Abstract

India's landscape is changing as a result of advances in information and communication technology (ICT). It is empowering people and bringing about positive social, economic, and political changes in their lives. Through various schemes and projects, the central and state governments have taken several initiatives to bridge the digital divide and promote the digital empowerment of rural women.

Deendayal Antyodaya Yojana – National Rural Livelihood Mission (DAY – NRLM) https://aajeevika.gov.in of Government of India is the world’s largest poverty alleviation and women empowerment program. The programme has been empowering 85 million households and supporting 400 million population all across India. In the State of Jharkhand it is supporting 3.6 million households through 2.90 lakh women SHGs (www.jslps.in).

Community Resource Persons (CRPs) and women SHG leaders are using smart phones, laptops, the internet, and various mobile apps, i.e., WhatsApp, Gmail, Google Map, YouTube, Google Forms, mobile banking, Google Pay, social media (Facebook), Google MEET, Zoom, with a basic
use of computer fundamental operations like the internet, Excel, and Word, etc., in their personal and community work.

A lot of rural women who belong to SHGs are being encouraged to learn how to use various technologies. More and more rural women are using digital technology to build community institutions, get access to financial services, improve their livelihood and way of life, and promote social development. There are specialized CRPs like digital didis (master e-book keepers) for SHG bookkeeping and business correspondence agents (BC) for financial and banking transactions. Trainers use Zoom and Google Meet to put on a lot of trainings and orientation programmes. The SAKHAM app is being used for digital literacy. They are also taught how to use LokOS, a new national mobile and web application that SHGs can use to keep track of group information and their financial transactions.

**Key Words:** Women SHGs, Community Institutions, Financial Inclusion, Internet, Mobile Technology, Digital Literacy

**Introduction**

India has made significant achievements in the field of information technology (IT) over the past few decades. It has emerged as a major player in the global software industry. Indian IT companies, union and state government agencies are providing a range of services such as software development, IT consulting, business process outsourcing, e-governance, etc.

India has a large number of highly skilled IT workers because science, technology, engineering, and math (STEM) education is given a lot of attention. Indian IT workers are in high demand around the world because of their technical skills and ability to solve problems.

Many new IT companies are starting up in India, which has a thriving startup ecosystem. The government has started a number of programs, such as Startup India, to encourage people to start their own businesses and come up with new ideas.
India has made big steps toward giving more people access to digital technologies through programs like "Digital India" to bring high-speed Internet to every village in the country.

India has made a lot of progress in putting e-governance plans into action. The government is using technology to make public services, tax collection, and social welfare programs more efficient and open.

But there is still a digital divide in India between urban and rural areas or between groups with different incomes. This is because not everyone has the same amount of access to information and communication technologies (ICTs) like the internet, computers, smartphones, and other digital devices. It is due to the gap between those who have access to technology and those who do not, or who have limited access.

India still has a big digital divide, especially in rural areas where access to technology and the internet is often limited. According to a 2021 report by the Internet and Mobile Association of India (IAMAI), only 31% of rural India has internet access, compared to 67% of urban India.

It has significant consequences on education, employment, healthcare, and other areas of life, as those who lack access to technology may miss out on important opportunities and information.

Efforts are being made to close the digital divide through programs like the Digital India program, which helps people get access to affordable technology and learn how to use it, as well as access to banking services through smart mobile phones, Aadhar, and UPI, among other things.

The Ministry of Rural Development in India's DAY-NRLM program is empowering rural women more power by supporting their community institutions and many digital initiatives.

**SHG Network under DAY - NRLM**

The Deendayal Antyodaya Yojana - National Rural Livelihoods Mission (DAY - NRLM) of the Ministry of Rural Development (MoRD), Government of India (https://aajeevika.gov.in) is the largest poverty alleviation and women's empowerment programme in the world. The initiative has made an everlasting mark in India by empowering 89 million homes and assisting 445 million people. It has been in effect since 2011. It aims to create efficient and effective institutional

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1 DAY - NRLM – Deendayal Antyodaya Yojana - National Rural Livelihood Mission is a flagship scheme of Ministry of Rural Development, Govt. of India. It is the largest Rural livelihood, Women Empowerment and Social Development scheme for poor people in the world.
platforms for the rural poor, allowing them to increase household income through sustainable livelihood enhancements and improved access to financial services through self-managed Self Help Groups (SHGs) and federated institutions, as well as providing support for livelihoods collectives.

National Rural Livelihoods Mission (DAY - NRLM) believes as its core principle that the underprivileged have a strong desire and intrinsic talents to break the cycle of poverty. The task is to release their inherent skills to establish meaningful occupations, so allowing them to rise out of poverty. The initial stage in this procedure is to encourage them to establish their own institutions through enterprise promotion. Their true potential is achieved when they are supported with the capabilities to manage the external environment and simple access to financing, and when they are empowered to extend their talents and assets and transform them into sustainable livelihoods. This requires ongoing assistance from their institutions. To induce such social mobilization, institution development, and livelihoods promotion, an external, devoted, and sensitive support framework from the national to sub-district level is necessary.

MoRD, GoI (2011)

Strong institutional platforms of the poor empower the poor households and enable them to build-up their own human, social, financial and other resources. They, in turn, enable them to access their rights, entitlements and livelihood opportunities, including services (both from the public and
private sector). The social mobilization process enhances solidarity, voice and bargaining power of the poor. These processes enable them to pursue viable livelihoods based on leveraging their own resources, skills and preferences. Thus, they come out of abject poverty and do not fall back into poverty. NRLM also believes that the program can be up scaled in a time bound manner, only if it is driven by the poor themselves.

NRLM Guiding Principles

- Poor have a strong desire to come out of poverty, and they have innate capabilities to do so.
- Social mobilization and building strong institutions of the poor is crucial for unleashing the innate capabilities of the poor.
- An external dedicated and sensitive support structure is required to induce the social mobilization, institution building and empowerment process.
- Facilitating knowledge dissemination, skill building, access to credit, access to marketing, and access to other livelihoods services underpins this upward mobility.

Approach

Towards building, supporting and sustaining livelihoods of the poor, NRLM harnesses the innate capabilities of the poor, complements them with capacities (information, knowledge, skills, tools, finance and collectivization) to deal with the rapidly changing external world. Being conscious of the livelihood activities being varied, NRLM works on three pillars – enhancing and expanding existing livelihoods options of the poor; building skills for the job market outside; and nurturing self-employed and entrepreneurs(for micro-enterprises).
Dedicated support structures build and strengthen the institutional platforms of the poor. These platforms, with the support of their built-up human and social capital, offer a variety of livelihoods services to their members across the value-chains of key products and services of the poor. These services include financial and capital services, production and productivity enhancement services, technology, knowledge, skills and inputs, market linkages etc. These platforms also offer space for convergence and partnerships with a variety of stakeholders, by building an enabling environment for poor to access their rights and entitlements, public services and innovations. The aggregation of the poor, through their institutions, reduces transaction costs to the individual members, makes their livelihoods more viable and accelerates their journey out of poverty.

In addition, the poor are facilitated to achieve increased access to rights, entitlements and public services, diversified risk and better social indicators of empowerment. DAY-NRLM believes in harnessing the innate capabilities of the poor and complements them with capacities (information, knowledge, skills, tools, finance and collectivization) to participate in the growing economy of the country.

Creating Social Capital: DAY – NRLM is creating a large pool of ‘social capital’ i.e. institutions of the poor, their members and office bearers, community resource persons, community professionals (book keepers, accountants, community animators/facilitators, customer relationship
managers in banks etc), to support poor communities. Supply side processes would ensure ‘improved availability’ of services i.e. community agriculture extension workers, para-vets, village health activists, etc. Demand side processes would ensure ‘increased access’ of services through aggregation (e.g. resource persons supporting commodity procurement centers and milk collection centers, ‘bank mitras’ etc.) are playing significant role in Social Inclusion of Rural Poor in India.

**Community Institutional Architecture**

SHG Networks are known as Community Based Organizations (CBOs) under DAY – NRLM i.e., Self – Help Group (SHGs) and their federations - Village Organization (VO) and Cluster Level Federations (CLF).

![Community Institutional Architecture Diagram](image)

Tripathy & Wadkar (2021)

The first level of the community institution hierarchy is the SHG. One SHG is made up of 10-20 women from a hamlet. Through theft and credit activities, it provides solidarity and the required finances to solve day-to-day requirements. It also serves as a basic platform for collective learning for the poor. SHGs serve as platforms for the community to become aware of, articulate, and collect its demands on a variety of issues. SHGs' close knit and informal nature allows for family level,
customized micro planning. SHGs also provide for the mapping of needs and gaps, as well as the monitoring of changes at the household level.

The second tier of the structure is known as Village Organization (VO). A VO is formed at the village level by 10 to 25 SHGs. VOs are poor people's village organizations. They function as solidarity forums for poor at the village level. They bring the formerly voiceless and poor into the village community's social, economic, and political mainstream. VO can address a wide range of concerns, from gender inequality to village livelihoods. It can identify, include, and strengthen vulnerable populations through special drives and designated resources for the vulnerable.

The third layer is the Cluster Level Federation (CLF), which is a federation of 20 - 30 Village Organizations (VO) that plays a larger role at the cluster level in terms of coordination with various agencies on behalf of all members. It also conducts microfinance activities for members by distributing community investment funds to SHGs via VOs. DAY NRLM currently serves 8.93 crore rural poor households (families) through 82.61 lakh SHGs and 3.1 lakh VOs in 7,064 blocks and 737 districts across 34 Indian states and union territories.

DAY NRLM has reached all 24 districts and 263 blocks in Jharkhand, serving 3.6 million families through 2.90 lakh SHGs. In Jharkhand, there are 20,560 VOs and 998 CLFs.

**Digital Initiatives in DAY – NRLM**

I. **Tablet Didis**

The initiative of tablets didis started long ago, in the years 2013–14, when there were 2G connections on phones and that too, the usage of mobile phones was very limited. The DAY-NRLM was in its initial stage when JSLPS had around 10,435 SHGs with around 100,000 women members. The main motive behind this intervention was to have the data and current status of fund utilization that the SHGs used to get from the DAY-NRLM program. One SHG member from each village was trained by using a tablet with the Swalekha app and a 2G internet connection. In the same way that all VOs register in MIS.

Information was collected about fund transactions in SHGs and whether SHG members showed up to their weekly meetings. Women in rural areas were worried about using tablets, cell phones, data,
the internet, etc. When JSLPS intervened and trained them, it made them learn and earn. JSLPS now has more than 3,000 E-master bookers (Digital Didis).

II. Banking Correspondent Sakhi (Agent)

Under the Digital Financial Inclusion program, which is funded by the World Bank, several state rural livelihood missions (SRLMs), like JSLPS, made plans to help people use formal (digital) financial services. The Banking Correspondent (BC) Agent (Women Banker Friend) Model was one of these programs. It was a version of the traditional BC model that focused on women. This was put into action in 2015–16, and it has helped move the financial inclusion agenda forward and given rural women another way to digital empowerment.

JSLPS has been a leader in putting the BC agent model into place, i.e., selecting, training, and sending out SHG members as BC agents. JSLPS works with regional banks, their corporate agent network management partners, and other financial institutions to build up their capabilities, train their employees, and help with the back end. The BC model has helped move low-value transactions to a low-cost, ICT-enabled channel. In some cases, better access to banks has led to higher loan repayment rates.

Further, the introduction of the "dual authentication application" facility by JSLPS in collaboration with some of their partner banks means that transactions between the individual member accounts and the SHG group account are now done in real-time during the SHG weekly meetings. The bank's core banking system (CBS) also keeps track of these transactions that go through the bank's Sakhi. This is good for the bank because transactions that used to be done in cash outside of the banking system are now done through formal bank accounts. This means that money stays in the bank longer after it has been given out. In addition to making it easy to do business, SHG members can now build up a credit history or a record of transactions in the formal financial system. In Jharkhand, there are currently 1,208 BC agents working, and many of them have been given the dual authentication application.

The BC agent's main job is to use the financial app on her phone, laptop, and other machines to keep track of transactions in the village every day. She is a moveable bank as well as having a fixed kiosk (BC points). She also helps banks with the digital transactions of SHGs. She is a moveable bank as well as having a fixed kiosk (BC points). She also helps banks with the digital transactions of SHGs and documentation. She also provides old-age pensions at the home itself for the elderly people of the village who are not able to go to the bank to withdraw their pensions. These BC
Agents have also been helping SHG members and their family members to enroll under insurance and pension schemes.

III. Digital Sakshar Abhiyan: Main Bhi Digital

Under this campaign, SHG members, no matter what their role was in the group, were taught the basics of the computer system and how it worked at a central location in Ranchi in a fully equipped IT cell. They start with how to turn on and off the systems for Excel, Word, the Internet, and social media. JSLPS has trained around 2,000 digital didis, and a few of them are now part of the Didi helpline call center.

Some of these digitally trained SHG members in their village started eSewa kendras at the village and cluster levels and helped their fellow villagers make PAN cards, book train tickets, check status, make online appointments, recharge mobile and DTH TV, etc.

IV. PMGDISHA Coverage

Under the deliverables of Department of IT – PMGDISHA – Pradhan Mantri Gramin Digital Shaksharta Abhiyan, the self help group in Jharkahnd were trained at CSC - Common Service center at panchayat level for 10 days, 1 hour per day, on basic computing and understanding of computers. Upon completion, a national assessment test was also being conducted, and the Ministry of IT released digitally signed certificates to the participants.

V. LokOS training and implementation

The Ministry of Rural Development, Government of India, made the LokOS application to keep up with the idea that SHGs should keep digital records. MoRD has selected JSLPS as an NRO (National Resource Organization) for this program. SHG members are trained on the LokOS application. JSLPS has developed a pool of e-Master Trainers that will not only train and roll out LokOS in Jharkhand but also help other states of India do the same.

Now there are 250 e-master trainers ready to help Jharkhand and other states, starting with Punjab, roll out the application. Again, women SHG members completed these digitally.

VI. Basic IT platform and Social media training

Under the domains of IT & MIS, Monitoring & Evaluation, and Knowledge Management & Communications verticals of JSLPS, the SHG members are being trained on the basic usability of
the Zoom application and Google MEET for meeting and training purposes. The usability of Gmail and Google Sheets are also taught for reporting directly from the field. SHG members are now able to watch live telecast / webcast of various government programmes through NIC (National Informatics Centre), YouTube, Facebook.

The features of WhatsApp and Facebook publication of success stories were also taught. YouTube is used to learn about new technology and its applications in agriculture and animal husbandry. Now SHG members are using WhatsApp in their smartphones for communication among themselves and also with JSLPS team members.

VII. Didi Helpline: Rural Call Center

As many schemes are being run in different villages in Jharkhand, to give a handhold to the cadres and to address the issues, challenges, and grievances of SHG members, JSLPS has set up an in-house rural call center called Didi Helpline. In this call center, 10 SHG members are working after being trained on various aspects of the projects going on in Jharkhand.

This call center has everything it needs, including computers, internet access, call recording, and software to help when things get out of hand. Grievance registration online, toll-free number

The call center didis give feedback on various projects to the domain head and to the CEO of JSLPS. These feedbacks in turn help for decision-making purposes and monitoring of the activities.

VIII. Application-based Survey of Migrant Laborers during Lookdown

During the COVID-19 pandemic lockdown (2020), laborers working in other states were coming back to Jharkhand. While they were in Jharkhand, they had no livelihood or employment. To meet this requirement, the state government decided to conduct a survey so that it would have firsthand information about how many laborers were coming back to Jharkhand and what their livelihood and health issues were. JSLPS had developed an IT application (both web- and mobile-based) and surveyed the migrant laborers who came to Jharkhand from different places. The survey was done for more than 4 lakh migrants by cadres and women SHG members following COVID's rules.
IX. IT applications for livelihood initiatives

JSLPS, which helps rural people for livelihood promotion through agriculture, horticulture, animal husbandry, forest products, etc., also uses digital tools to gather information in real time for monitoring and making decisions. The community cadres like Aajeevika Krishka Mitra (AKM) and Aajeevika Pashu Sakhi (APS) are using these applications on their smart mobile phones to register farmers, upload their daily work reports, assess crop production, collect data on livestock vaccination, monitor crop developments, etc. The honoraria of these community cadre are based on these and get paid online. There are digital applications for PG (Producer Group) and Farmer Producer Organizations (FPO). Technical agencies, i.e., Digital Green and TRIF, are helping JSLPS in this initiative.

X. IT Application for Skill Development of Rural Youth

The Ministry of Rural Development's DDU-GKY (Deen Dayal Upadhyay Grameen Kaushal Yojana) program gives skill training to rural youth between the ages of 18 and 35. After these trainings, they get jobs in the organized sector in different states. These young people signed up for the Kaushal Panjee app (www.KaushalPanjee.mnic.in), which keeps track of their training digitally. Till date, in Jharkhand, around 60,000 youth have been registered, 50,000 got trained, and 30,000 got placed through this scheme. Web-based applications, an MIS system, and apps like Kaushal Panjee and Kaushal Baharat are all used in DDU-GKY.

XI. Palash Branding and Marketing Strategy in the State

JSLPS is promoting the products of rural women entrepreneurs from the women SHGs (Sakhi Mandals) in the state under a registered brand identity, "PALASH. This is done with the goal of giving the products of rural women entrepreneurs in Jharkhand a fair market value and giving them their profit margin directly, without a middleman. The Palash Brand will give the quality products and services of rural women entrepreneurs in Jharkhand a respectable name. By 2025–26, the brand is expected to be worth Rs. 500 crores.

Brand Palash is bestowed upon the "end-to-end value chain processes of production, collectivization, processing, packaging, branding, and marketing with the concurrent ownership of the rural women entrepreneurs of Sakhi Mandals and their institutions like PG and FPO. All together, 5,000 PGs started POP (Package of Practice)-based cultivation and collectivization with almost 2 lakh members. Forty (40) products, i.e., soap and mustard oil, Jeera Phool Rice, Arhar
Pulse, Mask, Millet Flour, Honey, etc., have been approved for production and marketing under the name "PALASH" at very competitive prices.

Palash brand products are sold directly to customers through an exclusive network of 238 Palash Marts, 70 Display Cum Sale counters, and Palash Brand Stalls at Saras and other national, state, and district melas.

Online and offline marketing platforms are being targeted to boost Palash's huge sales potential. JSLPS has signed an MOU with Reliance Retail to sell Palash brand products in their retail stores and online through Jio Mart. An MoU has also been signed with Amazon and Flipkart to sell products online. Amazon Sahel and Flipkart Samarth are programs to support SHG women entrepreneurs, which act as a facilitator between seller and buyer.

**Recommendations**

- As part of DAY-NRLM, efforts have been made to empower SHG members about finances through the use of Financial Literacy Trainers, BC Agents, CBRM (Community Based Recovery Mechanism) meetings, financial literacy camps organised by banks and RBI, etc. These initiatives must be expanded and strengthened by providing online training and ensuring that each CLF (Cluster Level Federation) has a Financial Literacy and Delivery Center.
- The myth that only educated people can learn IT should be dispelled. Rural women SHG members can be empowered through ICT. Women SHG members can also be good IT trainers with training and handholding.
- Awareness should be created about the importance of IT tools and techniques. The government should make it easy for ICT to get better and for IT infrastructures to grow in rural areas.
- The latest technologies, i.e., AI, GIS, remote sensing, fuzzy logic, etc., should be promoted in simpler ways to empower rural women and enhance their livelihoods and well-being.
- The government should work with technical IT agencies, schools, NGOs and IT start-ups (FinTech and AgriTech) to help people in rural areas learn how to use technology.

**Conclusion**
In India, reducing the digital divide needs a multifaceted approach that looks at things like infrastructure, cost, digital literacy, and the availability of content. The government and the private sector should work together to build broadband connections and mobile networks in rural areas. Digital technologies should be made cheaper and easier for everyone to use, and people should have access to inexpensive digital devices. There is a wide range of relevant, high-quality digital content in regional languages. This can help increase the appeal of digital technologies for those who are not comfortable with English. Digital literacy programs can be rolled out in rural areas to teach people how to use digital technologies well. Women in SHG networks that have already been set up under the DAY-NRLM can be used as a platform for digital literacy training. CLF's (Cluster Level Federation) office building can be used as a place to learn how to use computers, the internet, and digital technologies.

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