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Digital Empowerment of Rural Women: Opportunities and Challenges

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ABSTRACT

Digital technologies have become a powerful instrument for promoting inclusive growth, economic development, and social transformation. In developing countries such as India, digital empowerment has emerged as a critical strategy for improving the socio-economic status of rural women. Access to digital tools, internet connectivity, online education, digital financial services, and e-governance has created new opportunities for women to participate in economic activities, improve their livelihoods, access healthcare, and engage in decision-making processes. However, despite significant progress under initiatives such as Digital India, PMGDISHA, and the National Rural Livelihood Mission, rural women continue to face several barriers including digital illiteracy, inadequate infrastructure, affordability issues, socio-cultural norms, and concerns regarding online safety. This paper examines the opportunities and challenges associated with the digital empowerment of rural women in India. It also reviews government initiatives, identifies existing gaps, and proposes policy recommendations for achieving inclusive digital development.

Keywords: Digital literacy, Digital India, Financial inclusion, Women empowerment, ICT, Rural development.

1. Introduction

Digital transformation has become one of the defining features of the twenty-first century. The rapid advancement of Information and Communication Technology (ICT), smartphones, internet connectivity, artificial intelligence, cloud computing, and digital financial systems has significantly transformed societies worldwide. Digital technologies are no longer confined to urban populations but are increasingly reaching rural communities through government initiatives, affordable smartphones, and improved internet infrastructure.

According to the Census of India (2011), women constitute nearly half of India's population, with approximately two-thirds residing in rural areas. Rural women play a

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crucial role in agriculture, livestock management, household activities, handicrafts, and informal employment. Despite their significant contributions, they continue to experience inequalities in education, healthcare, employment opportunities, property ownership, financial independence, and decision-making.

According to UN Women (2023), digital empowerment refers to enabling individuals with digital skills, access to technology, confidence, and opportunities to effectively utilize digital resources for personal and community development. For rural women, digital empowerment goes beyond access to smartphones; it involves acquiring digital literacy, participating in online education, accessing government services, conducting digital financial transactions, engaging in entrepreneurship, and improving social participation.

India's Digital India Mission, launched in 2015, has accelerated digital inclusion by promoting broadband connectivity, digital governance, electronic service delivery, and digital literacy (Ministry of Electronics and Information Technology, 2025). Various government schemes specifically target women and rural populations, aiming to bridge the digital divide. However, significant disparities remain between urban and rural areas and between men and women in terms of internet usage and digital skills.

According to the GSMA Mobile Gender Gap Report (GSMA, 2025), women in low- and middle-income countries remain significantly less likely than men to use mobile internet. In India, although smartphone ownership among women has increased considerably, a substantial digital gender gap still exists, particularly in rural regions.

Digital empowerment therefore represents both an opportunity and a challenge. While technology can enhance women's economic participation and social inclusion, unequal access may further widen existing inequalities if systemic barriers remain unaddressed.

2. Literature Review

Recent literature indicates that digital technologies have become a major driver of women's socio-economic empowerment. However, despite improvements in digital infrastructure and smartphone penetration, a significant digital gender gap persists, particularly in rural areas.

2.1 Global Scenario

The GSMA Mobile Gender Gap Report 2026 reports encouraging but slow progress in digital inclusion (GSMA, 2026). Women in low- and middle-income countries (LMICs) are still 12% less likely than men to use mobile internet, representing approximately 200 million fewer women online. Around 810 million women remain unconnected, with more than two-thirds living in South Asia and Sub-Saharan Africa. Although the gender gap in mobile ownership has narrowed slightly, affordability, digital skills, literacy, and online safety continue to be the primary barriers to women's digital inclusion.

The GSMA Mobile Gender Gap Report 2025 similarly highlights that progress in closing the mobile internet gender gap has largely stalled (GSMA, 2025). The report found that 63% of women in LMICs use mobile internet, yet women remain 14% less likely than men to access mobile internet. Approximately 885 million women remained offline in 2024, with South Asia accounting for a substantial proportion of the digitally excluded population. The report emphasizes that improving affordability, digital literacy, and online safety is essential for women's empowerment.

According to the International Telecommunication Union (ITU, 2024), universal and meaningful digital connectivity requires more than internet access. Digital inclusion depends on affordable connectivity, digital literacy, relevant digital content, cybersecurity awareness, and supportive policy environments. The ITU (2024) stresses that women in rural communities continue to face multiple disadvantages in accessing digital technologies

because of educational inequalities and socio-cultural barriers. These findings underline the need for gender-responsive digital policies.

The World Economic Forum's Global Gender Gap Report 2025 ranks India 131st out of 148 countries, indicating persistent gender disparities in economic participation and digital opportunities (World Economic Forum, 2025). The report emphasizes that increasing women's participation in digital education, entrepreneurship, and technology-based employment is critical for inclusive economic growth.

UN Women's (2025) Gender Snapshot warns that the gender digital divide could widen with the rapid adoption of artificial intelligence. It is estimated that 28% of women's jobs globally are exposed to AI-related transformation compared with 21% of men's jobs, highlighting the urgency of equipping women with advanced digital skills to participate in the future digital economy.

The World Bank's (2024) digital development research emphasizes that digital technologies improve access to financial services, education, healthcare, agricultural extension services, and government welfare programmes. However, the benefits of digital transformation remain uneven because women, particularly in rural areas, have lower levels of device ownership, internet use, and digital skills. The World Bank (2024) recommends investments in affordable broadband, digital literacy programmes, and gender-inclusive digital policies to bridge these disparities.

Recent evidence therefore suggests that digital technologies have enormous potential to empower rural women by expanding access to education, healthcare, financial services, entrepreneurship, and governance. However, realizing these benefits requires addressing structural barriers such as affordability, digital literacy, infrastructure deficits, and gender-based social norms.

2.2 Indian Scenario

Empirical studies focused on India provide further insight into the digital empowerment of rural women. Kumar et al. (2026) examined digital literacy as a pathway toward empowering rural women and highlighted the role of structured skill-building interventions in improving socio-economic outcomes. Mukherjee et al. (2024) studied a digital skills training programme for poor, unemployed working-age women in India and found that such interventions can enhance employability and self-confidence. Udisha and Philomina (2024) examined how mobile technology has supported rural women farmers in Kerala, demonstrating the potential of digital tools to bridge agricultural information gaps. Gupta et al. (2025), in a quasi-experimental study, evaluated the design and implementation of a digital literacy training programme in rural India and reported measurable improvements in digital competence among participants.

Indradevi et al. (2025) applied the Unified Theory of Acceptance and Use of Technology (UTAUT) model to assess the role of Digital India initiatives in empowering rural women. Tharash (2025) presented a case study from Karnataka on the empowerment of rural women through digital media, while Meenu et al. (2025) explored digital literacy as a pathway to socioeconomic inclusion for rural women. Jawale and Reddy (2023) found that barriers to digital inclusion extend beyond bandwidth and infrastructure to include deficits in self-esteem and confidence among rural women and third-gender individuals. A bibliometric and scoping review mapped the growing body of research examining the impact of digitalisation on rural women's socio-economic status ("Exploring the Impact of Digitalisation," 2025). Anand et al. (2025) examined whether earning money empowers women in India, offering evidence on the link between economic participation and women's broader empowerment.

Official data sources further illustrate the scale of India's digital divide. The National Sample Survey Office's Comprehensive Modular Survey: Telecom provides statistics on internet access, smartphone ownership, digital skills, and telecom usage among Indian households (Ministry of Statistics and Programme Implementation, 2025). The National Family Health Survey (NFHS-6) includes data on women's mobile phone ownership, internet usage, and financial inclusion (Ministry of Health and Family Welfare, 2025). NITI Aayog's (2026) *DPI@2047 for Viksit Bharat: A Strategic Roadmap* examines how Digital Public Infrastructure—including Aadhaar, UPI, and DigiLocker—can promote inclusive digital growth and reduce digital exclusion, while NITI Aayog's (2025) India Voluntary National Review assesses India's progress toward the Sustainable Development Goals, including digital inclusion and gender equality.

The Ministry of Electronics and Information Technology's (2025) Digital India Programme reports assess the implementation of digital literacy, e-governance, and digital infrastructure schemes, and its PMGDISHA progress reports specifically evaluate rural digital literacy initiatives among women and marginalized communities (Ministry of Electronics and Information Technology, 2024). The Department of Telecommunications' (2025) BharatNet progress reports present data on rural broadband connectivity and village-level optical fibre deployment. The Telecom Regulatory Authority of India (2025) publishes annual statistics on telecom subscriptions, internet penetration, and rural-urban digital connectivity, and the Reserve Bank of India's (2025) Digital Payments Index tracks the growth of digital payments and financial inclusion across the country. Together, these datasets and reports provide a comprehensive evidence base for assessing the digital divide facing rural women in India.

3. Major Challenges

Despite considerable progress in digital infrastructure and the implementation of various government initiatives such as Digital India, BharatNet, and the Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA), rural women in India continue to experience significant barriers to digital inclusion. The digital divide is no longer limited to access to technology; it also encompasses disparities in digital skills, affordability, social acceptance, safety, and meaningful use of digital technologies. These interconnected challenges hinder rural women's ability to fully participate in the digital economy and benefit from digital governance, education, healthcare, and financial services.

3.1 Limited Digital Infrastructure

Although internet connectivity has expanded rapidly in India, digital infrastructure remains unevenly distributed across rural and remote regions. Many villages continue to experience poor broadband connectivity, weak mobile network coverage, slow internet speeds, and frequent power outages. Such infrastructural deficiencies restrict access to online education, telemedicine, digital banking, e-commerce, and government services. In hilly, tribal, and geographically isolated areas, inadequate telecommunications infrastructure further widens the digital divide. Without reliable internet and uninterrupted electricity, digital empowerment initiatives cannot achieve their intended outcomes.

3.2 Affordability of Digital Devices and Internet Services

Economic inequality remains one of the most significant barriers to digital inclusion. Although smartphone prices have declined in recent years, purchasing smartphones, tablets, or laptops remains financially challenging for many rural households. In addition, recurring expenses for internet data plans, device maintenance, and repairs discourage continuous digital engagement. Within low-income families, digital devices are often prioritized for male members or children, limiting women's independent access to technology. Financial constraints therefore contribute directly to gender-based digital exclusion.

3.3 Low Digital Literacy

Access to digital devices alone does not guarantee digital empowerment. Many rural women lack the knowledge and practical skills required to operate smartphones, navigate digital applications, use government portals, conduct online banking, or participate in digital learning. Limited literacy and low educational attainment further reduce their ability to understand digital content and utilize online services effectively. Moreover, many women are unfamiliar with cybersecurity practices, making them vulnerable to online fraud and misinformation. Continuous digital literacy training is therefore essential for meaningful digital inclusion.

3.4 Gender-Based Social and Cultural Norms

Deep-rooted patriarchal norms continue to influence women's access to technology in many rural communities. Cultural beliefs often discourage women from owning mobile phones or using the internet independently. Household responsibilities, restrictions on mobility, and limited decision-making power further reduce opportunities for digital participation. In some families, women require permission from male relatives to access digital devices or visit Common Service Centres (CSCs). These social constraints significantly hinder women's digital empowerment despite improvements in technological infrastructure.

3.5 Educational Disparities

Education plays a crucial role in determining digital competence. Rural women generally have lower educational attainment than men due to historical gender inequalities, early marriage, school dropout, and limited access to higher education. Lower levels of education reduce confidence in using digital technologies and make it difficult to understand online information, complete digital transactions, or access e-governance services. Improving female education is therefore fundamental to bridging the digital divide.

3.6 Language and Local Content Barriers

Most digital platforms, government websites, educational resources, and mobile applications are primarily available in English or a limited number of regional languages. Rural women who communicate in local dialects often face difficulties understanding digital interfaces and online content. The lack of culturally relevant and localized digital content reduces meaningful engagement with technology. Developing multilingual applications and voice-based digital services can significantly improve accessibility for rural women.

3.7 Online Safety and Cybersecurity Concerns

Cybersecurity has emerged as a major concern for first-time internet users. Rural women frequently encounter risks such as cyber fraud, phishing attacks, identity theft, financial scams, cyberbullying, misinformation, and online harassment. Fear of these threats discourages many women from adopting digital technologies or conducting online financial transactions. Limited awareness of cybersecurity practices further increases their vulnerability. Strengthening cyber awareness and establishing secure digital environments are essential for encouraging greater participation.

3.8 Lack of Digital Confidence and Self-Efficacy

Many rural women hesitate to use digital technologies because they fear making mistakes, damaging devices, losing money during online transactions, or being unable to resolve technical problems. This lack of confidence often results from limited exposure to technology and inadequate training opportunities. Psychological barriers can persist even after women gain access to smartphones or internet connectivity. Mentorship, peer learning, and community-based digital training programmes can help build confidence and encourage independent technology use.

3.9 Persistent Digital Gender Gap

Despite rapid digital expansion in India, significant gender disparities remain in smartphone ownership, internet usage, digital skills, and participation in online economic activities. According to the GSMA Mobile Gender Gap Report (GSMA, 2026), women in low- and middle-income countries remain 12% less likely than men to use mobile internet, and South Asia continues to experience one of the largest gender gaps globally. This imbalance restricts women's access to employment opportunities, financial services, online education, and digital entrepreneurship. Addressing the digital gender gap requires targeted gender-sensitive policies and sustained investments in women's digital inclusion.

3.10 Limited Access to Digital Financial Services

Digital financial inclusion has improved considerably through initiatives such as Jan Dhan Yojana, UPI, Aadhaar-enabled Payment Systems (AePS), and Direct Benefit Transfer (DBT) (Reserve Bank of India, 2025). However, many rural women still face difficulties in accessing and effectively using digital financial services. Challenges include limited financial literacy, inadequate understanding of mobile banking applications, lack of smartphone ownership, concerns regarding online fraud, and dependence on intermediaries for digital transactions. Strengthening digital financial literacy is essential for enhancing women's economic empowerment.

3.11 Inadequate Digital Skills Training

Although programmes such as PMGDISHA have significantly improved digital literacy (Ministry of Electronics and Information Technology, 2024), their coverage and quality remain uneven across regions. Many training programmes focus only on basic smartphone operations without developing advanced digital competencies such as online entrepreneurship, digital marketing, cybersecurity, artificial intelligence applications, or e-commerce management. Furthermore, the absence of regular follow-up training limits long-term skill retention. Continuous capacity-building initiatives are necessary to ensure sustainable digital empowerment.

3.12 Accessibility Challenges for Marginalized Groups

Women belonging to Scheduled Castes (SCs), Scheduled Tribes (STs), minority communities, economically weaker sections, elderly women, and women with disabilities often experience multiple forms of exclusion. They face additional barriers related to poverty, social discrimination, inaccessible technologies, inadequate assistive devices, and limited institutional support. Inclusive digital policies must address these intersecting inequalities to ensure that no group is left behind in the digital transformation process.

3.13 Weak Institutional Coordination

Digital empowerment programmes are implemented by multiple ministries, state governments, local authorities, non-governmental organizations, and private sector institutions. However, inadequate coordination among these stakeholders often results in fragmented implementation, duplication of efforts, inconsistent monitoring, and inefficient resource utilization. A coordinated, multi-stakeholder approach with clearly defined roles and measurable outcomes is necessary to maximize the impact of digital inclusion initiatives.

3.14 Resistance to Technological Change

Technological adoption is often influenced by social attitudes and behavioural factors. Many rural communities remain hesitant to adopt digital technologies because of limited awareness, distrust of online platforms, fear of financial losses, and preference for traditional methods of communication and financial transactions. Older women, in particular, may perceive digital technologies as complex or unnecessary. Community awareness campaigns, demonstration projects, and peer support networks can help overcome resistance and encourage greater acceptance of digital technologies.

3.15 Measuring Digital Inclusion and Impact

Evaluating the success of digital empowerment initiatives remains a major challenge due to the lack of standardized indicators and comprehensive gender-disaggregated data. Existing assessments often focus on infrastructure development or internet access while overlooking meaningful indicators such as digital skills, frequency of use, quality of engagement, economic outcomes, and improvements in decision-making capacity. Developing robust monitoring and evaluation frameworks is essential for assessing the long-term impact of digital inclusion programmes and guiding evidence-based policy decisions.

The digital divide among rural women is a multidimensional challenge influenced by economic, social, educational, cultural, technological, and institutional factors. Bridging this divide requires an integrated strategy that combines affordable digital infrastructure, universal digital literacy, gender-sensitive policies, localized digital content, secure online environments, financial inclusion, and continuous capacity building. Addressing these challenges will not only enhance women's digital participation but also contribute to inclusive economic growth, gender equality, and the achievement of the Sustainable Development Goals (SDGs) (United Nations, 2025).

4. Ways Forward: Strategies to Bridge the Digital Divide

Achieving digital empowerment for rural women requires a comprehensive approach involving government agencies, private sector organizations, civil society, educational institutions, and local communities. The following strategies can help bridge the digital divide and ensure inclusive digital development.

4.1 Strengthen Digital Infrastructure

The government should accelerate the expansion of high-speed broadband and reliable mobile connectivity in rural and remote areas through initiatives such as BharatNet and the Universal Service Obligation Fund (USOF) (Department of Telecommunications, 2025). Ensuring uninterrupted electricity supply and affordable internet services is equally important for sustained digital access.

4.2 Promote Affordable Access to Digital Devices

Affordable smartphones, tablets, and internet services should be made available to women from economically weaker sections through subsidies, easy financing, or public-private partnerships. Community digital centres and shared digital facilities can further improve access for women who cannot afford personal devices.

4.3 Expand Digital Literacy and Capacity Building

Digital literacy programmes should move beyond basic smartphone use and include digital financial literacy, cybersecurity awareness, e-governance services, online education, artificial intelligence (AI), and digital entrepreneurship. Continuous training through schools, colleges, Self-Help Groups (SHGs), Common Service Centres (CSCs), and Panchayats can enhance women's digital competence.

4.4 Develop Gender-Sensitive Digital Policies

Government policies should explicitly address the digital gender gap by prioritizing women's access to technology, digital education, entrepreneurship, and employment opportunities. Gender-disaggregated data should be regularly collected to monitor progress and design evidence-based interventions.

4.5 Promote Digital Financial Inclusion

Financial institutions should strengthen awareness of digital payment platforms such as UPI, mobile banking, and Aadhaar-enabled Payment Systems (AePS) (Reserve Bank of India, 2025). Special financial literacy programmes should be organized for rural women to improve confidence in digital transactions and reduce dependence on intermediaries.

4.6 Encourage Women's Digital Entrepreneurship

Women entrepreneurs should be supported through access to e-commerce platforms, digital marketing training, business incubation, microfinance, and mentorship programmes. Government initiatives such as Startup India, Stand-Up India, and the National Rural Livelihood Mission (NRLM) can be leveraged to promote women-led digital enterprises (Ministry of Rural Development, 2024).

4.7 Create Local Language and Inclusive Digital Content

Government portals, educational resources, healthcare applications, and agricultural advisory services should be available in regional languages and local dialects. Voice-enabled technologies and user-friendly interfaces can make digital platforms more accessible to women with limited literacy.

4.8 Strengthen Cybersecurity Awareness

Awareness programmes should educate rural women about cyber fraud, phishing, identity theft, online harassment, misinformation, and safe digital practices. Establishing accessible cybercrime reporting mechanisms and providing legal support can increase women's confidence in using digital platforms.

4.9 Promote Community Participation

Self-Help Groups (SHGs), Anganwadi Centres, Panchayati Raj Institutions, NGOs, and local educational institutions should actively participate in promoting digital literacy and awareness. Community-based learning creates peer support networks that encourage sustained digital engagement.

4.10 Enhance Collaboration Among Stakeholders

Effective digital empowerment requires coordination among government ministries, private technology companies, telecom providers, educational institutions, civil society organizations, and international agencies. Public-private partnerships can accelerate digital inclusion through innovation, investment, and knowledge sharing.

4.11 Focus on Marginalized and Vulnerable Groups

Special attention should be given to women from Scheduled Castes (SCs), Scheduled Tribes (STs), minority communities, women with disabilities, and elderly women. Accessible technologies, assistive devices, and targeted digital literacy programmes are essential to ensure equitable participation.

4.12 Strengthen Monitoring and Evaluation

A robust monitoring framework with measurable indicators should assess digital access, digital literacy, internet usage, digital financial inclusion, and socio-economic outcomes. Regular evaluation using gender-disaggregated data will help improve programme effectiveness and policy implementation.

Bridging the digital divide is not merely a technological challenge but a socio-economic and developmental imperative. Digital empowerment of rural women can significantly enhance financial inclusion, education, healthcare, entrepreneurship, and civic participation. However, achieving meaningful digital inclusion requires addressing barriers related to infrastructure, affordability, digital literacy, gender norms, cybersecurity, and institutional coordination. A collaborative, gender-responsive, and inclusive approach can ensure that rural women become active participants in India's digital transformation, thereby contributing to sustainable development and the realization of Sustainable Development Goal 5 (Gender Equality) and SDG 9 (Industry, Innovation, and Infrastructure) (United Nations, 2025).

5. Policy Implications

The findings of this study suggest that bridging the digital divide among rural women requires a holistic and gender-responsive policy framework that addresses not only digital infrastructure but also affordability, digital literacy, social inclusion, and institutional coordination. The following policy implications are recommended to strengthen digital empowerment initiatives in India.

5.1 Adopt a Gender-Responsive Digital Inclusion Policy

Digital policies should explicitly recognize the unique challenges faced by rural women and incorporate gender-specific targets and measurable outcomes. Government programmes under Digital India should prioritize women's access to digital technologies, digital skills, and online economic opportunities (Ministry of Electronics and Information Technology, 2025). Gender-disaggregated data should be systematically collected to monitor progress and evaluate policy effectiveness.

5.2 Strengthen Rural Digital Infrastructure

Accelerating the implementation of BharatNet and improving last-mile connectivity should remain a national priority (Department of Telecommunications, 2025). Policymakers should ensure reliable broadband services, uninterrupted electricity supply, and affordable internet access in remote and underserved regions. Public investment in digital infrastructure is essential for reducing regional disparities in digital access.

5.3 Expand Digital Literacy through Community-Based Models

Digital literacy programmes such as Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) should be expanded with a greater focus on rural women (Ministry of Electronics and Information Technology, 2024). Training should extend beyond basic smartphone use to include digital financial literacy, cybersecurity, e-governance, digital entrepreneurship, artificial intelligence (AI) awareness, and responsible use of social media. Community-based institutions such as Self-Help Groups (SHGs), Common Service Centres (CSCs), Panchayati Raj Institutions, and educational institutions should be actively involved in delivering these programmes.

5.4 Improve Affordability of Digital Devices

The government, in collaboration with private sector organizations, should introduce subsidy schemes, low-interest financing, and installment-based purchase options for smartphones and digital devices for economically disadvantaged women. Affordable internet data plans and public Wi-Fi facilities in villages can further promote digital inclusion.

5.5 Promote Women's Digital Entrepreneurship

Policy measures should encourage women-led digital enterprises by providing access to skill development, business incubation, digital marketing support, microfinance, and e-commerce platforms. Strengthening linkages between women's Self-Help Groups and digital marketplaces can increase income generation and economic independence.

5.6 Enhance Cybersecurity and Digital Safety

National and state governments should implement large-scale awareness campaigns on cyber hygiene, online fraud prevention, digital privacy, and safe internet practices. Accessible grievance redressal mechanisms and cybercrime reporting systems should be strengthened to enhance women's confidence in using digital platforms.

5.7 Develop Inclusive Digital Content

Government departments and technology providers should ensure that digital services, educational resources, healthcare applications, and agricultural advisories are available in regional languages and local dialects. User-friendly interfaces, voice-enabled technologies,

and accessibility features should be incorporated to support women with limited literacy and persons with disabilities.

5.8 Strengthen Multi-Stakeholder Collaboration

Effective digital empowerment requires coordinated efforts among government ministries, telecom service providers, technology companies, educational institutions, non-governmental organizations, financial institutions, and international organizations. Public-private partnerships should be encouraged to leverage innovation, investment, and technical expertise in expanding digital inclusion.

5.9 Promote Continuous Monitoring and Evaluation

A comprehensive monitoring framework should be established to evaluate digital empowerment programmes based on measurable indicators such as internet usage, digital literacy, financial inclusion, online entrepreneurship, and socio-economic outcomes. Regular impact assessments using gender-disaggregated data will facilitate evidence-based policymaking and improve programme implementation.

5.10 Align Digital Empowerment with Sustainable Development Goals (SDGs)

Digital empowerment policies should be aligned with the United Nations Sustainable Development Goals, particularly SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation and Infrastructure), and SDG 10 (Reduced Inequalities) (United Nations, 2025). Integrating digital inclusion into broader rural development and women's empowerment strategies will contribute to inclusive, sustainable, and equitable growth.

The digital empowerment of rural women should be viewed as a strategic investment in India's socio-economic development rather than merely a technology initiative. Policies that simultaneously improve infrastructure, affordability, digital literacy, safety, and economic opportunities can significantly reduce the digital divide. A coordinated, inclusive, and gender-sensitive policy framework will enable rural women to participate effectively in the digital economy, enhance their livelihoods, strengthen social inclusion, and contribute to achieving the vision of Viksit Bharat 2047 (NITI Aayog, 2026).

6. Conclusion

Digital empowerment has emerged as a transformative force for achieving gender equality, inclusive growth, and sustainable rural development. For rural women, digital technologies provide unprecedented opportunities to access education, healthcare, financial services, government welfare schemes, entrepreneurship, agricultural information, and social networks. Government initiatives such as Digital India, BharatNet, Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA), the Jan Dhan-Aadhaar-Mobile (JAM) Trinity, Unified Payments Interface (UPI), and Common Service Centres (CSCs) have significantly expanded digital infrastructure and improved access to digital services across rural India.

Despite these advancements, the benefits of digital transformation remain unevenly distributed. Persistent challenges including inadequate digital infrastructure, affordability constraints, low digital literacy, gender-based social norms, educational disparities, language barriers, cybersecurity concerns, and limited digital confidence continue to restrict rural women's meaningful participation in the digital ecosystem. Recent national and international reports indicate that while internet penetration and smartphone ownership have increased substantially, the digital gender gap persists, particularly in rural and economically disadvantaged communities (GSMA, 2026). This highlights that digital inclusion is not merely about providing access to technology but also about ensuring the capability, confidence, and opportunity to use digital tools effectively and safely.

Bridging the digital divide requires a comprehensive, gender-responsive, and multi-stakeholder approach. Investments in reliable digital infrastructure must be complemented by affordable devices, continuous digital literacy programmes, localized digital content, cybersecurity awareness, and targeted support for women's digital entrepreneurship. Greater collaboration among government agencies, educational institutions, civil society organizations, the private sector, and local communities is essential to ensure that digital initiatives reach the most marginalized women. Regular monitoring using gender-disaggregated data and evidence-based policymaking will further strengthen the effectiveness and sustainability of digital inclusion programmes.

Ultimately, the digital empowerment of rural women is not only a matter of technological advancement but also a catalyst for social justice, economic resilience, and inclusive national development. Empowered with digital knowledge and skills, rural women can become active participants in the digital economy, informed decision-makers within their households and communities, successful entrepreneurs, and contributors to India's innovation-driven growth. Therefore, narrowing the digital divide should remain a national priority to realize the vision of *Viksit Bharat 2047* (NITI Aayog, 2026) and to advance the United Nations Sustainable Development Goals, particularly SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation and Infrastructure), and SDG 10 (Reduced Inequalities) (United Nations, 2025). Ensuring equitable digital access and meaningful digital participation for rural women will not only empower individuals but also strengthen communities and accelerate India's journey towards an inclusive, digitally empowered society.

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