

ICT-Enabled Restitution and Inclusive Growth: Addressing Accountability Gaps in India's Digital Skill Development Ecosystem

Dr. Manoj P. K^{1*}

Professor and Head, Department of Applied Economics, Cochin University of Science and Technology (CUSAT), Kochi, Kerala- 682 022, India, Orcid Id: 0000-0002-5710-1086, Email Id: manoj_p_k2004@yahoo.co.in

Abstract

Publicly funded skill-development programmes growingly rely on digital platforms to document enrolment, training, assessment, certification, placement and post-placement tracking. Administrative records, however, do not necessarily establish that employment was genuine, fairly paid, sustained, or experienced as voluntary and safe by the beneficiary. This paper develops an ICT-enabled restitution framework for addressing accountability gaps in India's digital skill-development ecosystem, taking the case of DDU-GKY. It analyses historical national and Kerala data for FY 2016 to FY 2024 (up to June 2024), and situates these data within official programme updates and relevant legal and research literature. The national dataset reports 1,891,189 enrolled candidates, 1,726,824 trained, 944,778 certified, 1,103,801 appointed, 925,540 with monthly continuity of at least three months, and 479,353 placed. Kerala's annual training totals vary substantially, while placement information is incomplete for many years and cannot be treated as a linked cohort conversion rate. The paper argues for six connected elements: longitudinal digital traceability; independent verification of placement and retention; accessible beneficiary voice; impartial grievance review; lawful and proportionate restitution; and systemic correction based on audit and complaint patterns. The proposed model includes data-quality flags, multilingual and assisted grievance channels, human review of automated decisions, privacy-by-design, and a remedy menu covering record correction, service completion, re-training, placement assistance, referrals, and compensation where legally authorised. Being a descriptive-normative study, it does not involve a cause-effect evaluation. It concludes that ICT contributes to inclusive growth when digital records become contestable, employment claims become verifiable, and proven programme failures trigger fair remedies.

Keywords: ICT; Inclusive growth; DDU-GKY; Digital governance; Skill development; Restitution; Grievance redressal; Employment accountability.

Introduction

Publicly funded skill development is often evaluated through the number of candidates enrolled, trained, assessed, certified, and reported as placed. These indicators matter, but they do not by themselves establish whether a beneficiary obtained decent, sustained, voluntary, and remunerative work. For a rural young person, the relevant outcome is not merely a certificate or an offer letter. It is a credible pathway from training to employment that is safe, fairly paid, accessible, and compatible with the worker's circumstances.

Where programme records show success but the beneficiary experiences a failed placement, unpaid wages, coercive migration, misleading recruitment, or a training provider's non-performance, an accountability gap emerges. Information and communication technology (ICT) can narrow that gap. A digital platform can preserve a traceable record from mobilisation through training, assessment, placement, and post-placement follow-up; link public payments to verifiable milestones; identify inconsistencies; and provide beneficiaries with a channel to challenge inaccurate records.

Yet digitisation alone is not justice. A dashboard can make institutional activity visible while leaving the beneficiary without an effective remedy.

Digital systems can reproduce exclusion when users lack connectivity, devices, literacy, accessible interfaces, language support, or confidence to complain. They can also intensify surveillance and privacy risks if sensitive personal data are collected or shared without proportionate safeguards.

This paper develops an ICT-enabled restitution framework for India's rural skill-development ecosystem, using the Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) as the principal case. DDU-GKY is a placement-linked skilling programme under the Ministry of Rural Development's rural livelihoods architecture.

The attached study by Surendran et.al. (2023) reports national and Kerala programme-status data for 2015–16 to 2023–24, with the final year extending only to June 2024. Those data provide a useful descriptive base for examining the relationship between recorded outputs and the information needed to verify outcomes. More recent official statements concerning DDU-GKY 2.0 provide policy context, but they are kept analytically distinct from the historical dataset. The paper's central proposition is that ICT should be designed not only to administer a scheme but also to make programme claims contestable and remedies accessible.

A restitution-oriented approach asks four linked questions: what service or outcome was promised; what evidence shows that the promise was or was not fulfilled; what harm, if any, can be causally linked to a failure; and what proportionate remedy is legally and administratively available? Restitution here is used as a governance and remedial concept, not as an assertion that every disappointed employment expectation creates an automatic legal entitlement to compensation. The paper combines descriptive analysis, policy and legal review, and a proposed accountability model.

2. DDU-GKY and the digital governance context

DDU-GKY was launched on 25 September 2014 as a placement-linked skilling intervention within the National Rural Livelihoods Mission. It targets poor rural youth and seeks to connect skill acquisition with wage employment and livelihood diversification. Programme architecture has involved central guidelines, State Rural Livelihood Missions or designated state agencies, Project Implementing Agencies (PIAs), training centres, assessment and certification arrangements, and employers.

The official programme platform, Kaushal Bharat, records multiple stages of the programme lifecycle and publishes candidate-status indicators. The programme's design has included post-placement support and tracking; these features are important because initial placement does not necessarily mean durable employment (National Institute of Rural Development and Panchayati Raj [NIRDPR], n.d.; Ministry of Rural Development [MoRD], 2024).

The Kaushal Bharat portal is not simply a publicity website. Its public-facing reports present indicators such as candidates enrolled, trained, assessed, certified, appointed, and placed, as well as monthly continuity categories. The portal also cautions that displayed figures depend on records updated by state missions and PIAs and that migration of legacy data can produce deviations (MoRD, n.d.).

This qualification is central to the paper: digital availability is not identical to data completeness, independent verification, or an enforceable right to correction. The same platform can improve traceability while remaining dependent on the quality and timeliness of the records entered by implementing institutions. Official policy has also evolved.

In December 2024, the Ministry of Rural Development reported 16,90,046 candidates trained and 10,97,265 placed since FY 2014–15 through November 2024, describing placement as a key outcome and identifying financial support provisions for training, assessment, post-placement, retention, and career progression (MoRD, 2024).

In August 2026, the Ministry described DDU-GKY 2.0 as placing greater emphasis on sustainable employment, an expanded minimum placement period, post-placement tracking, grievance redressal, counselling, migration support, alumni engagement, and upskilling/reskilling (MoRD, 2026a).

A September 2026 government communication further described digital features such as real-time dashboards, public access to provider performance ratings, automated grievance redressal, digital attendance, and certificate verification (Press Information Bureau [PIB], 2026a). These are policy announcements and design features; their existence should not be confused with independent evidence that all components are operating effectively in every location.

A useful distinction is between administrative digitisation and digital justice. Administrative digitisation moves forms, attendance, documents, and reporting online. Digital justice adds beneficiary access to the information held about them, clear explanations of decisions, accessible challenge routes, human review, protection against retaliation, and remedies when verified failures cause harm.

This paper treats the first as infrastructure and the second as the public value that infrastructure should serve. Independent audit evidence from another state demonstrates why these safeguards matter. In its performance audit of DDU-GKY implementation in Uttar Pradesh, the Comptroller and Auditor General of India reported that sampled implementing agencies had not maintained the required one-year post-placement tracking records; in the sampled cases, records were available only for three months.

The audit also reported that placement documentation could not be produced for two sampled agencies despite payments against claimed training and placement activity, making those claims unverifiable (Comptroller and Auditor General of India [CAG], 2025). This is not evidence that the same failures occurred in Kerala, and it should not be generalised to every provider. It is, however, a documented example of the difference between a digital or administrative claim and an independently verifiable outcome.

3. Problem statement and research questions

The core problem is the gap between measurable programme activity and the lived quality of employment outcomes. A training count can be reliable as a count and still be insufficient to determine whether candidates received relevant skills, whether job offers were genuine, whether employment lasted for the required period, whether wages were paid, or whether an exit reflected a better opportunity, unsafe conditions, discrimination, or a mismatch between wages and living costs.

A placement indicator can also become misleading if data are missing, late, duplicated, or recorded without meaningful beneficiary confirmation. The empirical problem is visible in the attached study's national status table. For the period it covers, 1,891,189 candidates were enrolled and 1,726,824 were recorded as trained; 1,570,960 were assessed, 944,778 certified, 1,103,801 appointed, 925,540 recorded in monthly continuity of at least three months, and 479,353 placed.

These figures should be read as programme-status totals, not as a perfectly matched cohort transition table. Categories may reflect different timing and administrative definitions; therefore, dividing one category by another does not automatically yield a valid causal or cohort conversion rate.

Still, the distribution indicates why an accountability system needs to preserve the definition, date, evidence and provenance of every status claim. The paper addresses five questions. First, what do the historical national and Kerala data reveal about the limits of output-centred monitoring?

Second, which digital records and verification processes are necessary to track a beneficiary from enrolment to sustained employment?

Third, how can grievance redressal be made accessible to rural youth who face digital, linguistic, social, or disability-related barriers?

Fourth, what forms of restitution or corrective action are appropriate when a programme or provider failure is established? Fifth, how should data protection, due process, independent review, and public accountability be combined so that ICT empowers beneficiaries rather than merely increasing administrative control?

4. Literature review, analytical significance and conceptual foundations

Research on skill development highlights the distinction between participation and durable labour-market gains. Chakravorty and Bedi (2019), examining DDU-GKY in rural Bihar, found an initial employment improvement among trained graduates but reported that the effect diminished after two to six months. Their analysis also identified caste-based discrimination and a mismatch between offered salaries and living costs as reasons for job exits.

The implication is not that training is ineffective; rather, placement outcomes are shaped by employer behaviour, working conditions, social discrimination, mobility costs, and the ability to remain in a job. A monitoring system that records only initial placement can therefore overstate programme success.

The attached study reviews work on the Skill India initiative, industry engagement, self-employment training, and Kerala's livelihood programmes (Surendran et. al., 2023). The reviewed literature suggests that training systems operate within broader local labour markets and that outcomes depend on provider quality, employer demand, gender and social inclusion, and the availability of supportive institutions.

These insights reinforce the need to move from a narrow output dashboard toward a longitudinal record of beneficiary experience. Digital public infrastructure can support accountability by standardising identifiers, recording transactions, enabling audit trails, and making information available across administrative levels.

However, technology is not neutral. Data may be entered strategically when provider payments depend on performance metrics; people with limited digital access may be underrepresented; automated flags may incorrectly label a worker as non-compliant; and a centralised database may concentrate sensitive information. Proper digital governance demands contestability, data minimization, security, explainability, accessibility, and independent oversight, not merely greater data collection.

ICT-enabled initiatives including government-sponsored programmes have been noted to help faster and inclusive economic growth including women empowerment and rural development. There are many success stories at the international, national (India) and sub-national (e.g. Kerala in India). It is relevant to consider a few major ones.

As an international experience, the one in Philippines as reported by Pickens (2009), indicate the vast scope for ICT adoption (starting from Mobile phones) for inclusive and gender-neutral growth and rural development; because women could empower in Philippines via mobile phones and could get access to formal means of credit.

Many experiences are there in India too, which show that ICT integration (adoption of Fintech, E-CRM, etc.) ensures better efficiency and faster growth. A field study done in Kerala in India by Joju et. al. (2017a) noted a significant improvement in customer attitudes to ICT-based bank products due to e-CRM. Another study by Joju et. al. (2017b) noted prominent increase in the service quality of the banks in Kerala due to their FinTech adoption.

Besides ICT, the need for alternative financing models like housing microfinance was noted by Manoj (2015). Similar findings were made about the use banking technology for better service quality by Joju and Manoj (2019) and the role of ICT for effective social banking by Manoj (2019).

In India, ICT is fast growing as an effective tool in the context of skill development also, particularly in an advanced State like Kerala which is well ahead of the nation in education, literacy, health indices and in various socio-economic indices. Sarojkumari, et al. (2023) noted the vital need for ICT-based tools for scientific health management in this ICT era.

Manoj (2023) argued that adopting ESG frameworks provides a viable route for sustainable real estate transition in India. Sreedevi et. al. (2025), noted that there exist specific and distinct socio-linguistic strategies and confirmed that language use in a multi-lingual setting is very symbolic and a socially developed one. Given these successful experiences of ICT integration, ESG adoption, digital governance etc. give good significance for studying the case of DDU-GKY from an ICT perspective.

Broadly, restitution seeks to obtain remedial justice: restoring a person, as far as practicable and legally permissible, to the position they would have occupied absent a proven wrong, or correcting an unjustly created disadvantage.

In public programmes, remedies may include correction of records, completion of a promised service, reimbursement of documented expenses, wage recovery through the appropriate legal process, re-training, placement assistance, compensation where a competent authority finds a lawful basis, or sanctions against a non-compliant provider.

These remedies are not interchangeable. Restitution should be evidence-based, proportionate, and delivered by the authority legally empowered to provide it.

The proposed framework draws on four complementary ideas: (a) outcome accountability, which requires evidence beyond activity counts; (b) procedural justice, which requires notice, reasons, an opportunity to respond, and appeal; (c) capability and inclusion, which recognises that a formal digital channel may be unusable for some beneficiaries; and (d) remedial accountability, that links verified failure to a defined corrective response. It seeks to integrate the ideas into an operational model for a publicly funded skilling programme (DDU-GKY).

5. Objectives and propositions

The principal objective is to develop a practical ICT-enabled restitution framework that strengthens accountability for employment outcomes in India's digital skill-development ecosystem.

The specific objectives are to analyse the historical DDU-GKY national and Kerala indicators; identify where administrative records can fail to establish beneficiary-level outcomes; propose minimum digital evidence standards for training, placement and retention; design an inclusive grievance and appeal pathway; and specify a proportionate menu of remedial actions, safeguards and performance indicators.

Four propositions guide the analysis. P1: the more a programme's performance depends on administrative status entries, the more important it is to preserve source evidence and independent validation. P2: a placement record is a weaker measure of success than a verified record of job quality, wage receipt, retention, and worker choice. P3: grievance systems are more likely to improve accountability when beneficiaries can initiate and track complaints through multiple channels and receive reasoned decisions within defined timelines. P4: restitution is more credible when digital evidence is linked to human review, a clear allocation of responsibility, and a remedy that is proportionate to proven harm.

These are analytical propositions, not statistically tested causal hypotheses.

6. Methodology and data limitations

The study uses a descriptive, document-based research design. The primary empirical source is the user-supplied study by Surendran et. al. (2023), which reports DDU-GKY status indicators for India and district-level training and selected outcome indicators for Kerala.

The historical national table covers 2015–16 to 2023–24, with the 2023–24 data extending only to June 2024. Kerala’s district training table likewise labels the final year as data through June 2024. The study also uses official programme pages, government statements, the Kaushal Bharat public dashboard, relevant statutory sources, and peer-reviewed research to interpret the administrative data and identify governance implications. The method has three stages.

First, the national status counts are organised into a descriptive indicator table and visualised to show the relative scale of enrolment, training, assessment, certification, appointment, continuity, and placement categories. Second, Kerala’s annual training totals are plotted to examine temporal variation and the need to interpret apparent changes cautiously.

Third, a normative framework is developed by comparing programme monitoring needs with procedural fairness, privacy, access, and remedial accountability requirements. No regression or causal impact estimation is attempted because the supplied data do not provide linked individual-level records, a comparison group, or complete cohort outcomes.

Three limitations require emphasis. First, the source study uses administrative data, and its status categories are not necessarily mutually exclusive stages of the same cohort. Second, placement information in the supplied Kerala table is incomplete for several years: values are reported for 2016–17 through 2021–22, while 2015–16, 2022–23, and 2023–24 are marked unavailable. Missing values are not treated as zero, and the aggregate trained-to-placed ratio is not interpreted as a cohort placement rate.

Third, the source’s national table is historical, whereas official portal values and programme descriptions change over time. For that reason, more recent official statistics are used only as dated policy context, not merged into the historical series. The framework is a proposal for implementation and requires testing with beneficiary interviews, complaint records, audits, and linked employment data.

7. Descriptive findings: national programme status

The attached study reports 3,440 projects and 1,891,189 candidates enrolled in the national dataset. It records 1,726,824 candidates trained, 1,570,960 assessed, 944,778 certified, 1,103,801 appointed, 925,540 with monthly continuity of at least three months, and 479,353 placed. The figures suggest substantial programme reach, but they also show that different status indicators tell different stories.

Certification is lower than assessment, appointment exceeds certification, and the reported placed count is lower than both appointment and three-month continuity. This pattern may reflect differing definitions, dates, or administrative pathways, and cannot be fully reconciled from the aggregate table alone. A key analytical point is that the counts cannot safely be treated as a single sequential funnel without candidate-level linkage.

For example, appointment and certification totals may relate to different cohorts or may reflect scheme-specific definitions. Therefore, this paper does not calculate a placement rate by simply dividing the placed total by trained candidates and presenting it as a definitive outcome measure. Such a ratio may be shown as a rough descriptive comparison only if its limitations are explicit.

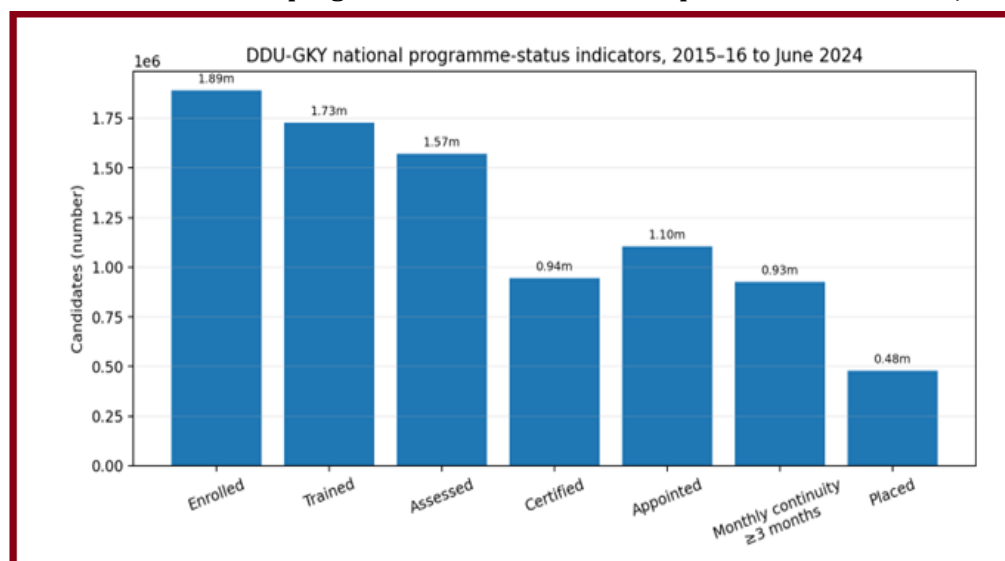
A stronger system would publish cohort-specific denominators, time windows, status definitions, exclusions, and validation rules, while permitting an authorised auditor to reproduce each reported indicator. The historical totals nevertheless demonstrate the scale of the accountability task. More than 1.7 million training records and nearly half a million placement records are not just administrative data points; they represent claims about public investment and young people’s livelihood pathways.

A digital system should be able to answer, for each candidate and each reporting cohort: which provider delivered the training; what assessment and certification occurred; what employment evidence was supplied; whether the candidate confirmed the job; whether wages were received; how long employment continued; why an exit occurred; and whether any complaint or remedy followed.

Aggregate reporting should be the sum of auditable, privacy-protected records rather than a substitute for them.

Figure 1 compares the main counts. It is deliberately labelled as programme-status indicators rather than a strict conversion funnel. The main governance finding is that the information architecture should distinguish ‘reported’, ‘document-verified’, ‘beneficiary-confirmed’, and ‘independently audited’ status. Those categories should never be silently collapsed into one number.

Figure 1. National DDU-GKY programme-status indicators reported for 2015–16 to June 2024.



8. Kerala evidence: annual variation and data completeness

The source study reports 75,682 candidates trained in Kerala over the period from 2015–16 to 2023–24, with the final year only through June 2024. Annual training totals were 3,154 in 2015–16, 11,278 in 2016–17, 11,874 in 2017–18, 13,298 in 2018–19, 13,446 in 2019–20, 3,612 in 2020–21, 5,308 in 2021–22, 8,635 in 2022–23, and 5,077 in 2023–24 through June.

The series rises to a peak in 2019–20, falls sharply in 2020–21, and then recovers unevenly. The timing of the decline overlaps the COVID-19 period, but the descriptive series alone cannot establish that the pandemic caused the full decline; project timing, intake cycles, policy changes, and data coverage may also matter.

District-level tables in the source show substantial geographic variation. The distribution of trainees is not uniform across districts or years, and some districts show abrupt changes. For example, the supplied table records 2,341 trainees in Malappuram in 2019–20, around 17.4% of that year’s Kerala total.

Such concentration can be useful for planning but raises questions about whether district-level training volumes reflect local demand, provider capacity, labour-market opportunities, or target allocation. District differences should trigger investigation and context-sensitive planning rather than automatic judgements about performance. The source reports 12,161 placements across the years for which figures were provided, but the placement table contains values only for 2016–17 to 2021–22; several years are unavailable.

It also gives an aggregate trained-to-placed ratio of approximately 6.22:1. Because placement values are incomplete and are not linked to training cohorts, this ratio cannot be interpreted as the percentage of trainees placed, nor as proof of programme failure or success.

It is best treated as an illustration of the limits of aggregate administrative comparison.

A publication-quality evaluation would require a cohort table that identifies the number trained in each batch, the share meeting the placement definition within the prescribed period, the share retaining work at three, six and twelve months, and the share with verified wage evidence.

The Kerala evidence thus supports a practical recommendation: public dashboards should include data-quality flags, date-stamps, definitions, and missingness explanations. If a value is missing, the system should state whether reporting is pending, a cohort has not matured, the field is not applicable, records are under reconciliation, or the value is genuinely zero. A blank cell and a zero are substantively different. Beneficiaries should not bear the consequences of incomplete institutional reporting.

Table 1. Kerala candidates trained under DDU-GKY, 2015–16 to 2023–24.

Financial year	Candidates trained
2015–16	3,154
2016–17	11,278
2017–18	11,874
2018–19	13,298
2019–20	13,446
2020–21	3,612
2021–22	5,308
2022–23	8,635
2023–24*	5,077

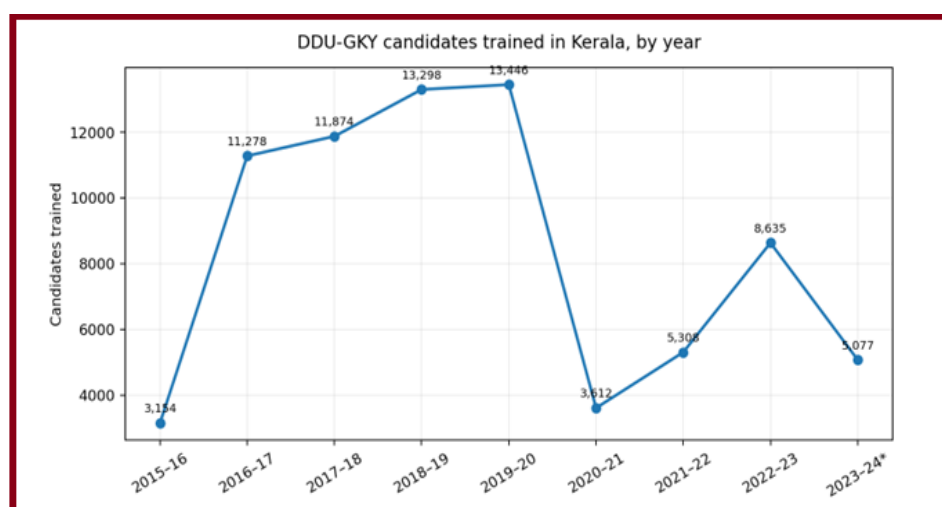


Figure 2. Annual training volume in Kerala.

9. From digital monitoring to digital justice

A digital monitoring system typically asks whether a required field is complete and whether an activity occurred. A digital justice system also asks whether the recorded event corresponds to the beneficiary's actual experience and whether the person can challenge an error.

For skill development, this requires at least six linked record layers: identity and consent; enrolment and eligibility; attendance and training delivery; assessment and certification; placement and employment quality; and post-placement experience, grievance, and remedy. Each layer should preserve timestamps, the responsible actor, the evidence source, amendment history, and a clear distinction between self-reported and independently verified information.

The beneficiary must not be reduced to a passive data object. At key stages, the system should issue a plain-language receipt or status message in a language the person understands. Candidates should be able to view the information held about them, correct factual errors, confirm or dispute placement claims, and record reasons for leaving a job without being automatically labelled as a failed placement.

A job exit caused by unpaid wages, harassment, unsafe accommodation, disability discrimination, or an unaffordable cost of migration should not be treated as equivalent to a voluntary move to better employment. These distinctions are crucial for both fair assessment and effective programme redesign.

Digital identity and attendance tools can reduce impersonation and improve monitoring, but they should not be the sole determinant of eligibility or service access. Network failures, device problems, biometric mismatches, disability, illness, caregiving responsibilities, and migration can cause false exceptions. Every automated flag that may affect payment, certification, placement status, or access to a remedy should have a documented reason, a human review route, and a correction mechanism.

Where the technology itself fails, the system should preserve alternative evidence rather than shift the burden to the candidate. Digital justice also requires independent verification. If a provider enters a placement claim and the same provider controls the only record of follow-up, the incentive to overstate performance cannot be fully addressed.

A risk-based model should triangulate employer records, wage slips or bank credits where lawfully available, candidate confirmation, and sampled independent checks. Beneficiary confirmation should not mean that a person must disclose full bank statements or unrelated financial information. Verification must be purpose-limited and proportionate, with clear consent and access controls.

10. A proposed ICT-enabled restitution framework

The framework has six mutually reinforcing components, presented in Figure 2. First, digital traceability creates a longitudinal record of the service promised and delivered.

Second, outcome verification distinguishes an employer's offer from a job actually commenced and distinguishes commencement from sustained employment.

Third, beneficiary voice provides accessible channels to confirm, correct, or challenge records.

Fourth, independent review determines whether a complaint is substantiated and allocates responsibility.

Fifth, restitution and correction address the individual's proven loss or unmet entitlement.

Sixth, systemic correction ensures that a resolved case changes provider oversight, payment controls, training design, or policy where the evidence indicates a recurring problem. These six components are briefly discussed hereunder:

Component 1: Traceability. Each candidate should have a secure, unique programme record linking enrolment, attendance, curriculum, assessment, certification, placement evidence, post-placement support, and complaint history. The system should preserve a complete audit log and record who entered or amended each item. It should distinguish original evidence from later corrections.

The beneficiary should receive a portable summary, including provider contact details, promised support, placement terms, and how to complain. Access for public reporting should use aggregated or de-identified data.

Component 2: Outcome verification.

A placement record should contain the job role, employer, location, start date, wage or remuneration terms, working hours, employment type, accommodation or migration arrangements where relevant, and the evidence used to validate the claim. A job offer letter alone should not establish a completed placement. Verification should combine employer evidence with candidate confirmation and follow-up at defined intervals.

The system should record the reason for non-confirmation and allow review where a candidate is unreachable or has changed contact details. Metrics should separate job offered, job commenced, wage received, retained at three months, retained at six months, retained at twelve months, and exited with a recorded reason.

Component 3: Beneficiary voice.

A grievance channel should be available through a mobile portal, SMS, toll-free telephone or interactive voice response, local helpdesk, and assisted submission through a district or community-level facilitator.

It should accept complaints in local languages and provide disability-accessible options. A candidate must be able to lodge a complaint without needing a high-end smartphone or to upload complex documents.

Every complaint should generate a tracking number and a clear acknowledgement. The system must explain the expected response time and escalation route and should prohibit retaliation by a provider or employer for making a good-faith complaint.

Component 4: Independent review.

Complaints should be triaged by type and risk. Routine data corrections may be resolved by a designated nodal officer; disputes about placement evidence, unpaid support, discrimination, coercive recruitment, or provider misconduct require review by an authority independent of the person or institution complained against.

Decisions should state the issue, evidence considered, findings, remedy, and appeal route. Serious allegations involving violence, trafficking, forced labour, sexual harassment, or other offences should be referred to the competent statutory or law-enforcement authority without pretending that the scheme portal can replace those processes.

Component 5: Restitution.

Remedies should follow a structured assessment of the promise or duty, breach, causal connection, harm, and legal authority.

Possible actions include correcting an inaccurate record; withdrawing a false placement claim; delivering unpaid post-placement support; arranging replacement training or placement assistance; reimbursement of documented scheme-related expenses wrongly imposed on a candidate; recovery of unpaid wages through the appropriate labour-law mechanism; refund or compensation where a competent authority identifies a lawful basis; and contractual penalties or recovery from a provider.

A remedy should be tailored to the facts and should not promise compensation where the scheme rules or law do not authorise it.

Component 6: Systemic correction.

Complaint patterns should feed into provider ratings, risk-based audits, contract renewal, payment milestones, curriculum review, employer due diligence, and district planning. A provider with repeated discrepancies in placement evidence should face enhanced scrutiny, not merely a warning that disappears after the case is closed.

Conversely, providers should have a fair opportunity to respond to adverse findings and appeal sanctions. The system should publish anonymised statistics on complaints, resolution time, upheld claims, remedies, repeat-provider issues, and audit outcomes. Such an official record can facilitate better monitoring, control and follow-up of various complaints as well as assess the trend in respect of various complaints,

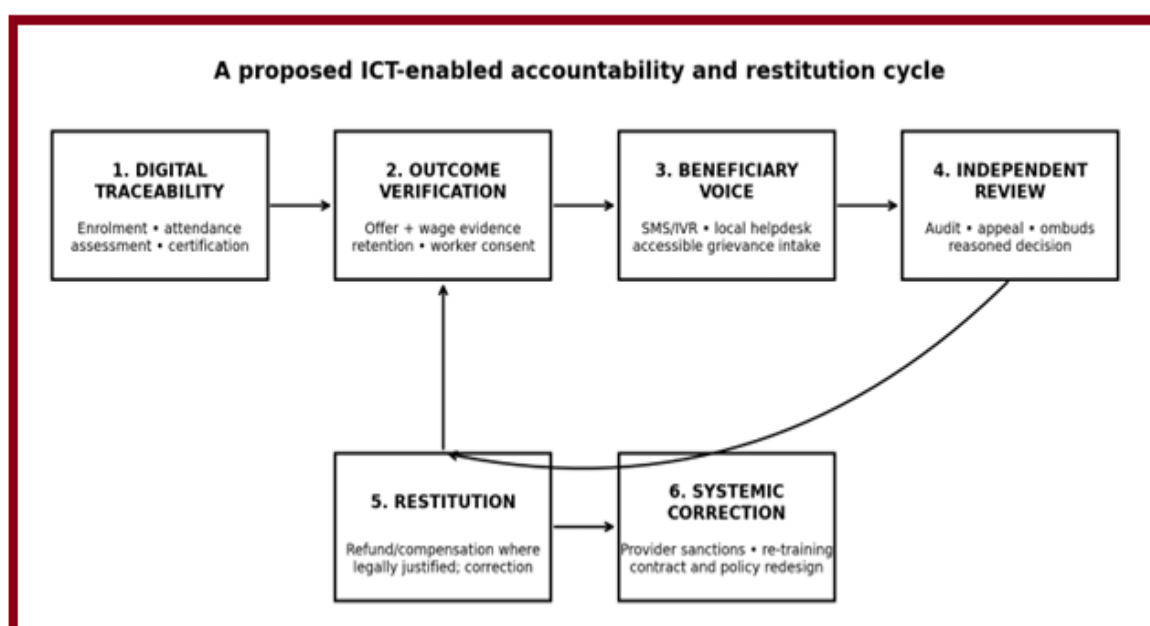


Figure 3. Proposed ICT-enabled accountability and restitution cycle.

11. Restitution: scope, principles and remedial menu

Restitution must be distinguished from general welfare assistance, contractual enforcement, disciplinary action, and compensation for injury. Welfare assistance may support a person's livelihood regardless of fault.

Contractual enforcement concerns whether a provider met its agreement. Disciplinary action addresses institutional misconduct. Restitution focuses on correcting a proven disadvantage or restoring a position where practicable. One case may require several of these responses, but the decision-maker must identify the legal or administrative basis for each.

Five principles should govern the remedial pathway. First, legality: the remedy must be authorised by scheme rules, contract, statute, or the competent authority's jurisdiction. Second, causation: a claimant should identify a plausible connection between the failure and the loss, while the system should recognise that evidence may be held by the provider or employer.

Third, proportionality: the remedy should correspond to the harm and avoid double recovery. Fourth, timeliness: a remedy delivered after a job opportunity or essential expense has become irrelevant may be ineffective. Fifth, dignity: the beneficiary should not be required to undergo humiliating or repetitive proof processes, and the complaint should not jeopardise future access to training.

A practical remedial menu can be organised by failure type. For an incorrect digital record, the remedy is correction, notification to downstream users, and an audit trail. For a training module not delivered, it may be completion of the module, equivalent training, or a fee adjustment between institutions where authorised.

For a false placement claim, the record should be corrected, the payment claim reviewed, and the provider's compliance status assessed. For a failure to deliver promised post-placement support, the response may include provision of that support and a review of the responsible provider's payment.

For unpaid wages, the scheme grievance channel can preserve evidence and refer the beneficiary to the appropriate labour authority or legal service; the programme itself should not purport to adjudicate a wage claim beyond its competence. For documented travel or relocation costs wrongly shifted to the candidate contrary to applicable programme rules, reimbursement may be considered by the competent authority.

For discrimination or unsafe work, immediate protection, referral, and a safe alternative placement may be more urgent than a financial remedy.

Not every poor employment outcome proves a scheme breach. A worker may leave because of personal preference, family responsibilities, a better opportunity, health, or a legitimate change in career goals. The system must not presume wrongdoing from attrition. It should collect reasons voluntarily, protect confidentiality, and distinguish employer misconduct from labour-market conditions.

At the same time, the phrase ‘candidate dropped out’ should not become an administrative shorthand that conceals unpaid wages, discrimination, or unsafe conditions. A restitution approach makes room for a nuanced, evidence-based explanation.

A beneficiary-centred system should also support collective or systemic remedies where individual complaints reveal a pattern. If several candidates from one batch report the same wage discrepancy or unsafe accommodation, the appropriate response may include a batch-level audit, suspension of new enrolments pending review, contract enforcement, and a public corrective notice. Where a database error affects many candidates, bulk correction and proactive notification may be more just than requiring each individual to submit a separate complaint.

12. Legal and policy safeguards

The Right to Information Act, 2005 provides an important accountability route for obtaining information held by public authorities, subject to statutory provisions and exemptions. It can support scrutiny of scheme guidelines, provider selection, public expenditure, audit findings, aggregate performance, and complaint-handling rules.

It is not a substitute for a direct grievance mechanism, and it does not automatically entitle a person to another beneficiary’s personal information. A sound system should publish frequently requested programme information proactively while protecting personal data and legitimate confidential information.

The Digital Personal Data Protection Act, 2023 establishes a statutory framework for processing digital personal data, with commencement governed by notifications and potentially different dates for different provisions (Government of India, 2023). Government notifications in 2025 described phased implementation of the DPDP Rules, 2025 (Ministry of Electronics and Information Technology, 2025).

Accordingly, system designers should check the provisions and rules in force at the time of implementation rather than assume that every provision became operational on enactment. Irrespective of commencement sequencing, the design should follow sound privacy principles: collect only what is needed; explain purpose; limit access; secure records; set retention periods; correct inaccuracies; and provide clear channels for data-related complaints.

Privacy is especially important where placement verification could involve wages, bank records, caste or social category, disability, contact details, migration, or allegations of harassment. A scheme should not collect a full bank statement where a limited wage credit confirmation would suffice. Employer verification should not expose a worker’s complaint to the employer without a justified and safeguarded process. Data should not be repurposed for unrelated profiling, and public dashboards should use aggregation and suppression rules where small cell sizes could identify individuals.

Administrative fairness requires notice, reasons, and a meaningful opportunity to contest adverse decisions. Automated flags should be explainable in ordinary language. If a record is used to deny certification, classify a placement as invalid, withhold support, or impose a sanction, the affected person or institution should know the basis and be able to submit contrary evidence.

The beneficiary's right to challenge a record should be independent of whether they can access a lawyer or navigate an English-language portal. Finally, digital grievance channels must complement rather than replace existing legal remedies. Wage disputes, discrimination, harassment, trafficking, and other serious harms may engage specialised legal frameworks and authorities.

A scheme-level mechanism should provide safe referral, document preservation, and status tracking, while respecting the jurisdiction of labour departments, police, courts, commissions, and legal services authorities. The restitution framework is therefore a bridge between digital administration and competent remedial institutions, not a substitute for the rule of law.

13. Inclusion and design for rural beneficiaries

Digital access is uneven. A system that assumes every candidate has a personal smartphone, reliable data, a bank-linked mobile number, digital literacy, and confidence in formal complaints can exclude precisely those whom the programme is intended to serve.

Inclusion must be built into the service standard rather than treated as a supplementary awareness activity. The same complaint should be possible online, by telephone, through assisted submission, or in person, and the person should receive the same case number and process protections regardless of the channel used.

Language access matters in a state such as Kerala, where beneficiaries may be more comfortable communicating in Malayalam than in English. Plain-language explanations should avoid legalistic or technical terms. Voice-based interfaces can help users with limited literacy, while accessible design should support screen readers, captions, and alternative communication for persons with disabilities.

The system should provide a local contact person for candidates who migrate for work or lose access to their original phone number. Contact details should be updateable without losing the case history. Gender-responsive design should account for safety concerns, care responsibilities, harassment, and the risk that a family member or employer controls the beneficiary's phone. Complaint confidentiality and safe callback options are essential.

Candidates from Scheduled Castes, Scheduled Tribes, minority communities, remote districts, and persons with disabilities may face distinct barriers; aggregated data should be used to identify differential complaint resolution and employment retention, but categories must be protected against misuse. A low complaint count should not automatically be read as evidence of high satisfaction; it may indicate fear, lack of awareness, or lack of access.

A local support network can combine district mission staff, community organisations, self-help group institutions, legal services, and trained independent facilitators.

Their role is to help beneficiaries understand their status, lodge complaints, preserve evidence, and navigate referrals—not to pressure them to withdraw complaints or to pre-judge allegations. Independent beneficiary feedback should be collected periodically, including from candidates who were recorded as placed but later left employment.

14. Performance indicators and implementation roadmap

A balanced dashboard should combine reach, service quality, employment quality, equity, grievance performance, restitution, and data integrity. Training counts remain useful but should be accompanied by cohort-based outcomes.

A minimum set includes: proportion of candidates with a complete digital journey record; percentage of placement claims supported by documentary evidence; percentage independently sampled; beneficiary-confirmed placement share; wage receipt verified through proportionate means; retention at three, six, and twelve months; reason-coded exits; average complaint acknowledgement and resolution time; share

of complaints upheld; remedies completed within deadline; repeat findings by provider; data-correction requests; and privacy or security incidents. Each indicator should include a definition, denominator, reference period, data owner, audit method, and disaggregation rules.

Implementation should proceed in stages. In the first six months, the Ministry and state missions should map existing data fields, identify duplicate or conflicting definitions, publish a data dictionary, and consult candidates, providers, employers, disability groups, and civil-society organisations.

The pilot should include a mix of districts and provider types, with baseline measurement of data completeness, placement verification, accessibility, and complaint experience. The first stage should not begin by adding extensive new data collection; it should begin by identifying which information is genuinely necessary to protect beneficiaries and validate public claims.

From months six to twelve, a pilot can implement a longitudinal candidate record, beneficiary confirmation, multi-channel grievance intake, case tracking, and independent sampling. The system should test false-positive rates for automated flags, the accessibility of interfaces, time taken to resolve cases, and whether candidates experience any retaliation.

Independent evaluators should interview a sample of placed and non-placed candidates, including those no longer reachable through the original provider. Data protection impact assessment and security testing should precede scaling. From months twelve to twenty-four, the programme can link verified performance to proportionate payment milestones, provider risk ratings, contract management, and public reporting.

High-risk providers should receive more frequent audits; providers with consistent evidence of quality and fair outcomes should benefit from reduced duplication in reporting, without exemption from random checks. A state-level review body should publish anonymised quarterly data and annual findings. The system should include a route for appeal and independent audit of the grievance process itself.

The accountability loop is incomplete unless programme managers act on the data. If a district repeatedly shows high training volume but low verified retention, the response should examine job demand, salary adequacy, transport, migration support, and provider-employer arrangements. If complaints cluster around a particular sector, the curriculum and employer due diligence should be reviewed. If candidates struggle to use the grievance channel, the programme should invest in assisted access rather than simply reporting low complaint numbers.

Table 2. Proposed accountability dashboard: core indicators and interpretation.

Indicator	Suggested definition	Interpretation / safeguard
Digital journey completeness	Candidates with required stage records / eligible cohort	Data integrity; not a substitute for outcome quality
Verified placement	Placement claims with independent and beneficiary evidence / claims reviewed	Separates provider-reported from verified outcomes
Employment retention	Verified employment at 3, 6 and 12 months / matured placement cohort	Cohort and reference date must be specified
Wage confirmation	Candidates confirming receipt of agreed remuneration / contacted cohort	Use proportionate evidence; avoid collecting excess financial data
Accessible grievance intake	Complaints accepted through online, phone, assisted and in-person channels	Disaggregate channel, language and accessibility barriers
Resolution timeliness	Median days to acknowledgement and final decision	Report overdue cases and appeal outcomes

Restitution completion	Upheld cases where approved remedy completed by deadline	Distinguish recommendation, approval and completed remedy
Provider recurrence	Repeated verified findings by provider and issue type	Use risk-based audit and fair appeal safeguards
Data correction and security	Correction requests, correction time, incidents and remedial actions	Publish aggregated data; protect personal information

Source: Developed by the author

15. Discussion

The evidence and proposed model point to a shift in how success is defined. A public programme should not be evaluated only by the volume of activities recorded in its information system. It should also be evaluated by the accuracy of those records, the quality and sustainability of employment, the ability of beneficiaries to contest errors, and the programme's response when a failure is established. This is not an argument against quantitative targets; it is an argument for ensuring that targets remain connected to the people and outcomes they are intended to represent.

The historical national data show the breadth of DDU-GKY's recorded activity, while the Kerala series shows that annual training volumes can vary markedly and that outcome information may be incomplete. Neither source alone can establish why candidates leave employment or whether a particular provider caused a specific loss.

The peer-reviewed evidence from rural Bihar illustrates why this matters: initial employment effects can fade where job conditions, discrimination, and living costs undermine retention (Chakravorty & Bedi, 2019). The appropriate policy response is longitudinal tracking combined with beneficiary voice and labour-market context, not the mechanical use of a single placement percentage.

The restitution concept adds a practical dimension to digital governance. Many digital public systems are designed to prevent leakage or detect non-compliance by beneficiaries. Those are legitimate aims, but a balanced system must also detect institutional failure, incorrect claims, and harms imposed on beneficiaries.

The same audit trail that helps verify public expenditure should allow a trainee to demonstrate that a promised support payment was not received or that a recorded placement did not occur. The same grievance dashboard that monitors provider complaints should make it possible to identify unresolved cases, repeat failures, and delays in remedies.

There are risks. Linking provider payments to employment metrics may incentivise manipulation unless evidence is independently checked. Extensive verification can impose privacy costs and administrative burden.

Complaint processes can become bureaucratic if they demand documents that beneficiaries cannot obtain. Compensation rules can create expectations that cannot be met unless legal authority is clear. These risks are manageable through data minimisation, independent sampling, clear rules, accessible case handling, reasoned decisions, and careful separation of scheme-level remedies from claims that belong before other competent authorities.

The model also has relevance beyond DDU-GKY. Other publicly funded digital skilling, apprenticeship, livelihood, and employment-support programmes face similar questions: who records the outcome, who verifies it, how can a beneficiary challenge it, and what happens after a complaint is upheld?

A common set of principles—longitudinal traceability, verified outcomes, multi-channel grievance access, due process, privacy, and proportionate restitution—can support interoperability without requiring every programme to use an identical platform.

16. Conclusion and policy recommendations

This paper has argued that ICT-enabled skill development should be judged not only by administrative efficiency but also by its ability to protect beneficiaries and correct proven failures. The attached DDU-GKY study records substantial national reach and a varied Kerala training trajectory, but the aggregate data cannot by themselves establish the quality, durability, or fairness of employment outcomes.

Incomplete placement series and non-cohort-aligned status categories underline the need for better data definitions, transparent missingness, and candidate-level evidence that is auditable while privacy-protected.

The main recommendation is to develop a digital accountability architecture that joins six elements: a longitudinal candidate record; verified placement and retention evidence; accessible beneficiary confirmation; independent grievance review; a lawful, proportionate remedial menu; and systemic correction based on complaint and audit patterns.

A public dashboard should distinguish reported outcomes from verified outcomes and should publish definitions, dates, denominators, data-quality flags, and anonymised grievance statistics. Beneficiaries should have access to their own records and a practical means to correct them.

Second, grievance redress should be multi-channel, multilingual, disability-accessible, time-bound, and protected against retaliation.

Third, every adverse automated decision should be explainable and subject to human review.

Fourth, restitution should be legally grounded and tailored to the failure: record correction, completion of service, re-training, replacement placement support, reimbursement or compensation where authorised, referral for wage recovery, and contractual or regulatory action where warranted.

Fifth, privacy and security must be embedded from the outset, particularly where data concern wages, bank records, disability, social category, migration, or allegations of abuse. Sixth, pilot implementation should be independently evaluated before scale-up. Inclusive growth is not achieved merely when a rural youth is entered into a database or counted as placed.

It is strengthened when the public system can demonstrate that a service was delivered, that employment claims are credible, that beneficiaries can speak without fear, and that an established failure produces a fair and timely response. An ICT-enabled restitution framework can help make that standard operational—provided technology remains accountable to people, evidence, and law.

References

- Anbuthambi, B., & Chandrasekaran, N. (2017). Impact of Skill India on rural youth: A perspective. *ICTACT Journal on Management Studies*, 3(1), 457–460.
- Babu, V., & Kinkhabwala, B. (2019). Was an untapped 'skilling' opportunity ignored? Integrating CSR initiatives to bridge the skilled manpower gap. *Worldwide Hospitality and Tourism Themes*, 11(1), 37–53. <https://doi.org/10.1108/WHATT-10-2018-0059>
- Chakravorty, B., & Bedi, A. S. (2019). Skills training and employment outcomes in rural Bihar. *The Indian Journal of Labour Economics*, 62, 173–199. [Verify full bibliographic details against the original publication before submission.]
- Comptroller and Auditor General of India. (2025). Audit report of the Comptroller and Auditor General of India on Deen Dayal Upadhyaya Grameen Kaushalya Yojana in Uttar Pradesh: Report No. 5 of 2025. https://cag.gov.in/webroot/uploads/download_audit_report/2025/Report-No.-5-English-UP-CAR---05-06-2025-signed-0689b314c4bcb18.94099930.pdf
- Chandrasekar, K., & Prakash, C. (2010). The role of information communication technology in women empowerment and poverty eradication in Kerala. *Asia Pacific Journal of Research in Business*

Management, 1(2). [Bibliographic details as reported in the source study; verify volume/page details before submission.]

Government of India. (2005). The Right to Information Act, 2005 (Act No. 22 of 2005). India Code. <https://www.indiacode.nic.in/handle/123456789/2065>

Dash, I., Verma, M., Gupta, V., Al Qasem, A. H., & Manoj, P. K. (2025). Transformational vs. transactional leadership: Cultural contexts and managerial implications in global organizations. *Scientific Culture*, 11(4), 225–235.

Joju, J., Vasantha, S., & Manoj, P. K. (2017a). Electronic CRM and ICT-based banking services: An empirical study of customer attitudes in Kerala, India. *International Journal of Economic Research*, 14(9), 413–423.

Local Self Government Department, Government of Kerala. (n.d.). Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY). <https://lsgd.kerala.gov.in/en/centrally-sponsored-schemes/through-lsgd/mord/ddugky/>

Joju, J., Vasantha, S., & Manoj, P. K. (2017b). Financial technology and service quality in banks: Empirical evidence from old private sector banks in Kerala, India. *International Journal of Applied Business and Economic Research*, 15(16), 447–457.

Joju, J., Vasantha, S., & Manoj, P. K. (2017c). Future of brick-and-mortar banking in Kerala: Relevance of branch banking in the digital era. *International Journal of Civil Engineering and Technology*, 8(8), 780–789.

Manoj, P. K. (2016). Real Estate Investment Trusts (REITs) for Faster Housing Development in India: An Analysis in the Context of the New Regulatory Policies of SEBI. *International Journal of Advance Research in Computer Science and Management Studies*, 4(6), 152–167.

Manoj, P. K. (2017a). Construction costs in affordable housing in Kerala: Relative significance of the various elements of costs of affordable housing projects. *International Journal of Civil Engineering and Technology*, 8(9), 1176–1186.

Manoj, P. K. (2017b). Cost management in the construction of affordable housing units in Kerala: A case study of the relevance of earned value analysis (EVA) approach. *International Journal of Civil Engineering and Technology*, 8(10), 111–129.

Ministry of Rural Development. (n.d.-b). DDU-GKY notifications and programme guidelines. Kaushal Bharat. <https://kaushalbharat.gov.in/notification/notificationview>

Manoj, P. K. (2019a). Dynamics of human resource management in banks in the ICT era: A study with a focus on Kerala-based old private sector banks. *Journal of Advanced Research in Dynamical and Control Systems*, 11(7), 1667–1680.

Manoj, P. K. (2019b). Social banking in India in the reforms era and the case of financial inclusion: Relevance of ICT-based policy options. *Journal of Advanced Research in Dynamical and Control Systems*, 11(7), 1654–1666.

Press Information Bureau. (2026, July 24). Implementation of DDU-GKY. Ministry of Rural Development, Government of India.

Manoj, P. K. (2023). Housing Sector in India: An ESG Route into a Greener Future. *The Management Accountant*, 58(3), 53–55.

Government of India. (2023). The Digital Personal Data Protection Act, 2023 (Act No. 22 of 2023). India Code. https://www.indiacode.nic.in/indiacode/handle/123456789/22037?view_type=browse

Kudumbashree. (2025). Data on Kudumbashree: DDU-GKY (data as of 1 March 2025). <https://www.kudumbashree.org/pages/518>

Manoj, P. K. (2024). Housing finance by banks and housing finance companies in India: A review. *Environment and Social Psychology*, 9(6), Article 2601.

Ministry of Electronics and Information Technology. (2025, November 17). DPDP Rules, 2025 notified: A citizen-centric framework for privacy protection and responsible data use. Press Information Bureau. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2190655&lang=2®=48>

Manoj, P. K., Goel, V., Sandhad, R., & Mongia, A. (2025b). Digital Green Banking and the Shift in Environmental Accountability: A FinTech-Accounting Integration. *Journal of Theoretical Accounting Research*, 21(2), 61–69. <https://doi.org/10.53555/jtar.v21i2.29>

Ministry of Rural Development. (n.d.). Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) guidelines. Government of India. https://rural.gov.in/sites/default/files/DDUGKY_Guidelines_English_1.pdf

Ministry of Rural Development. (2026a). DDU-GKY 2.0: A shift towards sustainable employment. Press Information Bureau. <https://www.pib.gov.in/PressNoteDetails.aspx?ModuleId=3&NoteId=160123&id=160123&lang=1®=1>

Ministry of Rural Development. (2026b). DDU-GKY 2.0: Technology-enabled programme lifecycle, monitoring and placement tracking. Press Information Bureau. <https://www.pib.gov.in/PressReleaseSelfFramePage.aspx?PRID=2314249&lang=2®=48>

Ministry of Rural Development. (2026c). DDU-GKY state-wise details: Kaushal Bharat dashboard (data available as of 23 October 2026). <https://ns.kaushalbharat.gov.in/ddugky-report/candidateview>

Pickens, M. (2009). Window on the Unbanked: Mobile Money in the Philippines. Washington, DC: CGAP / World Bank Group.

Rao, B. P. S. V., Tripathi, P. K., Dhanya, K. A., Srivastava, P. K., Manoj, P. K., Parida, P. K., & Dey, D. (2025). Community resilience and urban planning: Integrating social capital and infrastructure strategies. *Journal of Applied Bioanalysis*, 11(1), 72–79. <https://doi.org/10.53555/jab.v11i1.061>

Sarita, C. K., & Manoj, P. K. (2023). Social inequalities in the IT sector: Evidence from Kerala State in India. *Environment and Social Psychology*, 8(2), Article 1644.

National Institute of Rural Development and Panchayati Raj. (n.d.). Deendayal Upadhyaya–Grameen Kaushalya Yojana (DDU-GKY). <https://www.nirdpr.org.in/ddugky.aspx>

Surendran, S., Soundarapandian, M. & Dash, D. (2023). Role of Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) in Empowering the Women and Weaker Sections in India. *International Journal of Academic Research and Development*, 10(18-II). 1-7.