

From Digital Skill Development to Economic Justice: An Empirical Assessment of DDU-GKY and the Case for Restitution-Oriented Governance in Keralam

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Abstract

This paper examines the relationship between digital skill development, economic justice and restitution-oriented governance through an empirical assessment of the Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) in Keralam. It uses district-level and annual data reproduced in Surendran and Soundarapandian's study, covering 2015–16 to 2023–24, alongside official programme information published by the Government of Keralam, the Ministry of Rural Development and other public sources. The source study reports 75,682 candidates trained in Keralam over the period, with annual training rising from 3,154 in 2015–16 to 13,446 in 2019–20 before falling sharply in 2020–21 and subsequently recovering only partially. District distributions vary substantially across years: Malappuram, Thiruvananthapuram, Ernakulam, Palakkad and other districts alternately account for comparatively high shares, while some districts show lower counts in particular years. The source also contains district-level series for assessment, certification, dropout, appointment, enrolment and three-month continuity, but their totals do not consistently reconcile with other tables in the same study. These inconsistencies are treated as a data-governance issue rather than silently corrected. The paper argues that digital records can improve traceability only when they are accurate, interoperable, auditable, privacy-protective and linked to accessible grievance mechanisms. Descriptive statistics establish geographical and temporal variation but do not prove that ICT caused programme outcomes, that a district was unfairly treated, or that a beneficiary suffered legally compensable loss. The proposed contribution is a district-sensitive accountability model that links enrolment, training, assessment, certification, verified placement, retention and complaints, and provides proportionate remedies where a failure and resulting harm are established. Restitution is therefore treated as a governance and remedial framework, not as an automatic entitlement to compensation for every unsuccessful placement.

Keywords: DDU-GKY; Digital skill development; Economic justice; ICT; Grievance redressal; Restitution; Employment outcomes; Public accountability.

1. Introduction

Skill development programmes are commonly justified by a chain of expected benefits: access to training, acquisition of recognised competencies, transition into work, and improved livelihood security. The public value of such programmes cannot be assessed from training volumes alone. For a placement-linked scheme, the relevant question is whether eligible participants receive meaningful access to training and whether the resulting employment is real, remunerative, safe and sufficiently durable to improve economic opportunity.

This distinction is especially important for rural youth, who may face constraints associated with household income, gender norms, transport, migration, disability, digital access and uneven local labour demand. DDU-GKY is a placement-linked skilling intervention under the Deendayal Antyodaya Yojana–National Rural Livelihoods Mission. Keralam’s Local Self Government Department describes implementation through Kudumbashree and dedicated state, district and sub-district teams, with activities extending from skill-gap assessment and awareness to training, certification, placement and post-placement support (Local Self Government Department, Government of Keralam, n.d.).

The design is thus not simply a training programme: it is a multi-stage service delivery system involving government agencies, State Rural Livelihoods Mission structures, project implementing agencies, training centres, assessors and employers. Information and communication technology (ICT) can connect these stages through candidate records, attendance systems, assessment outcomes, certification status, placement evidence and follow-up contacts.

A digital platform can expose missing transitions—for example, a candidate recorded as trained but not assessed, or as placed without evidence of joining. Yet digitisation can also reproduce inaccurate records, exclude candidates who cannot use digital channels, and encourage organisations to optimise measurable outputs rather than employment quality. The existence of a portal is not equivalent to accountability. Data must be reliable, explainable, contestable and connected to institutional action.

This paper asks whether the available Keralam data reveal meaningful temporal and geographical variation in DDU-GKY implementation, and how digital accountability can be designed to support fair access and proportionate remedies. Its central proposition is that economic justice requires both distributive scrutiny—who receives programme opportunities and where—and procedural safeguards—how decisions are recorded, challenged and corrected.

Restitution-oriented governance adds a further dimension: where a verified programme failure causes demonstrable harm, the institution should have a clear route to restore the beneficiary’s position as far as practicable, without presuming that every adverse outcome is caused by programme misconduct.

2. Scheme context and institutional architecture

DDU-GKY was launched in 2014 as part of the rural livelihoods framework, with a focus on poor rural youth and placement-linked training. The scheme’s operating chain typically includes mobilisation and eligibility identification, counselling, enrolment, training, assessment, certification, placement, and post-placement tracking.

The official Keralam programme description states that the state implementation includes skill-gap assessment, awareness campaigns, capacity building, training, certification, placement services and post-placement support, and identifies Kudumbashree as the state-level implementing structure (Local Self Government Department, Government of Keralam, n.d.). This multilevel design makes coordination and clear allocation of responsibility important.

National programme statements have specified a placement target of at least 70 percent of trained candidates, with at least half of placements in wage employment, and have described post-placement support and tracking (Ministry of Rural Development, 2023; Press Information Bureau, 2026).

These are programme-level rules and announcements; they should not be confused with proof that any individual cohort achieved those targets. Programme indicators also differ: ‘appointed’, ‘placed’, and ‘monthly continuity for a minimum of three months’ are not interchangeable. Appointment may reflect an administrative status, placement may represent a recorded job transition, and continuity suggests a minimum duration indicator.

None alone reveals wage adequacy, job safety, voluntary choice, or longer-term retention. The Kaushal Bharat portal presents state-wise and candidate-wise progress indicators, including enrolled, trained, assessed, certified, appointed, continuity and placed fields. Its public disclaimer states that the platform facilitates data updated by State Rural Livelihoods Missions and implementing agencies, and that data ownership lies with the relevant State SRLM; it also cautions that migration of legacy data can create deviations (Ministry of Rural Development, n.d.).

That disclaimer is analytically significant: digital records are administrative evidence, not self-validating ground truth. The data chain requires documented definitions, validation checks, correction logs and independent verification. Keralam’s institutional setting also matters. Kudumbashree’s community networks can support outreach and feedback, while district and local bodies may help identify local skill needs and barriers.

However, a district’s training count is influenced by population, eligible applicant pool, sanctioned projects, training capacity, course mix, project timing and local demand. Raw district counts are therefore useful for monitoring but insufficient to rank performance or infer discrimination. Equity analysis should compare counts with eligible youth populations, application volumes, approved targets, course completion and verified employment outcomes.

3. Literature review and conceptual framework

The skills-development literature emphasises that training can improve employability but does not guarantee sustained employment. Outcomes depend on the quality and relevance of training, employer demand, certification credibility, placement assistance and working conditions. The source study’s review refers to evidence that the early employment gains associated with training may weaken over time and that graduates may leave jobs because of discrimination or dissatisfaction with wages.

These observations support a move away from single-point placement measures towards longitudinal employment histories and beneficiary feedback. They should, however, be treated as propositions reported in the source study unless the original underlying studies are independently examined. A second body of work concerns digital government and administrative accountability.

Digital systems can reduce information asymmetry by preserving timestamps, recording decisions, enabling audit trails and allowing managers to compare planned with actual performance. They can also produce ‘datafied’ governance in which organisations respond to what is easiest to count. If payment or project continuation depends heavily on placement figures, there may be incentives to record a placement prematurely, to treat short-lived work as successful placement, or to neglect candidates whose employment status is difficult to verify.

Independent validation and beneficiary-side evidence are therefore essential complements to administrative dashboards. A third strand concerns procedural justice and effective remedies. A public programme can be formally available yet remain inaccessible when people cannot obtain reasons for a decision, correct inaccurate records, complain safely or secure a timely response.

Economic justice in this context has at least four dimensions: (a) distributive justice, fair access across districts and groups; (b) recognitional justice—accounting for gender, disability, caste, tribal identity, language and migration-related barriers; (c) procedural justice—transparent criteria and contestable records; and (d) corrective justice—reasonable action where a service failure has caused a proven loss.

ICT has given another dimension to the issue of skill development in India. Rapid advances in ICT and allied services including financial technology (FinTech) and artificial intelligence (AI) could add a key operational dimension to skill development initiatives in India. Union and State policy frameworks accord high priority to ICT adoption.

The case of DDU-GKY is no exception in this *Digital India* era in India, especially in respect of Keralam (or, Kerala) which has a *Kerala Knowledge Economy Mission* that seeks to develop the Kerala as a knowledge economy. Many international, national (India) and sub-national (Keralam, or Kerala) experiences have highlighted the vital development potential of ICT.

Global experiences, like that of Philippines as noted by Pickens (2009) underline the vast potential of ICT adoption (e.g. use of Mobile phones) for inclusive growth. Many experiences in India too, indicate that ICT adoption (Fintech, E-CRM) is an imperative and not a choice. A field-based study in Keralam 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 Keralam due to their FinTech adoption. Besides ICT, the need for alternative financing models like housing microfinance was noted by Manoj (2015). Similar observations were made regarding 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 Keralam which is well ahead of the nation in education, literacy, health indices and in various socio-economic indices. Sarojkumari, et al. (2023) "Health Monitoring Based Cognitive IOT Using Fast Machine Learning Technique" have noted the key relevance of ICT-based tools for scientific health management in this digital era.

Recent empirical work by Al Mamun et al. (2023), Ho et al. (2024), Jitender et al. (2025), and Razib et al. (2025) indicates that environmental literacy, subjective norms, and perceived performance positively influence consumer willingness to pay for eco-friendly housing.

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. These studies show that ICT adoption, ESG adoption, Digital governance of various Governmental schemes (like, DDU-GKY) etc. have become essential for inclusive growth in India.

The paper uses 'restitution-oriented governance' in a practical institutional sense. It refers to a structured process for restoring a beneficiary's position after a verified programme failure, through record correction, completion of a promised service, renewed placement assistance, reimbursement of eligible expenses, recovery of unpaid entitlements, referral to competent authorities, or compensation where legally justified.

Restitution is not identical to a universal cash payment and does not remove the need to establish duty, breach, causation, loss and legal authority where damages are claimed. The framework thus combines digital evidence with human review and proportionate remedies.

4. Objectives and research questions

The main objective is to assess district-level and temporal variation in DDU-GKY implementation in Keralam and to develop a restitution-oriented governance framework supported by ICT.

Specific objectives are: (1) to examine annual changes in the number of candidates trained; (2) to identify district variation in training and selected downstream indicators; (3) to review what can and cannot be inferred from the source study's placement, certification and continuity series;

(4) to consider the role of digital records in identifying incomplete transitions and accountability gaps; and (5) to propose institutional remedies for demonstrable beneficiary harm. The research questions are: How did training volumes change between 2015–16 and 2023–24? How uneven was training across districts and years?

Do the available indicators provide a consistent basis for comparing training, certification, appointment and placement? What digital controls would make programme records more credible and usable by beneficiaries? Under what conditions could a programme failure justify corrective action or restitution? These questions are descriptive and institutional. The study, however, does not claim to evaluate or estimate the causal effect of ICT or DDU-GKY on employment or income.

5. Data and methodology

The primary empirical source is the supplied study, Surendran and Soundarapandian's 'A Study of the Growth Performance of DDU-GKY in India and Keralam State' (n.d.). It contains national cumulative indicators and Keralam district-wise annual tables for 2015–16 to 2023–24, with the final year reported only through June 2024.

The source says that district information was collected from the DDU-GKY Cell, Kudumbashree–State Poverty Eradication Mission, Thiruvananthapuram, and that national indicators were taken from the Kaushal Bharat platform. Official contextual sources include the Keralam Local Self Government Department, the Ministry of Rural Development's Kaushal Bharat portal, the Press Information Bureau, the Comptroller and Auditor General of India, and India Code.

The analysis is descriptive. It uses annual training counts, selected placement counts where the source provides them, district-level training distribution, and comparison of indicator definitions. The charts reproduce the annual values shown in the source study. Percentages and ratios are interpreted only where the numerator, denominator and time period are clear.

No regression or causal identification strategy is attempted because the available source does not provide candidate-level linked records, eligible-population denominators, project-level expenditure, consistent cohort outcomes, or an exogenous measure of ICT adoption. A material limitation is that the supplied source's tables do not fully reconcile.

For example, the annual training series totals 75,682 across the nine financial years, but the assessment, certification, appointment and other tables contain annual totals that differ in ways that cannot safely be harmonised without access to the underlying extraction and data dictionary.

The placement series is incomplete for 2015–16 and 2022–23 to 2023–24. Consequently, the paper preserves the published training values, identifies missing placement values as unavailable rather than zero, and does not calculate a placement rate by dividing placements from one year by training from the same year. Such a ratio would not necessarily be a cohort placement rate because placements may occur after training and the series may refer to different cohorts or administrative definitions.

The source also presents district shares in parentheses. These are retained only as reported, not independently validated. Where the paper computes descriptive ratios or shares from the annual training totals, they are explicitly labelled as calculations from the source table.

The newer official Keralam webpage reports different cumulative values—82,861 candidates commenced training, 72,238 completed training, 51,477 appointed and 40,550 completed three months of placement—and separately reports 2023–24 activity (Local Self Government Department, Government of Keralam, n.d.). These should be understood as a different official snapshot and/or indicator set, not substituted into the historical series without reconciling dates and definitions.

6. Empirical findings: Keralam training trends

The source study reports the following annual number of candidates trained in the State of Keralam: 3,154 in FY 2016; 11,278 in FY 2017; 11,874 in FY 2018; 13,298 in FY 2019; 13,446 in FY 2020; 3,612 in FY 2021; 5,308 in FY 2022; 8,635 in FY 2023; and 5,077 in FY 2024 through June 2024. The nine-year total is 75,682. The series shows expansion through 2019–20, a sharp contraction in 2020–21, a partial recovery over the next two years and a decline in the partial 2023–24 observation.

The increase from 3,154 in 2015–16 to 13,446 in 2019–20 is more than fourfold. The decline from 13,446 in 2019–20 to 3,612 in 2020–21 is approximately 73.1 percent. The data alone cannot identify the causes of this fall. Pandemic disruption is a plausible contextual factor for 2020–21, but a causal statement would require evidence on lockdowns, training-centre operations, project approvals, cohort schedules and reporting practices.

Similarly, the partial 2023–24 value should not be compared directly with full-year counts as though both were complete observations. The trend has governance implications. A performance dashboard that displays only cumulative training can obscure interruption and recovery patterns. A better system should distinguish sanctioned seats, eligible applicants, enrolments, candidates commencing training, completions, assessment attempts, certifications, verified placements and retention at defined intervals.

Each indicator should carry a data timestamp and a clear definition. If a count falls abruptly, the system should prompt an explanation—such as a project closure, a delayed batch, an approved target change or a reporting issue—rather than treating the change as self-explanatory.

Training counts are measures of programme activity, not direct measures of economic justice. A higher count may indicate wider reach but does not show whether opportunities reached the most disadvantaged eligible youth, whether training was relevant, or whether employment was sustained.

Conversely, a low count in a district does not establish inequity without considering population, eligibility, applicant demand and approved targets. The empirical value of the series lies in identifying questions for audit and follow-up, not in delivering a definitive district league table.

7. District variation and geographical equity

The district table shows substantial year-to-year variation. Malappuram recorded 2,341 trainees in 2019–20, the largest single district count in that year and about 17.4 percent of the state's 13,446 total. In the same year, Palakkad recorded 1,277, Idukki 1,194, Wayanad 1,072, Ernakulam 1,007 and Kozhikode 995. District leaders vary by year: Thiruvananthapuram recorded 2,108 in 2016–17; Ernakulam recorded 1,674 in 2016–17; and Malappuram's 2019–20 concentration is particularly prominent.

These are raw counts and should not be interpreted as per-capita access rates. The district data also show that performance cannot be represented as a stable ranking. Malappuram's training count fell to 408 in 2020–21, rose to 789 in 2021–22 and 1,349 in 2022–23, and was 714 in the partial 2023–24 series.

Kozhikode's count was 1,079 in 2022–23, while Palakkad recorded 858 and Malappuram 1,349. In the partial 2023–24 data, Malappuram reported 714, Kozhikode 507, Palakkad 479, Kasaragod 447 and Kollam 407. This pattern suggests that monitoring should examine changing programme reach, not merely average district performance.

The equity question is whether district-level allocations correspond to the eligible population and to barriers faced by different groups. A meaningful assessment would require district-level numbers of rural youth aged within the scheme's eligibility range, applications received, eligible applicants, sanctioned seats, training-centre capacity, course type, completion rates and employment outcomes.

If district A trains fewer people than district B, the difference may reflect lower demand, fewer approved projects, or constrained supply; the existing data do not distinguish these explanations.

An equity dashboard should therefore show both absolute counts and normalised measures such as trained candidates per 1,000 eligible rural youth, selection rate among eligible applicants and the proportion of target groups completing each stage. The source's tables on assessment, certification, dropout, appointment and three-month continuity potentially offer a broader picture of the service chain.

However, some annual totals differ substantially from the training table, and the placement series is incomplete. A cautious empirical conclusion is therefore that the supplied source documents substantial district variation and a clear need for better longitudinal linkage, but it does not support a reliable district-level causal or ranking analysis across all programme stages. The discrepancy itself becomes a finding about the need for reproducible, auditable data management.

8. Training, certification and employment: interpreting the transition chain

The source study reports national cumulative values of 1,891,189 candidates enrolled, 1,726,824 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, alongside 110,435 dropouts and 53,225 candidates undergoing training.

These are aggregate programme indicators from the source's national table, not necessarily a single linked cohort. The fact that appointed candidates exceed certified candidates, while placed candidates are lower than several other statuses, may reflect different definitions, timing or extraction practices. Without metadata, it would be unsafe to infer a contradiction in programme operations or calculate stage-conversion rates from these aggregate values.

The Keralam placement table reports 6,207 placements in 2016–17, 5,093 in 2017–18, 9,656 in 2018–19, 8,390 in 2019–20, 2,931 in 2020–21 and 718 in 2021–22; it does not provide values for 2015–16, 2022–23 or 2023–24. These reported placements must be interpreted separately from annual training counts because placement may occur after training and may refer to a different candidate cohort. The apparent decline in reported placement counts in 2020–21 and 2021–22 merits investigation but cannot by itself establish the placement rate or the number of candidates harmed.

The distinction between 'appointed' and 'placed' matters for accountability. A record of appointment may be generated when an employer issues an offer, when the candidate joins, or when an implementing agency enters an employment status; these are different events.

A robust data dictionary should define the event, require documentary evidence and preserve the timestamp and source of each change. 'Placement' should ideally require evidence of actual joining, employer identity, job role, location, wage, employment type and candidate confirmation. Retention should be measured at specified intervals, and reasons for separation should be recorded without coercing candidates to disclose unnecessary personal information.

The source's aggregate data cannot establish whether any individual was promised a job, whether an employer withdrew an offer, whether wages were paid, whether the job was safe or whether a candidate left voluntarily.

Candidate-level evidence would be needed to make such findings. The appropriate policy response is to treat aggregate discrepancies as triggers for data-quality review and targeted audit, while reserving individual remedies for cases where documentary evidence and a fair review establish a specific failure.

9. ICT as an instrument of economic justice

ICT can strengthen economic justice through four linked functions. First, traceability: a unique candidate identifier and time-stamped event history can show where a person is in the programme chain. Second, verification: digital evidence can be cross-checked against training-centre attendance, assessment records, certificates, employer confirmations and candidate feedback.

Third, comparison: district and demographic disaggregation can reveal unusual differences in selection, dropout, certification, placement and retention. Fourth, contestability: candidates should be able to see their own records, challenge errors, receive a complaint number and track the status of their grievance. These functions should be designed around the beneficiary rather than solely around administrative reporting.

Candidate-facing records should be available in Malayalam and other necessary languages, with accessible formats for people with disabilities and low-literacy users. Digital access must not be the only access route: help desks, telephone support, community facilitators and in-person complaints should remain available. A rural youth should not lose a benefit because of an unavailable smartphone, poor connectivity, a changed phone number, limited literacy or inability to authenticate through a particular digital method.

A reliable system needs data governance rules. Each field should have a defined purpose, authorised users, retention period and correction process. Edits to material fields—especially placement, employer, wages and retention—should create an audit trail rather than overwrite prior entries. Automated flags can identify duplicate records, missing transitions, implausible dates, repeated employer details or abrupt changes in reported placement rates.

Flags should trigger human review, not automatically penalise a candidate or implementing agency. The system should also record the resolution of each flag so that repeated issues can be analysed. Digital systems should avoid algorithmic profiling that labels districts or candidates as high-risk without explanation.

Districts with low counts may simply have smaller eligible populations or fewer sanctioned projects. Risk scoring should use transparent rules, be periodically tested for disparate impact and allow affected parties to correct underlying data. Data minimisation is particularly important because candidate-level employment records can reveal personal identity, income, migration, disability and other sensitive contextual information.

The Digital Personal Data Protection Act, 2023 provides a relevant statutory framework for lawful processing of digital personal data, though the precise duties applicable at any time depend on commencement and implementation of the Act and rules (Government of India, 2023).

10. Restitution-oriented governance: from data flag to remedy

A restitution-oriented framework does not presume that every unemployed graduate is entitled to compensation. Labour-market conditions, candidate preferences, health, family responsibilities and employer decisions may affect employment outcomes without programme wrongdoing. The framework instead asks whether a specific public or contracted service obligation existed, whether it was breached, whether the breach caused a demonstrable loss, and what remedy is authorised and proportionate.

It separates three types of cases: (a) an administrative data error, requiring correction; (b) a service failure that can still be remedied, requiring completion of the promised service; and (c) a verified failure that caused quantifiable loss, potentially requiring reimbursement, referral or other legally authorised relief.

The first step is notification. A candidate or automated control identifies a possible problem—for example, a placement marked complete when the candidate says they never joined, a certificate not issued after successful assessment, a promised post-placement payment not received, or a complaint left unresolved.

The second step is triage: the system assigns a case number, categorises the issue, identifies the responsible agency and sets a response deadline.

The third step is evidence preservation: the original record, subsequent edits, attendance data, messages, offer letters, wage slips and candidate statements are preserved subject to privacy safeguards.

The fourth step is review by an officer or panel with no conflict of interest.

The fifth step is a reasoned determination. The candidate should be told what was found, what evidence was relied on, what remedy is available and how to appeal. If the data are wrong, correction should be made with a visible audit trail. If the promised service was not delivered, the remedy may include renewed counselling, assessment, certification, placement support or access to another suitable course.

If the candidate incurred eligible travel or relocation expenses because of a documented failure, reimbursement may be considered where programme rules authorise it. If there is evidence of wage non-payment, unsafe work, discrimination, fraud or another legal violation, the matter should be referred to the competent labour, police, legal-services or other authority as appropriate. The sixth step is closure and learning. Closure should require confirmation that the remedy was implemented, not merely that the complaint was marked 'disposed'.

The system should collect feedback on whether the response resolved the issue and report anonymised patterns to programme managers. Repeated errors associated with one training centre, employer or district should trigger audit, corrective action or contractual review. The aim is not to turn every grievance into litigation; it is to resolve routine failures quickly and preserve a credible path to independent review for contested cases.

A restitution matrix should distinguish the type of failure, evidence threshold and remedy. A data-entry error may require correction and notice; an omitted assessment may require a rescheduled assessment; an unissued certificate after successful assessment may require prompt issuance; a misreported placement may require correction and audit of the agency's reporting; a failure to provide a programme-mandated support payment may require payment of the verified entitlement; and alleged damages require a legally competent decision-maker to assess causation, quantum and authority.

This proportionality protects beneficiaries while preventing unsupported claims from being treated as established liability.

11. Legal and policy safeguards

The Right to Information Act, 2005 provides an important route for obtaining records held by public authorities, subject to the Act's exemptions and procedures (Government of India, 2005). It can support scrutiny of approved targets, fund release and utilisation, project status, evaluation reports, audit findings, complaint statistics and the rules governing placement verification.

It is not a substitute for a candidate-facing grievance mechanism, and disclosure must respect applicable privacy restrictions. Public dashboards should therefore publish aggregate programme information while individual records remain accessible through appropriate secure channels.

The Digital Personal Data Protection Act, 2023 is relevant because DDU-GKY records can contain personal data about eligibility, education, identity, attendance, assessment, employment, wages and migration (Government of India, 2023).

Data collection should be tied to a defined lawful purpose, limited to what is necessary, protected against unauthorised access and retained only as permitted. The programme should explain what data are collected, why they are needed, who receives them and how candidates can exercise applicable rights. Since statutory implementation can be phased, programme administrators should verify the provisions and rules in force at the relevant date rather than assume every requirement became operational simultaneously.

The CAG's performance audit of DDU-GKY implementation in Uttar Pradesh for April 2016–March 2022 identified planning and administrative weaknesses, including shortcomings in skill-gap assessment, youth database creation, dedicated staffing and achievement of training and placement targets (Comptroller and Auditor General of India, 2025).

This audit concerns Uttar Pradesh, not Keralam, and cannot be presented as evidence of identical failures in Keralam. Its relevance is comparative: it demonstrates the value of audit trails, implementation planning, target monitoring and independent performance review in a placement-linked programme. Programme guidelines, contracts and applicable labour law determine many of the concrete obligations relating to training, placement, support and wages.

Restitution mechanisms should be designed within those authorities and should not purport to create a new damages jurisdiction by administrative dashboard. Where the issue concerns wages, workplace safety, discrimination or employment terms, the relevant labour-law and grievance routes may be more appropriate than a scheme-level complaint alone. Legal aid and referral pathways can help candidates identify the correct forum.

12. Proposed district accountability dashboard

A district accountability dashboard should connect activity measures with transition measures and beneficiary outcomes. It should report annual totals and cohort-based indicators separately. For example, a cohort that began training in 2022–23 should be tracked through completion, assessment, certification, joining and retention for a defined follow-up period. Reports should distinguish the year of training from the year of placement and state whether the placement figure is a cumulative count or a new annual flow.

The dashboard should include denominators and data-completeness indicators so that apparent performance differences are not driven by missing records. District comparisons should use eligible-population and applicant denominators wherever available.

Suggested indicators include: eligible youth reached; application-to-enrolment conversion; training commencement per 1,000 eligible rural youth; completion rate among those who commenced; assessment participation; certification among assessed candidates; verified placement among a defined trained cohort; wage-employment share; placement retention at three, six and twelve months; complaint rate per 1,000 participants; median complaint resolution time; proportion of complaints reopened; and percentage of records independently verified.

Outcomes should be disaggregated, where lawful and statistically appropriate, by gender, disability, social group, rural location, course and migration status. The dashboard should also display data quality. Every measure should show the last refresh date, missing-data percentage, definition version and responsible data owner.

When two official sources differ, the interface should explain the snapshot date and definitions rather than blend the values. A discrepancy log should identify the source, the fields affected, the correction decision and the person authorised to approve it. Independent sample audits can compare portal records with candidate interviews, employer confirmations, attendance records and payment evidence.

Transparency does not require publication of personal information. Public-facing dashboards should use aggregated data and suppress small cells where identification is possible. Candidate-specific case information should be available only to the candidate and authorised personnel.

A public interface can still show district trends, project-wise performance, complaint resolution statistics, audit findings and corrective actions without disclosing names, phone numbers, identity documents, individual wages or employer-sensitive information.

13. Policy recommendations and implementation roadmap

First, standardise definitions across the entire service chain. The state implementation unit and Ministry should publish a data dictionary for enrolled, trained, assessed, certified, appointed, placed, wage-employed, and retained.

A 'placed' record should include a clear event date and evidence of joining; a 'retained' record should refer to a defined follow-up interval. Annual flow data and cumulative totals must be labelled separately. Historical records should not be overwritten when definitions change; instead, the portal should retain the original value and document any approved restatement. Second, institute a district-level data reconciliation exercise.

The supplied study contains inconsistent annual totals across indicator tables. The state should reconcile these with the Kaushal Bharat record and the responsible district teams, document whether differences arise from cohort timing, late updates, legacy migration or errors, and publish a correction note. This should not be interpreted as a claim that all discrepancies indicate fraud.

Reconciliation is a routine control that makes programme reporting more trustworthy. Third, strengthen candidate verification and post-placement tracking. Contact should occur through more than one channel and should not depend exclusively on a single mobile number. Candidates should be able to confirm, correct or contest placement status.

Follow-up should ask about job continuation, wage payment, work conditions and reasons for leaving, using confidential and non-coercive methods. Employers should not be the sole source of evidence for their own placement performance.

Fourth, create an integrated grievance mechanism with time-bound service standards. Complaints should be accepted through online portals, phone, written submissions, local facilitation and community institutions. Acknowledgement should be prompt, simple cases should be resolved within a published period, and complex cases should receive status updates.

Candidates must not be penalised for complaining. A two-stage review and access to independent escalation should be available where the first decision is disputed. Fifth, adopt a remedy protocol. The protocol should map common failure types to available remedies, identify the responsible authority, specify evidence requirements and set out appeal routes.

It should include correction of records, completion of promised services, renewed placement support, recovery of unpaid scheme entitlements, reimbursement where authorised and referral to external legal forums where needed. Monetary compensation should be considered only where a legal basis, causation and loss are established by a competent authority.

Sixth, embed privacy, inclusion and accessibility by design. Provide Malayalam-language interfaces, accessible formats, assisted access and offline alternatives. Apply role-based access, encryption, audit logs and retention limits. Conduct privacy impact assessments and bias reviews before deploying automated risk flags. Candidates should be told how to correct their records and how their information will be used.

Here is a practical roadmap. During the first six months, define indicators, reconcile historical data and map complaint pathways. In months 6–12, pilot a cohort-based dashboard and grievance protocol in a small set of districts selected for variation in geography and programme volume.

In months 12–18, conduct independent verification and evaluate complaint resolution, data completeness and beneficiary experience. In months 18–24, refine the model and extend it statewide, with annual public reporting and external audit. Each stage must have assigned owners, budgets and measurable goals.

14. Discussion

The evidence supports three central findings. First, Keralam's training volumes changed sharply over time, with expansion through 2019–20, contraction in 2020–21 and incomplete recovery thereafter.

Second, district counts vary substantially, and the district with the largest count changes across years.

Third, the source's multiple indicator tables cannot all be safely combined into a single transition-rate analysis without further reconciliation. These are not trivial technical issues: if administrative records are not comparable, policymakers may misallocate resources, programme managers may misread performance, and beneficiaries may struggle to contest inaccurate placement status.

The paper's principal contribution is to connect descriptive district analysis with a remedy-oriented institutional design. Existing monitoring often concentrates on whether an output was recorded.

An economic-justice approach asks whether access was equitable, whether the output was valid, whether the service created meaningful opportunity, and what happens when a failure is identified. ICT is valuable when it makes these questions answerable and helps direct attention to cases requiring human investigation.

It is not an independent guarantee of fairness. The district-level empirical advantage should be interpreted with care. It allows identification of where annual counts are concentrated or volatile, but it does not show that lower-count districts were deprived of resources.

The next empirical step is to obtain a reconciled district-by-year panel with eligible population, targets, applications, enrolment, training, certification, placements and retention, linked by cohort rather than merely by financial year.

Such data would permit calculation of conversion rates and inequality measures, followed by interviews with candidates, training providers, employers and administrators. Causal evaluation of ICT would require a credible design—for example, a phased system change with comparable pre- and post-adoption observations and controls for programme composition—not a simple correlation between digital records and outcomes.

Restitution-oriented governance is especially important where participants incur costs or make decisions based on official representations. Nevertheless, the framework must distinguish disappointment from breach and breach from compensable harm.

A candidate who does not obtain a job in a difficult labour market may require further support but may not have a legal claim against the programme. A candidate whose certificate is wrongly withheld after successful assessment, whose placement is falsely recorded, or whose programme-mandated payment is withheld presents a different case. A fair system provides tailored responses rather than a blanket presumption of liability.

15. Limitations and future research

The study relies on secondary data from one supplied study and public sources. It does not have access to the raw Kaushal Bharat extraction, individual candidate records, project-level costs, sanctioned targets, eligible population denominators, wage data, employer confirmation or complaint outcomes. The source tables have incomplete placement values and internal differences in annual totals across indicators.

The 2023–24 training figure is through June 2024 and should be treated as partial. The official Keralam webpage contains a separate cumulative snapshot with different figures and definitions; the present paper does not merge those data into the historical series. The analysis is descriptive and cannot establish causality.

It cannot determine whether ICT adoption improved outcomes, whether district differences reflect discrimination or resource allocation, or whether any named beneficiary suffered legally compensable harm. The paper does not make allegations against a particular agency, district, employer or official. It proposes a governance framework and identifies data requirements for a stronger evaluation.

Future research should construct a reconciled candidate-cohort dataset with privacy-preserving identifiers. It should include eligible youth population, applications, selections, training quality, certification, employment type, wage, hours, location, job changes, retention, complaint history and remedy outcomes.

Mixed methods could examine why candidates leave jobs and whether they perceive complaint channels as safe. Quantitative analysis could test district and demographic disparities after adjusting for population, project capacity and course mix. A pilot evaluation could compare grievance resolution time and record accuracy before and after introduction of an integrated dashboard.

16. Conclusion

This paper assesses DDU-GKY in Keralam through the lens of digital skill development and economic justice. The supplied district-level study reports 75,682 candidates trained between 2015–16 and 2023–24 through June 2024. Annual training rose from 3,154 to a peak of 13,446 in 2019–20, fell to 3,612 in 2020–21 and later recovered unevenly.

District distributions vary significantly over time, with Malappuram accounting for about 17.4 percent of training in 2019–20. At the same time, incomplete placement figures and inconsistencies among downstream indicator tables limit valid calculation of stage-conversion rates.

The paper's conclusion is not that digital technology caused the observed patterns, nor that the data prove unlawful harm. Rather, the evidence identifies a need for stronger longitudinal data integrity, district-sensitive equity monitoring and beneficiary-centred remedies.

A reliable system should connect each stage from enrolment to retention, verify employment rather than merely record it, make records contestable, protect personal data, and provide a time-bound route for grievance and appeal. Where a specific failure and resulting harm are established, remedies should be proportionate and legally authorised. Where the issue is a data error or incomplete service, correction and service completion may be more appropriate than compensation.

Digital skill development becomes a credible instrument of inclusive growth when the information system serves the person, not just the performance report. For Keralam, a reconciled cohort-based dashboard, accessible grievance channels, independent verification and restitution-oriented protocols would help transform administrative data into accountable public service. The next step is a state-led data reconciliation and pilot implementation, followed by independent evaluation using candidate-level and district-level evidence.

Table 1. Annual candidates trained in Keralam under DDU-GKY

Financial year	Candidates trained	Interpretation
2015–16	3,154	Starting-year value in supplied study
2016–17	11,278	Expansion
2017–18	11,874	Continued increase
2018–19	13,298	High training volume
2019–20	13,446	Series peak
2020–21	3,612	Sharp contraction
2021–22	5,308	Partial recovery
2022–23	8,635	Further recovery
2023–24*	5,077	Partial year only, through June 2024
Total	75,682	Sum of the nine annual values

Note. Source: Surendran and Soundarapandian (n.d.), Keralam district training table.

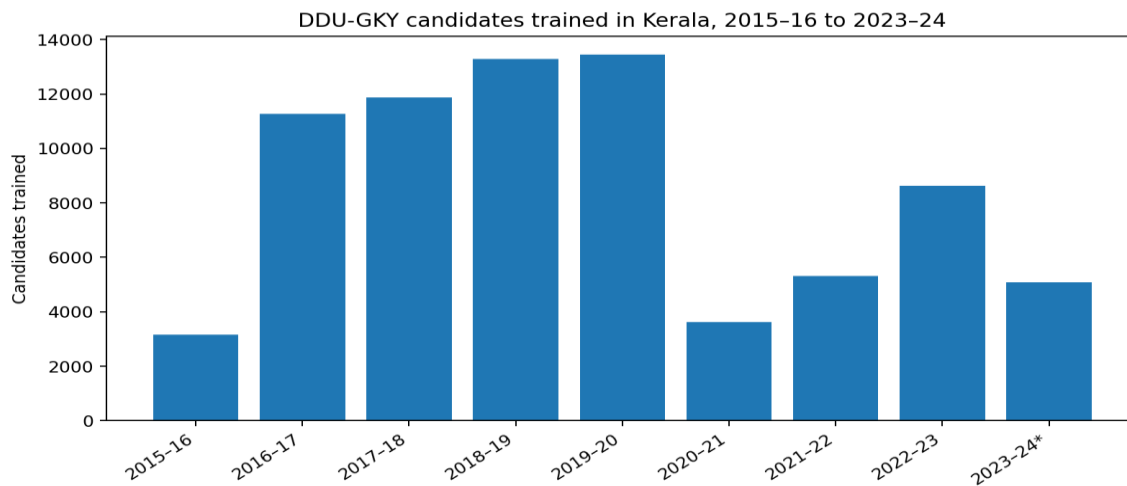


Figure 1. Annual training volumes in Kerala. Source: Calculated from the supplied study.

Table 2. Selected district training counts in years of notable variation

District	2016-17	2019-20	2022-23	2023-24*
Thiruvananthapuram	2,108	579	355	278
Ernakulam	1,674	1,007	440	289
Malappuram	638	2,341	1,349	714
Palakkad	1,170	1,277	858	479
Kozhikode	765	995	1,079	507
Kasaragod	252	587	479	447
Wayanad	752	1,072	770	367

Note. Source: Supplied study's district training table.

Table 3. Reported placements in Kerala (available observations only)

Financial year	Placements reported	Data note
2015-16	Not available	Missing in supplied placement table
2016-17	6,207	Reported value
2017-18	5,093	Reported value
2018-19	9,656	Reported value
2019-20	8,390	Reported value
2020-21	2,931	Reported value
2021-22	718	Reported value
2022-23	Not available	Missing in supplied placement table
2023-24	Not available	Missing; training value is partial

Note. Source: Supplied study.

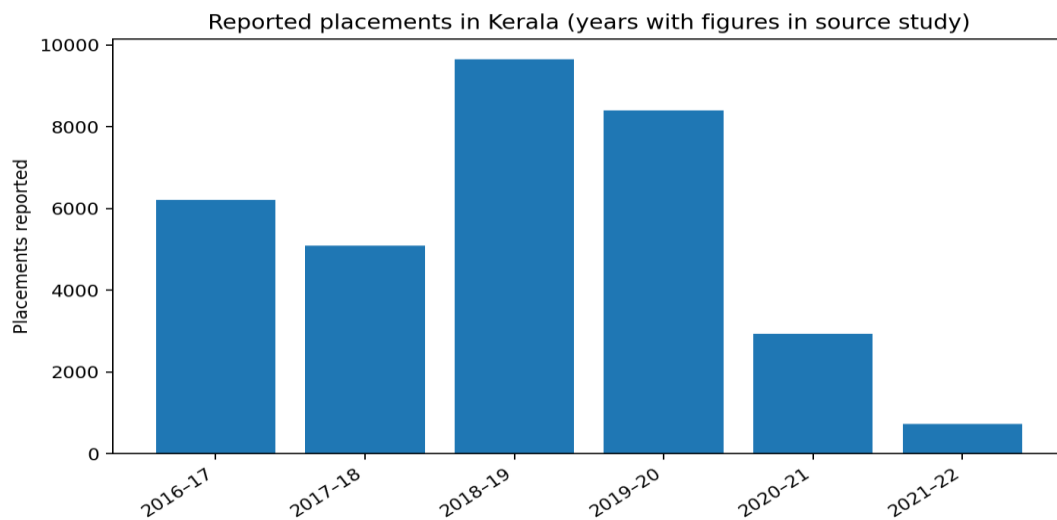


Figure 2. Placement counts in years for which the supplied study reports values.

Table 4. Proposed minimum indicators for a district accountability dashboard

Stage	Core indicator	Verification / justice safeguard
Access	Eligible youth reached; applications; selection rate	Use eligible-population denominator; disaggregate appropriately
Training	Commencement and completion rates	Attendance evidence; accessible support; missing-record alerts
Assessment	Assessed and certified by cohort	Assessment date, assessor and appeal/correction route
Placement	Verified joining; wage employment share	Employer evidence plus candidate confirmation
Retention	3-, 6- and 12-month status	Candidate contact, wage/conditions feedback; reasons for exit
Grievance	Complaints per 1,000; median resolution time	Case number, deadlines, independent escalation
Remedy	Remedies implemented; reopened cases	Closure only after implementation and beneficiary notification
Data quality	Completeness, corrections, audit flags	Versioned definitions, edit log, independent sample audit

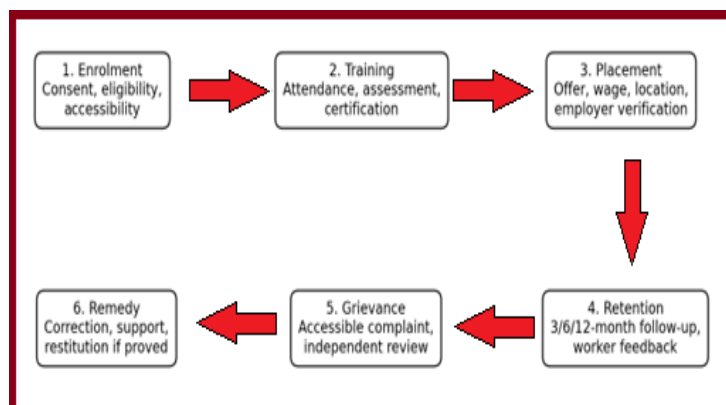


Figure 3. Proposed ICT-enabled accountability and restitution cycle.

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