

## Women's Socio-Economic Status and Spatial Disparities in Sustainable Development: A Study of Kanpur Dehat District

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### Abstract

Women play a vital role in the economy of Kanpur Dehat District, Uttar Pradesh, where agriculture and allied activities are the main sources of livelihood. Despite their contribution to farming and household income, women continue to face challenges such as low literacy, limited employment opportunities, and restricted decision-making power. This study examines the socio-economic status and spatial disparities among women in Kanpur Dehat in relation to the Sustainable Development Goals (SDGs), particularly Goal 1 (No Poverty), Goal 5 (Gender Equality), and Goal 10 (Reduced Inequalities). The research is based on census and government data, field surveys, and GIS mapping to analyze variations in education, health, and employment across different blocks. Results show that southern and remote blocks lag behind in literacy and service access, while central areas perform better. Although schemes such as Beti Bachao Beti Padhao, Mahila Shakti Kendra, and National Rural Livelihood Mission (NRLM) have improved awareness and participation, many gaps remain in implementation and outreach. Strengthening education, enhancing livelihood opportunities, improving infrastructure, and ensuring equal access to government schemes are essential for inclusive and sustainable development.

**Keywords:** Women Empowerment, Socio-Economic Status, Spatial Disparities, Sustainable Development Goals, Gender Equality

### Introduction

Women play a vital role in development, especially in agrarian economies like India. Globally, an estimated 60-80% of farmers in developing countries are women, yet they own only a small portion of land and have limited access to technology, finance, and markets. They frequently work longer hours than men, receive lower pay, and face greater barriers to education and essential services. As a result, women are more exposed to poverty and food insecurity. International agencies estimate that equalizing women's access to assets and education could significantly reduce global hunger and improve livelihoods. Thus, empowering women by improving education, income, and social status has a multiplier effect on family and community well-being.

In India, the role of women in sustainable development is widely recognized in policy, yet gender gaps persist. Female literacy and participation in paid work continue to lag behind male levels. In Kanpur Dehat District of Uttar Pradesh, these inequalities are evident. The overall literacy rate is about 75.8%, but female literacy remains far below male literacy. The district's sex ratio is also skewed, indicating continuing gender bias. Kanpur Dehat is predominantly agricultural, with over 90% of the population living in villages and depending mainly on farming and casual labour. Within this context, improving women's socio-economic conditions is both a developmental need and a strategic priority for inclusive growth.

The Sustainable Development Goals (SDGs) provide a useful framework for addressing these issues. In particular, SDG 1 (No Poverty), SDG 3 (Good Health and Well-being), SDG 4 (Quality Education), SDG 5 (Gender Equality), and SDG 10 (Reduced Inequalities) emphasize women's empowerment as a foundation

for sustainable development. This study assesses the socio-economic status of women in Kanpur Dehat District, examines block-wise spatial disparities using GIS tools, and evaluates how the district's progress aligns with the principles of sustainable development. It also reviews major government programmes targeting women's welfare and suggests policy actions to promote equitable growth.



Fig :1

### Study Area

The present study is conducted in Kanpur Dehat District of Uttar Pradesh, India. Geographically, the district lies between latitudes 25°26' N to 26°58' N and longitudes 79°34' E to 80°34' E, covering an area of about 3,021 square kilometers. It is bordered by Auraiya and Etawah districts in the west, Kanpur Nagar in the east, Jalaun in the south, and Farrukhabad in the north. Administratively, Kanpur Dehat is divided into 10 development blocks, namely Rasulabad, Derapur, Akbarpur, Rajpur, Malasa, Amraudha, Sandalpur, Maitha, Jhinhak, and Sarvankhera.

The district is predominantly rural, with over 90 percent of its population living in villages. According to the Census of India (2011), the total population is 1,796,184, out of which 832,929 are females. The sex ratio of 865 females per 1000 males indicates a gender imbalance. The overall literacy rate is 75.78%, but female literacy (66.86%) lags significantly behind male literacy (83.45%). Agriculture is the main occupation of the people, and women play a major role in farming, livestock rearing, and household activities.

Climatically, the district experiences tropical monsoon conditions, with hot summers, moderate rainfall, and cool winters. The major crops grown here include wheat, rice, pulses, and oilseeds. However, small landholdings, irregular rainfall, and limited irrigation facilities affect agricultural productivity and livelihoods. These socio-economic and environmental conditions make Kanpur Dehat a suitable area for studying rural women's role in sustainable development and analyzing spatial disparities in education, health, and empowerment within the district.

### Objectives of the Study

1. To assess the socio-economic status of women in Kanpur Dehat District through indicators like literacy, employment, and access to services.
2. To analyze block-wise spatial disparities in women's development using GIS and statistical techniques.
3. To evaluate the impact of government schemes and suggest policy measures for enhancing women's empowerment and achieving Sustainable Development Goals (SDGs 1, 5, and 10).

### Review of Literature

According to Economist Impact (2022), rural women are crucial contributors to sustainable development worldwide. They play a central role in agricultural production, food security, and community well-being but face deep-rooted inequalities in access to land, education, credit, and technology. Despite longer working hours, they earn less and remain underrepresented in decision-making. The International Labour Organization (2018) emphasized that equal access to education and resources for rural women could substantially reduce global hunger and poverty, highlighting gender equality as essential for sustainable development.

In the Indian context, gender disparity in education remains serious. Sharma and Gupta (2019) observed that low literacy among rural women limits economic participation and empowerment. Singh and Bano (2023) noted that in Uttar Pradesh, female literacy (57.18%) lags far behind male literacy (77.28%) as per Census 2011. This divide marginalizes women in economic and social spheres. Studies by Singh and Bano (2023) and Kumar (2020) showed that literacy gaps vary across districts urban areas like Kanpur Nagar perform better, while rural regions such as Kanpur Dehat lag due to weak schooling infrastructure and social norms.

Rao (2017) pointed out that lack of land ownership limits women's economic independence in rural India. Without legal titles, women are unable to access institutional credit or government schemes (Pandey, 2020). To address these gaps, Self-Help Groups (SHGs) under the Deendayal Antyodaya Yojana-NRLM have mobilized millions of rural women, improving access to savings, loans, and small-scale enterprises (Government of India, 2021). Studies by Verma and Mishra (2022) confirmed that SHGs enhanced women's participation in household finance, though issues like weak bank linkages and limited training persist.

Health and nutrition also influence women's socio-economic status. NFHS-5 (2020) reported that about 53% of rural women in Uttar Pradesh suffer from anemia, indicating poor nutrition and healthcare access. Singh and Chauhan (2018) found that educated women show better maternal and child health outcomes through antenatal care and family planning. Yet, inadequate health infrastructure in remote areas hinders progress toward SDG 3 (Good Health and Well-being).

Several government initiatives aim to uplift rural women. Schemes like Beti Bachao Beti Padhao (BBBP), Mahila Shakti Kendra (MSK), and Mission Shakti promote education, health, and safety. Srivastava (2023) noted improvements in awareness and women's participation in local governance. NITI Aayog (2023) reported that Uttar Pradesh's rise from 29th to 18th in the SDG Index was due to such gender-focused programs. Mehta (2021) and Joshi (2022) also emphasized that empowering women accelerates poverty reduction and strengthens social resilience.

Many scholars underline the link between gender equality and sustainable development. Sharma (2020) observed that SDG 1 (No Poverty), SDG 5 (Gender Equality), and SDG 10 (Reduced Inequalities) are interconnected and rely on women's empowerment through education, asset access, and governance participation. Rani and Kumar (2021) similarly argued that sustainable rural transformation is impossible without integrating women into development planning.

In summary, rural women continue to face low literacy, economic dependence, and health challenges despite supportive schemes. While national progress is visible, regional disparities persist. Therefore, this study focuses on Kanpur Dehat District to analyze how socio-economic and spatial inequalities shape rural women's participation in sustainable development.

## Database and Methodology

This study is based on secondary data collected from reliable government and institutional sources such as the Census of India (2011), District Statistical Handbook of Kanpur Dehat, Uttar Pradesh Vision 2030 Report, NITI Aayog's SDG India Index, and publications of the Ministry of Women and Child Development and District Administration, Kanpur Dehat. Relevant research studies and official reports were also reviewed to support the analysis.

Data were analyzed using quantitative and qualitative methods. Descriptive statistics like averages and percentages were used to assess women's status in education, health, and employment. Composite indices were developed to compare block-wise differences in education, health access, and asset ownership. GIS tools were applied for spatial analysis to map inequalities among blocks, while cross-tabulation helped identify variations by caste, occupation, and age.

This mixed-method approach ensures a comprehensive understanding of women's socio-economic conditions and spatial disparities in Kanpur Dehat District.

### Demographic and Educational Profile

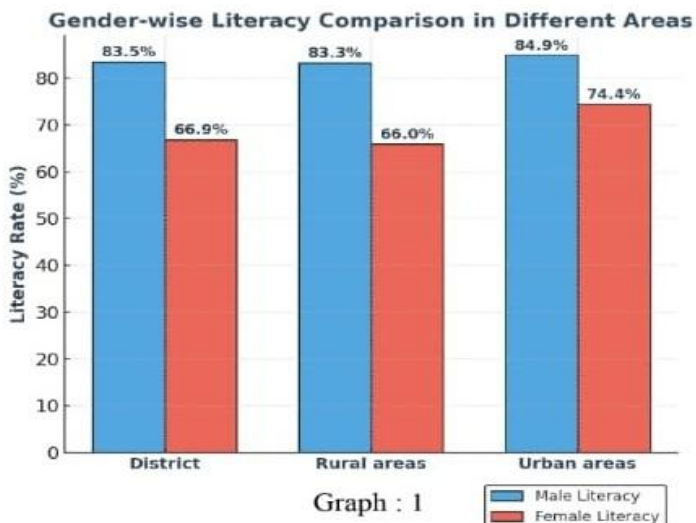
Kanpur Dehat's population was approximately 1.8 million in 2011, with a notable gender imbalance. The district-level sex ratio is lower than the national average, pointing to entrenched gender bias. Child sex ratio also indicates fewer girls relative to boys in early age groups, a warning sign for long-term gender equity.

Literacy shows a significant gender gap. While the district's overall literacy is moderate, female literacy trails male literacy by a substantial margin. Female literacy improved between 2001 and 2011, but progress left many women without basic reading and writing skills. Importantly, the district average masks substantial block-level variation. Six blocks fall below the district female literacy average, while four are above it; higher-performing blocks are typically closer to the district headquarters or main towns where schools and private tutoring are more accessible. Remote southern blocks lag in school availability, and this infrastructure gap contributes directly to girls' lower enrollment and higher dropout rates after elementary school.

School enrollment data and field observations point to a common pattern: primary enrollment of girls has improved, mainly due to incentive programs and mid-day meals, but retention into secondary education is poor in lagging blocks. Reasons reported include long distances to secondary schools, safety concerns during travel, household labor expectations, and opportunity costs for girls in poor households.

### Literacy Gap

- Overall literacy rate in Kanpur Dehat is **75.78%** (higher than the UP average). However, a substantial gender gap exists: male literacy is 83.5% while female literacy is only 66.9%.
- Rural areas mirror the district trend: rural male literacy 83.3% vs. rural female 66.0%. Urban areas are higher but still unequal (male 84.9%, female 74.4%).
- Educational disparities also show across blocks: six of ten blocks (e.g. Rasulabad, Derapur) have literacy rates below the district average (75.8%), indicating uneven progress in education.



| Area        | Male Literacy | Female Literacy |
|-------------|---------------|-----------------|
| District    | 83.5%         | 66.9%           |
| Rural areas | 83.3%         | 66.0%           |
| Urban areas | 84.9%         | 74.4%           |

Table : 1

### Economic Status and Livelihoods

The district’s economy is dominated by smallholder agriculture and casual labour. Per capita income is modest and many families rely on seasonal wages. Landholdings are highly fragmented; a large share of farmers possess less than one hectare. Small land size, coupled with limited irrigation, reduces productivity and increases vulnerability.

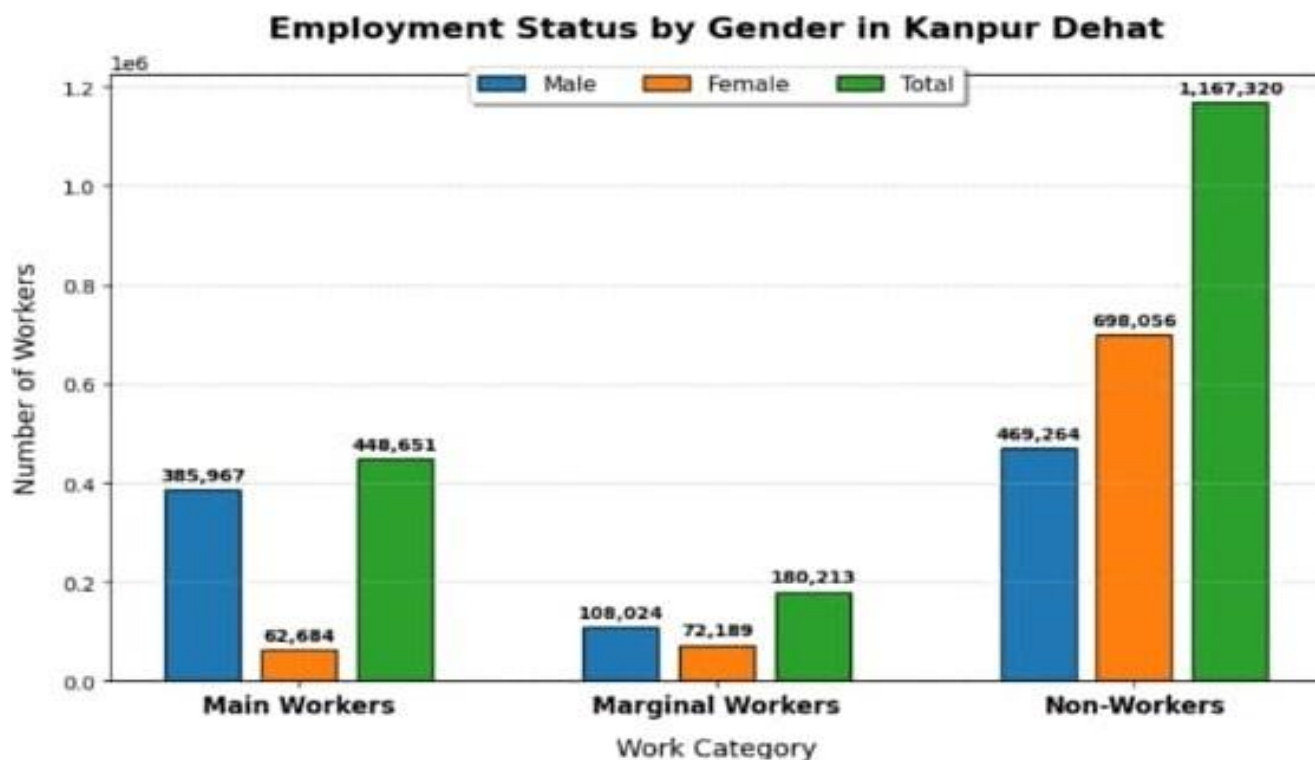
Women contribute substantially to farm work and allied activities but often lack formal recognition as agricultural workers. Most women work as unpaid family labour or in informal home-based enterprises, and their contributions are under-counted in official employment statistics. Women’s ownership of land and assets is minimal, constraining their access to formal credit and benefits that require collateral.

National employment programmes and SHGs provide partial support. Evidence from the field suggests that wage programmes offer temporary work to many women, while SHGs have enabled savings, small loans and micro-entrepreneurship. However, SHG activities are often limited by market access and small loan sizes. Bank linkages and bureaucratic procedures like KYC remain barriers for many women, diminishing the potential impact of collective action.

| Category                  | Men             | Women           | Total Population | Share of Women (%) |
|---------------------------|-----------------|-----------------|------------------|--------------------|
| Main Workers              | 3,85,967        | 62,684          | 4,48,651         | 14.0               |
| Marginal Workers          | 1,08,024        | 72,189          | 1,80,213         | 40.1               |
| Non-Workers               | 4,69,264        | 6,98,056        | 11,67,320        | 59.8               |
| <b>Total (Population)</b> | <b>9,63,255</b> | <b>8,32,929</b> | <b>17,96,184</b> | <b>46.4</b>        |

Table : 2

Kanpur Dehat has 628,864 workers. A very low share of women is in stable employment: only 62,684 women are main workers versus 385,967 men. This means women constitute only about 14% of the main workforce.



Graph: 2

Many women work in marginal or seasonal jobs: 72,189 women are in marginal work (less than 6 months/year) compared to 108,024 men. Large numbers of women (59.8% of women in population) are classified as non-workers/dependents.

### Health, Nutrition and Social Indicators

Health and nutrition indicators for women are concerning. High rates of anemia among women and children reflect inadequate nutrition and healthcare access. Institutional delivery rates have improved, but antenatal coverage and maternal health remain uneven, especially in remote blocks where access to primary health facilities is limited. Anganwadi services and national nutrition programs exist but their staffing and supply gaps constrain their effectiveness.

Social indicators show that women's formal political representation has increased via reserved seats in local governance, yet actual empowerment varies. In several villages, women representatives perform symbolic roles while significant decisions are still taken by male relatives. Awareness of legal rights and access to justice mechanisms is low, and domestic violence continues to be under-reported.

### Spatial Disparities

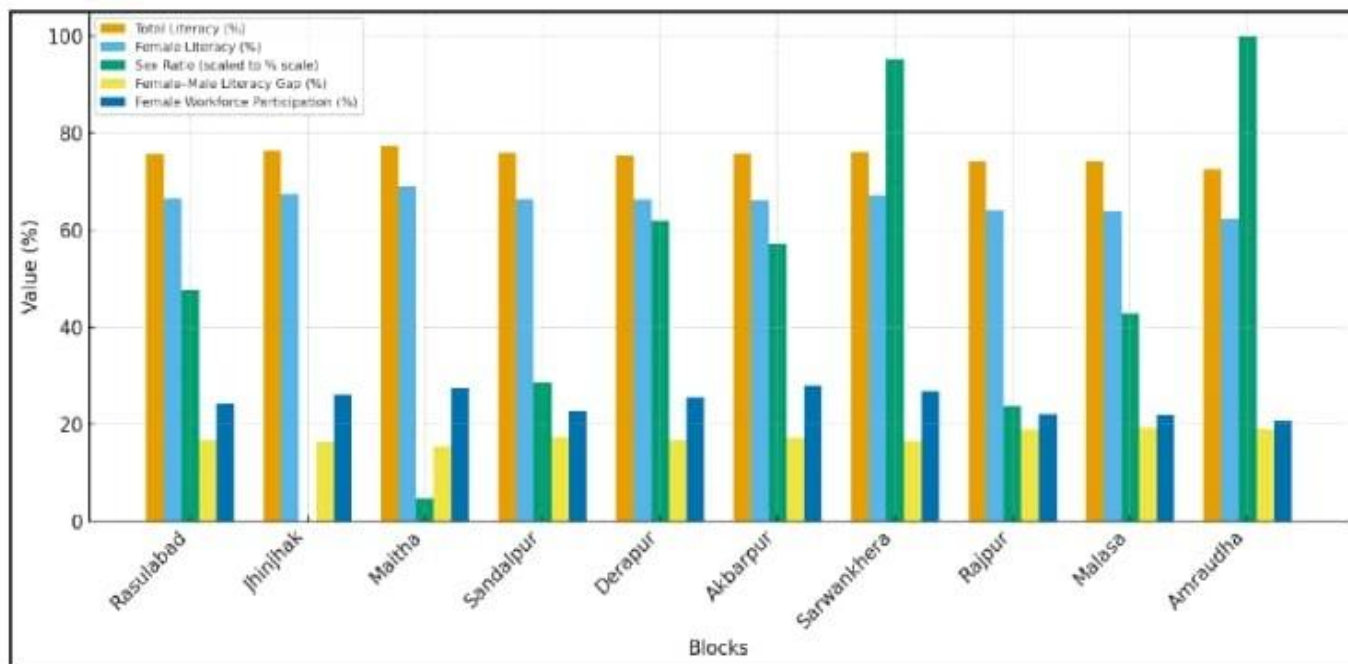
Spatial analysis reveals distinct geographic patterns of inequality across Kanpur Dehat District. Blocks located near major roads, markets, and the district centre show higher female literacy, greater school availability, and better access to public services. In contrast, peripheral and southern blocks experience lower female literacy, limited-service coverage, and higher vulnerability levels.

**Table 3: Distribution of Health Facilities in Kanpur Dehat****Table 4: Block-wise Socio-Economic and Spatial Disparity Indicators in Kanpur Dehat**

| Block       | Total Population | Sex Ratio (♀/1000♂) | Total Literacy (%) | Female Literacy (%) | Female-Male Literacy Gap (%) | % Rural Population | Female Workforce Participation (%)* | Spatial Equity Level |
|-------------|------------------|---------------------|--------------------|---------------------|------------------------------|--------------------|-------------------------------------|----------------------|
| Rasulabad   | 2,35,562         | 862                 | 75.59              | 66.59               | 16.70                        | 94.2               | 24.3                                | Medium               |
| Jhijnjhak   | 1,46,079         | 852                 | 76.32              | 67.45               | 16.39                        | 92.6               | 26.1                                | Medium               |
| Maitha      | 1,81,591         | 853                 | 77.43              | 69.05               | 15.47                        | 93.1               | 27.4                                | High                 |
| Sandalpur   | 1,21,301         | 858                 | 75.92              | 66.49               | 17.46                        | 95.7               | 22.8                                | Medium               |
| Derapur     | 1,23,138         | 865                 | 75.37              | 66.35               | 16.66                        | 94.5               | 25.5                                | Medium               |
| Akbarpur    | 1,72,488         | 864                 | 75.64              | 66.07               | 17.24                        | 90.4               | 28.0                                | High                 |
| Sarwankhera | 1,67,241         | 872                 | 76.03              | 67.15               | 16.58                        | 94.0               | 26.8                                | High                 |
| Rajpur      | 1,43,873         | 857                 | 74.26              | 64.07               | 18.87                        | 95.2               | 22.1                                | Low                  |
| Malasa      | 1,49,263         | 861                 | 74.19              | 63.85               | 19.20                        | 96.5               | 21.9                                | Low                  |
| Amraudha    | 1,82,225         | 873                 | 72.52              | 62.34               | 19.00                        | 97.1               | 20.7                                | Low                  |

Source: Census of India, 2011; District Census Handbook, Kanpur Dehat

The analysis of the Women's Disparity Index identifies the most disadvantaged blocks those with low female literacy, poor workforce participation, and limited access to safe drinking water. These areas perform significantly below the district average, showing concentrated disadvantage. The observed spatial disparities clearly indicate that access to infrastructure such as roads, schools, and water supply plays a crucial role in improving women's education, health, and economic participation.



Graph:4 -Spatial Disparitie indicators ( Kanpur Dehat)

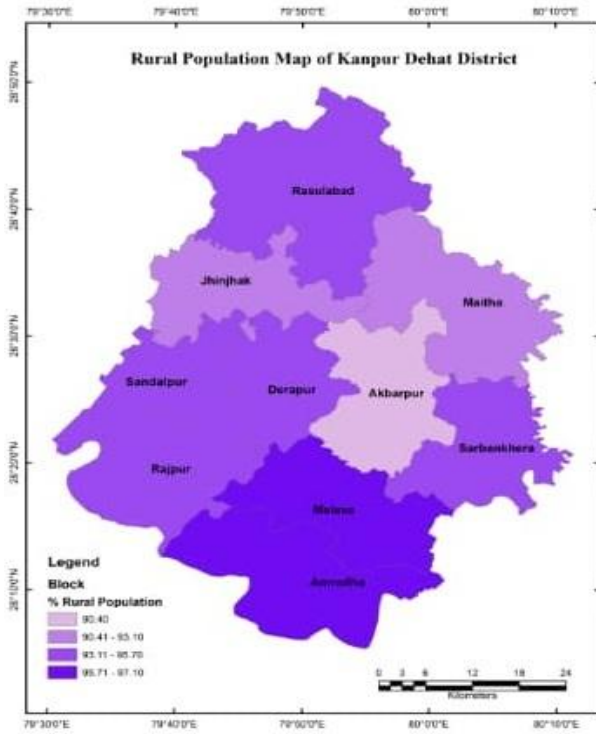


Fig :3

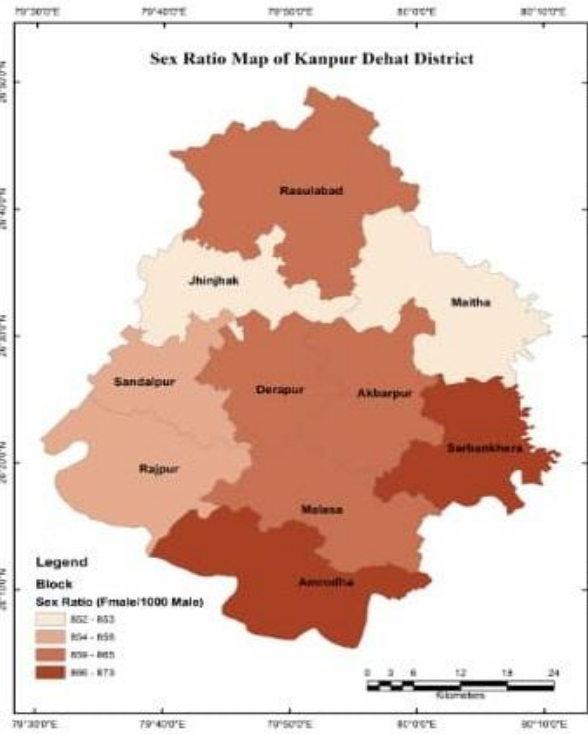


Fig :4

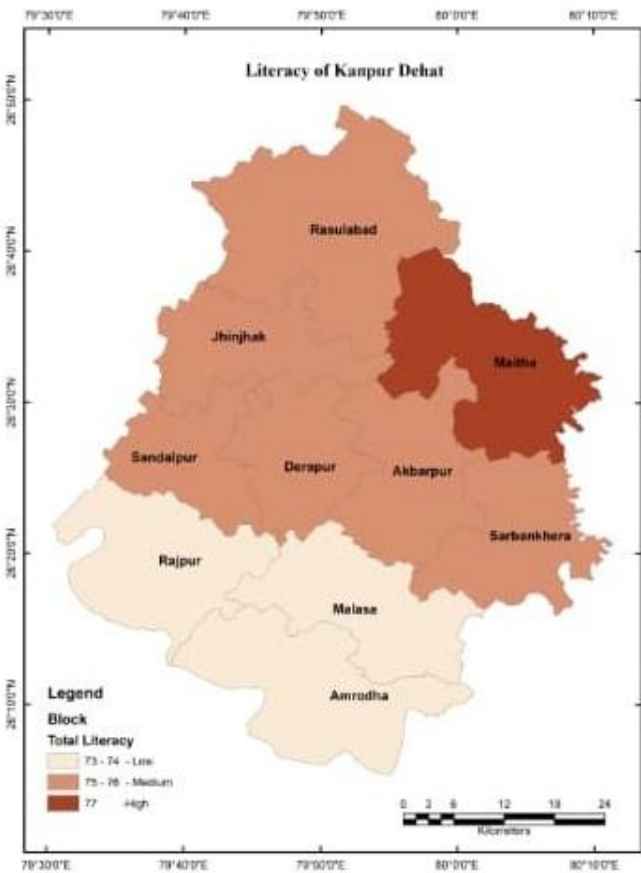


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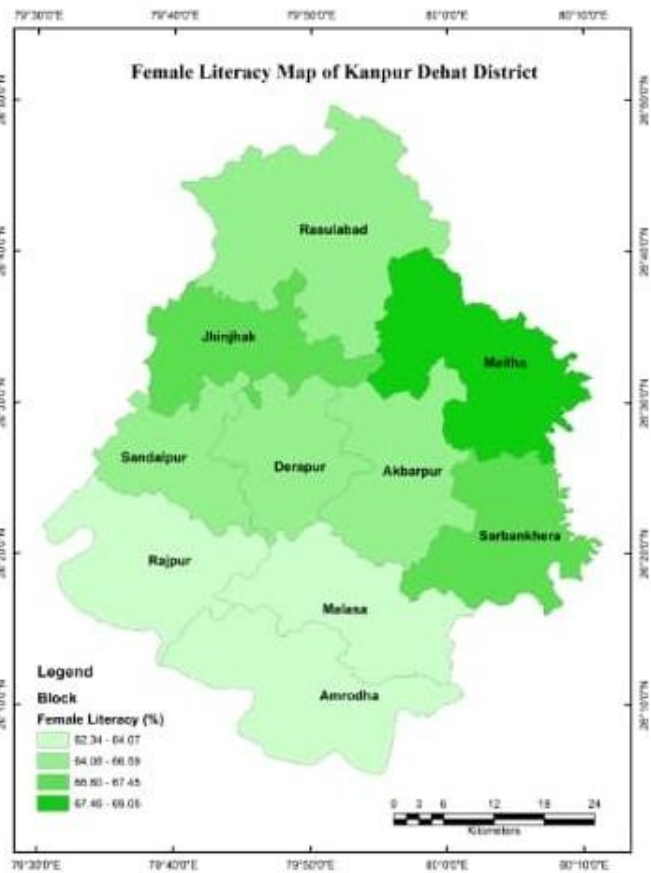


Fig :6

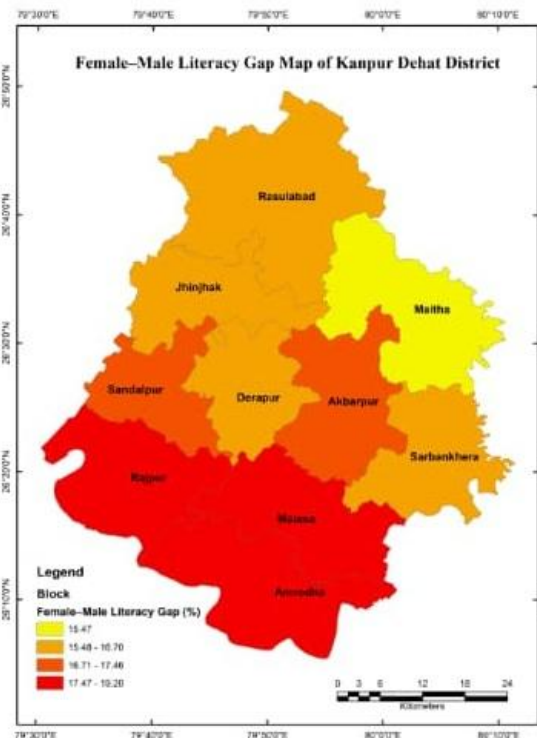


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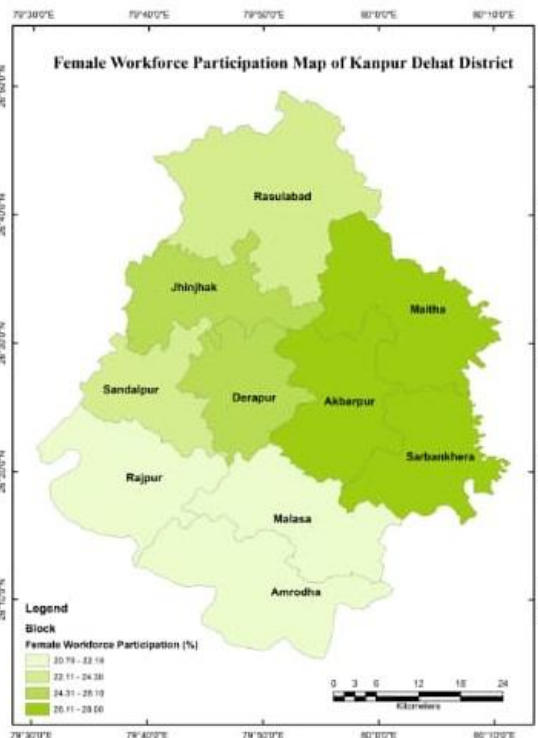


Fig :8

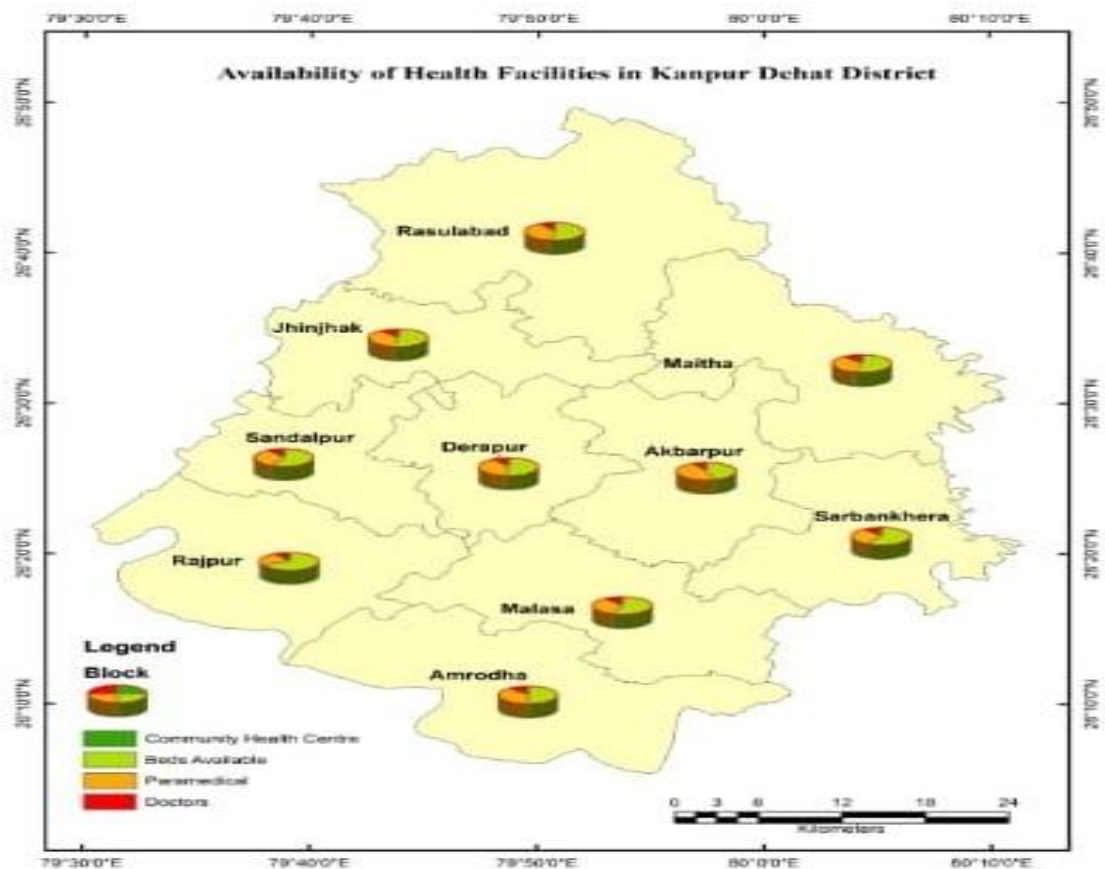


Fig :9

## Programmes and SDG Alignment

Several government programmes target issues identified here: campaigns to improve the child sex ratio and girls' education, district centres to coordinate women's services, and national livelihoods missions that organize women into SHGs. Evidence from fieldwork shows some positive effects increased primary female enrollment in many blocks, more SHG activity, and greater institutional deliveries. Yet, programme reach and effectiveness vary widely across the district. Many remote villages have limited awareness of scheme entitlements, and administrative hurdles restrict access to benefits. Thus, while national and state programmes provide a policy framework aligned with SDG objectives, local implementation gaps limit impact in areas that most need support.

## Government Schemes and SDG Alignment

The Government of India and Uttar Pradesh have implemented several programmes to promote women's empowerment and align with key Sustainable Development Goals, especially **SDG 1 (No Poverty)**, **SDG 3 (Good Health)**, **SDG 4 (Quality Education)**, **SDG 5 (Gender Equality)**, and **SDG 10 (Reduced Inequalities)**. However, their effectiveness in **Kanpur Dehat** varies due to uneven infrastructure, awareness, and implementation across blocks.

### (a) Beti Bachao Beti Padhao (BBBP)

Launched in 2015, this scheme promotes the girl child's education and addresses declining sex ratios. In Kanpur Dehat, it supports awareness drives and school enrolment campaigns. Progress is visible in literacy gains, but peripheral blocks still need stronger implementation.

### (b) Mahila Shakti Kendra (MSK)

MSK provides **counselling, skill training, and information support** for women at the district and block levels. It strengthens women's capacity for self-employment and digital literacy, directly contributing to **SDG 5 (Gender Equality)**.

### (c) Deendayal Antyodaya Yojana - NRLM

This mission organizes women into **Self-Help Groups (SHGs)** to promote savings, microcredit, and small-scale enterprises. In Kanpur Dehat, SHGs have improved women's incomes, though access to markets, banking facilities, and credit remains limited.

### (d) Kanya Sumangala Yojana

A **cash-transfer scheme** that encourages girls' education from birth to graduation. It has improved enrolment in central blocks, though awareness is still lower in remote areas.

### (e) Mission Shakti and One Stop Centres

These initiatives focus on **women's safety and justice**, offering legal aid, counselling, and shelter to victims of violence. Access remains limited in rural interiors due to lack of awareness and mobility issues.

### (f) Ayushman Bharat and Janani Suraksha Yojana (JSY)

Both schemes aim to improve **maternal and general health services**. Institutional deliveries have increased, but staff shortages and inadequate facilities especially in Rajpur and Amraudha affect service quality.

### (g) Other Complementary Schemes

Additional schemes like **Ujjwala Yojana**, **Kaushal Vikas Yojana**, and **NRHM** enhance women's welfare through energy access, vocational training, and healthcare. Together, these programmes support **women's socio-economic advancement**, though spatial disparities in access persist across the district.

### Policy Implications and Recommendations

The findings lead to pragmatic recommendations targeted at improving women's status and spatial equity:

**1. Targeted Education Interventions:** Prioritise low-literacy blocks with mobile adult education, evening classes, scholarships for girls, and safe transport to secondary schools. Establish community monitoring of school attendance and dropout.

**1. Strengthen Livelihoods and Financial Inclusion:** Expand SHG capacity, simplify bank linkages and ensure adequate credit for women entrepreneurs. Deploy more trained extension workers (Krishi Sakhis) to reach women farmers with technology and market linkages.

**2. Improve Health and Nutrition Services:** Ensure anganwadi centers are fully staffed and supplied in vulnerable areas. Use mobile clinics and telemedicine for remote villages and run targeted anemia control programmes for women.

**3. Enhance Local Institutions:** Bolster district-level women's centers and link them actively with SHG federations and local panchayats. Provide training for women representatives in governance and legal awareness.

**4. Invest in Infrastructure:** Prioritise roads, electricity and piped water in lagging blocks. these investments reduce time burdens on women and improve access to schools and markets.

**5. Data and Monitoring:** Maintain sex-disaggregated, block-level SDG indicators and set district targets. A district SDG cell should track progress monthly and coordinate across departments.

These measures, combined and sustained, would reduce spatial inequities and accelerate progress toward SDG 1, SDG 5 and SDG 10.

### Conclusion

Kanpur Dehat's rural women face persistent socio-economic challenges: low female literacy, limited formal economic participation, health and nutrition deficits, and strong spatial inequality across blocks. While national schemes and recent state efforts provide important tools, the district-level evidence shows uneven reach and mixed impact. To make rural women true drivers of development rather than victims of inequality interventions must be gender-sensitive and place-sensitive. Targeted education, improved infrastructure, strengthened local institutions and inclusive economic programs are needed in the most vulnerable blocks. With consistent monitoring and local adaptation of national schemes, Kanpur Dehat can reduce spatial inequities and make substantial progress on the SDGs.

### References-

Chandraprabha. (2022). *Agricultural diversification and rural development in Kanpur Dehat district* [Doctoral dissertation, Chhatrapati Sahuji Maharaj University]. INFLIBNET. <http://hdl.handle.net/10603/460154>

District Administration, Kanpur Dehat. (n.d.). *About Education of Kanpur Dehat*. Kanpur Dehat official website.

Economist Impact. (n.d.). Respecting rural women as agents of change. *Food Sustainability* (blog).

Indiastat Publications. (2025). *Uttar Pradesh District Factbook: Kanpur Dehat District*.

Press Information Bureau, Government of India. (2021). *Pradhan Mantri Mahila Shakti Kendra Scheme*. Ministry of Women and Child Development.

Press Information Bureau, Government of India. (2025). *Empowering India's Daughters: A Decade of Beti Bachao Beti Padhao's Success*. Ministry of Women and Child Development.

Press Information Bureau, Government of India. (2025). *Deendayal Antyodaya Yojana-National Rural Livelihoods Mission: A Blueprint for Empowering Rural Communities*. Ministry of Rural Development.

Sakshi, B., & Bano, S. (2023). Gender disparity in literacy in Uttar Pradesh: A spatial analysis. *Humanities and Social Sciences Communications*, 10(1), Article 962. <https://doi.org/10.1057/s41599-023-02457-5>

Hindustan Times. (2025). U.P. jumps 11 ranks in SDG index.

Census of India. (2011). *District Census Handbook: Kanpur Dehat*. Government of India.