

A Study on the Impact of Deen Dayal Upadhyaya Gram Jyoti Yojana on Sustainable Livelihood Development in Garo Hills, Meghalaya

Smti Anjali Mecheng Sangma¹, Prof Sanjib Ker Dutta²

¹Ph.D, Scholar, Department of Rural Development, University of Science & Technology Meghalaya

²Department of Rural Department, University of Science & Technology Meghalaya

Abstract

This study examines the impact of the Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY) on the socioeconomic conditions of rural communities in the Garo Hills of Meghalaya. Despite rich natural resources and strong traditional practices, the region faces persistent challenges such as unemployment, poverty, and environmental degradation. Using a mixed-method approach, the research explores how rural electrification under DDUGJY has enabled livelihood diversification in areas such as piggyery, organic farming, forest-based enterprises, and eco-tourism. These activities have enhanced food security, income generation, and women's empowerment. Findings highlight the importance of traditional knowledge, community participation, and institutional support—particularly from government programs and self-help groups (SHGs)—in fostering rural development. The study emphasizes the need for inclusive, sustainable, and culturally appropriate policies to build local capacities and ensure long-term livelihood security for tribal communities in the Garo Hills.

Keywords: DDUGJY, Rural Electrification, Sustainable Livelihood, Rural Development, Garo Hills, Meghalaya

Introduction

Rural development in India has historically been shaped by government initiatives aimed at reducing unemployment, poverty, and inequality, while also promoting sustainable livelihood opportunities. The Garo Hills region of Meghalaya, inhabited predominantly by indigenous Garo communities, is rich in natural resources and known for its traditional farming systems and forest-based economy. However, the region continues to face structural challenges, including poor infrastructure, limited market access, lack of livelihood diversification, and declining environmental sustainability. To address these issues, the Government of India launched the Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY), a flagship program designed to strengthen rural power infrastructure and ensure reliable electricity access. Electrification has emerged as a driver of socioeconomic transformation in rural and tribal areas such as the Garo Hills, enabling small-scale enterprises, improved agricultural practices, better healthcare and education, and enhanced opportunities for women's participation in economic activities. This study investigates the role of DDUGJY in supporting sustainable livelihood development in the Garo Hills. By examining its impact on income generation, food security, employment opportunities, and community empowerment, the research contributes to broader discussions on rural transformation in tribal contexts.

It also highlights the importance of integrating indigenous knowledge with modern, energy-based livelihood options to ensure inclusive and culturally sensitive development. The study aims to provide valuable insights for communities, policy makers, and development practitioners seeking pathways to sustainable rural futures.

Objectives of the Study

- To assess the socio-economic benefits of rural electrification for households under DDUGJY.
- To examine the role of women and community institutions in utilizing DDUGJY for livelihood development.
- To analyze the challenges faced in sustaining electrification-based livelihood initiatives.

Review of Literature

- **Bhattacharyya (2013)** critically evaluated rural electrification strategies, comparing centralized grid extension with decentralized off-grid solutions such as solar systems, mini-grids, and bioenergy. The study argued that decentralized systems are not only cost-effective but also promote social transformation, livelihood diversification, and local development.
- **Khandker et al. (2013)** found that access to electricity significantly improved rural well-being, reduced child mortality, and enhanced healthcare services through better facilities, vaccine storage, and reduced indoor air pollution.
- **Ministry of Power (2015)** outlined the objectives of DDUGJY, including feeder separation, metering, infrastructure strengthening, and rural electrification, to bridge the rural–urban development gap.
- **Ministry of Power, Government of India (2018)** reviewed the progress of DDUGJY alongside Saubhagya and IPDS, highlighting variations across states. While some states like Telangana and Gujarat advanced rapidly, others, including several in the Northeast, lagged behind. Saubhagya aimed at universal household electrification with a focus on last-mile connectivity.
- **24x7 Power for All – Meghalaya (2017)**, a joint initiative of the Government of India and the Government of Meghalaya, sought to provide round-the-clock power supply to all households, businesses, and industries. The initiative stressed electricity as a key driver of economic growth and social well-being, emphasizing reforms in power distribution, renewable energy, and cross-border electricity trade with Bangladesh.

Methodology

The study followed a mixed-method approach, combining household surveys with qualitative interviews involving SHGs, government officials, and community leaders. Data were collected across selected villages in all five districts of the Garo Hills East, West, South, North, and South West using structured schedules, focus group discussions, and field observations.

Livelihood Practices Enabled by DDUGJY

Reliable electricity access has facilitated:

- Organic farming through irrigation and storage.
- Piggery and poultry with improved management and processing.
- Processing and marketing of forest products such as bamboo, jackfruit, and medicinal plants.
- Eco-tourism and community-led initiatives supported by electrification.

Socio-Economic Benefits

- Growth of household income and small-scale enterprises.
- Improved food security, education, and healthcare.
- Greater participation of women in entrepreneurship and decision-making.

Role of Institutions

Support from DDUGJY, complemented by programs such as MegLIFE and NRLM, has been crucial. SHGs and Integrated Village Cooperative Societies have utilized electricity to diversify livelihoods and build financial resilience. However, challenges remain, including inadequate infrastructure, limited value-chain development, technical gaps, and insufficient awareness or training on the effective use of electricity.

Conclusion

The study concludes that DDUGJY has played a transformative role in enhancing sustainable livelihoods in the Garo Hills by enabling income diversification and social empowerment. Nonetheless, long-term success depends on strengthening market linkages, infrastructure, and local capacities.

Key Findings and Discussion

The research demonstrates that DDUGJY has supported diversification into income-generating activities such as organic farming, piggery, poultry, and small-scale forest product processing. These activities reduce dependence on shifting cultivation while raising household income. Women, particularly through SHGs, have been central to electricity-based enterprises such as tailoring, food processing, and eco-tourism. Reliable electricity has reduced time spent on domestic tasks, enabling greater participation in income generation and decision-making. Community-based organizations, particularly SHGs and village cooperatives, have facilitated training, credit access, and knowledge sharing. However, institutional capacity varies across districts, underlining the need for targeted strengthening. The study also found improvements in healthcare, education, and overall living standards, with electricity enabling better study environments, business operations, and medical services. Integration of electrification with traditional practices such as eco-tourism projects combining cultural heritage with energy-enabled infrastructure has enhanced community acceptance and sustainability. Overall, DDUGJY has improved key socioeconomic indicators, empowered women, and promoted sustainable rural livelihoods in the Garo Hills.

Recommendations

- Strengthen SHGs and cooperatives for productive use of electricity.
- Develop market access and value-chain linkages for electricity-enabled enterprises.
- Promote climate-resilient and energy-efficient agricultural practices.
- Provide training for women and youth in entrepreneurship and technology.
- Integrate indigenous ecological knowledge with modern, electricity-based livelihood strategies.

References

1. Bhattacharyya, S. C. (2013). *Rural electrification through decentralised off-grid systems in developing countries*. Springer.
2. Khandker, S. R., Barnes, D. F., & Samad, H. A. (2013). *Welfare impacts of rural electrification: Evi-*

dence from developing countries. The World Bank.

3. Ministry of Power. (2015). *Deen Dayal Upadhyaya Gram Jyoti Yojana*. Government of India.
4. Government of India, Ministry of Power, & Government of Meghalaya. (2017). *24x7 Power for All – Meghalaya: A joint initiative of Government of India and Government of Meghalaya*.
5. Ministry of Power, Government of India. (2018, February 17). *Long way to go: Progress under the IPDS, DDUGJY and Saubhagya*. Ministry of Power. <https://www.powermin.nic.in>