LABOUR STUDIES

Digital Transformation of Labour Welfare and Social Security Policies in India: An Analysis of Social Security Cards

M. Naveen Kumar

Department of Political Science, Jnana Bharathi Campus, Bangalore University, Bengaluru, India

Published November 2026

Abstract

India's labour market includes a large population of workers in informal, temporary, migrant, construction, self-employed, gig and platform occupations. For these workers, access to welfare programmes has historically been affected by fragmented records, mobility, lack of awareness and complex administrative procedures. Digital transformation is changing this delivery environment by creating interoperable databases, digital identities, online registration, electronic authentication and integrated service platforms. This paper analyses the role of social security cards and digital worker identification, with particular focus on the e-Shram portal. The study uses a descriptive and analytical review of government documents and international literature. e-Shram creates a National Database of Unorganised Workers and provides a digital identity through which workers can be connected with welfare and social-security schemes. The paper argues that digital identification can improve portability, targeting, record management and awareness, but registration alone does not guarantee effective coverage. Digital exclusion, data privacy, cyber security, language barriers, inaccurate records and limited digital literacy remain important challenges. The paper recommends assisted digital access, regular data updating, strong privacy safeguards, multilingual services, interoperability and outcome-based monitoring. Digital systems should therefore complement, rather than replace, accessible physical institutions and worker-centred welfare administration.

Keywords: Labour welfare; social security; digital transformation; e-Shram; social security cards; unorganised workers; digital governance; India

1 Introduction

Labour welfare and social security are essential instruments for reducing vulnerability and promoting decent work. Workers may face risks such as employment injury, sickness, disability, old age, unemployment, maternity, loss of income and family insecurity. These risks are particularly significant for workers in the informal economy because employment relationships may be short-term, undocumented or geographically mobile. The International Labour Organization (ILO) treats social protection as a system of policies and programmes intended to prevent poverty, vulnerability and social exclusion across the life cycle (ILO, 2024).

India's digital public infrastructure has created new possibilities for welfare administration. Digital databases and identity-linked services can reduce duplication, improve beneficiary identification and make scheme information easier to access. The e-Shram portal, developed by the Ministry of Labour and Employment, is designed to create a National Database of Unorganised Workers (NDUW). The official portal states that the database includes information such as occupation, address, education

and skills and covers groups including migrant, construction, gig and platform workers (Ministry of Labour & Employment, 2026a).

This paper analyses how social security cards and digital worker identification can support labour welfare delivery in India. It focuses on the relationship between digital identification, e-Shram, technology-enabled access and welfare outcomes. The paper is conceptual and analytical and does not claim that the charted values represent survey findings.

2 Concept of labour welfare and social security

Labour welfare refers to measures intended to improve workers' working and living conditions beyond the immediate wage relationship. Welfare may include health and safety, housing, education, drinking water, canteens, childcare, recreation, financial assistance and other services. Social security has a broader risk-management function. It provides protection against loss of income and social risks through contributory social insurance, non-contributory assistance and related public programmes.

The two concepts overlap but are not identical. Labour welfare often focuses on the quality of working life and worker well-being, whereas social security provides protection against specified contingencies across the life cycle. In the digital era, both areas increasingly depend on reliable worker information, accessible service channels and coordinated institutions. Effective digitalisation should therefore be assessed not only by the number of registrations but by whether eligible workers actually receive appropriate benefits.

3 Digital transformation of labour welfare in India

Digital transformation involves the use of information and communication technologies to redesign administrative processes, databases, communication and service delivery. In labour welfare, it can connect workers, government departments, welfare boards, insurance systems, pension programmes, employment services and other institutions through digital platforms. The objective is to move from fragmented paper-based administration towards more portable, transparent and data-supported systems.

The e-Shram portal is a major example. The Ministry of Labour and Employment describes it as the National Database of Unorganised Workers and notes that the database is seeded with Aadhaar. The portal has also developed a 'One-Stop-Solution' approach for connecting workers with social-security and welfare schemes. Government reporting indicates that multiple schemes have been mapped or integrated with e-Shram, including pension, employment, housing, insurance, health and other welfare programmes (Ministry of Labour & Employment, 2025).

4 Social security cards and digital worker identification

A social security card can function as a practical identity and access mechanism when it is connected to a verified worker record. Its importance is greater for workers who change employers, occupations or locations. A portable digital identity can help reduce repeated registration and enable government agencies to recognise the worker across programmes and geographical areas.

However, a card by itself is not a social-security benefit. Its value depends on the quality of the underlying database, eligibility rules, scheme financing, institutional coordination and the ability of

workers to claim benefits. Digital identification should therefore be understood as enabling infrastructure rather than a substitute for social protection.

5 Role of e-Shram in social security delivery

e-Shram provides a common digital entry point for unorganised workers. The official portal records that it includes workers such as construction workers, migrant workers and gig and platform workers. It also provides registration, profile updating and access to information about welfare and employment-related services. As of 10 September 2026, the official portal displayed 31,93,12,398 e-Shram cards issued, demonstrating the very large scale of the initiative (Ministry of Labour & Employment, 2026b).

The platform can support policy in four ways. First, it creates a structured worker database for planning. Second, it can improve awareness by bringing scheme information into one digital environment. Third, it can support portability for mobile workers. Fourth, it can facilitate better coordination between labour administration and other welfare institutions. The government's annual report describes the One-Stop-Solution as an integration of social-security and welfare schemes through e-Shram (Ministry of Labour & Employment, 2025).

6 Technology and access to labour welfare schemes

Technology can reduce administrative distance between workers and government. Mobile phones, online portals, assisted service centres, multilingual interfaces and digital payments can make registration and benefit-related communication faster. Digital records can also help identify gaps in coverage and support evidence-based policy planning.

At the same time, access is not automatically inclusive. A worker may possess a digital identity but still face difficulties in updating records, understanding eligibility, completing online procedures or submitting a claim. ILO guidance emphasises accessible communication channels and effective identification and authentication mechanisms as important elements of social-protection delivery systems (ILO, 2024). Therefore, assisted digital access through Common Service Centres, labour offices, worker organisations and local welfare institutions remains important.

7 Benefits of digital social security systems

The main potential benefits are improved identification, portability, faster communication, reduced duplication, better record management, greater transparency and improved policy planning. Digital systems can also help governments respond to crises by locating vulnerable worker groups and communicating available assistance more quickly.

For construction and migrant workers, portability is particularly relevant because employment and residence can change frequently. A stable worker record can reduce the need to start the registration process again after migration. For policymakers, aggregated and updated information can support resource allocation and identification of underserved occupations and regions.

The major benefits are as follows:

- **Faster Service Delivery:** Digital systems reduce paperwork and help deliver welfare services more quickly.

- **Easy Access:** Workers can register, check information and access services through online and mobile platforms.
- **Greater Transparency:** Digital records improve monitoring and can reduce duplication and administrative errors.
- **Portability of Benefits:** Workers, particularly migrants, can maintain access to social security services when they move between locations.
- **Better Government Planning:** Digital databases provide useful information for identifying beneficiaries and designing effective labour welfare policies.

8 Challenges and limitations

- **Digital Literacy:** Many workers may lack the knowledge and skills required to use online registration and digital welfare platforms.
- **Limited Internet Access:** Poor internet connectivity, lack of smartphones and inadequate digital infrastructure can restrict access to services.
- **Data Privacy and Security:** Personal, employment and financial information must be protected from data breaches, misuse and cyber threats.
- **Incorrect Data:** Errors, incomplete information or outdated records may prevent eligible workers from receiving appropriate benefits.
- **Lack of Awareness:** Workers may not know about digital registration procedures, available schemes or their eligibility for benefits.
- **Authentication Problems:** Difficulties with identity verification, mobile numbers or other authentication requirements can create barriers to accessing services.
- **Exclusion of Vulnerable Workers:** Elderly, migrant, low-income and digitally disadvantaged workers may face greater difficulties in using digital systems, requiring accessible offline and assisted-service options.

A further challenge is the difference between registration and effective coverage. A worker may have a card but remain unaware of a scheme, fail an eligibility condition, or be unable to complete a claim. The ILO stresses that social-protection systems require clear entitlements, accessible communication and delivery capacity throughout the benefit chain (ILO, 2024). Thus, digitalisation should be evaluated through actual access and outcomes, not only database size.

9 Digital architecture of labour welfare delivery

Figure 1 shows the digital architecture for labour welfare and social security delivery.

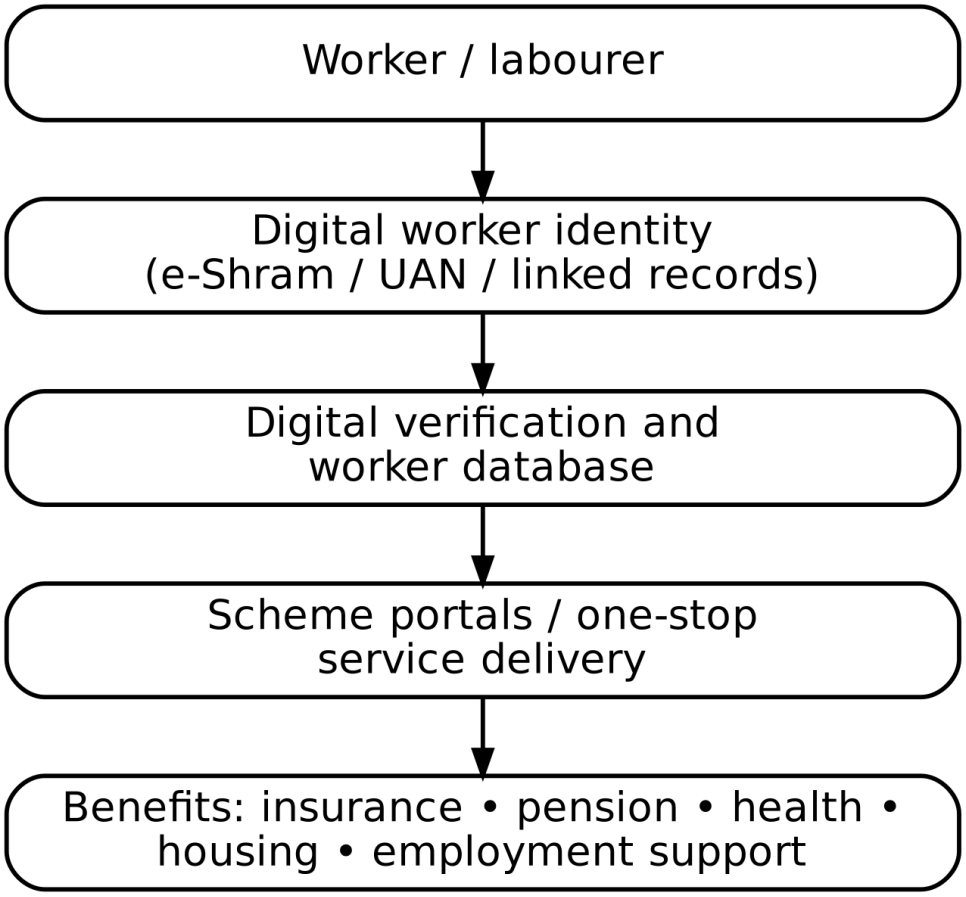


Figure 1. Digital architecture for labour welfare and social security delivery.

10 Analytical chart

Figure 2 is an illustrative analytical assessment prepared for conceptual comparison. The percentages are not survey results and should not be interpreted as measured beneficiary outcomes.

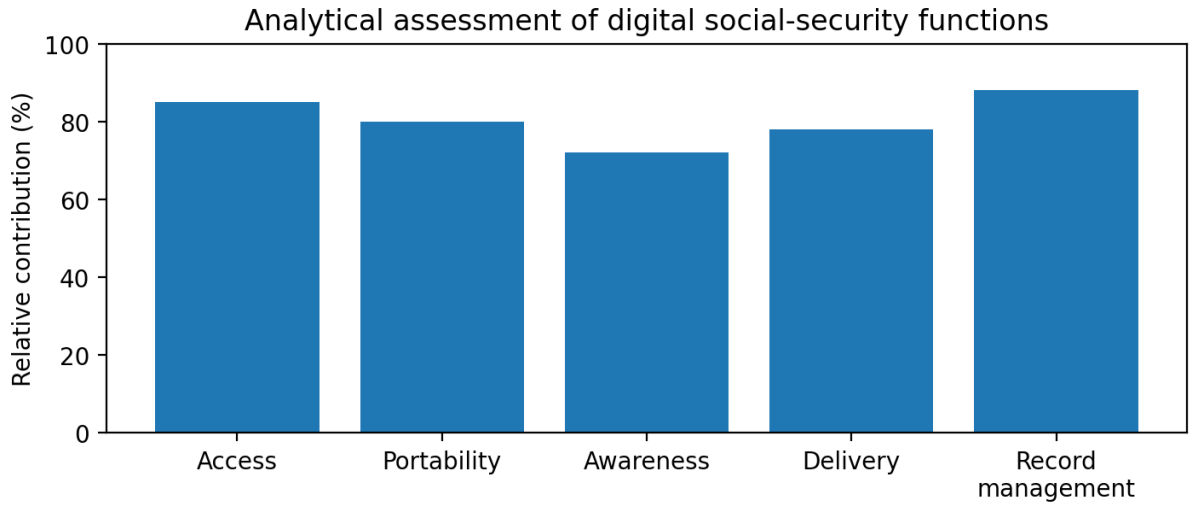


Figure 2. Illustrative analytical assessment of digital social security functions (not survey results).

11 Policy measures and suggestions

The following measures can strengthen digital labour welfare in India:

1. Maintain assisted digital registration and claim support at local level.
2. Provide multilingual and simple interfaces.
3. Establish regular mechanisms for updating occupation, address, skills and family information.
4. Strengthen privacy, consent and cyber-security standards.
5. Improve interoperability between labour, welfare, health, insurance and employment databases while respecting legal safeguards.
6. Develop portability mechanisms for migrant and construction workers.
7. Use dashboards to monitor claims, delays, rejected applications and regional gaps.
8. Conduct digital-literacy and awareness programmes through worker organisations, labour offices, welfare boards and community institutions.

12 Conclusion

Digital transformation is becoming an important component of labour welfare and social-security administration in India. Social security cards and platforms such as e-Shram can create a more visible and portable digital identity for workers who have historically remained outside fragmented formal systems. The scale of e-Shram indicates significant progress in creating a national worker database. Nevertheless, registration must be followed by meaningful access to benefits. The central policy challenge is therefore to combine digital efficiency with human-centred inclusion. A strong digital social-security system should provide reliable identification, portability, privacy, accessible communication and effective grievance redressal. Technology should serve as an enabling instrument for universal social protection, while physical institutions and worker-support mechanisms remain available to those who face digital barriers.

References

[1] Government of India (2020). The Code on Social Security, 2020. *Ministry of Law and Justice*, Government of India, New Delhi.

[2] International Labour Organization (ILO) (2024). World social protection report 2024–26: Universal social protection for climate action and a just transition. *ILO*, Geneva.

[3] International Labour Organization (ILO) (2026). ILO global flagship programme on building social protection floors for all: Strategy for the third phase (2026–30). *ILO*, Geneva.

[4] Ministry of Labour & Employment (2025). Annual report 2024–25. *Government of India*, New Delhi.

[5] Ministry of Labour & Employment (2026a). About e-Shram portal. *Government of India*, New Delhi.

[6] Ministry of Labour & Employment (2026b). e-Shram: National database of unorganised workers. *Government of India*, New Delhi.