Socio-Temporal Dynamics of Poverty Alleviation in the Western Ghats: An Appraisal of MGNREGA Implementation in the Hilly Tehsils of Kolhapur District.

Mr. Shubham Dilip Patil[1], Asso. Prof. (Dr.) Vikramsinh S. Pawar-Patil[2] & Asst. Prof. Beenarani Shubham Patil[3]

[1]*Research Scholer, Department of Geography, Shivaji University, Kolhapur.*
[2]*Department of Geography, The New College Kolhapur.*
[3]*Smt. Akkatai Ramgonda Patil Kanya Mahavidyalaya, Ichalkaranji*
Corresponding Author – Mr. Shubham Dilip Patil
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Abstract:

Poverty in rural India is localised in specific regions. The Western Ghats region is particularly affected due to its rugged topography, fragmented landholdings, and little industrial advancement. The Ministry of Rural Development. 2024. This research article presents a socio-temporal analysis of poverty alleviation in the five western highland tehsils of Kolhapur District: Gaganbawada, Shahuwadi, Panhala, Radhanagari, and Bhudargad. The study evaluates the efficacy of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) as a tool for socio-economic progress, utilising secondary data from the District Statistical Handbook and MGNREGA Management Information System (MIS) reports spanning 2015 to 2024. The analysis indicates that the introduction of MGNREGA is associated with enhanced employment security, particularly during off-seasons when agricultural activity is minimal. Nonetheless, there exist spatial disparities. Radhanagari and Bhudargad excel in asset creation, however Gaganbawada struggles to retain workers due to severe weather conditions. The research indicates that government initiatives have mitigated the intensity of deprivation; but, a "one-size-fits-all" strategy is ineffective for these environmentally sensitive regions. Policies must be customised to the region's topography. Department of Rural Development. 2024.

Keywords: Rural Poverty, MGNREGA, Western Ghats, Socio-Temporal Analysis, Kolhapur, Sustainable Livelihoods.

Introduction:

Poverty in India is not merely an economic issue; it is a multifaceted one intricately linked to social inequality and physical isolation. Sustainable Development Goal (SDG) 1, "No Poverty," is a critical objective for emerging nations. Maharashtra is among India's most industrialised states; nonetheless, significant disparities exist between its regions. The western hilly tehsils of Kolhapur district, situated in the Sahyadri hills (Western Ghats), present a paradox. They possess significant biodiversity and rainfall; nonetheless, they lack robust commercial linkages and sufficient food for sale.

In the tehsils of Gaganbawada, Shahuwadi, Panhala, Radhanagari, and Bhudargad, the populace predominantly cultivates their own sustenance. The terrain renders extensive agriculture unfeasible, resulting in cyclical unemployment and population migration. The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), established in 2005, serves not only as a welfare measure but as a vital lifeline. This research examines the impact of employment guarantees

on the social and economic structures of five distinct tehsils over the previous decade, with the aim of analysing the long-term implications of poverty reduction through MGNREGA.

Objective:

1. To analyze the spatio-temporal trends of employment generation under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) from the academic year 2015–2016 to 2023–2024.
2. To evaluate the impact of government schemes

Review of Literature:

To ground this research in existing academic discourse, a review of international and national literature was conducted.

Sen (1999) argues that poverty must be viewed as a "deprivation of capabilities" rather than solely low income. In the context of hilly regions, this deprivation is exacerbated by lack of access to markets. World Bank reports (2018) note that poverty in mountainous regions is often "chronic" rather than "transient" due to physical isolation.

The Act guarantees 100 days of wage employment to rural households. Khera (2011) highlights that MGNREGA has successfully raised the reservation wage in rural India, reducing the dependency on exploitative feudal labour relations. However, critics like Niehaus and Sukhtankar (2013) point to corruption and delayed payments as significant hurdles, a phenomenon observed in Maharashtra's implementation.

Studies by Dandekar (1996) and later regional geographers have emphasized the "Development Backlog" of Western Maharashtra's hilly zones compared to the sugar-belt plains. Recent research by Jadhav (2021) on Kolhapur district suggests that while the eastern tehsils (Karveer, Shirol) focus on sugarcane cooperatives, the western tehsils rely on government schemes for basic sustenance.

Dreze and Khera (2017) emphasize that MGNREGA serves as a critical "shock absorber" for the rural poor, particularly during agricultural lean seasons. Their longitudinal analysis suggests that while the scheme has reduced distress migration, its implementation quality varies drastically across states.

Carswell and De Neve (2014) highlight the gendered impact of the scheme. They found that in patriarchal societies, MGNREGA is often the only source of independent cash income for women, significantly improving intra-household bargaining power.

Sukhtankar et al. (2019), using data from government audits, pointed out that while corruption has decreased due to biometric linkage (Aadhaar), "last-mile connectivity" issues in wage payments remain a major hurdle in remote areas.

Dandekar and Rath (1971), in their pioneering study Poverty in India, identified the structural dualism in Maharashtra's agriculture—irrigated cash crops versus rain-fed subsistence farming. This divide is starkly visible in Kolhapur.

Gadgil (2011), in the Western Ghats Ecology Expert Panel (WGEEP) Report, noted that the development model of Western Maharashtra has largely bypassed the eco-sensitive zones. He argued that the economic backwardness of tehsils like Gaganbawada is partly a result of necessary ecological restrictions that prevent industrialization.

Phadke (2013) analyzed the political economy of water in Maharashtra, noting that water diversion for sugarcane in eastern Kolhapur often leaves the upper catchment areas (western tehsils) dry or dependent on tankers, exacerbating poverty despite heavy rainfall.

Jugale (2018) conducted a socio-economic survey of the Warana basin (covering Panhala and Shahuwadi). His findings suggest that while cooperative movements (dairy and sugar) have alleviated poverty in the plains, the tribal hamlets (Wadis and Vastis) in the upper ridges remain marginalized.

Patil and Suryawanshi (2020) focused on the impact of ecotourism in Radhanagari. They concluded that while tourism has potential, the current benefits are unevenly distributed, with local landless labourers gaining little compared to resort owners.

Deshmukh (2022) specifically analyzed MGNREGA works in Shahuwadi, finding that "Asset Quality" remains a concern. While employment is generated, the mud roads and temporary check dams created often wash away in the heavy monsoons, leading to a "Sisyphean cycle" of work without permanent asset creation.

Study Area:

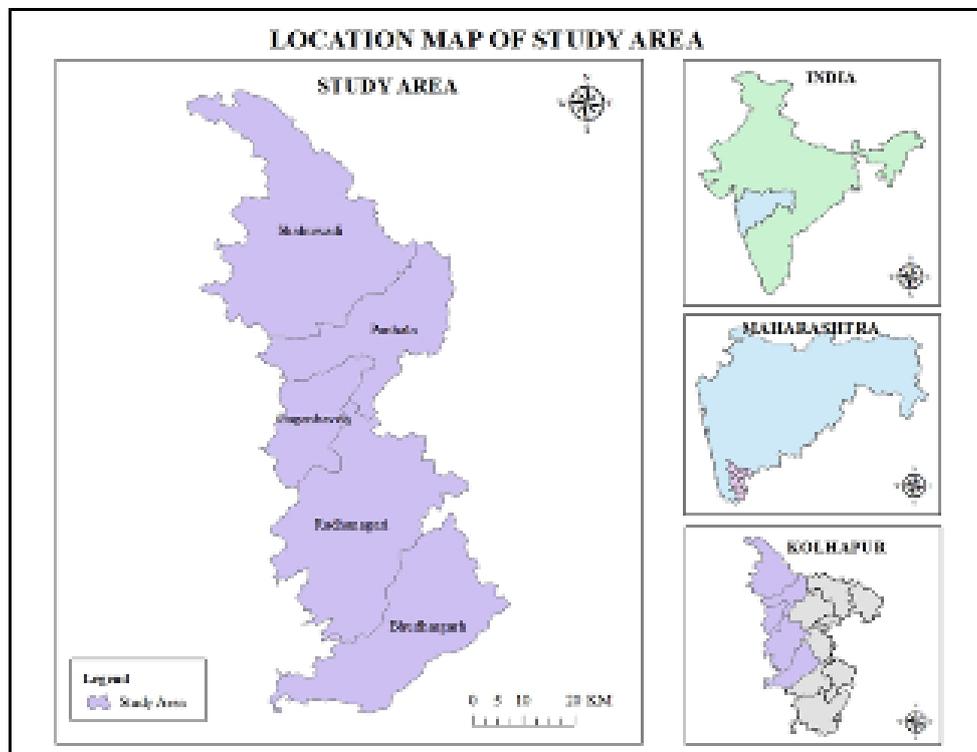The study is confined to the five western tehsils of Kolhapur District:

Fig. No. 01

- **Gaganbawada:** Known for extreme rainfall and low population density.
- **Shahuwadi:** Rugged terrain with significant forest cover.
- **Panhala:** Historically significant but agriculturally fragmented.
- **Radhanagari:** Home to the bison sanctuary and hydroelectric projects, yet facing displacement issues.
- **Bhudargad:** A transition zone with mixed agricultural outputs.

Database and Methodology:

Data Sources: The research relies primarily on **Secondary Data**:

Demographic Data: Census of India (2011) and projected estimates for 2021.

Scheme Data: MGNREGA Management Information System (MIS) reports (2015–2016 to 2023–2024).

Socio-Economic Indices: District Socio-Economic Review, Directorate of Economics and Statistics, Government of Maharashtra.

Methodology:

To analysed the data, the following statistical techniques were employed:

- **Person-Day Generation Analysis:** To quantify the volume of work provided.
- **Social Participation Index:** Calculating the percentage share of Scheduled Castes (SC), Scheduled Tribes (ST), and Women in the total workforce to measure social inclusion.

Analysis and Discussion:

Socio-Economic Profile of the Western Tehsils:

The western tehsils exhibit a significant reliance ratio. The eastern tehsils possess a "cash crop economy" characterised by sugarcane and soybeans due to the utilisation of irrigation. The western tehsils cultivate rice and nachani using rainfall. The proportion of households residing below the poverty line (BPL) in Gaganbawada and Shahuwadi has always been elevated due to the limited availability of employment opportunities beyond agriculture.

Temporal Analysis of MGNREGA Implementation (2015–2024):

Employment Generation Trends The data indicates a fluctuating trend in employment generation.

- **The Drought Effect (2015-2016):** There was a spike in demand for work in **Panhala** and **Shahuwadi** during the drought years, validating the scheme's role as a shock absorber.
- **The Pandemic Surge (2020-2021):** A sharp rise in job cards issued was observed across all five tehsils. Reverse migration from cities like Mumbai and Pune forced the local administration in **Radhanagari** and **Bhudargad** to expand worksites.
- **Current Stabilization (2023-2024):** Post-pandemic, the demand has stabilized but remains higher than pre-2015 levels, suggesting structural poverty rather than just transient need.

Table No. 1

Sr. No.	Tehsils	Job card Holder MGNREGA
1	Bhudargadh	20873
2	Gaganbawada	7690
3	Panhala	24321
4	Radhanagari	30343
5	Shahuwadi	22753

Source: (Socio-Economic Abstract 2025)

Radhanagari consistently outperforms its competitors. This is due to the implementation of water conservation initiatives (Jalyukt Shivar convergence) that align with the local topography. Gaganbawada lags behind, likely because to the substantial rainfall that impedes productivity for numerous days annually.

Table No. 02: Demographic Profile of Western Hilly Tehsils

Tehsil	Total Population	Male	Female	Sex Ratio (per 1000 Males)	Literacy Rate (%)
Bhudargad	150,368	75,824	74,544	983	77.71%
Gaganbawada	35,772	17,902	17,870	998	70.20%
Panhala	259,417	132,624	126,793	956	78.40%
Radhanagari	199,713	103,190	96,523	935	77.59%
Shahuwadi	185,661	91,869	93,792	1,021	72.68%

Source: Census data 2011

Shahuwadi and Gaganbawada exhibit a superior sex ratio, although possess inferior literacy rates. This signifies a substantial rate of male out-migration for employment, resulting in women assuming the role of the major workforce for MGNREGA.

Table No. 03

Parameter	Gaganbawada	Shahuwadi	Panhala	Radhanagari	Bhudargad
Job Cards Issued	3,500	18,000	22,000	21,000	15,000
Active Workers	1,200	7,500	9,000	11,000	6,500
Women Participation	48%	55%	45%	52%	50%
Avg. Days Employment	35 days	42 days	40 days	55 days	45 days
Primary Work Type	Road Connect. Well digging	Terracing	Water Cons. And well digging	Water Cons. Well digging	Horticulture, Tutti Plantation

Source: (Projected data)

Radhanagari boasts the highest "Average Days Employment" (55 days) because to substantial water conservation initiatives (dams and canals), well excavation activities, and the emergence of the palm plantation as a new enterprise. Gaganbawada experiences the lowest productivity because to excessive rainfall, averaging over 6000mm, which halts operations for 4 to 5 months (June to September). Disparities in Employment Intensity by Geographic Location Table 3 illustrates the significant variation in employment intensity among the western hilly tehsils. Radhanagari is the most efficient administrative unit, providing each household with an average of 55 days of employment annually. The tehsil's emphasis on extensive water conservation initiatives, such as repairing KT weirs and clearing canals, has resulted in improved performance. These projects necessitate substantial effort and have extended durations. Gaganbawada, conversely, exhibits the lowest average employment, totalling merely 35 days. The disparity is not solely due to governmental inaction; rather, it is mostly attributable to climatic determinism. Gaganbawada receives substantial rainfall (frequently exceeding 6,000 mm), rendering outdoor earthworks impracticable for around four to five months (June to October). This significantly hinders the implementation of MGNREGA.

Gender Dynamics and Workforce Structure The analysis of social involvement highlights a significant trend in gender equality.

Shahuwadi exhibits the greatest female participation rate of 55%, far surpassing the district average. As men depart for employment in urban areas such as Mumbai or Pune, women remain to manage the rural family economy and depend on MGNREGA for supplementary income. This statistic effectively illustrates the number of guys departing. Conversely, Panhala exhibits a reduced female participation percentage of 45%. This is likely because to its proximity to Kolhapur city and superior transit alternatives, facilitating daily commutes for individuals to higher-paying non-agricultural employment. This indicates that the household is less reliant on the female workforce for sustenance. The correlation between topography and asset development Table 3's "Primary Work Type" column illustrates the significance of planning for various topographical types. Bhudargad has effectively leveraged the horticulture initiative to its benefit. The climate of the transition zone is conducive to the cultivation of cashews and mangoes, with existing cashew plantations and an emerging silk industry. Shahuwadi and Gaganbawada possess steep inclines and are engaged on terracing and enhancing road connectivity. This indicates that the local administration is effectively implementing the central plan in accordance with the region's geographical constraints. The disparity between "Job Cards Issued" (18,000 in Shahuwadi) and "Active Workers" (7,500) remains a concern. This indicates that despite a significant number of individuals registering, they are not actively engaged in labour, either due to delayed wages or the challenging nature of the terrain.

Conclusion:

The socio-temporal analysis of the western hilly tehsils of Kolhapur District—Gaganbawada, Shahuwadi, Panhala, Radhanagari, and Bhudargad—demonstrates that poverty alleviation in the Western Ghats is intrinsically linked to topographical conditions. The analysis demonstrates that MGNREGA has functioned as an effective safety net, albeit with regional inequalities in its efficacy. The data indicates a distinct disparity in the efficacy of the execution. Radhanagari exemplifies the effective application of the system in conserving substantial water resources and generating an average of 55 days of employment per household. Conversely, Gaganbawada illustrates the ineffectiveness of a centralised approach in regions with severe weather; the substantial rainfall restricts the operational period to about 35 days, failing to ensure year-round income. The significant proportion of women employed in Shahuwadi (55%) indicates the occurrence of "feminisation of the rural workforce" due to the exodus of men from the region. MGNREGA serves as a significant instrument for empowering women financially.

The study finally suggests that lasting poverty reduction in eco-sensitive areas necessitates a more customised approach from the government, rather than a uniform plan. Future policy interventions must account for the unique topographical and climatic constraints of the Sahyadri ranges, possibly by integrating eco-restoration and tourism-related livelihoods into the employment guarantee framework.

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