JAN SAHAS
PEOPLE'S COURAGE FOR CHANGE

INNOVATIONS IN CONSTRUCTION WORKER WELFARE

A BOCW Service Delivery Guide

2025

Acknowledgements

This note is the outcome of collaboration with state governments, civil society organizations, and technical partners committed to strengthening welfare delivery under the BOCW Act. We are especially grateful to the Uttar Pradesh BOCW Welfare Board for supporting and co-hosting a national convening on 21 March 2025 in Lucknow, which brought together key stakeholders to exchange experiences, identify challenges, and share innovations in construction worker welfare. We acknowledge the valuable participation of the BOCW Welfare Boards of Assam, Gujarat, Karnataka, and Punjab who generously shared on-ground insights and learnings during the discussions. At Jan Sahas, we would also like to extend our sincere thanks to our civil society and industry partners—Total Environment Building Systems, OpenG2P, eGov Foundation, and KM Dastur Reinsurance Brokers—for their contributions through fieldwork, technology pilots, and collaborative problem-solving.

This note draws from the rich discussions and demonstrations at the convening and is intended to support states in building more responsive and inclusive systems for worker welfare.

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Acronyms

API	Application Programming Interface
AQI	Air Quality Index
BOCW	Building and Other Construction Workers (used broadly to refer to the Act, Welfare Boards, or the system)
BOCWWB	Building and Other Construction Workers Welfare Board
BPR	Business Process Reengineering
CBOs	Community-Based Organizations
CBSE	Central Board of Secondary Education
CSC	Common Service Centre
DBT	Direct Benefit Transfer
Delhi-NCR	Delhi National Capital Region
DIGIT	Digital Infrastructure for Governance, Impact & Transformation (eGov Foundation's platform)
DoL	Department of Labour
DPGs	Digital Public Goods
DPI	Digital Public Infrastructure
eGRAS	Electronic Government Receipt Accounting System
ERP	Enterprise Resource Planning
FD	Finance Department
G2P	Government to Person
GIS	Geographic Information System
GRAP	Graded Response Action Plan
HR	Human Resources
HUDD	Housing and Urban Development Department
IFMIS	Integrated Financial Management System
JSY	Janani Suraksha Yojana
KSK	Karmika Seva Kendras

KYC	Know Your Customer
LWO	Labour Welfare Officers
MIS	Management Information System
MMSBY	Mukhmantri Sehat Bima Yojana
MRC	Migrants Resilience Collaborative
MUKTA	Mukhya Mantri Karma Tatpara Abhiyan
MUKTASoft	MUKTA software (used for digital tracking in the MUKTA scheme)
MWS	Model Welfare Scheme
NFC	Near Field Communication
NHA	National Health Authority
NIC	National Informatics Centre
NPCI	National Payments Corporation of India
OTP	One-Time Password
PBMS	Program & Beneficiary Management System
PFMS	Public Financial Management System
QR	Quick Response
SAFAR	System of Air Quality and Weather Forecasting and Research
SHA	State Health Agency
SHGs	Self Help Groups
SOPs	Standard Operating Procedures
SPAR	Social Payments Account Registry
UIDAI	Unique Identification Authority of India
ULBs	Urban Local Bodies
VCs	Verifiable Credentials

Understanding the Landscape: Challenges, Responses, and the Role of Innovation

India's construction sector plays a crucial role in the country's economy, serving as the second-largest employment generator. Currently, it employs 7.1 crore workers, which is expected to surpass 10 crore by 2030[1]. Despite its significance, the sector remains largely informal, with 80–90% of workers outside formal employment structures. As a result, many workers lack access to essential government social protection benefits such as healthcare, insurance, and pensions.

To improve access to social protection, the government has implemented the Building and Other Construction Workers (BOCW) Act, 1996: This Act safeguards workers' rights and provides access to relevant benefits through various schemes. Under the Act, every state is required to establish a Welfare Board to register eligible workers and deliver these benefits. Additionally, the government has offered guidance on priority welfare schemes through the Model Welfare Scheme which covers insurance, pension, children's education, and other essential social security.

To access benefits under the BOCW Act, workers must first register with the respective State BOCW Board, providing necessary information and supporting documents. Once registered, they can apply for specific schemes, provided they meet the eligibility criteria. These schemes generally fall into the following categories:

- Health and Medical Assistance – Covers accident insurance, medical aid, and maternity benefits, ensuring support for workers and their families.
- Life Insurance – Provides financial support to the worker's family in the event of death, helping ensure basic economic security.
- Education and Skill Development – Provides scholarships for workers' children and vocational training programs to enhance employability.
- Housing and Transit Accommodation – Offers financial aid for housing and temporary shelters, particularly benefiting migrant workers.
- Pension and Social Security – Secures retirement benefits and financial stability for aging workers.

These benefits are the priority benefits mentioned in the Model Welfare Scheme which was developed following the Supreme Court directive in 2018. All states and UTs have been directed to follow this as a priority and can offer other benefits with any remaining funds.

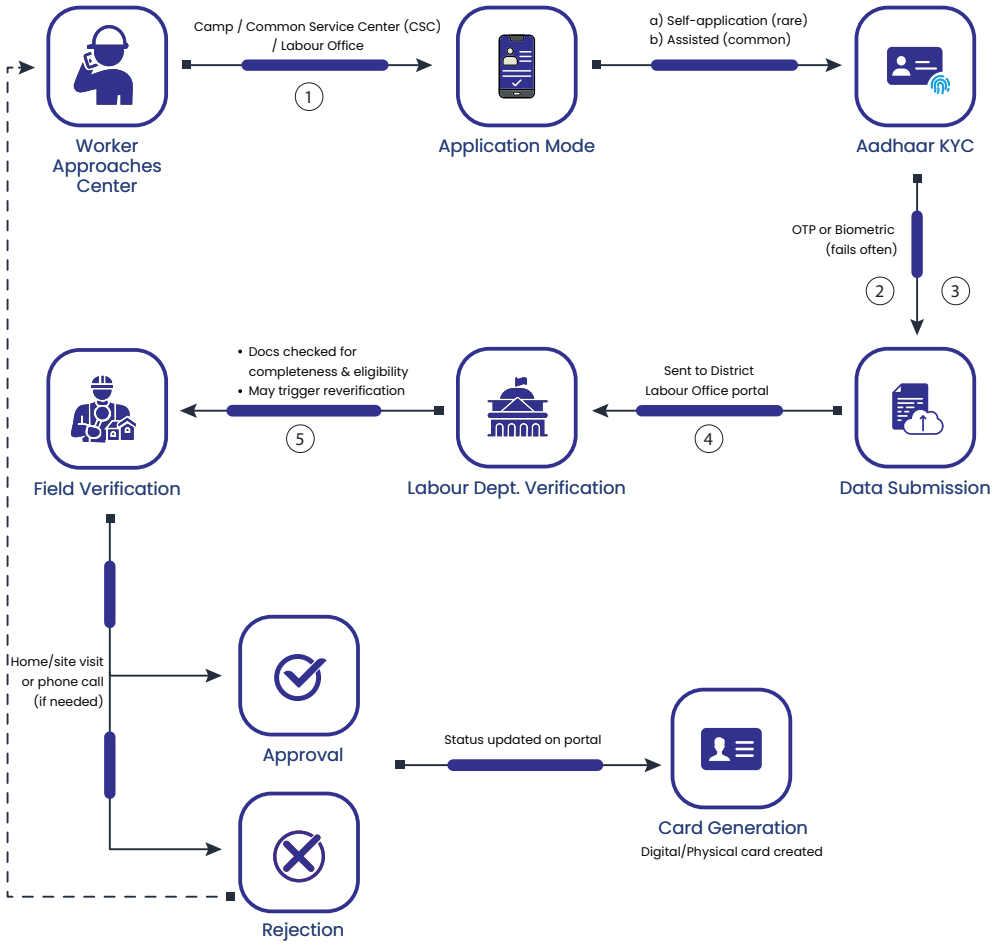
These schemes are overseen by State BOCW Welfare Boards, which collect a cess of 1–2% on construction costs from construction companies to fund worker benefits. However, implementation of welfare is often hindered by bureaucratic inefficiencies and a lack of awareness, limiting access to these critical resources.

[1] Knight Frank RICS Report

Challenges while registering to the BOCW and applying for benefits

The process of registering and applying for benefits involves several steps as detailed in the infographic below. However, both workers and BOCW Welfare Boards face barriers at multiple stages, which hinder effective benefit delivery.

Figure 1: Process of BOCW Card Registration



① Most workers can't self-apply; rely on Common Service Centers (CSC), enrollment camps (by Labour Department or CSOs)

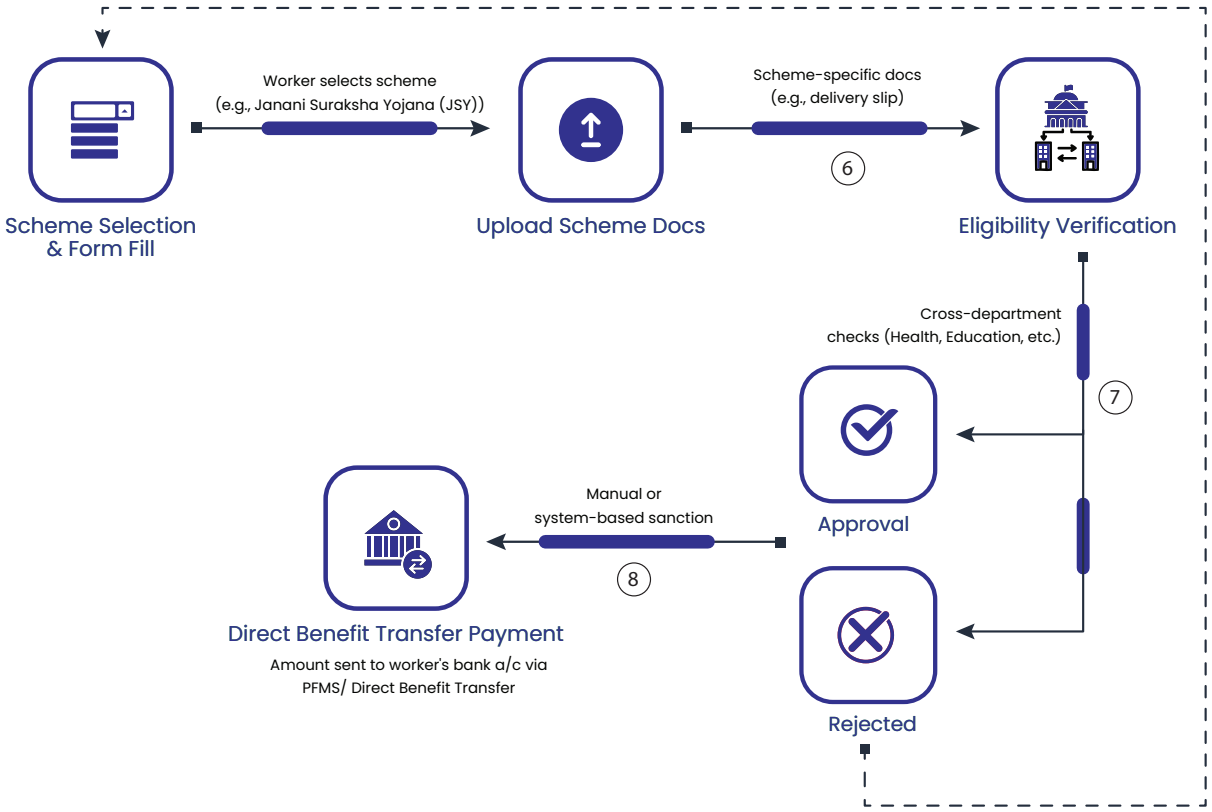
② OTP fails if mobile not linked; worn out fingerprints cause biometric failure.

③ Manual KYC fallback not consistently available.

④ Document mismatches or missing proof lead to rejection; few alerts sent.

⑤ Field verification is inconsistently applied and adds delay.

Figure 2: Process of Scheme Application under BOCW



⑥ Scheme forms often require re-entry of data already in card record.
⑦ Cross-department checks (e.g., Health, Education) are manual and slow.
⑧ DBT failures common due to inactive accounts, Aadhaar mismatch, or NPCI mapping issues; retries rare.

Note: The process maps here are illustrative and meant to convey the broad stages of welfare delivery under the BOCW framework. Each state follows its own specific procedures and faces unique challenges, so these diagrams are not exhaustive but provide a general overview to help identify common friction points and opportunities for improvement.

Challenges Faced by Workers

- Low awareness of the registration process and the benefits available, especially among migrant workers.
- Difficulty accessing required documentation due to the informal nature of employment and frequent job changes.
- Verification of work history relies on contractors signing physical forms—often an inefficient, inaccessible, and inconsistent method.
- Lack of transparency—workers often remain unaware of:
  - Their application status
  - Reasons for rejection
  - Available recourse or grievance redress mechanisms
- Financial burden—many workers lose several days of wages trying to complete their application or resolve issues.

Challenges Faced by BOCW Boards

- High volume of incomplete or poor-quality applications creates bottlenecks and necessitates repeated verification.
- Manual verification processes combined with limited digitization delay approvals.
- Fragmented databases slow down cross-departmental eligibility checks, especially for schemes linked with other departments.
- Most states lack a robust beneficiary database that is updated in real-time, making it difficult to:
  - Track who has received benefits
  - Identify duplications or gaps
  - Allocate resources effectively and utilize funds collected
- Departmental officers face increased workload, as they manage multiple schemes and tasks alongside BOCW processing.

A Worker's Journey: Understanding the BOCW Registration Experience

Interactive Simulation Game

We have created a short and interactive game to help you experience what it is like to register for BOCW as a construction worker. The simulation draws from anecdotal accounts and field observations, and workers' experiences may vary widely across states.

How to Access the Game

Scan the QR code below or use this link: https://bocwchallenge.migrantresilience.org

About the Game

Step into the shoes of a construction worker trying to register for social security benefits. You will encounter challenges such as missing documents, long queues, and unclear instructions. Your decisions in the game will show how these barriers affect access to welfare.

Please note that this is a learning tool designed to build empathy and awareness—real-life experiences may differ.

Spotlighting Innovations: How States and Stakeholders Are Responding

In response to these challenges, several states have started to digitize processes and streamline backend systems. These efforts reflect a broader commitment to making welfare delivery more accessible, efficient, and worker-centric.

Beyond state efforts, civil society and technology partners have also stepped in to design and support innovative solutions. Jan Sahas, through its Migrants Resilience Collaborative, has been working with BOCW Welfare Boards and Labour Departments in states like Chhattisgarh, Punjab, Telangana, and Uttar Pradesh. To ensure more efficient and effective BOCW welfare delivery for construction workers, our focus has been to:

- Identify systemic gaps in welfare delivery
- Co-create and test targeted solutions

About this BOCW Service Delivery Guide

This document builds on the insights and momentum from the national convening, capturing real innovations that are already making a difference in how construction worker welfare is delivered across states. It draws directly from field engagement and conversations with key stakeholders, offering a window into practical, on-the-ground solutions to some of the most persistent challenges in the BOCW system—from registration hurdles to delays in benefit distribution.

Each case study outlines:

- The challenge being addressed
- The solution or approach that was implemented
- The factors that enabled success
- Key outcomes and lessons that can guide similar efforts elsewhere

The case studies are organised into four key thematic areas:

Access, Eligibility, and Verification Challenges

Focuses on the first point of contact—when workers try to register and prove their work history. This section highlights innovations that reduce paperwork barriers and make it easier for mobile, informal workers to get recognised by the system.

Administrative Efficiency and Integration

Looks at the operational side of things—how Labour Departments and BOCW Boards are finding ways to improve coordination, reduce delays, and digitise backend systems to serve workers more efficiently.

Worker Tracking and Benefit Management

Covers the ongoing challenge of keeping track of workers—especially migrants—and ensuring they receive the benefits they're entitled to. It features solutions that improve transparency, reduce payment failures, and make benefit delivery more responsive.

Worker-Specific Needs and Tailored Innovations

Acknowledges that construction workers are not a homogenous group. This section showcases efforts that respond to workers' varied realities—whether it's supporting women workers, helping migrant children stay in school, or protecting workers and their livelihoods from climate risks.

This is not a prescriptive guide—but a reference toolkit intended to inspire adaptation and action. State Boards and stakeholders are encouraged to identify relevant cases that address similar challenges in their own systems and contexts.

Strategic Intent of this Guide

Through this product, we aim to:

- Encourage experimentation with fit-for-purpose solutions, strongly backed by tech innovations
- Promote cross-state learning and practical uptake of tested ideas
- Help Welfare Boards improve efficiency and worker access

We hope this product supports State Boards as a reference tool in identifying and adopting feasible solutions that move us closer to inclusive and effective welfare delivery for all construction workers.

What's Working: Solutions by Key Focus Areas

1. Access, Eligibility, and Verification Challenges

For a construction worker to register under the BOCW Act, they must prove that they have worked for at least 90 days in construction in the state where they are applying—a requirement documented through Form 27. Some states accept self-declarations but for most workers, this is the first hurdle to BOCW registration.

Form 27, though intended as a simple declaration of work history, is difficult to fill out, confusing in its language, and often impossible to get signed by an employer, contractor, or other authorized signatory. 83.1% of construction workers in India are casual or daily wage workers[2]. Due to the nature of their work, these labourers frequently move between different construction sites and employers. They rarely spend 90 continuous days with the same contractor, and many employers may simply refuse to sign the form.

Even when Form 27 is submitted, verification is often a challenge. Labour Department staff typically rely on manual methods such as calling employers or village sarpanches to confirm the worker's details. If the verifying authority does not recognise the worker or denies knowing them, the application is either rejected or remains stuck in objection due to lack of clarity. Currently, there is no standardized or fool-proof way to validate a worker's employment history. This makes the system prone to errors, delays, and exclusion.

Workers may also face problems verifying their identity due to issues like not having an active mobile number linked to Aadhaar for OTP verification, incorrect bank account details, inconsistencies in nominee information, or needing a local address proof in some states.

This section showcases innovations that simplify eligibility checks, reduce the need for manual verification, and make registration possible even for workers who constantly move across sites and states.

[2][PLFS 2023-24 (Table 20)]

Section Overview

"After my marriage, I was drowning in a high-interest loan. The ₹30,000 I got from the BOCW scheme helped me repay it faster—it was a huge relief. This card is not just a paper; it's protection. Every worker should get it."

- Sandip Pawar, Painter, Mankhurd Naka, Mumbai Suburban

1.1 Making Work Count: Creating Digital Work Histories for Construction Workers

Innovation Overview

The Problem:
The BOCW welfare system requires workers to prove 90 days of construction work—a barrier that excludes many genuine beneficiaries.

The Solution:
Jan Sahas, in partnership with Ooru Digital, and CredIssuer, piloted a portable, digitally verifiable proof of work to help workers independently prove their employment history.

The Impact:
Demonstrated an alternate method for effective work history verification that also provides workers with a formal employment record for the first time. This reduced dependency on contractor attestations and enabled digitised verification of genuine construction workers.

Understanding the Key Challenge

The most persistent barrier to BOCW registration is the requirement for workers to prove 90 days of construction work. Most workers lack formal employment records, frequently shift sites and employers, and operate outside any centralized tracking system.

This forces them to rely on informal attestations or self-declarations, which are often rejected or delayed. Many workers give up due to lack of documentation or fear of gatekeeping and bribery. Officials also struggle with verification, relying on time-consuming and inconsistent manual checks. The result: exclusion of genuine workers, fraudulent approvals, and growing administrative backlogs.

The Pilot Innovation: Portable, Verifiable Proof of Work

To address this gap, Jan Sahas, in partnership with Ooru Digital and CredIssuer, piloted a digitally verifiable, portable proof of work in 2024–25. Deployed at select sites in Bengaluru and Gurugram, the solution enabled field teams to collect and digitally validate worker histories, issuing worker-held, QR-coded credentials. This low-cost intervention empowered workers with a formal employment record—independent of contractor attestation—and aimed to reduce friction in accessing welfare schemes.

Policy Context: The Model Welfare Scheme

The Ministry of Labour and Employment's Model Welfare Scheme (2018) urged states to digitize verification and reduce reliance on informal documentation. While most states still use paper-based systems, this pilot aligned with the scheme's goals by demonstrating a scalable, tech-enabled alternative to traditional proof-of-work processes.

Executing the Innovation

The pilot was a collaboration between:

- Jan Sahas led field implementation via Jan Saathis[3], who engaged directly with workers.
- Ooru Digital provided the underlying technology for issuing Verifiable Credentials (VCs), using industry-standard protocols.
- CredIssuer enabled data collection, validation, and issuance of the credentials.
- Total Environment and Ashiana Housing construction sites were used as pilot locations.

How It Works:

The process unfolded in three simple steps:

1. **Data Collection:** Jan Saathis collected basic work history from workers using a simple web application (can be accessed using a browser on computers/tablets/mobile devices). HR teams at some sites also provided bulk lists.
2. **Verification:** From the employer/construction company, a designated site-level official (e.g., project manager) digitally attested the data.
3. **Credential Generation & Delivery:** Once a worker had 90+ verified days, a digitally signed Verifiable Credential (VC) with a QR code was issued, accessible via mobile or as a printout.

Each VC Included:

- Worker's name
- Site and employer details
- Duration of employment
- Digital signature from a verifying authority

Workers received demonstrations how this credential works and can be shared. The data entry process took less than five minutes per worker, was low-cost, and designed to be usable even by those without smartphones.

[3] Jan Saathis are the community engagement cadre of Jan Sahas. They enable informal workers' registration on the Resilience Connect app, and help them apply for social security benefits

The Impact

As a pilot, the primary aim was to test feasibility—not yet integrated into government systems. No formal partnership with any BOCW Board was pursued during this phase.

However, the pilot demonstrated:

- Proof of Concept: Over 150 workers were issued VCs, showing that portable, verifiable work records are technically and operationally viable.
- Worker Empowerment: For many, this was their first formal record of employment. Workers get a boost in confidence when it comes to applying for benefits.
- Reduced Dependency: Workers no longer needed letters from contractors, relying instead on self-owned credentials.
- Limited Employer Buy-in: While site managers supported verification, integration into internal HR systems has not been explored yet.

Though the VC has not yet been formally used for BOCW registration, the pilot laid groundwork for dialogue with state boards on official recognition and portal integration. The BOCW Board would retain authority over approvals, while retaining or accrediting others—such as employers—for the purpose of attestation, to ensure data accuracy and improve visibility into the workforce.

Implementation Challenges and their Solutions

Challenge	Solution
Low smartphone penetration	Issued credentials in easily shareable formats — photos, prints or screenshots.
Limited digital literacy	Conducted demos on QR codes, explained credential use and storage.
Lack of formal recognition	Positioning the VC as a supporting document; early-stage discussions with state departments are underway.

Despite these limitations, the pilot succeeded in testing whether workers and employers could co-create **a tamper-proof, portable employment record** owned by the worker.

Scalability and Replication Potential:

The model is **designed for scale**. It requires:

- Basic worker details
- Simple mobile workflows
- QR-based credentials
- Minimal infrastructure

To scale nationally or secure formal acceptance in BOCW systems, the following are essential:

- **Buy-in from state BOCW Boards** to accept credentials during registration.
- **Integration with BOCW portals**, enabling auto-verification via QR code.
- **Localization** by state, including languages, documentation norms, and employer types.

After the pilot, several potential enhancements were discussed for a scaled-up model—including Aadhaar authentication, integration with HR attendance systems, and linkage with DigiLocker—to strengthen the credibility of the process and enable a more seamless and transparent experience for both workers and administrators.

Beyond BOCW, the approach holds promise for other informal sector schemes or gig economy protections where proof of work is a barrier.

By creating a digital trail of employment that workers can carry across sites and states, this pilot begins to shift the burden of proof toward worker-owned infrastructure. With the right policy support and government engagement, such a model could fundamentally reshape how informal workers access their rights—not just in construction, but across India's informal economy.

Jan Sahas has created and shared a detailed video about the pilot and key details about the implementation, available on the LinkedIn page.

In Focus: Technology Solution Providers - Ooru Digital and CredIssuer

Ooru Digital, founded in 2023 and based in Bengaluru, is a technology company specializing in secure digital identity management. The company focuses on developing biometric authentication tools, verifiable credentials, and digital infrastructure aimed at enabling trusted digital transformation across public and private sectors.

Their product, CredIssuer, is a platform designed for the seamless issuance, verification, and secure storage of digital verifiable credentials. It enables organizations to issue digital credentials that can be authenticated.

Figure 3a: Existing process for work history verification

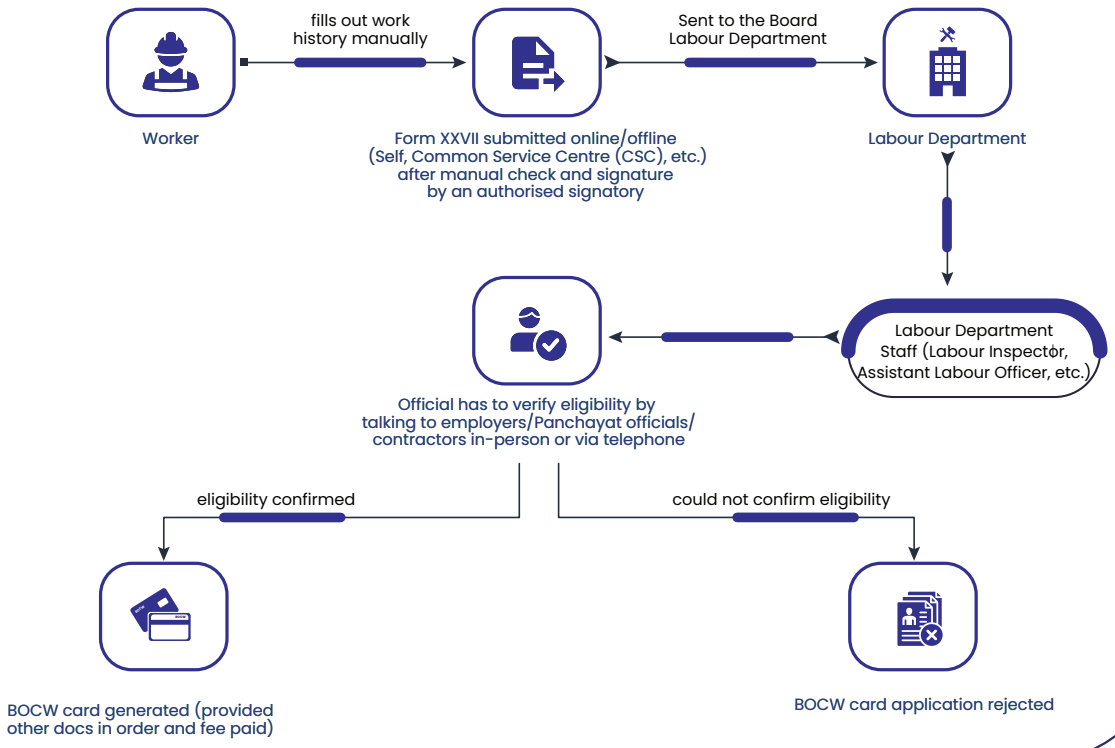
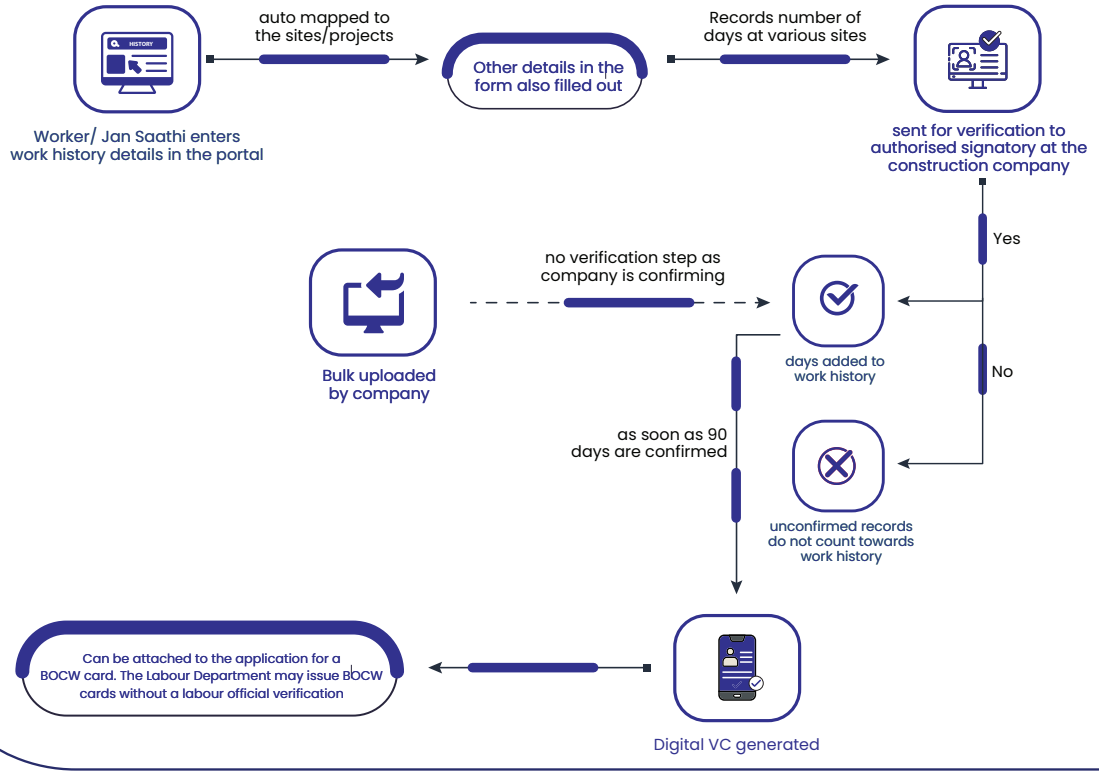


Figure 3b: Enhanced/streamlined process flow for work history verification using digital VCs



1.2 Aadhaar-Based Identity Verification in Telangana's BOCW Registration

Innovation Overview

The Problem:
Telangana's BOCW registration system lacked efficient identity verification, leading to duplicate applications, fraudulent claims, and delayed benefit delivery—particularly affecting migrant workers.

The Solution:
To streamline verification and reduce duplication, the Labour Department integrated Aadhaar-based authentication (eKYC) into the MeeSeva platform starting July 1, 2023.

The Impact:
The Aadhaar eKYC integration enabled more accurate identification and filtering of beneficiaries, reducing duplicate and ineligible claims.

Understanding the Key Challenge

Telangana has made significant progress in digitizing access to welfare for construction workers through MeeSeva, its citizen-facing public service platform. However, until 2023, BOCW registrations were based on locally issued documents like ration cards or voter IDs, without centralized identity verification.

This made the system prone to errors—such as multiple registrations across districts—and weakened the state's ability to detect duplicate claims. While Aadhaar numbers were collected, they were not used for actual authentication, and most workers saw them as just another ID document rather than a tool for entitlement tracking or portability.

The lack of real-time, reliable verification especially disadvantaged migrant workers, who often lacked consistent documentation across locations. To address these issues, Aadhaar eKYC was made mandatory for new and renewal registrations via MeeSeva.

Aadhaar Verification Bottlenecks and their Impact

Aadhaar-based authentication has introduced its own set of barriers. Many workers, particularly migrants, faced technical errors due to name/address mismatches or missing mobile linkage. In

some districts, thousands of applications remain pending simply due to Aadhaar mismatches, preventing benefits from being disbursed. Registrations without an Aadhaar authentication face longer approval timelines. Of the applications waiting for approval, over 60% of them have not completed the Aadhaar authentication.

Additionally, migrant workers—who often move across districts and states for short-term construction jobs—are particularly affected by such an Aadhaar-linked system. On the one hand, Aadhaar offers a consistent identity across geographies, theoretically supporting portability. But in practice, mismatched details across various documents and mobile disconnection are common among migrant workers as they move frequently. These discrepancies often result in their applications being delayed or rejected during the Aadhaar verification step. Aadhaar-related verifications and corrections can use biometric verification in case mobile OTP verification is not working, but for an industry that relies so heavily on manual labour, workers' fingerprints are often worn or damaged . Also, MeeSeva centres are mostly fixed-location facilities, and workers often lack the time or ability to visit repeatedly, especially if they work long shifts or are posted on remote sites.

Scalability & Replication Potential

The successful integration of Aadhaar authentication into Telangana's BOCW registration process via the MeeSeva platform presents a strong case for replication in other departments and regions. For such adoption, several key requirements must be in place:

- The integration of Aadhaar authentication with backend welfare portals—whether developed by the National Informatics Centre (NIC) or other agencies—and the deployment of biometric devices at registration points, especially through accessible platforms like MeeSeva or Common Service Centres (CSCs).
- Field officers and CSC operators must be trained on Aadhaar eKYC processes, including how to manage exceptions such as biometric mismatches or mobile number discrepancies.
- Active coordination between state labour departments, IT departments, and UIDAI nodal agencies to manage the necessary infrastructure, ensure data flow, and oversee privacy compliance.

States or departments can offer multiple modes of Aadhaar authentication—biometric or one-time password (OTP)—depending on the level of access and digital readiness among users. Linking Aadhaar-authenticated BOCW data to Direct Benefit Transfer (DBT) systems or employment history records can further improve the efficiency and targeting of welfare delivery. To further improve access, especially for the most vulnerable workers, targeted interventions such as deploying mobile Aadhaar update units to construction sites for updating or correcting Aadhaar details, developing a real-time Aadhaar status tracker on MeeSeva to monitor application progress, and simplifying escalation mechanisms to ensure swift processing of applications approved at the Nodal Officer level could be implemented.

Looking ahead, the potential for Aadhaar-linked systems is considerable. A unified Aadhaar-linked ID system could support inter-state portability of BOCW registrations and benefits, a critical feature for India's highly mobile construction workforce. The same infrastructure can also be extended to other welfare boards, including those catering to gig and platform workers, thereby contributing to the creation of a broader and more inclusive social security net. Aadhaar authentication through platforms like MeeSeva can also serve as a replicable model for other sectors such as education and health—offering a unified and user-friendly point of access for marginalized populations.

1.3 Dedicated Cadre of Labour Welfare Officers for Effective Verification

Innovation Overview

The Problem:
Welfare implementation in most states is delayed due to the absence of dedicated staff for verifying construction worker applications and claims.

The Solution:
Himachal Pradesh BOCW Welfare Board introduced a cadre of Labour Welfare Officers (LWOs)—district-level officials focused solely on BOCW application verification and follow-up—using existing departmental posts within the 5% administrative ceiling.

The Impact:
Application backlogs reduced and verification timelines improved due to a dedicated welfare cadre. Workers are now expected to receive BOCW benefits faster.

Understanding the Key Challenge

The LWO model addresses one of the most persistent pain points in BOCW implementation: delays in verifying worker applications and benefit claims. Previously, applications submitted through the Board's online portal remained pending for months due to the absence of dedicated verifiers and overburdened officials. Field verification was sporadic, informal, and deprioritized relative to other departmental responsibilities.

This resulted in low conversion rates from application to approval, especially in remote areas or for workers engaged in informal, short-term jobs at small sites—like individual houses. These workers often lacked formal documentation and had limited ability to follow up with district offices.

The LWO cadre was introduced to ensure that such verification tasks were not only assigned, but prioritized—giving the Board a dependable mechanism for processing claims and reaching workers at the margins.

Executing the Innovation

The innovation was implemented by the HPBOCWWB in partnership with the State Department of Labour. One LWO was appointed per district, with responsibilities clearly delineated: verify BOCW applications, validate employer certifications, and engage directly with workers to assess eligibility.

It is important to note that the LWOs were not tasked with cess collection or enforcement duties, which freed up their time and bandwidth for consistent worker-level engagement. This administrative clarity allowed for more structured and timely verification—something that was previously missing.

No changes to the Act or budget structure were required. The LWOs were appointed on a contractual basis[4] from sanctioned departmental posts, and their costs were absorbed within existing state allocations, ensuring compliance with the 5% administrative ceiling.

While applications were submitted online, the verification process remained manual—depending on documents like continuity certificates[5] or wage slips and often requiring follow-up via phone or site visits.

The Impact

Although formal MIS-based timelines are not yet publicly available, insights from officials suggest a notable improvement in service delivery. BOCW verification is now looked at as a central, monitored task rather than a side responsibility. Workers are more likely to be contacted during the process, and the reasons for rejections—when they occur—are communicated more transparently.

Administrative accountability has also improved. The existence of a designated LWO per district has given the Board a clear point of contact for application status, delays, and follow-ups.

That said, the LWOs still face challenges accessing workers in small construction sites, especially individual houses, where work is informal, scattered, and often undocumented. Reaching these workers requires proactive fieldwork or alternative mechanisms like self-declaration plus tele-verification. However, this is a solvable problem—and one that future reforms or integrations with field data/Geographic Information System (GIS) mapping could help address.

Implementation Challenges and their Solutions

While the model represents significant progress, challenges persist:

- **Geographical constraints and workload:** With only one Labour Welfare Officer (LWO) per district, the volume of applications can be high—especially during peak construction seasons. In cases of in-person verification, workers can also be difficult to reach in hilly terrain, where travel is slow and access is limited.
- **Lack of real-time verification tools:** Manual document checks and absence of eKYC or Aadhaar validation means a continued reliance on subjective judgments.
- **Access to workers on informal sites:** Individual home renovations or one-off private projects are harder to track, leaving a gap in coverage.

[4] Government of Himachal Pradesh notification, July '20

[5] A continuity certificate is a document that confirms a construction worker's continuous employment in the sector

Despite these, the dedicated nature of the role has enabled officers to experiment with workarounds, such as phone verification, informal coordination with local contractors, and scheduled outreach visits. These approaches, while not perfect, reflect the strength of having a role that is singularly responsible for worker claims.

Scalability & Replication Potential

The LWO model provides a low-cost, administratively feasible template for other states. It does not require new hires or additional financial outlay—just a reallocation of responsibility within existing Labour Department posts. For states struggling with application backlogs and verification delays, this model can offer immediate relief.

Customizations for other states might include:

- Deploying more than one officer in larger or high-construction districts
- Pairing LWOs with digital tools like GPS-tagged visit logs or automated document validation
- Cross-linking with e-Shram or Aadhaar databases for quicker fraud detection

In Himachal Pradesh, the next steps may include enhancing MIS capabilities, introducing biometric checks or eKYC where feasible, and experimenting with contractor-based verification models for reaching informal, small-site workers.

What this case shows is that structural clarity in roles—combined with existing administrative capacity—can create real improvements in how welfare reaches construction workers. And it does so without requiring major investments, just better design.

2. Administrative Efficiency and Integration

The delivery of welfare under the BOCW Act depends heavily on the administrative machinery of State Labour Departments. While each state is required to set up a BOCW Welfare Board to register workers, collect cess, and disburse benefits, these Boards have limited independent staffing. In practice, implementation of welfare delivery under BOCW is carried out by officials of the state's Department of Labour (DoL)—who are already stretched thin managing enforcement and compliance under other labour laws. These officials are assisted by one or two contractual BOCW operators per district, The BOCW Act caps administrative expenses of BOCW boards at just 5% of the total cess collected annually, leaving little room to hire dedicated staff or invest in improving existing systems and processes[6].

This reliance on overburdened labour officers creates persistent bottlenecks in welfare delivery, in a system that relies heavily on manual and paper-heavy protocols. From document verification to processing applications and coordinating benefit distribution, much of the system still operates manually on the backend, while only the portals for receiving and tracking applications have been digitised. Even basic verification methods—like calling contractors, local public officers or elected representatives to confirm a worker's identity are not fool proof, lacking any digital tracing methods. This section showcases how these foundational inefficiencies are being tackled by various State BOCW Boards and Civil Society Organisations—through better integration of databases, streamlined workflows, and institutional innovations that reduce delays and strengthen last-mile delivery.

Section Overview:

Though I couldn't study much myself, I always wanted a better future for my children. Thanks to the BOCW Education Scheme and Jan Sahas helping with the application and documents, my sonis now able to pursue his education with the ₹1 lakh grant. This support gives me hope and peace of mind, knowing his dreams are possible even when my work is uncertain."

-Shivaji Ghadge, Painter, Gautam Nagar, Govandi, Maharashtra

[6] Model Welfare Scheme, Point 6.2

2.1 API-based solution: Assam's Nirman Sakhi Portal

Innovation Overview

The Problem:
Manual, paper-based systems led to delayed registrations, low transparency, and benefit exclusion in Assam.

The Solution:
Assam BOCW launched the UIDAI integrated Nirman Sakhi portal in December 2024—a digital platform enabling end-to-end welfare delivery and real-time monitoring.

The Impact:
Processes like registration and benefit disbursement became significantly faster and more transparent. The shift to a digital interface reduced dependency on intermediaries and improved scheme targeting.

Figure 4: Screenshots of the Nriman Sakhi Portal

Understanding the Key Challenge

The primary challenge addressed was the inefficiency and exclusion in the manual registration and welfare delivery system for construction workers. Before the digital transition, workers had to visit Labour Offices physically, often requiring middlemen and facing multiple visits due to documentation or verification delays.

As of early 2023, over 7 lakh workers were registered with Assam BOCW offline, but only a fraction could access benefits smoothly. Manual workflows lacked transparency, resulting in long wait times, data duplication, and ineligible beneficiaries slipping through. The Board also struggled to track cess collections and enforce compliance by employers due to weak digital infrastructure.

Secondary benefits of addressing this challenge included:

- Increasing worker awareness through SMS and helpdesk integration.
- Real-time performance monitoring for administrators.
- Reduction in intermediaries and fraudulent claims.
- Greater cess compliance through employer-facing digital services.

Executing the Innovation

The project was implemented by the Labour Welfare Department of Assam and the National Informatics Centre (NIC). The portal enables online Aadhaar-based worker registration, employer registration, cess payments, grievance redressal, and real-time administrative dashboards. It integrates with Aadhaar for eKYC, eShram for verification, Assam's eGRAS payment gateway for online payments, and DigiLocker for document storage. Nirman Sakhi represents a full-stack approach to welfare delivery—digitizing every step from registration to benefit tracking—and aims to replace in-person, fragmented processes with a transparent, accessible system.

Key stakeholders included:

- ABOCWWB (nodal agency and user)
- NIC (technical development partner)
- UIDAI and eShram (for backend integration)
- Assam Finance Department (eGRAS payment gateway)
- Labour Inspectors and Welfare Officers (field-level facilitation)

Cost considerations: While detailed costs are not publicly disclosed, the platform leveraged existing NIC infrastructure, UIDAI services, and state digital assets, minimizing the need for proprietary platforms.

The Impact

The launch of the Nirman Sakhi portal has significantly improved BOCW welfare delivery in Assam—enhancing both administrative efficiency and worker experience. Since its launch in December 2024, over 48,000 workers have been onboarded, with numbers rising steadily.

- **Simplified Processes:** Manual, paper-based workflows have been replaced by a fully digital, Aadhaar-linked system. Services like registration, card issuance, and application tracking are now available on a single platform, reducing the need for multiple in-person visits.
- **Faster, Cost-Effective Delivery:** Digital BOCW cards can now be downloaded directly, cutting costs and delays associated with printing and physical dispatch.
- **Improved Targeting:** Aadhaar-based authentication has eliminated middlemen and ghost beneficiaries, ensuring benefits reach genuine workers and minimizing leakage.
- **User-Friendly Access:** The portal functions as a single-window interface available through Common Service Centres (CSCs). Workers receive SMS updates on application status, and dashboards provide officials with real-time visibility into performance and bottlenecks.
- **Lower Indirect Costs:** By reducing travel, lost wages, and reliance on agents, the portal has eased the financial burden on workers and strengthened trust in state systems.
- **Data-Driven Governance:** The system enables real-time analytics and social audits. Dashboards track registration trends, flag delivery gaps, and promote accountability across districts.

Implementation Challenges and their Solutions

The rollout of the Nirman Sakhi portal in Assam was a complex reform effort, requiring the Labour Department and its partners to overcome a range of technical, institutional, and behavioural challenges. Below is a structured summary of these challenges and the solutions adopted:

Institutional and Governance Challenges

Challenges:

- Building consensus among a wide range of stakeholders, including government departments, worker organizations, and service providers.
- Resistance from Labour Unions to digital transformation.
- Need for Business Process Reengineering (BPR) to align traditional, paper-based workflows with a centralized digital model.

Solutions:

- Conducted intensive stakeholder consultations and iterative feedback sessions to align system design and data-sharing protocols.
- Used these engagements to secure buy-in, particularly from initially reluctant Labour Unions.
- Undertook BPR activities, including drafting detailed SOPs, field testing new processes, retraining staff to ensure readiness for digital operations.

Technical and Integration Challenges

Challenges:

- Integrating multiple platforms (eShram, Aadhaar, CSC infrastructure), which posed issues related to interoperability and system uptime.
- Ensuring compliance with UIDAI's stringent security protocols, such as data protection standards, encryption norms, and audit mechanisms
- Persistent issues with internet connectivity, especially in remote and forested districts.

Solutions:

- Worked closely with UIDAI and NIC to meet all compliance requirements—though this delayed the rollout, it strengthened platform reliability.
- Maintained persistent coordination with national portals to resolve integration challenges.
- Introduced fallback protocols, such as offline data capture at CSCs, to ensure service continuity during outages.
- Initiated work on AI-enabled mobile apps to improve accessibility in low-connectivity regions.

Behavioural and Community-Level Challenges

Challenges:

- Low awareness among construction workers, which hindered initial uptake of the portal's services.
- Rising expectations for accountability due to growing digital penetration.
- Need for an accessible and efficient grievance redressal mechanism.

Solutions:

- Launched outreach programs through CSC agents and field demonstrations at the district and panchayat level.
- Incorporated a complaint tracking system within the portal to respond to user concerns.
- Conducted trainings for Registering Officers and Office Assistants to manage grievances effectively and build user trust.
- These targeted responses—though still evolving—have allowed the Assam BOCW Welfare Board to operationalize Nirman Sakhi as a scalable and inclusive platform for construction worker welfare.

Scalability & Replication Potential

The "Nirman Sakhi" platform offers a replicable model for other state welfare boards. Since it uses Aadhaar, eShram and CSCs, it requires minimal customization at the backend. States could adapt the platform with:

- Local language and benefit rules
- Integration with their payment and grievance systems
- State-specific workflows for inspections, renewals, and benefits

Requirements for Replication:

- Political and administrative commitment to digitize BOCW services
- Aadhaar integration approval and capacity for eKYC deployment
- Willingness to conduct training and awareness at field levels
- NIC or a state empanelled tech agency to carry out deployment

Future Use Cases and Plans:

- Expansion to other worker groups such as gig workers or migrant workers
- Enabling inter-state portability of welfare services
- Leveraging employment history and benefit delivery data to inform policy design and targeting
- Linking with state or national DBT platforms for direct fund transfers

2.2 Inter-Department Integration to Secure Workers' Health in Punjab

Innovation Overview

The Problem:
BOCW workers in Punjab couldn't fully access health insurance due to poor data integration and expired registration tracking.

The Solution:
An API-enabled integration between the BOCW Board and the State Health Agency (SHA) ensured real-time data sync for health insurance coverage under the Mukhmantri Sehat Bima Yojana (MMSBY), the Punjab government's flagship scheme that extends Ayushman Bharat benefits to construction workers.

The Impact:
Coverage expanded from 23,000 to 1.29 lakh workers and their families (~3.9 lakh individuals in total). The initiative enables immediate access to health insurance benefits of up to ₹5 lakh for their family, without the need for complicated scheme application and verification processes.

Understanding the Key Challenge

The core challenge was the under-coverage of construction workers under MMSBY. Though there were over 1.5 lakh active construction workers[7] in Punjab, only 23,000 were found eligible for benefits in FY 2024–25. This gap was driven by three key issues:

- **Annual Data Dumps vs. Dynamic Base:** PBOCWWB shared worker data just once annually, unlike other departments that provided full Aadhaar-linked, frequently updated lists. This was inadequate for a dynamically changing workforce with ~3,000 new registrations monthly[8].
- **No Real-Time Disablement:** Expired BOCW registrations were not being promptly disabled in the SHA systems, leading to potential ineligible claims and increased burden on hospital claim processing, and causing mistrust in the SHA administration towards construction workers, creating a vicious cycle of lack of access to healthcare.
- **Lack of Aadhaar Integration:** In March 2024, PBOCWWB shared worker data without full Aadhaar numbers, citing revised UIDAI guidelines. SHA systems, which rely on Aadhaar for de-duplication against other departments' databases, could include only those 23,000 workers whose Aadhaar data was already available from a previous dataset (March 2023).

This created dual exclusions—many newly registered workers couldn't be added, and expired registrations weren't being removed, distorting the scheme's actual reach.

[7] As of 20.03.25, according to data shared by PBOCWWB
[8] Based on BOCW registration data for the period FY22-24

Executing the Innovation

To address these systemic gaps, the SHA and PBOCWWB co-developed a multi-phase integration model:

Short-Term Actions:

- PBOCWWB shared encrypted bulk data of 1.29 lakh workers and their family members with SHA for FY 2025-26.
- SHA's IT team manually performed monthly disablements using expired registration data shared by the BOCW.

Long-Term Milestones:

- A real-time data-sharing API has been developed by the Punjab Labour Department's technical team, with full Aadhaar tokenization for privacy compliance. This integration enables seamless interaction between the BOCW and SHA databases, allowing for real-time addition, deletion, and updating of worker records. As a result, all the construction workers who are newly registered or have renewed their registration will be able to access health insurance benefits without delay. Moreover, it facilitates the timely removal of expired registrations, ensuring an error-free service delivery system and effective implementation of the scheme.

The Impact

By March 2025, 1.29 lakh construction workers and their families had been successfully onboarded into the MMSBY scheme—a six-fold jump from the previous year. This expansion was made possible through ensuring family coverage, facilitating real time data integration, and sustained coordination between both the departments.

The initiative also:

- Led to the amalgamation of PBOCWWB's general surgery scheme, which offered ₹50,000 to registered workers and their family members, with the state-wide MMSBY health insurance scheme, enhancing the benefit from ₹50,000 to ₹5 lakh. This integration eliminated the need for a separate health scheme by the Board, streamlined health insurance access for construction workers and their families across Punjab, and fulfilled the critical MWS healthcare mandate.
- Enhanced administrative efficiency, as SHA systems now automatically get updated with new BOCW beneficiaries and proactively flag expired entries.
- Built a replicable model for cross-department collaboration around entitlement-based scheme delivery. This integration enables Punjab BOCW to adhere to the Model Welfare Schemes of BOCW by providing healthcare access to construction workers. Other states can learn and replicate this integration with existing national / state level health schemes.

Implementation Challenges and their Solutions

One of the key considerations during implementation was understanding how to integrate with the Mukh Mantri Sehat Bima Yojana (MMSBY) portal, which is maintained by the National Health Authority (NHA)—the central agency overseeing Ayushman Bharat. At the state level, there was initially limited clarity on how a national-level portal could be leveraged or adapted for a state-specific scheme like MMSBY, leading to hesitation around the feasibility of integration.

The breakthrough came through sustained dialogue and alignment between the Punjab State Health Agency (SHA) and the Punjab Building and Other Construction Workers Welfare Board (PBOCWWB), anchored around a shared understanding of the need for a dynamic data exchange. The interim solution involves SHA manually updating the beneficiary list on the NHA portal each month, using worker data provided by the BOCW Board via a real-time API. For instance, the two bodies had a few rounds of discussion to understand each other's definition of "family," ensuring that the BOCW Board shared data consistent with the SHA's criteria. This workaround demanded consistent coordination, technical validation, and institutional commitment from all stakeholders involved.

Scalability & Replication Potential

This case demonstrates how inter-agency tech integration can unlock large-scale benefits for informal workers without launching entirely new schemes. For replication, states will need:

- Strong data governance protocols, including Aadhaar compliance and privacy safeguards.
- APIs that allow real time addition/updation/deletion of beneficiaries and dashboard-based error tracking.

In its next phase, Punjab could potentially consider:

- Fully implement real-time disablement of MMSBY cards based on BOCW card expiry date. SHA has requested the National Health Agency to support automated, expiry-based disablement in real time or batch mode.
- Build dashboards for data discrepancies and pendency, improving MIS responsiveness.

This initiative is a promising step towards realizing universal social protection for India's construction workforce—by making entitlement-based schemes truly dynamic, inclusive, and tech-enabled.

2.3 Accelerating Digital Transformation in Public Service Delivery – eGov Foundation

Innovation Overview

The Problem:
Urban public employment schemes like Mukhya Mantri Karma Tatpara Abhiyan (MUKTA) in Odisha faced delayed payments and poor fund tracking, affecting workers' livelihoods.

The Solution:
eGov Foundation's DIGIT platform digitized attendance, milestone verification, and wage disbursal for real-time, transparent public service delivery.

The Impact:
Workers began receiving timely payments, reducing financial stress. Governance processes improved through digital tracking, reducing corruption and enhancing trust.

Understanding the Key Challenge

MUKTA was designed to create employment opportunities for urban poor workers, particularly targeting Self Help Groups (SHGs) to engage in small-scale infrastructure projects such as road and drain construction and public facility maintenance. While the scheme aimed to create sustainable livelihoods, it struggled with significant administrative bottlenecks, including:

1. **Delayed Payments:** Manual verification of attendance and work completion led to prolonged payment cycles, affecting workers' financial stability.
2. **Lack of Transparency:** There was minimal visibility into fund utilization, causing concerns about inefficiency and corruption.
3. **Inefficient Administrative Processes:** Paper-based workflows and manual approvals increased the time and resources needed to release wages.

These issues disproportionately affected informal workers in the construction sector, where workers are often dependent on timely wage disbursements to sustain their livelihoods. By digitizing these processes, the MUKTA scheme aimed to improve payment timeliness, transparency, and overall trust in governance.

Executing the Innovation

The DIGIT platform was first deployed in Odisha in 2020 to address systemic challenges in the MUKTA scheme. Since then, it has enabled the automation of key processes such as attendance tracking, milestone verification, and smart payments. The solution involved integrating DIGIT with Odisha's Integrated Financial Management System (IFMIS), allowing for real-time, automated payments to workers engaged in MUKTA-related projects.

The digital solution streamlined multiple steps of the service delivery workflow:

- **Attendance and Work Capture:** Workers' attendance and work progress were tracked digitally through the MUKTA software (MUKTASoft), reducing errors and ensuring accurate records.
- **Smart Payments:** Once predefined conditions, such as completion of work milestones, were met, automated payments were triggered via the DIGIT platform, reducing delays and eliminating intermediaries.
- **Self-Executing Agreements:** The platform supported the use of smart contracts that automated approval and payment processes, minimizing discretionary intervention and speeding up the release of funds.
- **End-to-End Digitization:** The entire workflow—from project estimation and contract management to bill processing and fund disbursement—was digitized, ensuring transparency and reducing administrative overhead.

The platform's implementation has since scaled across various urban local bodies (ULBs) in Odisha, demonstrating success and potential for replication in other states.

Implementation Challenges and their Solutions

The digitization of the MUKTA scheme was not without challenges. Some of the key issues faced during implementation included:

1. **Stakeholder Alignment:** Initially, there was resistance from various departments accustomed to manual processes. This challenge was addressed through continuous engagement, training, and demonstration of the system's benefits.
2. **Capacity Building:** Training local government staff to use the new digital platform required significant effort. Capacity building and initial handholding were required to ensure seamless implementation. Regular workshops and training sessions were organized to ensure smooth adoption.
3. **System Integration:** Integrating DIGIT with the state's existing IFMIS posed some technical challenges, particularly in aligning workflows and ensuring real-time data synchronization. However, these were resolved through close coordination between the eGov Foundation, HUDD, and the Finance Department.
4. **Connectivity Issues:** Some urban local bodies faced connectivity issues that hindered the digital workflow. To mitigate this, offline modules were introduced to allow data capture in remote areas, which would sync once internet access was restored.

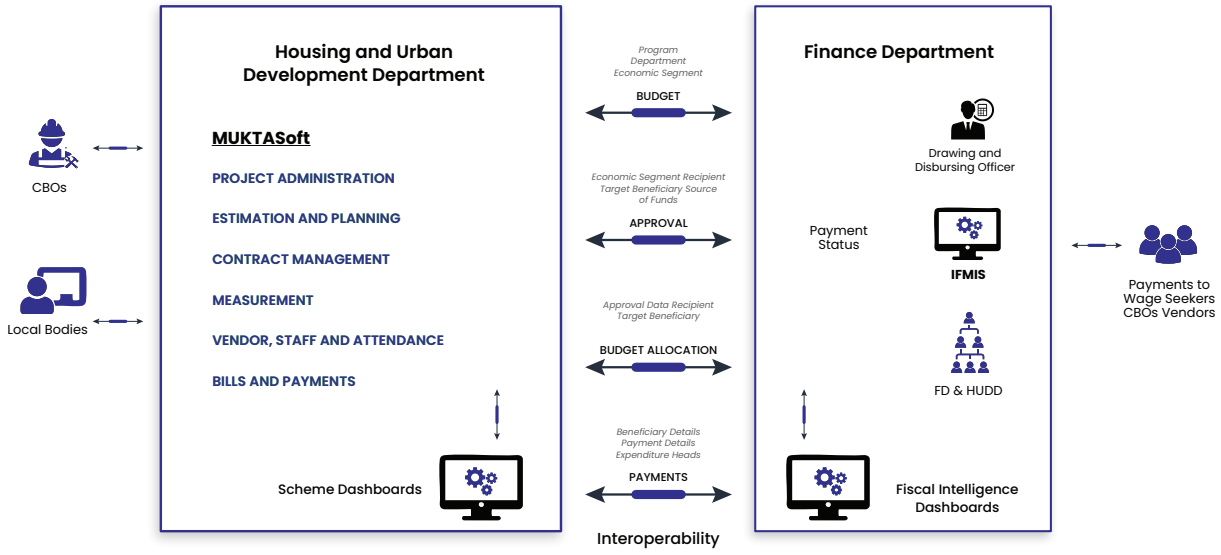
Scalability and Replication Potential

The success of the MUKTA digitization in Odisha highlights its scalability and potential for replication across other states with similar wage employment schemes.

- **Requirements for Adoption:** For successful adoption, states need robust internet infrastructure, strong inter-departmental collaboration, and an integrated financial management system. Additionally, investment in training and capacity-building for local functionaries is essential.
- **Customization Needs:** The DIGIT platform is modular, and while it can be replicated in other states, local needs may require some customization of workflows, especially around payment milestones and project tracking.
- **Future Plans:** The platform's architecture can be expanded to include more use cases, such as digital social audits, improved fund tracking for BOCW schemes, and integration with other welfare programs like health and agriculture support.

The MUKTA model could also serve as a blueprint for enhancing the delivery of benefits to construction workers and other informal sector labourers, improving both their welfare and the transparency of public service systems.

Figure 5: MUKTA digitization platform by eGov enabling streamlined, digital management of welfare and social security services.



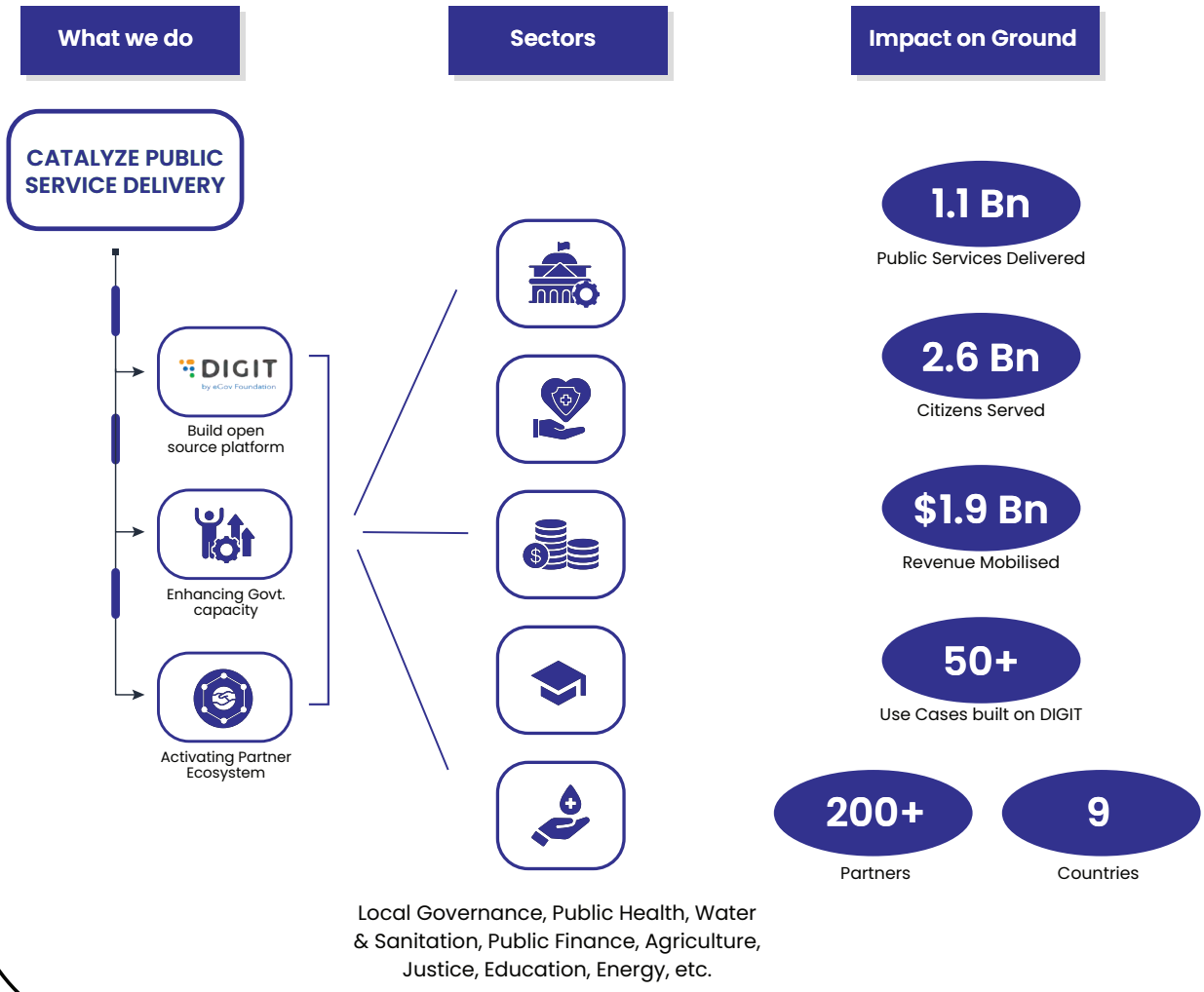
Smart Contracting and Smart Payments (through IFMIS integration) *enabling timely payout for Wage Seekers and CBOs, leading to functional services for citizens and better fund management for Finance Department (through Just-in-Time payments)*

In Focus: Technology Solution Providers - eGov Foundation

Founded in 2003, eGov Foundation is a nonprofit that aims to improve public service delivery through digital infrastructure in areas such as urban governance, health, sanitation, and public finance management. Their product, DIGIT, is an open-source digital platform that helps governments, administrators, and commercial players build solutions tailored to local needs. By fostering transparency and accessibility, eGov Foundation aims to transform governance and ensure that essential services reach people effectively.

Details about eGov Foundation's key activities and impact, shared as of March 2025:

Figure 6: OpenG2P's initiatives across various sectors, showcasing their on-the-ground impact and areas of focus.



3. Worker Tracking and Benefit Management

A significant challenge in the effective delivery of BOCW welfare schemes lies in the absence of a reliable system to track workers and the benefits they receive. This gap is particularly harmful for migrant workers, who are highly mobile, dependent on welfare schemes, and often have limited access to information.

Currently, many construction workers—especially migrants—do not know whether their BOCW registration is active, what benefits they are entitled to, or how to apply or renew their cards. While some workers are unaware of the labour card altogether, others are aware but unsure about when and how to access their benefits. These informational gaps directly contribute to delays, missed entitlements, and loss of trust in the system.

For state welfare boards, the absence of a dynamic, digital benefit management system means they struggle to track active versus inactive workers, identify those due for benefit renewals, or anticipate resource requirements. Migrant workers, in particular, are forced to re-register from scratch when they move across states, often losing their welfare history and eligibility in the process. This lack of portability undermines the very purpose of social protection.

Moreover, even when workers do apply for benefits, they face delays or rejections due to Aadhaar-bank mismatches, inactive accounts, or discrepancies in their name or details. These issues are rarely communicated clearly. Objection messages sent via SMS are often written in technical language that workers cannot interpret, leaving them confused about how to resolve the problem.

In this context, a well-designed benefit tracking and delivery system is not just an administrative tool—it is foundational to inclusion, transparency, and access. For highly mobile and digitally excluded populations like migrant construction workers, such a system must enable:

- **Accessibility:** Clear language, timely communication, and easily available on-ground support to help workers navigate complex processes.
- **Accountability:** Visibility into application status, entitlements, and channels for grievance redressal.
- **Continuity:** Once registered, workers should not have to restart the process repeatedly within the same state.

This section showcases innovations that seek to address these gaps by building tools to locate, track, and support workers throughout their BOCW journey, ensuring they can access their benefits when they need them the most.

Section Overview:

3.1 Karmika Seva Kendras and NFC Cards for Worker Tracking

"I didn't even know my wife's BOCW card made us eligible for any benefit. Without external help to track her registration, fix errors, and follow up with the department, I would have never received the ₹2 lakh after her passing. Workers like us don't know where we stand in the system."

— Binda Singh, Deo Block, Aurangabad, Bihar

3.1 Karmika Seva Kendras and NFC Cards for Worker Tracking in Karnataka

Innovation Overview

The Problem:
The Karnataka BOCW Welfare Board (KBOCWWB) lacked a reliable system to track registered workers after enrolment, leading to benefit leakages and administrative inefficiencies.

The Solution:
The Board introduced Karmika Seva Kendras (KSKs) and NFC-enabled smart cards to centralize services and enable real-time verification and benefit tracking[9].

The Impact:
The system laid the foundation for targeted benefit delivery and more efficient worker engagement. The statewide cleanup resulted in freezing 20.44 lakh bogus entries.

Understanding the Key Challenge

Primary Challenge Addressed:

The Board struggled with the inability to track worker status and benefit delivery in real time. Many registered workers had migrated, left the sector, or were deceased, but their records remained active.

This resulted in:

- Misuse of funds and benefit leakages
- Exclusion of genuine, active workers
- Administrative inefficiencies and inflated databases

The lack of ongoing verification made it difficult to maintain a clean and accurate beneficiary list, undermining the effectiveness of the welfare system.

Solution Components

To address these issues, KBOCWWB launched a multi-pronged strategy:

- **Karmika Seva Kendras (KSKs):** Centralized service centres modelled after Passport Seva Kendras to offer registration, verification, and benefit delivery in one place. These are in key urban locations in each district.
- **Near-field communication (NFC)-enabled Smart Cards:** These cards store comprehensive worker data and benefit history. Workers can update or verify work experience at KSKs, including self-declared history verified through field teams.
- **Database Cleanup Campaign:** A large-scale exercise to identify and remove bogus registrations:
  - In Haveri district, out of 2.89 lakh registered workers, 2.23 lakh were found bogus and 1.66 lakh were frozen.

[9] NFC (Near Field Communication) cards are smart cards that store worker information and can be tapped against a reader to quickly verify identity, work history, and eligibility for benefits.

- Statewide, 2.52 lakh worker cards were frozen and 20.44 lakh marked inactive.
- Additional initiatives included integration with education databases for automatic scheme validation and the use of GIS-based monitoring for cess planning and compliance.

Executing the Innovation

Key Stakeholders Involved:

- KBOCWWB
- NIC (technology partner)
- Local labour officers and district officials
- Field teams and third-party verification agencies

Cost Considerations:

- Initial investment for tech infrastructure, NFC card issuance, and staffing of KSKs
- Funded by KBOCWWB's cess funds

Technical Architecture:

- Front-end: KSK interface + Mobile KSK units
- Services: NFC card readers, mobile apps, verification dashboard
- Back-end: Integrated worker database + student data + benefit claim logs + GIS for cess mapping

The Impact

The KSKs are currently in the process of being set up, however, the intended and foreseeable benefits and qualitative improvements of these interventions are:

- Workers can have one-stop access to services via KSKs and improved access to services for migrant and rural workers via mobile KSKs.
- Increased transparency in benefit disbursal.
- Strengthened coordination across departments (e.g., education, health, etc.)
- Reduction in time taken to process claims
- Worker's data, work history and benefit information is available for officials and workers when needed

Administrative Efficiency Gains:

The verification exercise significantly improved the Board's ability to manage its beneficiary database. By identifying and freezing a large number of inactive or bogus registrations, the initiative helped streamline records and reduce the administrative burden of maintaining inaccurate data. With a cleaner and more reliable database, the Board is now better positioned to plan, monitor, and deliver welfare schemes more effectively. This effort has also laid the groundwork for more targeted outreach and efficient allocation of resources in future welfare initiatives.

Scalability & Replication Potential

Requirements for Adoption in Other States

For adoption in other regions, the last mile infrastructure would be essential, requiring the installation of devices that can write and read the NFC cards to facilitate smooth access and verification. Additionally, training programs for employers and contractors would be necessary to ensure they are equipped to use the system effectively. A robust backend system would also be required to log and analyse the data from NFC data, allowing for real-time tracking of worker registration and benefit utilization. This comprehensive approach ensures seamless operation and data integrity across various stakeholders.

Cross-Sectoral Application Potential

The integrated worker management approach—through NFC cards, mobile service units, and backend data systems—offers relevance beyond the construction sector. Departments working with other categories of informal and vulnerable workers (such as street vendors, sanitation workers, gig workers, or agricultural labourers) could adapt this model to improve service delivery and benefit tracking. Similarly, welfare programs managed by other departments could leverage these systems for more coordinated targeting and follow-up.

Infrastructure and System Adaptability

While the model is digitally enabled, it remains flexible to regional conditions. For instance, mobile service units can help overcome geographic barriers in both urban informal settlements and remote rural areas. The use of GIS tools, originally developed for construction cess monitoring, could be extended to support planning and compliance in urban development, property tax collection, and environmental clearances.

Future Opportunities

There is significant scope to deepen the utility of the existing infrastructure. Adding biometric authentication could enhance security and reduce duplication of benefits. Dashboards with real-time analytics can provide decision-makers with actionable insights on worker coverage, mobility, and benefit utilization trends. Over time, such systems could contribute to building a unified registry of informal workers, enabling more responsive and data-driven governance across welfare departments.

In Focus: Technology Solution Providers - OpenG2P

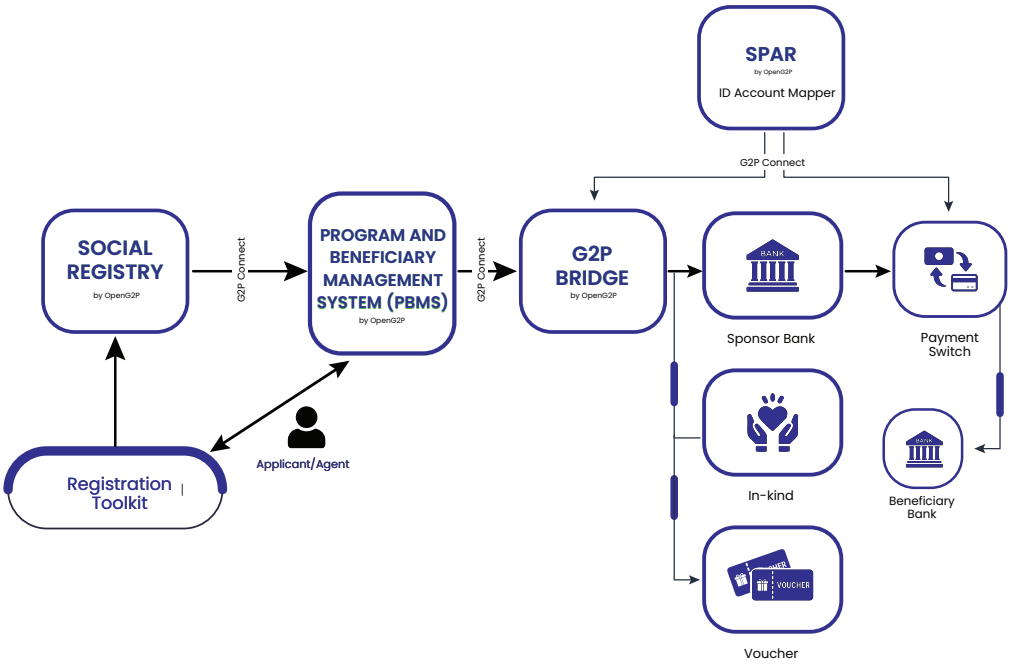
OpenG2P is an open-source platform designed to help governments efficiently deliver social benefits to beneficiaries. It provides an all-inclusive but customizable digital tool to streamline government-to-person (G2P) service delivery. OpenG2P is recognized as a Digital Public Good and serves as a key component of Digital Public Infrastructure (DPI).

OpenG2P offers several advantages for governments aiming to streamline government-to-person (G2P) service delivery. The platform is built on interoperability as a key principle, therefore it works with other systems, databases and Digital Public Goods (DPGs) to enhance service delivery. The platofrm also has robust privacy & security protocols to ensure data protection and secure transactions. The platform is built for rapid deployment and offers ready-to-use modules that can be quickly implemented.

The key modules of the platform and components that can be implemented/deployed as needed are:

1. *Program & Beneficiary Management (PBMS) – Enables efficient administration of social benefit programs. This is a key module that allows worker tracking and management. Implementing authorities will be able to see the benefits availed by each beneficiary.*
2. *Social Registry – Maintains inclusive registries for beneficiaries.*
3. *Social Payments Account Registry (SPAR) – Maps user IDs to financial service providers for cash transfers for easy transfers to an active account.*
4. *G2P Cash Transfer Bridge – Facilitates seamless digital payments*

Figure 7: OpenG2P system architecture connecting governments and beneficiaries for streamlined social protection payments.



4. Worker-Specific Needs and Tailored Innovations

The BOCW Act aims to improve the welfare of all construction workers—but these workers are far from a single, uniform group. Migrants, women, skilled and unskilled labourers, and casual daily wage earners each face distinct challenges shaped by the nature of their work and socioeconomic conditions. Beyond the inherent physical demands of the industry, rising climate-related stress is exacerbating existing vulnerabilities, pushing workers into even greater health and financial uncertainty. Extreme heat, erratic weather, and hazardous conditions add layers of risk to an already precarious livelihood, making standardized welfare schemes increasingly inadequate in addressing their evolving needs

This section showcases innovations that respond to these realities—by designing benefits around workers' specific contexts rather than doing a one-size fits all approach to welfare for a diverse industry.

Section Overview:

"I work in construction in Delhi and support six people. When work stopped due to pollution restrictions, we had no income. Jan Sahas helped me apply for a Labour Card—even with delays and document issues, they stood by me. Because of the card, I received ₹5,000 from the Delhi government, which helped me feed my family."

– Md. Kalamuddin, Delhi

4.1 Ensuring Educational Continuity for Migrant Workers' Children in Uttar Pradesh

Innovation Overview

The Problem:
Children of construction workers, especially migrant families, often face frequent school disruptions due to their parents moving in search of work. These children lack stable access to quality education and are at risk of dropping out.

The Solution:
To provide uninterrupted, quality residential education to the children of registered construction workers, the Uttar Pradesh BOCW Board launched the Atal Awasiya Vidyalaya Yojana. The scheme offers CBSE-affiliated, fully residential schooling for students from Class 6 to 12, without parents having to pay the tuition fee, hostel fee, or other costs.

The Impact:
18 schools now support 18,000 students with modern education and care, significantly improving learning continuity for vulnerable children.

Understanding the Key Challenge

Primary Challenge Addressed:
The scheme directly addresses the disruption in children's education due to their parents' migratory work patterns. By providing boarding facilities, it enables children to continue their studies without interruption. Students are allowed to continue even if their parent's BOCW registration lapses, becomes ineligible, or if the parent passes away.

Construction workers are among the most mobile informal workforce groups. The absence of consistent schooling often affects the academic continuity and future prospects of their children.
The scheme also benefits orphaned children (including COVID-affected) through inclusion under related state programs, and promotes holistic development through sports, robotics, environmental education, and technical training.

Implementation Details

The scheme involves a unique partnership model where the state government funds capital expenditure (school infrastructure), and the UPBOCW Board manages recurring operations using a dedicated cess-based corpus.

A total of 18 residential schools, one in each division of Uttar Pradesh, have been constructed. Each school has a capacity of 1,000 students (equal distribution of boys and girls), with dedicated hostels, academic blocks, laboratories, medical support, and mess facilities.

The Atal Awasiya Vidyalaya Samiti, a registered society, oversees school operations. A multi-tiered monitoring structure—from the Chief Secretary to District Magistrates—ensures governance and accountability.

Cost Considerations:

- Approx. ₹1,267 crore in capital expenditure (state-funded)
- ₹2,250 crore cess-based corpus created by the UPBOCW Board for operational costs

Technical Architecture:

Schools use a digital ERP system hosted on the Uttar Pradesh State Data Centre, enabling real-time tracking of student performance, attendance, staff activity, and finance workflows.

Impact Assessment

Quantitative Metrics:

- Designed capacity to serve 18,000 students (~1,000 per school)
- Extensive infrastructure: 486 smart classes, 900 computers, 3654 CCTV cameras

Qualitative Improvements:

- Stable, uninterrupted education for children of migrant and informal workers
- Access to modern science and technical labs, sports, and digital learning
- Safe residential environment with medical and counselling support

Administrative Gains:

- Fully digitised monitoring system improves transparency and reduces manual work
- Streamlined coordination through state, division, and district-level committees

Implementation Challenges & their Solutions

Infrastructure Scale-Up: Building high-quality residential schools at scale required significant capital investment. This was addressed through upfront state government funding.

Sustainability of Operations: To avoid long-term dependence on state budgets, the UPBOCW Board allocated ₹ 2,250 crore from the labour cess fund to finance recurring costs.

Governance & Oversight: To ensure smooth operations, a multi-layered governance structure was set up with defined responsibilities at state, division, and district levels.

Scalability & Replication Potential

This model of residential schooling for workers' children, especially those of migrant labourers, presents a replicable solution for other high-migration states. The scheme design and implementation guidelines can support the development of similar schools in other states. The use of dedicated BOCW funds for long-term operations ensures financial sustainability, while centralised school management systems enable efficient oversight. Other states could adopt this approach by investing in boarding schools using their BOCW Board cess collections, particularly in districts with high concentrations of construction labour.

4.2 Safeguarding Livelihoods from Polluted Skies: Parametric Insurance for Construction Workers in Delhi-NCR

Innovation Overview

The Problem:
Seasonal construction bans during Delhi-NCR's high pollution periods deprive daily-wage construction workers—mostly informal and migrant—of income, with no safety net or timeline for work resumption.

The Solution:
Jan Sahas piloted an AQI-linked parametric insurance product that delivers automatic payouts to registered workers when pollution levels breach thresholds, using public AQI data—no claims, paperwork, or proof of loss required.

The Impact:
The parametric insurance product can offer timely financial relief to vulnerable construction workers and proved a scalable, tech-enabled model for climate-linked social protection.

Understanding the Key Challenge

Primary Challenge Addressed:
The pilot tackles the economic precarity faced by daily-wage construction workers during Delhi's pollution season. When work stops due to poor air quality, workers lose their sole source of income and often have no buffer to afford even basic needs like food, rent, and transportation.

Scale of the Problem
The economic burden on construction workers during pollution-related bans is immense. Workers lose ₹300–₹430 in income every day during a ban, which can extend over 20–30 days[10]. Employers face disruptions to their timelines and delivery schedules, while governments struggle to provide timely and targeted relief. The 2023 construction ban impacted more than 1 million workers in Delhi-NCR alone. With air pollution levels crossing the AQI 400 threshold for 25–30 days each winter in Delhi-NCR, this problem is expected to recur annually[11].

Secondary Impacts of the Problem (Without Intervention):

- Accumulation of informal debt, often at 5–10% monthly interest rates
- Interrupted access to food and medicines
- Increased dropout of children from schools due to family financial stress
- Premature reverse migration before the season ends, affecting continuity of earnings

[10] The cost of pollution
[11] Centre for Science and Environment Press Release

Implementation Details

The development and implementation of the parametric insurance product was driven by a collaborative effort across multiple stakeholders. Jan Sahas led the end-to-end product development, grounding it in the lived realities of workers by gathering insights from the field, studying seasonal AQI patterns, and translating these into feasible insurance triggers. K.M. Dastur, with deep expertise in insurance, played a crucial role in shaping the product architecture and navigating regulatory and actuarial considerations. The insurance product was underwritten by Go Digit General Insurance, which managed the technical backend and ensured compliance with all relevant insurance regulations. On the ground, Jan Sahas took charge of worker mobilisation, awareness sessions, and enrolment, ensuring the solution reached the most affected segments.

The insurance was designed with simplicity and accessibility at its core. It leveraged publicly available AQI data from credible sources such as the Delhi Pollution Control Committee and SAFAR, establishing an objective and transparent trigger. To minimise bureaucratic delays and barriers to access, no paperwork was required once a worker was enrolled; payouts were processed automatically based on data triggers, removing the need for claims to be filed.

In its pilot phase, Jan Sahas covered the full premium cost to lower the entry barrier for workers and test the model's uptake and efficacy. The long-term sustainability plan, however, envisions a co-financing model where premiums are supported by employer contributions. These contributions could be bundled into wage structures, ensuring continued coverage while promoting shared responsibility for worker welfare in the face of increasing climate risks.

Impact Assessment

Qualitative Impact:

- **Enhanced financial security:** Workers reported a greater sense of predictability during an otherwise uncertain time.
- **Improved mental well-being:** In feedback sessions, many workers said that knowing they would receive some support helped reduce stress and prevented panic borrowing.
- **Increased insurance literacy:** For most workers, this was their first experience with a formal risk protection mechanism, and many expressed willingness to pay partial premiums in the future.

Worker Voices

Excerpts from interaction with workers affected by climate change related events

Systemic Gains

The parametric insurance model has demonstrated a scalable and efficient method of welfare delivery that operates independently of the typical administrative machinery, which is often slow and overburdened. By eliminating the need for manual verification and paperwork, the model significantly reduces the load on government departments and frontline workers. One of its most impactful contributions is the drastic reduction in time-to-disbursal—from the weeks or even months it typically takes for relief funds to be processed and approved, to an automatic payout system that triggers within 48 hours of a recorded AQI breach. This shift not only ensures timely financial relief for workers when they need it most but also sets a new benchmark for responsive and tech-enabled social protection mechanisms in the face of climate shocks.

Overcoming Key Design Hurdles

Bringing this innovation to life meant tackling trust deficits, policy complexities, and last-mile delivery barriers—each addressed through iterative design and close engagement with workers and industry actors.

Design Hurdle	Challenge	Solution
1. Low Worker Trust & Awareness	Workers were unfamiliar with insurance and viewed it with suspicion, often confusing it with fraud or forced deductions.	Field teams conducted over 100 site-level meetings, using story-based analogies and testimonials from workers who had received payouts to build trust.
2. Setting an Appropriate AQI Threshold	Too low a threshold would make the product unsustainable for insurers; too high would fail to support workers during actual work stoppages.	Combined historical AQI data with ground-level feedback on work bans, closely aligned with government GRAP actions.
3. Designing a Simple, Paperless Enrolment Process	Workers lacked identity documents or digital literacy to complete complex forms.	Introduced assisted onboarding via smartphones with just 4 fields (name, phone, worksite, bank account details); biometric Aadhaar not mandatory.
4. Affordability for Long-Term Scale	Cost of premiums may not be viable if passed fully to workers.	Ongoing conversations with real estate firms to co-finance premiums, exploring bundling within wage structures.

Scalability & Replication Potential

The parametric insurance model piloted in Delhi-NCR has strong potential for replication and scale, primarily because it is designed around objective, publicly available data triggers—like AQI readings—rather than subjective or paper-heavy claims processes. This ensures rapid, transparent, and predictable payouts without burdening workers or the state with verification protocols. Its reliance on open-access data also makes it adaptable to other cities that experience seasonal climate disruptions and have credible environmental monitoring systems in place. Moreover, the digital-ready, minimal-documentation enrolment design ensures that the model is easily deployable in low-literacy, informal workforce settings, where traditional insurance products often fail due to complexity or mistrust.

As the climate crisis deepens, similar models could be extended to address other environment-linked livelihood risks. For example, in cities like Ahmedabad or Lucknow, where rising heatwaves are already leading to work-hour restrictions, a heat-stress-linked insurance variant could be developed using maximum temperature data as the trigger. The same logic could apply to flooding in coastal cities or monsoon-dependent delays in infrastructure work. However, successful replication would require localized calibrations—such as setting appropriate thresholds, identifying the right seasonality, and aligning with city-specific employer-worker ecosystems.

Looking ahead, Jan Sahas plans to scale the AQI-linked model to at least four more Indian cities over the next year while simultaneously piloting heat-index insurance for workers in summer-prone regions. In parallel, the team is building an evidence base to demonstrate cost-effectiveness and impact, with the goal of engaging state welfare boards, ESG-minded employers to explore co-financing and institutionalization options. The long-term vision is to embed such parametric risk protection tools into the broader architecture of social protection—making India's most vulnerable workers more resilient to the growing unpredictability of climate extremes.

Key Takeaways and The Way Forward

This knowledge product highlights innovations already being tested by states and partners to simplify and strengthen BOCW welfare delivery. The takeaways below offer practical steps that other State Boards can consider as they work to improve their systems, reduce administrative burden, and ensure faster, more effective delivery of benefits to workers.

1. Create and use digital work histories: State Boards can build platforms or partner with third-party tools to maintain verified digital records of workdays. This directly addresses the challenge of proof of eligibility for construction workers.

2. Enable Aadhaar-based identity verification at scale: Streamlining Aadhaar seeding and using biometric authentication tools can reduce duplication and speed up the verification process.

3. Identify ways to strengthen frontline capacity: Moving away from paper-based, manual verification processes and supporting frontline officials with digital tools can reduce errors and delays.

4. Adopt integrated systems and portals for backend efficiency: Integrated systems through APIs enable faster data processing and better monitoring across departments, thus improving admin efficiency and unlocking more time for Labour Officials too, while ensuring benefits reach workers faster.

5 Improve inter-departmental integration: Linking worker data with health, education, birth, and other government databases can make eligibility checks faster and more accurate. This is a low cost tech solution which leverages existing systems within various departments.

6 Invest in holistic, end-to-end solutions: Platforms that manage the full lifecycle—from registration to scheme disbursal and tracking—reduce the burden on both officials and workers. The time and effort saved far outweigh the one-time system development cost. Open-source solutions already available in the market can be customised and integrated with existing government systems.

7 Collaborate for cross-learning and technical support: Partnering with other states, technology providers, and organisations like Jan Sahas can support cross-learning and help State Boards design more efficient systems that reduce administrative load and reach workers faster.

For further information or to explore collaboration, please write to us at info@jansahasindia.org. We would be glad to support your efforts to strengthen welfare delivery systems.

Some Snapshots from the BOCW Convening on ‘Shaping the Future of Social Security for Construction Workers’

Lucknow | 21st March 2025

Address by the Hon' Cabinet Minister, Hon' State Minister, and Principal Secretary, Department of Labour and Employment, Government of Uttar Pradesh

Panel Discussion on 'Technology Innovations in Improving Service Delivery'

Panel Discussion on 'Protecting Construction Workers from Climate Risks'

Group Photograph of all BOCW Convening Participants and Attendees

About Jan Sahas

Jan Sahas is a 24-year-old, community-centric organization working across 100 districts in 12 states of India. Guided by a vision of dignity and equality for all, the organization focuses on safe migration, worker protection, and the prevention of violence against women and children.

Blending deep community engagement with a systems-change approach, Jan Sahas ensures that the voices of marginalized workers and survivors shape the design and delivery of public programs. It partners closely with governments and industry to strengthen policy and implementation—setting up program management units, co-designing reforms, and building or leveraging technology platforms to improve service delivery and decision-making.

To date, Jan Sahas has facilitated over 8.6 million social security benefits and responded to more than 2.9 million calls through its labour helpline. It also collaborates with over 24 grassroots nonprofits, helping to build an ecosystem led by affected communities.

To know more about engaging with BOCW boards to improve worker welfare, contact us.

info@jansahasindia.org

Migrants Resilience Collaborative

52B, Ground Floor, Okhla Industrial area, Okhla Phase - III, New Delhi - 110020