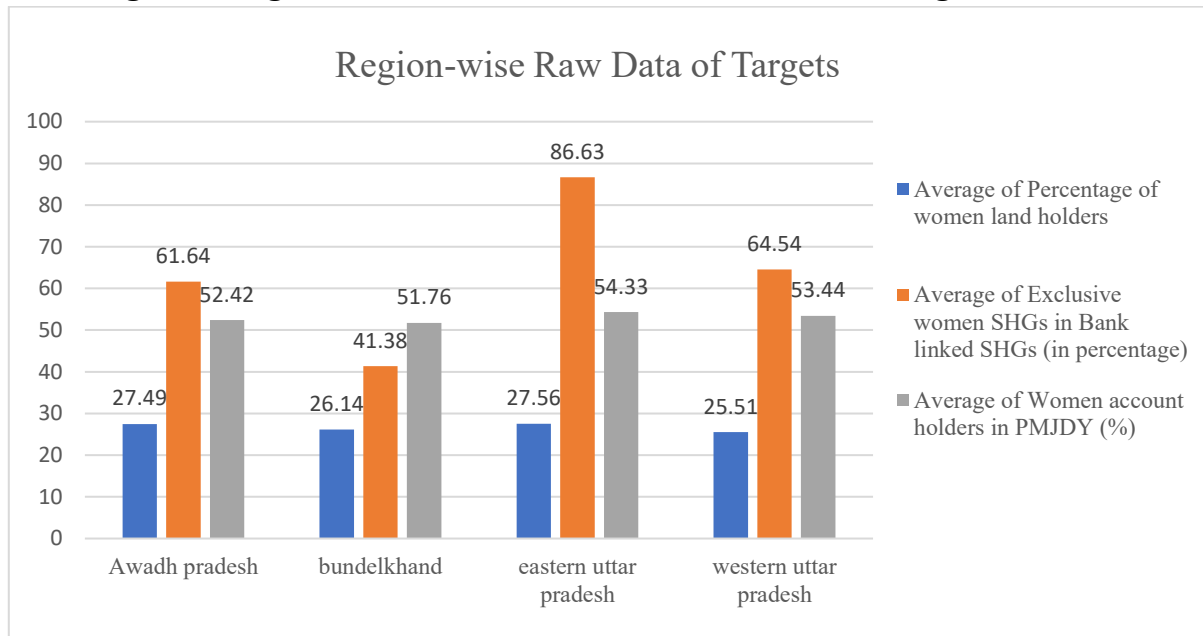
Figure 3: Region-wise score of Goal 5

Source: Authors calculation from Uttar Pradesh SDG 2023-24

The government needs to focus on the least scored regions, especially Bundelkhand. Eastern Uttar Pradesh district has performed on top in 7 out of 15 goals, while western Uttar Pradesh and Bundelkhand district have contributed in 4 goals. Awadh Pradesh district is not top in any Goals, but it also needs to be mentioned bottom-performing region. 7 bottom-performing districts are from eastern Uttar Pradesh, 5 from Bundelkhand, 2 from western Uttar Pradesh, and 1 from Awadh Pradesh. This data indicates that eastern Uttar Pradesh performs well in Goal 5, but there is a significant amount of variation in the aggregate scores. The motto of "leaving no one behind" necessitates the growth of all districts in order to achieve sustainable development, as some districts are performing exceptionally well while others are failing to meet expectations.

The study emphasises on Targets 2, 3, and 5 of the DIF measures to analyse the direct economic impact. Existing studies demonstrate a direct positive correlation between land size and earnings (Das & Kumar, 2017; Saini et al., 2022). Enhancing financial inclusion is recognised as a catalyst for at least eight of the 17 Sustainable Development Goals (Kumar, 2022). The data indicates that the average number of women account holders in PMJDY SHGs' membership significantly contributes to overall measures of women's empowerment (Kumar, 2021). Figure 4 presents the raw data for targets 2, 3, and 5 as mentioned across all four regions of Uttar Pradesh. The findings indicate that the proportion of female land holdings and women account holders in PMJDY is nearly consistent across all regions. The percentage of land holdings varies between 25 to 28 across all regions, while the percentage of women possessing PMJDY accounts ranges from 51 to 54 . The percentage of women in bank-linked self-help groups exhibits significant variation, with the highest concentration found in eastern Uttar Pradesh and the lowest in the Bundelkhand region. There is a necessity for initiatives that encourage women to engage in and participate in women-focused programs designed to empower them economically, thereby enhancing their ability to make decisions and their status in society. The scores across regions correspond with the raw data, indicating
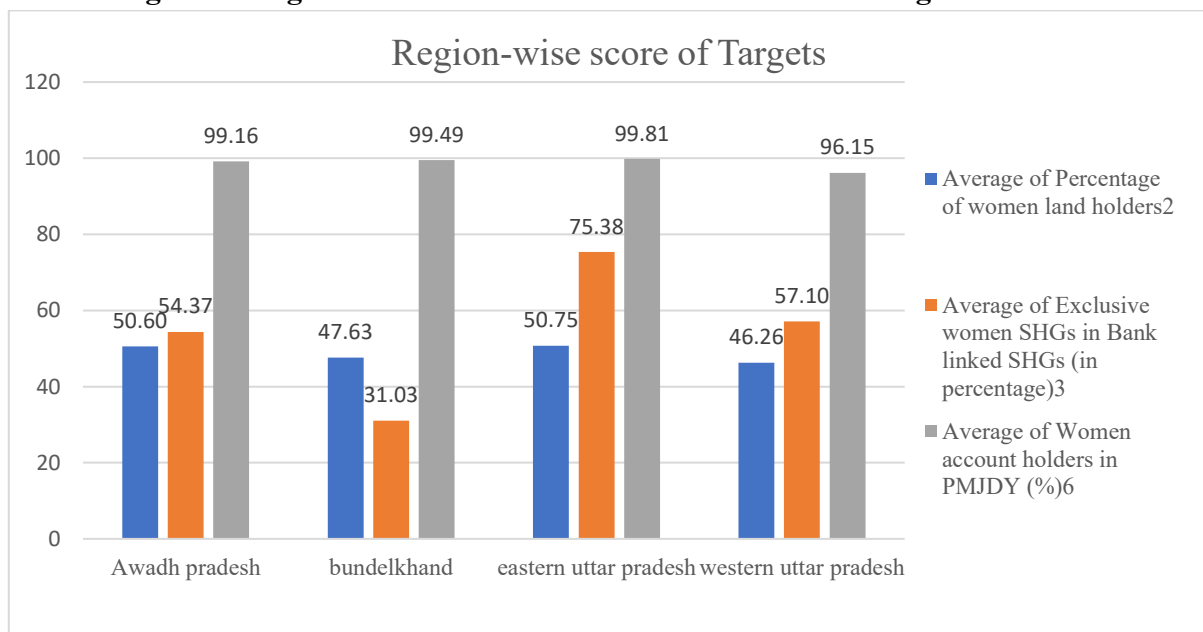
that the districts with superior performance are located in eastern Uttar Pradesh, while those with the lowest performance are found in Bundelkhand for Goal 5 (Figure 5)

Figure 4: Region-wise distribution of raw data of selected Targets of Goal 5

Source: Authors' computation from data of Uttar Pradesh SDG 2023-24

Figure 5: Region-wise distribution of scores of selected Targets of Goal 5

Source: Authors' computation from data of Uttar Pradesh SDG 2023-24

According to the data, not just regions, districts, and states, but also India, are falling short of Goal 5, which reflects the empowerment and equality of half of India's population. To understand the relation of Goal 5 with other Goals, bi-bivariate correlation has been analysed on the state level and district level with the help of data available for all goals.

Figure 6 shows that Goal 5 is positively correlated with Goals 2,4,6,8,913,and 16, which is also mostly significant at the 0.01 per cent level which shows that by increasing the score of Gender equality these scores also improved, vice versa. Goal 2 is Zero Hunger, Goal 4 is Quality Education, Goal 6 is Clean Water and Sanitation, Goal 8 is Decent Work and Economic Growth, Goal 9 is Industry, Innovation & Infrastructure, Goal 13 is Climate Action, and Goal 16 is related to peace Justice & Strong Institutions. In the Target measurement of NIF not only economic indicators has been included but also health which is directly relate to hunger, if no hunger leads to better health. Education means to empower and decision making which is also positively related to gender equality. gender equality targets also ensure decent work and economic growth by targets like women employed in IT and IteS industry (in percentage), wages of casual labourers' gender wise, land holdings. In many rural and low-income communities, women are responsible for collecting water. Gender-sensitive water policies reduce time burdens, improve health, and free up time for education and employment and Involving women in renewable energy programs increases household energy access and reduces reliance on fossil fuels. Gender equality ensures inclusive institutions by promoting female representation in law enforcement, judiciary, and politics. so here , it is clear that it is not just a matter of one single goal but many other goals are also affected by this. So, being in the aspirant category somehow shows that other connected goals also did not perform as well as they could have if policies had been emphasised and practically applied to attain the target for 2030.

Figure 6: Bivariate correlation among the composite score of all the Goals of all the States/UTs

	Goal1S~e	Goal2S~e	Goal3S~e	Goal4S~e	Goal5S~e	Goal6S~e	Goal7S~e	Goal8S~e	Goal9S~e	Goal10~e	Goal11~e	Goal12~e	Goal13~e	Goal15~e	Goal16~e
Goal1Scor	1														
Goal2Scor	0.4526*	1													
	0														
Goal3Scor	0.1766	0.0608	1												
	0.1271	0.602													
Goal4Scor	0.4011*	0.3331*	0.1247	1											
	0.0003	0.0033	0.2833												
Goal5Scor	0.1555	-0.1172	**0.2766***	-0.1355	1										
	0.1797	0.3132	0.0156	0.2432											
Goal6Scor	0.0094	-0.0775	-0.2402*	0.0009	0.0416	1									
	0.9356	0.5057	0.0366	0.9935	0.7214										
Goal7Scor	0.3953*	0.3816*	0.0732	0.14	-0.021	0.191	1								
	0.0004	0.0007	0.53	0.2278	0.857	0.0984									
Goal8Scor	0.2781*	0.2391*	0.0586	0.3897*	**-0.3946***	-0.2596*	0.0532	1							
	0.015	0.0376	0.6151	0.0005	0.0004	0.0235	0.6478								
Goal9Scor	0.5698*	0.3420*	0.045	0.3796*	-0.1065	-0.0964	0.3847*	0.4548*	1						
	0	0.0025	0.6995	0.0007	0.3599	0.4073	0.0006	0							
Goal10Scc	0.2549*	0.4335*	-0.002	0.3208*	-0.0069	-0.2444*	-0.0815	0.1029	0.2601*	1					
	0.0263	0.0001	0.9862	0.0047	0.953	0.0333	0.4838	0.3766	0.0232						
Goal11Scc	0.5451*	0.3398*	0.0008	0.3147*	-0.057	0.1582	0.4368*	0.3457*	0.4207*	0.1993	1				
	0	0.0027	0.9945	0.0056	0.6248	0.1723	0.0001	0.0022	0.0002	0.0843					
Goal12Scc	-0.3545*	-0.3935*	-0.3349*	-0.2655*	0.0319	0.1027	-0.2403*	-0.4561*	-0.4978*	-0.1759	-0.4505*	1			
	0.0017	0.0004	0.0031	0.0205	0.7845	0.3772	0.0365	0	0	0.1286	0				
Goal13Scc	-0.0472	0.1841	0.1437	0.1484	**-0.2394***	-0.0547	0.2106	0.1991	0.1293	-0.028	0.0873	-0.2416*	1		
	0.6858	0.1114	0.2156	0.2006	0.0372	0.6388	0.0679	0.0847	0.2658	0.8102	0.4534	0.0355			
Goal15Scc	-0.2129	-0.3264*	-0.0097	-0.0615	0.0778	0.1091	-0.2922*	-0.0106	-0.185	-0.2039	0.1144	-0.1164	1		
	0.0648	0.004	0.9338	0.5977	0.504	0.3483	0.0104	0.9276	0.0156	0.1097	0.0772	0.3249	0.3168		
Goal16Scc	-0.0321	0.0482	0.0776	-0.1463	0.0947	0.031	0.0196	-0.0822	-0.195	-0.0472	0.0316	-0.0284	-0.0825	0.0966	1
	0.7829	0.6789	0.5053	0.2072	0.4157	0.7906	0.8663	0.48	0.0914	0.6854	0.7865	0.8078	0.4788	0.4064	

Sources: Authors' computation from NITI Aayog, 2024

Figure 7 shows the bivariate correlation among the index scores of all goals for all the districts of Uttar Pradesh state. the bivariate correlation shows that there are strong and significant correlation between goals 3, 8 and 13 with Gender equality aligned with state-level correlation. However, an intriguing

outcome is that all indicators of association are negative, contrasting with the positive correlation observed at the state level. The results indicate that enhancing gender equality does not necessarily lead to the improvement of all associated goals. Unmet aims adversely affected other objectives. Inadequate focus on women's specific health needs, like sexual/Physical Violence, and family planning, undermines progress toward SDG 5 and leads to poor health outcomes for women. Feminisation of informal and precarious work, unpaid care economy exclusion, and Growth in gig and platform economies may increase female participation, but often without benefits, security, or social protection, which shows failure of SDG 8. It also shows that climate policies are not gender-sensitive and overload of work after any climate shocks, which increases their vulnerability, making the relation with gender equality negatively correlated.

The result demonstrates that Gender equality overall improved; however, policy implications failed in many targets. Thus, there is a strong need for gender sensitive policies, and their implication is most important. The benefits of these policies must effectively reach the intended population. Therefore, not only is policymaking crucial, but continual assessment at the grassroots level is also essential to ascertain whether the policies are truly accessible and recognised by the population being targeted.

Figure 7: Bivariate correlation across all Goals of all Districts of Uttar Pradesh State

	SDG1	SDG2	SDG3	SDG4	SDG5	SDG6	SDG7	SDG8	SDG9	SDG10	SDG11	SDG12	SDG13	SDG15	SDG 16
SDG1	1														
SDG2	0.3029	1													
	0.0646														
SDG3	0.3652*	0.3144	1												
	0.0242	0.0545													
SDG4	0.4827*	0.5954*	0.5999*	1											
	0.0021	0.0001	0.0001												
SDG5	0.2812	**0.5959***	0.2763	**0.4771***	1										
	0.0872	0.0001	0.0931	0.0025											
SDG6	-0.1169	0.0995	0.132	0.1687	**0.3937***	1									
	0.4848	0.5522	0.4295	0.3114	0.0145										
SDG7	0.2571	0.3822*	0.3238*	0.4290*	0.0774	0.299	1								
	0.1192	0.0179	0.0473	0.0072	0.6442	0.0683									
SDG8	0.4886*	0.2915	0.3722*	0.4173*	**0.5412***	0.3599*	0.2055	1							
	0.0019	0.0758	0.0214	0.0092	0.0004	0.0265	0.2158								
SDG9	0.3835*	0.4519*	0.6233*	0.7401*	**0.4397***	0.1773	0.4408*	0.2767	1						
	0.0175	0.0044	0	0	0.0057	0.287	0.0056	0.0927							
SDG10	0.2454	0.3871*	0.3598*	0.4644*	0.268	0.2768	0.102	0.275	0.4687*	1					
	0.1375	0.0164	0.0265	0.0033	0.1038	0.0925	0.5422	0.0947	0.003						
SDG11	0.3824*	0.1119	0.4628*	0.5576*	-0.0775	0.0963	0.4180*	0.267	0.4721*	0.4099*	1				
	0.0178	0.5038	0.0034	0.0003	0.6437	0.5651	0.009	0.1052	0.0028	0.0106					
SDG12	0.0631	-0.181	-0.044	-0.2174	-0.209	-0.2397	-0.0608	0.0933	-0.2094	0.1838	0.185	1			
	0.7064	0.2768	0.7931	0.1898	0.208	0.1472	0.7168	0.5775	0.2069	0.2692	0.2662				
SDG13	0.3506*	0.3433*	0.3524*	0.2254	**0.3824***	0.0229	0.1892	0.5218*	0.2822	0.1588	0.2695	0.1047	1		
	0.0309	0.0348	0.03	0.1737	0.0178	0.8914	0.2553	0.0008	0.086	0.3408	0.1017	0.5318			
SDG15	0.0537	-0.1525	0.1442	0.11	-0.0484	0.0996	-0.2123	0.0603	0.1021	0.3942*	0.3234*	0.2978	-0.0516	1	
	0.7489	0.3608	0.3877	0.511	0.7731	0.5517	0.2008	0.7192	0.5418	0.0143	0.0476	0.0694	0.7581		
SDG16	0.4847*	0.2491	0.2869	0.3533*	**0.4368***	0.3256*	0.315	0.5859*	0.3546*	0.3674*	0.2561	0.1561	0.3328*	-0.0133	1
	0.002	0.1316	0.0807	0.0296	0.0061	0.0461	0.0541	0.0001	0.0289	0.0233	0.1206	0.3494	0.0412	0.9366	

Source: Author's computation from Uttar Pradesh SDG Index data 2023-24

7. Conclusion

The comprehensive analysis of SDG Goal 5 (Gender Equality), at national, state, and district levels, underscores the persistent challenges and regional disparities in achieving true gender equity in India. Despite Uttar Pradesh achieving Front Runner status in the SDG Index, a closer disaggregation shows

substantial variation across its regions, with Eastern Uttar Pradesh outperforming other regions, particularly Bundelkhand. This suggests that regional and intra-state heterogeneity must be acknowledged in policy formulation and evaluation. The study highlights that economic indicators such as land ownership, having PMJDY accounts, and participation in SHGs have a direct and positive relationship with women's empowerment and earnings. However, the exclusion of critical economic indicators like wage gaps from the DIF framework weakens the accurate representation of Goal 5, indicating a need for more inclusive and representative indicator selection.

Furthermore, the interlinkages between Goal 5 and other SDGs reveal complex dynamics. While gender equality is positively associated with Goals 2, 4, 6, 8, 9, 13, and 16 at the state level, district-level analysis shows negative correlations with Goals 3, 8, and 13. This contradiction suggests that not all dimensions of gender equality uniformly benefit or align with other development goals, particularly when gender-sensitive approaches are absent in areas such as health, labour security, and climate resilience.

Ultimately, the findings emphasise that achieving gender equality is not a single goal but a foundational prerequisite for sustainable development across sectors. Without the active inclusion and empowerment of half the population, the broader objective of "leaving no one behind" cannot be achieved. Therefore, gender-sensitive policy design, robust ground-level implementation, and continuous monitoring are essential to drive holistic and inclusive progress toward the 2030 Agenda.

Declaration of conflicting interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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