

TRANSFORMING INDUSTRIAL TRAINING INSTITUTES

NITI AAYOG

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NITI Aayog

TRANSFORMING INDUSTRIAL TRAINING INSTITUTES

SKILL DEVELOPMENT AND EMPLOYMENT VERTICAL



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MESSAGE FROM ADVISER, SKILL DEVELOPMENT AND EMPLOYMENT VERTICAL

India has the demographic advantage of the youngest workforce in the world; it can be the Human Resource Capital of the world by appropriately skilling its youth and converting this advantage into a dividend. To reap the demographic dividend, the role of training institutions is very critical. The training institutions have to be adequately equipped to suitably skill, reskill & upskill the workforce for the world of work.

With the inception of the Ministry of Skill Development and Entrepreneurship (MSDE) in 2015, several strides have been taken by the Government of India to transform the skill development landscape. Robust policy and programmatic interventions such as the National Skill Development Policy, National Skill Development Mission, Common Cost Norms, National Skill Qualification Framework, Upgradation of Industrial Training Institutes (ITIs), and World Bank assisted programmes SANKALP and STRIVE for strengthening short-term and long-term training ecosystem respectively are some of the flagship initiatives of the Ministry.

ITIs have long been the backbone of the skill ecosystem, set up to ensure a steady flow of skilled personnel to the industry. With the advent of Industry 4.0, we are living through a fundamental transformation in the way we work. The curriculum and infrastructure of ITIs have to keep pace with the changing needs of the industry. Though there have been several efforts by the Centre and State Governments to revamp ITIs, these initiatives need to be enhanced through targeted interventions. Keeping this in view, an attempt has been made through this report to understand the ground reality of the ITI ecosystem and recommend solutions for its transformation. The report aims to support the stakeholders in their stride to improve the ITI ecosystem so that it continues to be an important pillar in skilling the future workforce.

The study highlights transformative ideas for revamping the ITI ecosystem in the country. For the formulation of the report, several rounds of stakeholder interviews, expert consultations, and field visits were held and this report is the culmination of the efforts of the research team comprising Mr. Rajesh Gupta, Dr. Gagan Preet Kaur, Ms. Oshin Dharap, Mr. Kailash Nath Verma and Mr. Dheeraj Rathore from NITI Aayog. As a part of the research process, a mix of high-graded and low-graded ITIs were visited to assess the disparity in the infrastructure, teaching quality, placement, tie-ups for industry interactions, apprenticeships, and so on. Perspectives of ITI stakeholders were assessed and consultations were held with domain experts to arrive at the recommendations for reforming the ITI ecosystem. A deep dive analysis of the budgets of various ITIs was undertaken, and data available on MIS was scrutinised.

I hope this report will serve as a crucial resource for Ministries, State Governments, ITIs, and other concerned stakeholders to work in tandem to achieve quality conscious, performance-driven, digitally enabled, and technologically empowered ITI ecosystem.

Kundan Kumar



EXECUTIVE SUMMARY

ITIs are the backbone of vocational training in India. Every year lakhs of students enter the nearly 15,000 odd ITIs and many of them join the trained workforce of the country. Revamping ITIs has been attempted through various interventions so far, such as creating Centers of Excellence, STRIVE funding, grading of ITIs, and making IMCs mandatory. Yet, the transformation of ITIs remains incomplete in view of three facts: ITIs remain underutilized, the quality of training, faculty, and infrastructure is in general not of global standards, and most of the trainees are neither employable nor skilled enough to start their enterprise.

There have been many studies in the past on improving ITIs and from time to time committees/task forces set up by Government ministries/departments have come up with recommendations to improve the ITI ecosystem. Despite insights available from all these studies for decades, the ITI ecosystem is still facing myriad problems. The capacity utilization remains low. Out of a capacity of 25 lakh trainees, only 10.5 lakh seats are filled. Placement rates portray an even more dismal picture of the ecosystem. The quality of ITIs and social acceptance of ITIs remain low.

To come up with transformative ideas for revamping the ITI ecosystem in the country, this study was undertaken by the authors from SDE vertical of NITI Aayog. Based upon 'walking the talk', this study involved numerous visits to ITIs all across the country, listening to trainees, faculty, administrative staff, and management up to the level of DGT.

Taking off from the structure of the ITI ecosystem and grading framework, the research team visited ITIs, discussed with stakeholders, and attempted to connect the dots. A detailed analysis of multiple vicious loops in the ITI ecosystem is done in the report. This report comes up with forward-looking recommendations for changes in the ITI ecosystem.

The study presents a comprehensive set of recommendations to transform ITIs, through a seven pronged approach pertaining to changes in administration, curriculum, reporting, monitoring, resource mobilisation and so on.

A Quality Assurance System is felt necessary for assessing ITI ecosystem from a quality lens. Reform pathways suggested aims to support stakeholders in building a holistic and quality driven ITI ecosystem.



LIST OF ABBREVIATIONS

Abbreviation	Fullform
AITT	All India Trade Test
ARISE	Advanced Repair and Industrial Skills Enhancement
ATS	Apprenticeship Trainees Scheme
CBSE	Central Board of Secondary Education
CBT	Computer Based Test
CFI	Centrally Funded Institutes
CITS	Craft Instructors Training Scheme
CNC	Computer Numerical Control
CoE	Centres of Excellence
COPA	Computer Operator and programming Assistant
CREDAI	Confederation of Real Estate Developers' Associations of India
CSTARI	Central Staff Training & Research Institute
CTS	Craftsmen Training Scheme
DGE&T	Directorate General of Employment & Training
DGT	Directorate General of Training
DIC	District Industries Centre
DIT	Directorate of Industrial Training
DLI	Disbursement Linked Indicators
DMC	Draughtsman Civil
DSC	District Skill Committee
DST	Dual System of Training
FDG	Focus Group Discussion
GDP	Gross Domestic Product
GTZ	German Agency for Technical Cooperation
HSI	Health Sanitary Inspector
IAI	Industry Apprenticeship initiative
IDP	Institute Development Plan



IEC	Information, Education & Communication
ILO	International Labour Organization
IMC	Institute Management Committee
ITI	Industrial Training Institutes
ITOT	Institute for Training of Trainers
JAC	Joint Admission Counselling
JEE	Joint Entrance Examination
JOSAA	Joint Seat Allocation Authority
KPI	Key Performance Indicators
MABR	Mechanic Auto Body Repair
MCD	Municipal Corporation of Delhi
MoE	Ministry of Education
MoLE	Ministry of Labour & Employment
MSDE	Ministry of Skill Development & Entrepreneurship
MSME	Ministry of Micro, Small & Medium Enterprises
NAC	National Apprenticeship Certificate
NAPS	National Apprenticeship Promotion Scheme
NBSD	National Board for Skill Development
NCVT	National Council for Vocational Training
NEET	National Eligibility Cum Entrance Test
NIMI	National Instructional Media Institute
NIOS	National Institute of Open Schooling
NIRF	National Institutional Ranking Framework
NSQF	National Skill Qualification Framework
NSTI	National Skill Training Institute
NTC	National Trade certificate
OJT	On the Job Training
OMR	Optical Mark Recognition
PBFA	Performance Based Funding Agreement
POTS	Production Oriented Training Scheme
PTP	Private Training Partner
QCI	Quality Council of India
RFP	Request for Proposal
RPL	Recognition of Prior Learning
SAMC	State Apprenticeship Monitoring Cell
SCVT	State Council for Vocational Training



SDE	Skill Development & Employment
SLC	Standing Labour Committee
SPDI	Service and Product Design Institute
SSC	Sector Skill Councils
STL	Standard Tool List
STRIVE	Skill Strengthening for Industrial Value Enhancement Scheme
SWADHIN	Society for Welfare and Development of Human Initiatives
TCPC	Training, Counselling and Placement Cell
ToT	Training of Trainer
VET	Vocational Education and Training
VTIP	Vocational Training Improvement Project



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1

INTRODUCTION

India is one of the youngest nations in the world with an average age of 28.7 years. It can position itself as the 'Skill Capital' of the world, as articulated by the Prime Minister, by appropriately skilling its youth and converting this advantage into a dividend. However, higher education in India faces challenges of access, equity, inadequate infrastructure, and low employability, with reports stating only 10-15% of its graduates have employable skills (Chakrabarti & Prakash, 2016). This underscores the need to enhance the skills of the available workforce, which can be achieved through quality vocational education and training (VET). Against this backdrop, the role of training institutes is very critical to take advantage of the demographic dividend of the country. In the coming years, the working-age population needs to be suitably skilled, reskilled & upskilled as the trends, technology, and working methodologies are rapidly changing with time. Thus, appropriate skilling infrastructure needs to be created at scale keeping in view the sheer number, sectoral division, and spatial distribution of population & economic activities. As India is moving towards faster economic growth, to keep up with the momentum, the population needs to be skilled.

Tracing the journey of vocational education and training (VET) in India reveals that it has been the topic of debate and discussion for over a century. Various committees and commissions established by the Government of India, both in the pre-Independence and post-Independence era, recommended wide-ranging reforms to the VET system. Established in the 1950s, the Industrial Training Institutes (ITIs) are responsible for running the long-duration VET system in India. The VET ecosystem in India got its first regulator with the formation of the National Council for Vocational Training (NCVT) in 1956.

ITIs have been set up with the objective to ensure a steady flow of skilled personnel to the public and private sectors, and reducing unemployment amongst the educated youth by equipping them with the required skills, education, and discipline. ITIs in India are responsible for delivering vocational training of one or two-year skill courses through the Craftsman Training Scheme (CTS). These courses are based on a semester pattern and cover a large number of economic sectors leading to a lifelong career. The training courses in ITIs are supposed to impart basic skills and knowledge in the trades to prepare trainees for employment as semiskilled/skilled workers or self-employment.



1.1 INSTITUTIONS IN ITI ECOSYSTEM IN INDIA

Institutions involved in the ITI ecosystem are depicted in Figure 1 below:



Figure 1: ITI Ecosystem in India

1.1.1 DIRECTORATE GENERAL OF TRAINING (DGT)

The Directorate General of Training (DGT) is the national-level apex organization for the development & coordination of vocational training activities in the country. The DGT frames overall norms, policies, and standards for vocational training programmes and training of instructors and operates the Apprenticeship Act, 1961.

DGT under the DGE&T was transferred in 2015 from the Ministry of Labour & Employment (MoLE) to MSDE. After 2015, DGT is entrusted with the accreditation of ITIs, as shown in Figure 2 below:

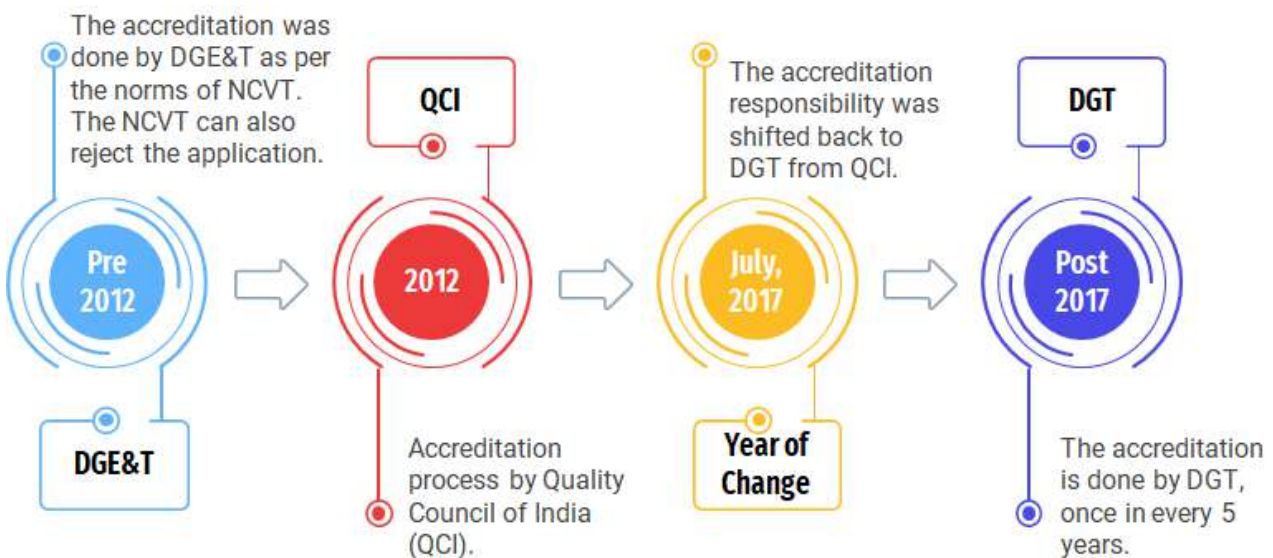


Figure 2: Accreditation Agency for ITIs



1.1.2 NATIONAL SKILL TRAINING INSTITUTES (NSTIs)

The quality of instructors is one of the key parameters which influences the output of the trained candidates. To strengthen the instructors' quality, the Craft Instructors Training Scheme (CITS) was initiated after the inception of the Craftsmen Training Scheme (CTS). The first Craft Instructors' Training Institute was established in 1948. Later, 13 more institutes called Central Training Institutes for Instructors were started by DGT. Further to add, the NSTIs were started by the Directorate General of Employment and Training (DGE&T), Ministry of Employment and Labour in 1963. In 2010, the Government of India granted permission to States/UT governments & private industries to set up instructor training institutes. NCVT approved separate standards for infrastructure and course curriculum to maintain the quality and standards of instructor training. These institutes are called the Institute for Training of Trainers (ITOT). As per the DGT website, a total of 18 institutes exist, out of which 6 are government institutes and 12 are non-government institutes.

In April 2018, the government renamed all the instructor training institutes run by DGT to National Skill Training Institutes (NSTI) to bring uniformity in the names of institutions with similar objectives. The objective of these institutes is to train instructors in techniques for providing practical knowledge & skilled/semi-skilled/highly skilled human resources for industries & businesses. The NSTIs provide training under CTS & CITS. A total of 33 institutes are spread across the country. Out of the 33 institutions, 19 NSTIs are exclusively for women. Since August 2019, the NSTIs offer training in at least 2 new age courses under the Dual System of Training (Directorate General of Training, 2021). Apart from it, NSTIs also offer training under high-end CTS courses such as welder, turner, machinist, etc. which require expensive tools and machinery. As per NCVT notification, 2019, all the instructors have to be trained under CITS. However, out of 95,000 plus instructors, only 15% of them are trained under CITS (Ministry of Skill Development & Entrepreneurship, 2020). Presently the NSTIs are also conducting a recognition of prior learning (RPL) programme for the instructors/faculty members at ITIs/NSTIs for CTS, who have been teaching for more than 3 years. It is approximately a one-month-long process where the instructor does not need to stay at the NSTI. The candidate has to complete the assignments and virtual pre-recorded lectures at the NIMI training portal. The final practical assessment is conducted at one of the NSTIs.

1.1.3 CENTRAL STAFF TRAINING & RESEARCH INSTITUTE (CSTARI) -KOLKATA

Set up in 1968, CSTARI is housed in a 16-acre campus and designs curricula for vocational training (CTS, CITS as per NSQF) in India. About 82 Engineering, 63 non-Engineering, and 5 visually impaired curriculum under CTS, 54 CITS Curriculum, and 209 Apprenticeship Trainees Scheme (ATS) curriculum have been developed by CSTARI. Headed by a director, the CSTARI has a research wing apart from the training wing, which makes changes in the syllabus of ITIs. The World Bank-assisted Vocational Training Improvement Project (VTIP) was run at CSTARI.

1.1.4 NATIONAL INSTRUCTIONAL MEDIA INSTITUTE (NIMI)-CHENNAI

NIMI was set up in 1986 under DGE&T with the assistance of the German Agency for Technical Cooperation (GTZ) to develop instructional materials content of the syllabus finalized by CSTARI.



The books for all trades of ITI are printed by NIMI. These books are distributed among ITI trainees free of cost. Annual expenditure on running NIMI is about INR 4 Crores.

1.2 STRUCTURE AND CAPACITY OF ITIs IN INDIA

Vocational training is a concurrent subject of both Central and State Governments. The development of training schemes at the National level, the evolution of policy, laying of training standards and norms, the conduct of examinations, certification, etc. are the responsibilities of the Central Government, whereas, day-to-day administration including admission in ITIs rests with the respective State Governments /Union Territory. The Directorate General of Training (DGT) under the Ministry of Skill Development and Entrepreneurship (MSDE) is the apex organization involved in overseeing the development and coordination of vocational training. It is tasked with upgrading the Craftsman Training Scheme (CTS), curricula design of ITIs and maintaining quality standards, and granting affiliations. It also maintains a MIS portal about ITIs (NCVT MIS). The day-to-day administration of ITIs under the Craftsmen Training Scheme was transferred to the State Governments/ Union Territory administrations with effect from the year 1956. From 1st April 1969, the financial control of the Industrial Training Institutes in the States as well as in the Union Territories was transferred to the respective State Governments / Union Territory.

The ITI ecosystem now has 14,789 DGT-affiliated ITIs (Government and private). While the National Council for Vocational Training¹ (NCVT) prescribed the standard vocational training curriculum that makes up the content of the CTS, the State Council for Vocational Training (SCVT) is entrusted to monitor the implementation of the curriculum at each ITI.

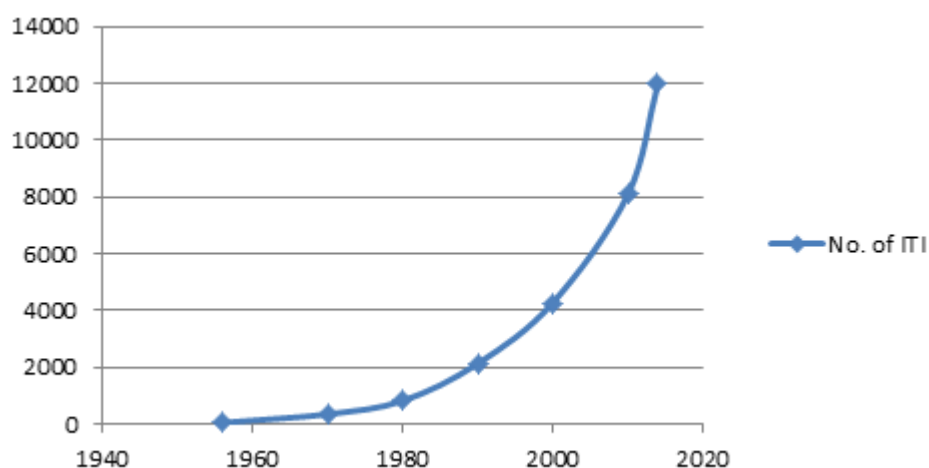


Figure 3: Number of ITIs

1 NCVT was merged with National Skill Development Agency (NSDA) to form National Council of Vocational Education and Training (NCVET). NCVET approves the job roles for VET in India.



Table 1: Distribution of ITIs as per NCVT MIS portal²

Type of ITI	Total ITIs	Seat utilization	Total seats
Private ITIs	11595	43.07%	15,85,137 (62.44%)
Government ITIs	3194	56.74%	9,53,350 (37.55%)
All	14789 ³	48.20%	25,38,487 (100%)

- Around 78.40% of all ITIs are owned and operated by private entities. The remaining 21.59% are government institutions.
- The seat utilization of government ITIs is better than private ones.
- Approximately 62% of all the seats are in private ITIs, the contribution of government ITIs in the number of seats stands at 38% only.

Figure 4 below depicts state-wise distribution of ITIs in India:

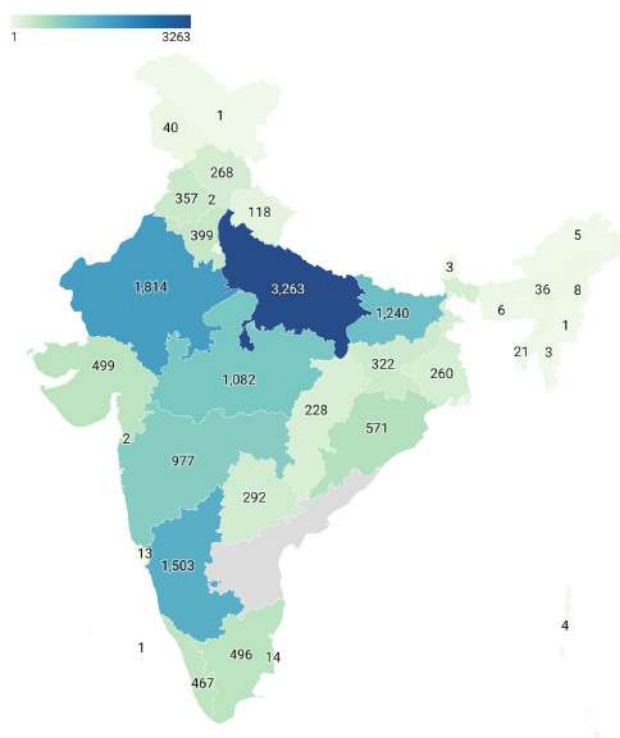


Figure 4: State wise Distribution of ITIs in India (Data Source: DGT)
(illustration by authors)

- Uttar Pradesh has the highest number of ITIs.
- Around 66% of the total 14789 ITIs, are situated in 5 states i.e. Uttar Pradesh, Rajasthan, Karnataka, Bihar, Madhya Pradesh, and Maharashtra.

² As on 22nd September, 2022, <https://www.ncvtmis.gov.in/Pages/Dashboard/AdmittedTraineeDashboard.aspx>

³ As on 22nd September, 2022, <https://www.ncvtmis.gov.in/Pages/ITI/Count.aspx>



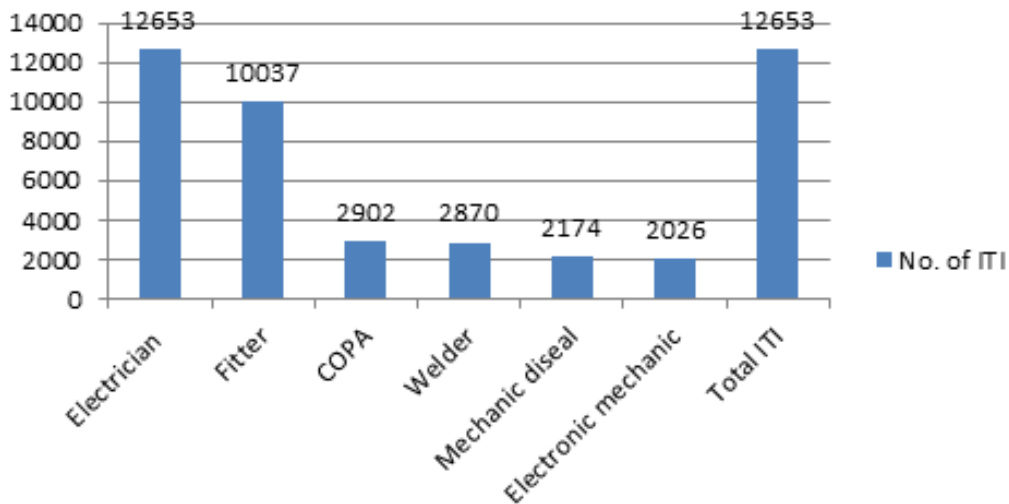


Figure 5: ITIs offering courses in select trades⁴

- Trades such as electrician & fitter are available in a large number of ITIs.

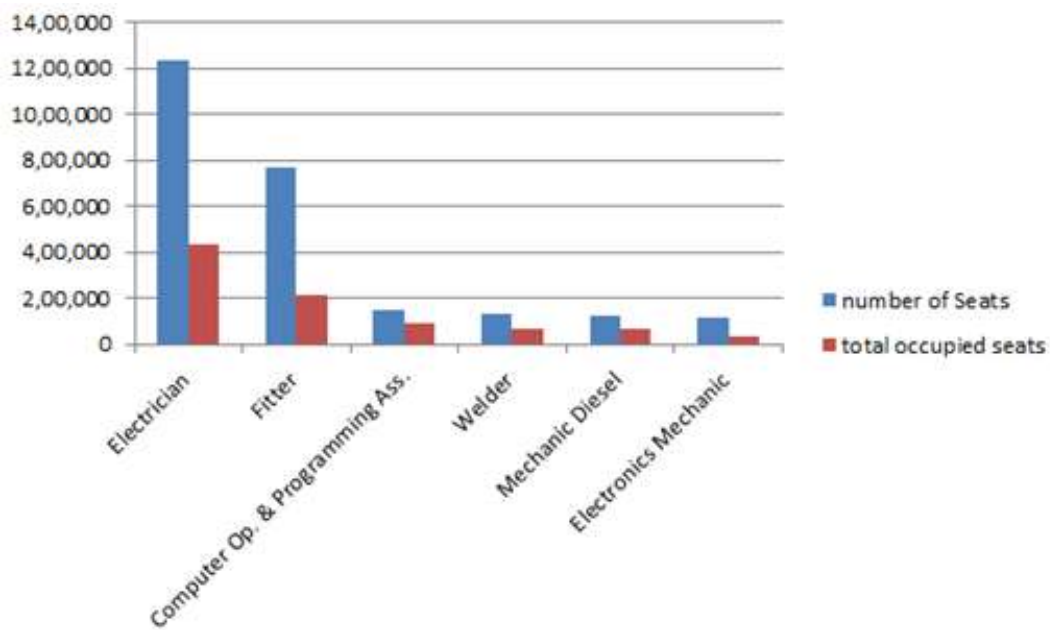


Figure 6: ITIs offering courses in select trades⁵

- 64.81% of total seats available for electrician trade are unoccupied.
- 71.57% of total seats available for fitter trade are unoccupied.
- The top 2 trades in terms of availability in the number of ITIs have very poor occupancy

Among the most popular trades are Electrician, Fitter, Machinist, Welder, Motor Vehicle Mechanic, Draughtsman, etc. There are some non-engineering trades including Bamboo works, Baker & Confectioner, Corporate Housekeeping, Creche Management, Dress Making, etc. running in ITIs.

4 <https://www.ncvtmis.gov.in/Pages/ITI/Count.aspx>

5 <https://www.ncvtmis.gov.in/Pages/ITI/Count.aspx>



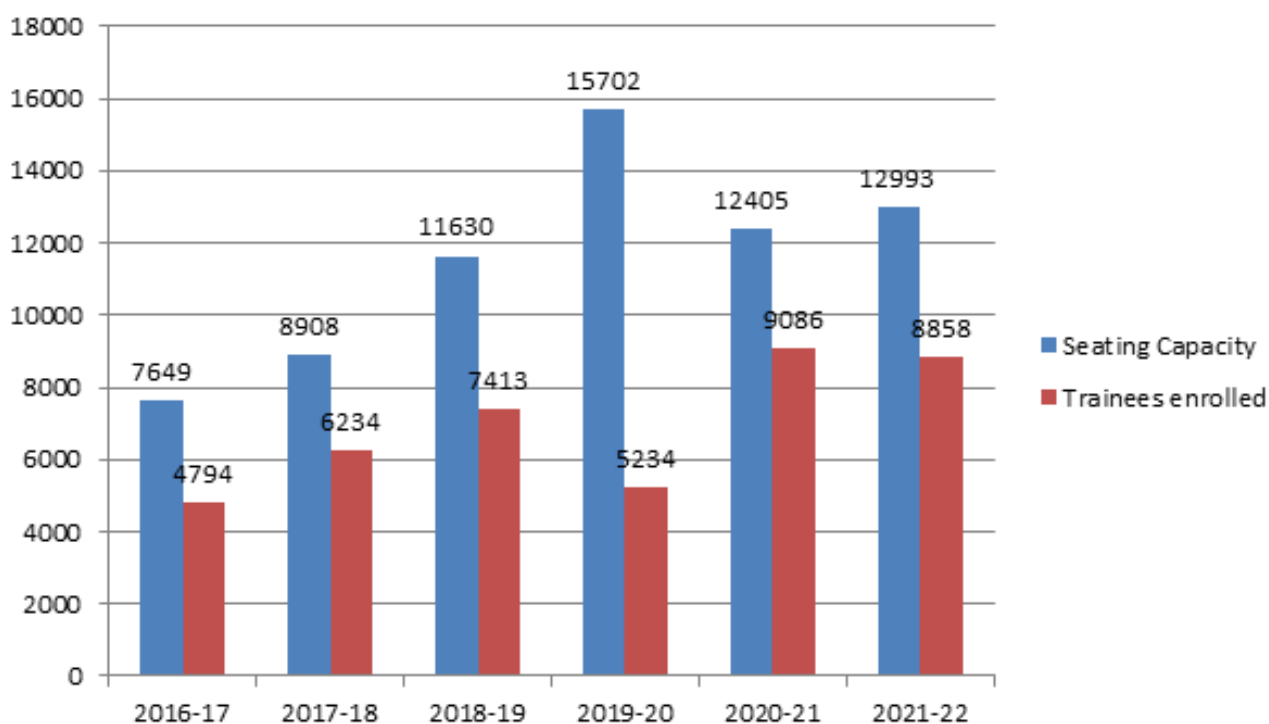


Figure 7: Seating capacity for CITS (Source: MSDE Dashboard)

The ITIs have around 25 lakh seats available and 12 lakh plus trainees have been enrolled and undergoing training in the trades of six months/one year/two-year duration.⁶

1.3 SCHEMES RELEVANT TO ITIs

Several schemes have been targeting the improvement of the ITI ecosystem in India. ITIs started in India under a scheme called Craftsman Training Scheme seven decades ago. To improve the industry-ITI connection, an attempt was made to adopt the German model of Vocational Education through this scheme. Dual System combines practical training in the industry and theoretical along with foundation practical training in ITIs which leads to a better linkage between ITI and industry.

1.3.1 CRAFTSMEN TRAINING SCHEME (CTS)

It was introduced in 1950 to ensure a steady flow of skilled workers in different trades for the domestic industry.

Scheme features:

- ◉ Long-term courses (1-2 years)
- ◉ Offered in 133 trades
- ◉ Entry Qualification is 8th-12th standard

⁶ <https://www.ncvtmis.gov.in/Pages/Dashboard/AdmittedTraineeDashboard.aspx>



DGT under MSDE is the nodal agency to coordinate Craftsmen Training Scheme at the national level. Directorates dealing with CTS are responsible for implementation of CTS through Government and Private ITIs of their respective States.

1.3.2 Craft Instructors Training Scheme (CITS)

The scheme caters to the training of the instructor trainees to make them conversant with techniques of transferring hands-on skills and training methodology. This training is offered through 33 NSTIs.

To improve the industry connection, an attempt was made to adopt the German model of Vocational Education through this scheme.

1.3.3 Skill Strengthening for Industrial Value Enhancement Scheme (STRIVE)

It is a World Bank-assisted project of INR 2,200 crores for improving the relevance and efficiency of skills training provided through ITIs and apprenticeships. It aims at outcome-based funding with a focus on the following four key result areas:

1. Upgradation of training equipment and adding new trades/courses.
2. State Governments are incentivized for policy and regulatory reforms that are aimed at improving the overall ecosystem for ITIs and apprenticeship.
3. Modernizing existing training materials/resources that would complement the institutional reforms in vocational training.
4. Modernize the Apprenticeship Training systems through the provision of Industry Apprenticeship initiative (IAI) grant which incentivizes Industry Clusters.

The World Bank releases funds to the Government of India on the basis of Disbursement Linked Indicators (DLIs). These funds are then released to the state governments on the basis of Key Performance Indicators (KPIs). IIM Indore is the independent verification Agency for the DLIs.

1.3.4 Other Schemes

In addition to DST, some ITIs have implemented Flexi MoU schemes for on-the-job training and industrial exposure.

In 2006–2007 some ITIs were provided resources to turn them into Centers of Excellence. Out of the 500 organizations that were vying to be upgraded to Centers of Excellence under this program, 100 received direct funding from the government, and the other 400 received funding from the World Bank. Following this proposal, the state governments were also required to contribute a percentage of the cost (Gol, 2014).

1.4 GRADING OF ITIs

To evaluate ITIs, DGT instituted a grading framework in 2017. While phase 1 of grading consisted of 43 parameters clubbed into 10 broad categories, phase 2 of grading consisted



of 27 parameters classified into 5 categories. The parameters covered in the grading process diagnose the areas for improvement. The DGT⁷ initiated the grading process to provide a benchmark for comparison amongst all the ITIs.

Grading in Phase 2 (the second phase of grading was launched in 2019) was an online process. Geo-tagging and time stamping of all documents/pictures/video-proofs collected from ITIs was undertaken. Currently the grade is valid for 5 years. There are plans to institutionalize the grading exercise and make it a regular feature using in-house resources of DGT through their Quality Evaluation and Diagnostics Section. Phase 3 of grading was proposed to be launched in 2022.

The 10th meeting of the NCVT sub-committee in 2018 decided on incentives based on grading. The key incentives are discussed below:

- ◉ Only ITIs with a grade of 2.5 and more will be allowed to apply for addition of new trades/units on the affiliation portal.
- ◉ Only private ITIs with a grade of 2.5 or more and government ITIs with a grade of at least 2 will be eligible to receive financial support under STRIVE.
- ◉ Principal and instructor of ITIs with at least a grade of 2.5 will be eligible for training in NSTI and abroad.

More details on the grading process are given in Appendix-A.

⁷ DGT awards contract to a third-party agency (such as M/s ICRA Analytics or M/S CRISIL) to conduct physical verification data collection and assign tentative grades



2

FUNCTIONING OF ITIs IN INDIA

In this section, lifecycle of an ITI trainee, and monitoring mechanism of ITIs is described. The admission process, two years training and then career options are qualitatively described ahead. The lifecycle of a VET trainee upto ITI is depicted in Figure 8 below:



Figure 8: Lifecycle of training in ITI

Every year an ITI trainee takes a computer based exam known as All India Trade Test (AITT) and a practical exam. A sample of AITT and SCVT certificates is given in Appendix-A. Most of the ITIs in India do not have a web portal. In general, government ITIs in India have huge land parcels with them but most of the infrastructure is found in dilapidated condition. Private ITIs, in general, have congested ergonomic space availability.

2.1 ADMISSION PROCESS IN ITIs

Usually, candidates of age 14 and above seek admission in ITIs. Students who have cleared either 8th grade or 10th grade (secondary schooling) can get admission in ITIs. Many senior secondary (12th grade) pass students also take admission in ITIs. Courses for different categories of entrants (8th pass/10th pass/12th pass) are different. Though most of the states have made the admission process online, the system lacks transparency and user-friendliness, especially in the case of admissions in private ITIs. Admission process begins with the State Council's notification in online mode. After finalization of admission, data of admitted candidates migrates to NCVT MIS portal. For exams, ITIs students have to register on NIMI portal along with exam fees, after which students download their admit cards from SCVT or NCVT portal.

An interesting observation was made in interaction with private ITIs. At the time of admission in private ITI, students pay partial fees and secure admission. Thereafter private ITIs keep chasing trainees for payment of remaining fees. This adversely impacts the academic environment of the ITIs.

The counseling process of admission in ITIs is not online like Delhi University, Joint Seat Allocation Authority (JOSAA) or Joint Admission Counselling (JAC). Further some trainees



reported negotiations and overcharging by some private ITIs. There is no national admission system and many seats in private ITIs remain vacant.

2.2 TRAINING DELIVERY AT ITIs

During the two-year course at ITIs, students undergo trade-specific classroom and laboratory training. Though a timetable is provided to trainees, classes are not conducted with due rigour sometimes. Many ITIs have excellent laboratories but there are ITIs where most of the lab equipment is out of order. Annual exams namely AITT is conducted at national level at same time across all the ITIs. E- Certificate namely, National Trade Certificate is awarded to the successful trainees. National Trade Certificate is a recognized qualification for the purpose of recruitment to subordinate posts and services under the Central and State Governments.

Training delivery is monitored through the DGT reporting Dashboard of NCVT-MIS which is meant to provide following information:

1. Number of Affiliated and De-Affiliated ITIs disaggregated at the level of Year, States, Districts, Type (Government/Private) and Geography (Rural/Urban)
2. Number of Instructors disaggregated at the level of Year, States, Districts, Type (Regular, Contract, Deputation, Probation, Daily Wages, Others), Geography (Rural/Urban), Trade and Gender.
3. Trades Available in Different Sectors at the level of States, Districts, Type (Government/Private), NSQF level and Course Duration
4. CTS and CITS Trainees Certified disaggregated at the level of Year, States, Districts, Type (Government/Private), Geography (Rural/Urban, Trade, Gender and Course Duration
5. Total Available Seats, Admitted Students, Top 10 trades by admitted students disaggregated at the level of Academic Session , State, District, ITI Category (Government/Private), Stream, Gender, Course Duration, Qualification, Shift, Social Category.
6. Total Posts Sanctioned, Total Positions Filled disaggregated at the level of State, District, ITI Category (Government/Private), Gender, Employment Type, CITS Certification (Year Missing).
7. Total Trainees passed and placed, highest/median salary, top 10 ITIs for placement, top 20 trades for placement, type of placement disaggregated at the level of Year, States, Districts and Trades.
8. Number of admitted, eligible, passed, results generated, certificate generated and marksheet

Institute Management Committee (IMCs)⁸ are supposed to be managing the functioning of ITIs.

⁸ IMC were introduced in 1998 as a key institutional level reform initiative to involve local industry partners in managing ITIs. IMCs should comprise total of 11 members of which 5 from industry and 5 from Govt. along with principal of the ITI.



2.3 CAREER OPPORTUNITIES AFTER ITIs

Every ITI is supposed to have a placement cell to facilitate the placement of ITI graduates. Post-course options for ITI pass outs in India are depicted in Figure 9 below:

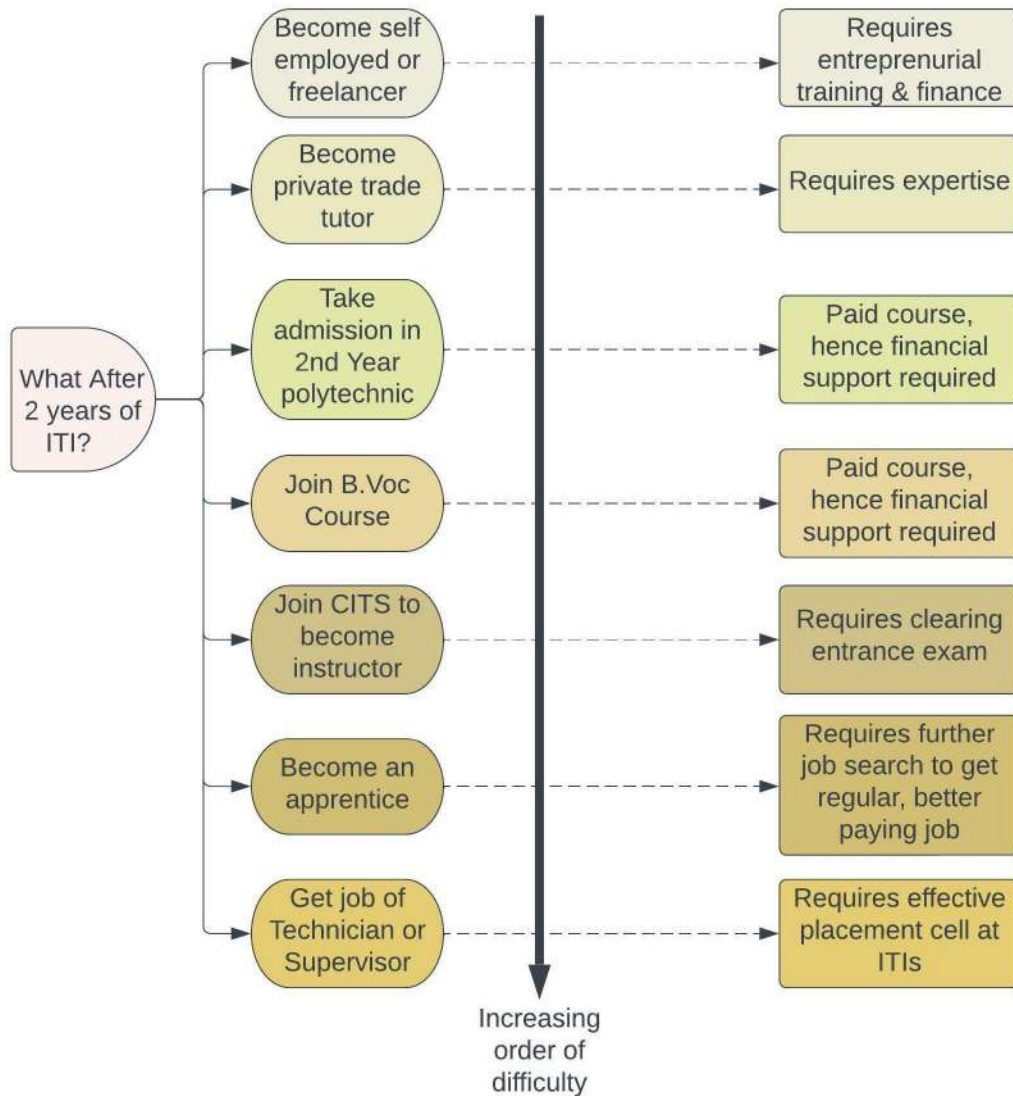


Figure 9: Career options for an ITI trainee

For ITI pass outs who want to enroll for Bachelor in Vocational Education B.VoC course, option of direct 2nd year admission is available in some States if they have cleared 12th grade before joining ITIs.

As analyzed in Section 6, there is an annual public expenditure of about INR 10,000 Crores in running the ecosystem of 3500 Govt ITIs, besides the INR 2200 crores STRIVE scheme (Appendix-B). Despite this huge expenditure, the twin-deficit continues. Placement of ITI students remains low and industry keeps complaining of shortage of skilled technicians. The Indian ITI ecosystem is yet to reach German or other global benchmarks of VET quality. Hence, it is high time to do an in depth analysis of the ITI ecosystem in India and this study aims to do the same methodically so as to come up with actionable pathways towards revamping ITI ecosystem in India.



3

LITERATURE REVIEW

There are two streams of literature on ITIs in India. One from academic journals and another from committees/task forces set up by the Government. Review of literature from both these streams is presented in this section.

3.1 LITERATURE FROM ACADEMIC JOURNALS

There have been some studies in the past on ITIs in India and most of them have adopted an interview methodology. In 2001, the Task Force of the Planning Commission on employment opportunities came up with a report on the state of skill development of our labour force. The report emphasized the strengthening of ITIs through greater involvement of industries in the overall functioning of ITIs, giving higher autonomy to ITIs in functioning with funds from the government, modernization of ITIs, changing the expenditure pattern at ITIs as 90% of the funds are utilized for salaries only and targeting the informal sector through entrepreneurship training. Seminal work on Indian ITIs was done by Gasskov et al. (2003), and surprisingly the problems identified in the ITIs in that work like a mismatch between curriculum and market demand of skill set are still reported by latest studies (Pilz & Regel, 2021; Pilz & Ramaswamy, 2022; Mathur et al., 2022). Thereafter, a comprehensive state-level analysis was done in a tracer study of ITIs (Tan et. al. 2006) wherein, authors found only 32 % of ITI trainees could find a job within a year of passing out of the course. In 2006, a report by the Working Group of the Planning Commission on the Skill Development & Training for the 11th Five Year Plan recommended optimally utilizing the existing infrastructure of ITIs for short-term training courses. Okahashi, H (2007) pointed out geographical variation in the quality of ITIs in India. In his dissertation on ITIs in Maharashtra, Malkan R. (2007) highlighted the greater role of states in improving ITIs and the need for soft skills training. Surprisingly, the intervention of creating 100 Centres of Excellence (CoE) in ITIs in 2005 at the cost of Rs. 160 Crores as mentioned by the author (Ibid.), has not been a part of any impact evaluation study, to date. The report "Skill Development in India: The Vocational Education & Training System" by The World Bank in 2008 states that employers felt that ITI graduates did not perform well enough in the use of computers, practical use of machines, communications and team work practices. Employers also felt that graduates lack practical knowledge, and need significant on-the-job training to bring their skill levels to match the needs of the industry. The report recommends allowing ITIs to generate revenues by selling goods and services; and allowing ITIs to set more realistic fees while the government will keep providing the funds.

Tara et al. (2016) mentioned the lack of infrastructure and qualified instructors as major problems in these institutions. As Kumar (2016) in his essay on ITIs highlighted low social



perception of ITIs, there is a problem of adverse selection and very few of the ITI pass-out trainees can become self-employed. This low societal perception of ITIs is, however, fading as found by Ajithkumar and Pilz (2019).

Melsens et al., (2017) is a valuable work in the literature on ITIs in India for it contains photographs of historical importance related to ITIs in India. In that study, the authors point out the problem of adverse selection in manual-heavy trades (e.g. masonry) in ITIs. Agrawal and Agrawal (2017) highlighted the underutilization of ITIs in India. Zenner et al (2017) pointed out that despite entrepreneurship-oriented curriculum and clarity in trainer's perception of the same, the teaching of entrepreneurially enabling skills is missing in ITIs. Tara and Kumar (2017) studied the intervention of creating Centers of Excellence (COE) in ITIs and opined that demand for COE courses was low due to inadequate promotion among youth. Jambo and Pliz (2018) reported that low perception of ITIs in society is in contrast to trainers' high perception of ITIs. In a non-empirical study of ITIs, Maitra and Maitra (2019) pointed out that the training imparted in ITIs was not enough to make the youth employable. Determinants of employability were probed by Neeroorkar and Gopinath (2020) but the authors did not provide pathways to institutionalize such factors.

3.2 LITERATURE FROM STUDY REPORTS OF GOVERNMENT & LEGISLATIVE COMMITTEES

In addition to the above literature, the many committees set up by the Government have also presented valuable facts regarding ITIs.

Task Force of the Planning Commission on Employment Opportunities (2001) emphasized the strengthening of ITIs in India. The Special Group targeting ten million employment opportunities per year over the Tenth Plan period constituted by the Planning Commission (2002) suggested measures for the expansion of vocational training facilities. A World Bank report in 2008 provided key ideas about reforms/interventions which are needed to improve the effectiveness of the system of skilling including ITIs.

National Commission on Labour (2002) reported that ITIs need to restructure and reorient their courses at a much faster rate to respond effectively to the current and future needs of the labour market. ILO did an Efficiency Study Of ITIs (2003) surveying 3 states (Orissa, Andhra Pradesh & Maharashtra) and suggested ways to introduce an accountability framework.

Planning Commission's Working Group on Skill Development and Training reported (2006) proposed plans for quantitative and qualitative improvement of VET through Public Private Partnerships in ITIs.

A 2010 report titled "Assessment of Evaluation of Scope of Upgradation of Select ITIs through PPP in Maharashtra and Tamil Nadu (For Planning Commission, prepared by Maharashtra Economic Development Council)" argued that communication gaps between ITIs and industry are very wide.

A Tracer Study (2012) of ITI graduates by CENPAP Pvt Ltd (done for DGET) recommended the formation of Institute Management Committees (IMC) and the formation of Training Counseling and Placement Cell (TCPC) in ITIs. Another Tracer Study (2018) by Mott MacDonald (done for MSDE) recommended better monitoring & efficiency, more Apprenticeship Training, formation



of Institute Management Committee, Training, Counseling and Placement Cell, Labour Market focus and quality of Training Delivery.

A recent study (2022) by Just Jobs Network made certain recommendations for ITIs like demand mapping to keep track of sectoral trends and shifts, development of robust employment services or placement office, well-functioning technology infrastructure, review of suitability for women trainees, and facilitation of academic accreditation for trainees to get NIOS Certificate.

The Indian Institute of Public Administration report (2019) titled “Evaluation Study Report of Upgradation Of 1396 Govt. ITIs Through PPP” highlighted the low standards of training quality imparted by the institutions, and demanded definite techniques to gauge and measure ITIs’ performances in every financial quarter.

The Sharda Prasad committee (2016) suggested making apprenticeship training an integral part of vocational education, in which the trainee is expected to learn the core skills and devote at least one-third of the total duration at the company’s premises. The Committee’s report states that as the contribution of the service sector to overall GDP is around 60%, ITIs catering to the mostly manufacturing sector need to go through the transformation and start addressing the need of service industries. The committee recommended starting courses and trades which can meet the emerging demands of the service sector. There is a provision to take ITI graduates with 2 years of training in engineering trade in the 2nd year of diploma engineering college (polytechnics) with a ceiling of 20% students. As the candidates trained for two years in ITI will have better skills than fresh secondary pass students, the committee has suggested removing the ceiling of 20%.

Another rich source of information on ITIs in India is reports of Standing Labour Committees (SLCs) of parliament. SLC reports that talked about improvement in ITIs are summarized in Appendix E. One of the most notable SLCs was the Kirti Somaiya committee, which highlighted that since 2012, the QCI violated NCVT norms while accrediting ITIs. The committee also highlighted the underutilization of the capacity of ITIs and the importance of training of trainers (TOT).

Kumar (2016) mentions that most ITI graduates have trouble finding a job immediately. Only 12% of Government ITI graduates and 5% of Private ITI graduates opt for self-employment. The learners’ desired job profile may not always be what the vocational training produces. Although the trainees have the option to work in the industry as part of the apprentice training program, that program does not guarantee them a job (World Bank 2008). According to the employers, the vocational training offered at ITIs falls short of equipping students with the necessary practical skills to carry out their jobs. Additionally, companies discover that ITI graduates lack communication and teamwork abilities. Further, because they are not trained as multi-skilled employees and are not exposed to the commercial skills necessary to operate as business people, the graduates are not sufficiently equipped for self-employment (World Bank 2008).

Gudipati (2022) highlights that courses offered under the Craftsman Training Scheme (CTS) by various ITIs mostly follow an outdated curriculum. A majority of ITIs do not possess the latest tools and equipment for practical training. The trainers and instructors rarely get an opportunity to upskill themselves and update their knowledge in specific trades. He further adds that focused efforts to look into various aspects like the curriculum, infrastructure, practical training, standards, trainers and branding are required. The paper highlights factors affecting the sustainable and profitable growth of these institutions:



- ◉ Low enrolment because of low esteem as a result of the socio-cultural value attached to these courses.
- ◉ The lack of awareness about the benefits of work-integrated learning.
- ◉ Low apprenticeship adoption and lack of continuous connect with the industry.
- ◉ Heavy dependence on CSR funds and hesitance to explore self-funding models.
- ◉ Low investment in training of trainers and difficulty in attracting outstanding trainers with attractive compensation.
- ◉ Inability to engage industry experts as adjunct faculty to share the latest knowledge and insights with the students.

To the best of authors' knowledge, no study so far has studied the financial management aspect of ITIs, and there is a gap in literature on suggesting actionable pathways for transforming the ITI ecosystem.

This is the first study on Indian ITIs which provides a literature review of both the streams. Also, while doing FGDs on the question that despite so many legislative and Govt. committees recommending the improvement of ITIs, the Indian ITIs are still far behind the global best VET institutions, it emerged that one plausible reason could be the absence of detailed diagnosis and clear actionable pathways for mitigation of issues in those studies. This study attempts to offer the same missing components in upcoming sections.



4

METHODOLOGY

A mixed method approach was adopted in this study which included analysis based upon field visits, interviews and secondary research. The framework of methodology adopted in this study is illustrated in Figure 10 below:

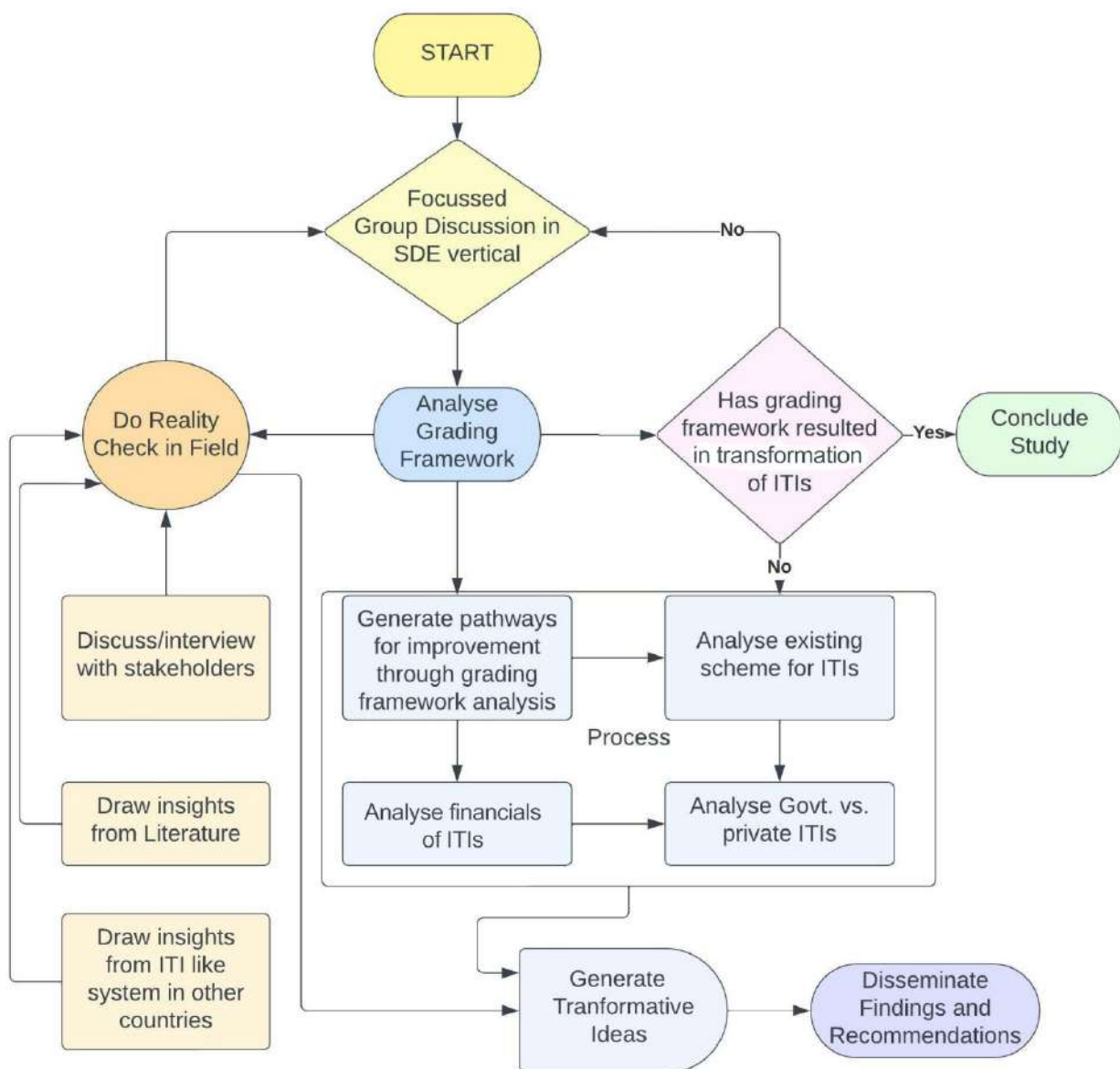


Figure 10: Methodology



List of attributes that could transform ITIs were drawn and redrawn by the team after each round of field visit and stakeholder consultation. Detailed semi-structured interviews were conducted with DGT officials, ITI instructors, principals, students, industry, and employers. Team from SDE vertical, NITI Aayog visited ITIs to understand various modalities of ITIs. A mix of high graded and low graded ITIs were visited to assess the disparity in infrastructure, teaching quality, placement, tie ups for industry interactions, apprenticeships and so on. As can be seen from Figure 11, authors have visited a number of ITIs located across length and breadth of the country to collect data for this study:



Figure 11. ITIs visited by authors

Numerous ITIs were visited by the team authoring this report, interviewing more than 40 principals, and 100 instructors and interacting with more than 1000 trainees. Survey tool used for collecting data from ITI is provided in Appendix- C and glimpses of ITIs visited are provided in Appendix-D.

An extensive analysis of the budget of ITIs was undertaken to arrive at a typical input output flow of the financial resources of an ITI.



5

FIELD PERSPECTIVES OF STAKEHOLDERS

Semi-structured interviews and interactions with stakeholders from DGT, MSDE, and industry as well as principals, faculty, and students of ITIs yielded important insights.

The SDE team held extensive interactions and discussions with the principals, faculty, and students of ITIs. The team visited ITI labs and classrooms to gauge the status of infrastructure at ITIs and their level of preparedness, verify key findings and information based on visual evidence, and understand the key issues faced by the principals, faculty, and students. A snapshot of the key areas of concern highlighted by these different stakeholders is provided below.

5.1 PERSPECTIVE OF THE ITI PRINCIPALS

5.1.1 On Grading Process

The experience of ITI principals with the grading process was mixed. A few principals appreciated the grading process instituted by the DGT since it enabled the ITI to organize its documentation and track its progress and performance. However, other principals expressed their concerns about the grading process. They highlighted the challenges faced during the grading process. This included a lack of documentary proof for certain parameters, such as salary slips as proof of employment for self-employed candidates. Furthermore, it was expressed that the grading inspection team was not trained and did not possess the necessary technical competence to assess the ITI. A few principals were of the view that the grading team should consider other available facilities while grading the ITIs. It emerged that ITIs in remote, rural locations often faced their own set of challenges owing to geography- such as no landline/ broadband connection and poor approach road, which adversely affected their grading score.

5.1.2 On Instructors

There was a consensus that there is a need to increase the strength of instructors, given the chronic shortage of instructors faced by ITIs. It was suggested that authority should be delegated to the ITI principals to hire part-time or guest instructors till the permanent posts are filled. One of the suggestions was to increase the number of NSTIs in the country to train ITI instructors. There are currently only 33 NSTIs all over the country, and often instructors have to travel to far-off places for training in their specific trade. Moreover, it was revealed that no short-term refresher training courses were being sponsored for ITI instructors in most Government ITIs. It was also mentioned that the pay scale for faculty is higher in Punjab and UP than in Haryana.



5.1.3 On Curriculum and Industry Connect

Many ITI principals lamented the disconnect between ITIs and the market, stating that the teaching tools are different in the ITI and the market. Principals pointed out that the market uses modern tools of the trade (e.g., Python program), whereas in ITIs the tools of the trade are years or sometimes decades old (e.g., HTML program). The curriculum is years behind in skill training as compared to what the market requires. As a consequence, the students are evaluated according to the syllabus of the ITI and not what the market demands. The principals commented that for the ITI-market mismatch to be bridged, proposals for new courses should be approved quickly so that the requisite infrastructure can be arranged and procurement time (for equipment) should be reduced.

The principals also noted that despite inking formal MoUs with various companies, the industry is not actively engaged with ITIs. It does not depute trainers on time and instructors do not get training from the industry periodically. For machines procured from industry, the machine faults are not repaired in a time-bound manner and sometimes take months on end. Moreover, students are usually not absorbed by the firms, either as apprentices or as graduates.

ITI principals advocated introducing new-age trades with strong industry linkages, including trades such as solar PV technician, and discontinuing older trades such as the Draftsman Civil (DMC) trade and Health Sanitary Inspector (HSI) trade given their limited scope for apprenticeships and placements. Principals were enthused about starting new trades and setting up labs once their ITI was eligible to obtain funds from the STRIVE programme.

ITI principals were of the view that the industry needs to be encouraged to provide CSR support in terms of funding and technical expertise for the betterment of the ITIs. More CSR is required to upgrade or set up new labs as machines are very costly compared to STL (Standard Tool List) fixed by the Government. One of the Principals suggested having a buy-back system from industries to make the ITI a production centre.

5.1.4 On ITI Management

ITI principals mentioned that they had limited financial power to purchase major machines & tools like computers, smartboards, etc. They faced issues related to procurement and it took many months to resolve these challenges. For instance, it took one ITI 4 years to procure major machines like CNC machines and around 9 months to procure computers or furniture. The ITI principals stated that mechanisms should be developed to avoid delays in the procurement process and financial power to purchase instruments should be increased from existing rates to meet the industry requirements.

It was also suggested that the administrative/non-teaching staff of ITIs require better job training.

One of the principals raised the issue of deputing ITI staff for election duty, which acts as an obstacle to regular classes and training. Moreover, ITI premises are often used by other organizations for non-training purposes. The concerned principal was of the view that power should be delegated to the principal to keep the space/premises intact for skill training purposes only and ITI instructors should be relieved from engaging in election duties and other outside duties.



In Maharashtra, it was found that private ITIs were given Government ITIs as their exam centers and they had to carry their equipment/material for the exam since Government ITIs didn't offer the same trades. For example, the Mechanic auto body repair (MABR) trade is not offered in many Government ITIs.

5.1.5 On Placements and Apprenticeships

Many principals were of the view that the industry should absorb a certain percentage of DST trainees and apprentices once they complete their ITI graduation. They pointed out that for students who partake in apprenticeship, the ratio of them being engaged after the apprenticeship is very less.

ITI principals emphasized the adverse impact of the Covid-19 pandemic on the placement rate. Furthermore, many ITI principals stated that the ITI placement cell consists of faculty members or instructors that do not have expertise about the tasks to be carried out by a placement cell, and there should be specialized training and separate remuneration for the placement cell's work.

5.2 PERSPECTIVE OF ITI FACULTY

Faculty members or instructors are important partners in the ITI ecosystem. Listening to faculty provided valuable insights to the authors of this report. Unlike skill directorate officials, they are directly connected with the trainees and are involved intensively and extensively in the functioning of ITIs.

5.2.1 On Status of Instructors

The faculty members were of the view that the number of NSTIs should be increased to ensure that the skill training and upskilling needs of the instructors are met from time to time. While permanent instructors expressed satisfaction with their jobs, the contractual instructors hoped for an increase in their salaries, provision for getting experience certificates, and conversion of their status to permanent instructors after a certain period. The contractual instructors informed the authors that their contract is renewed every three months.

ITI faculty in general expressed concern that the ITI had a very limited strength of instructors, given the requirements of the ITI. This increased their workload.

The issue of sensitivity training on the issues of differently abled students and sign language was also highlighted by certain faculty members.

5.2.2 Infrastructure, Facilities, and Industry Connect

Faculty members were of the view that regular industry visits should be organized for ITI students to generate awareness among the students about possible career options and career pathways.

One of the suggestions put forth by faculty was that DST courses (nine-month criteria) and non-DST with apprenticeships should be treated as equal in recruitment for employment



opportunities to promote DST courses. Under DST, students take on-the-job training (OJT) for up to 9 months under industry collaboration.

The faculty commented that instruments and tools should be upgraded based on industry needs. Further, while training in the industry, trainees should be covered under insurance given the occupational hazards.

Most of the instructors opined that a lot of trades (turner, fitter, plumber) are outdated and need to be upgraded (in terms of branding, curriculum, etc).

At one of the ITIs, the faculty members were of the view that the number of computers installed in each ITI should be as per the norm fixed by the Government. The norm was being flouted in the concerned ITI, leading to difficulties in training the students with a limited set of computers. For instance, as per norms, the required number of computers was 72 for their strength of COPA trade i.e., 144 but only 21 computers were available.

Faculty members at an ITI raised the issue of safekeeping of instruments, stating that the safekeeping of equipment was the responsibility of the instructors. Given safety concerns, the instructors were not able to give access to the laboratories during evening courses or weekends. They commented that a storekeeper should be appointed (in the ITIs) to ensure the safekeeping of instruments and machinery and reduce faculty burden.

Instructors at Government ITIs complained of workload due to high vacant positions. They stated that admissions, exams, and other administrative tasks take up plenty of time and do not provide instructors enough time to devote to instruction and skill upgradation.

ITI faculties were of the view that the Government should support the establishment of production centres at ITIs and that entrepreneurship activities should be strongly encouraged in the curriculum.

Instructors highlighted that the system of communication at ITIs needs to be fixed. Important official communication to ITIs (exams, admissions, etc.) is often conveyed with a time lag. DGT sends information to the district nodal ITI, which is then expected to relay information to other ITIs and gather subsequent information from them. The academic calendar (admissions, exams, results) also needs to be fixed every year well in advance.

5.3 PERSPECTIVE OF ITI STUDENTS

Since none of the studies done so far captured the perspective of students (who are the most important stakeholders in the ITI system), authors spend a good amount of time interacting with the students to collect their perspectives.

5.3.1 On Career Goals and Challenges

The experiences of students at ITIs were mixed. In high-graded ITIs placement rates were more than 80%, and most of the trainees were satisfied with the institute's high-quality training and placement. The students in middle and low-graded ITIs which have placement rates between 20-60% enlisted certain kinds of challenges that they faced when looking for jobs. Students in these ITIs were not absorbed by the firms where they engaged as apprentices.



At the better-performing ITIs, the students were enthusiastic and positive regarding their career prospects. Some trainees expressed a desire to pursue an entrepreneurial path after completion of ITI training. When asked about wage expectations, they expected a starting salary of around Rs. 20,000/- per month. On the other hand, at more remotely located ITIs, interactions were held with students of various trades such as welding and plumbing. Major issues expressed by students included a lack of instruments and poor connectivity to the ITI. The dropout rate in the plumbing trade was very high, and most plumbing trainees expressed a desire to be self-employed.

Many ITI students expressed their interest in starting their entrepreneurial venture or pursuing higher studies. They expected support from the Government to start their entrepreneurship journey after completion of their ITI training. A majority of the students echoed that in the case of wage employment, jobs should be close to home.

In general, students aspired to hone their skills through increased industry exposure. Some students were interested in apprenticeships while others wanted to take up jobs. In a few ITIs, trainees were interested in becoming instructors.

While ITI students, in general, were aware of NAPS for pursuing an apprenticeship, trainees in very few ITIs were aware of the academic equivalence route of NIOS.

Some of the students stated that they required more training in soft skills and IT skills along with their trade knowledge.

5.3.2 On Infrastructure and Facilities

The experience of ITI students was mixed. At a few ITIs, students were happy with the equipment and infrastructural facilities provided by the ITI and felt that the fees were reasonable. However, at one of the ITIs visited, the instructor of COPA was assigned to train students of another ITI in the vicinity, resulting in an alternate week's class schedule. Thus, the students of this course sat idle for two weeks every month. While talking to students of turner trade, the students lamented that the concerned ITI does not have enough CNC machines and trainers, and the students have to learn from outside.

When asked about the use of instructional material supplied by NIMI, most of the students said that they did not use that material much as the information available on the internet was more up-to-date.

The experience with computer-based testing (CBT) for the All India Trade Test (AITT) was not been positive. Particularly for subjects such as engineering drawing and workshop calculation, students believed that online tests were not able to assess the candidate's competency.

Since the move to the online portal, the generation of hall tickets, declaration of results, etc has been delayed, as informed by the trainees.

5.3.3 ON EMPLOYMENT

Trainees of ITIs were of the view that the employability skills module prepared them for the world of work and gave them the confidence to navigate the challenges in a workplace setting.



It emerged that in the case of mechanical and automobile-related trades, companies tend to hire ITI students not for the shop floor but for their repair service centres. Companies also take on apprentices and offer them stipends (Rs.9,000-12,000 per month). Companies are reluctant to hire trainees from ITIs due to the young age of students (<18 years). ITI students had high expectations from companies in terms of facilities and amenities (bus support, canteen, etc).

Students were aware of the NIOS equivalence route and some students used the pathway to acquire a general academic degree. Few of the ITIs had tie-ups with local polytechnics for progression pathways for ITI students. Students reported that for many government jobs, National Apprenticeship Certificate (NAC) was demanded along with National Trade Certificate (NTC) for trades such as fitter and electrician.



6

ANALYSIS

In this section, first, the structural analysis is presented, followed by financial analysis and State level analysis.

6.1 STRUCTURAL ANALYSIS

Looking at the processes of accreditation and monitoring is the first step in analysing the structure of ITIs. Currently, ITIs are affiliated under following conditions:

- ◉ New Institutes seeking Affiliation for new trades/new units
- ◉ Existing Institutes seeking Affiliation for new trades/new units
- ◉ Change of Name/ Address
- ◉ Change of Site location
- ◉ Existing Institutes seeking De-Affiliation/ Surrender trades/ units
- ◉ Renewal of Affiliation

The accreditation granted to ITI does not have an expiry date. The whole process of accreditation/affiliation is not consistent over the years and frequency of accreditation is also not well defined or practiced.

The NCVT-MIS dashboard is the main monitoring mechanism for training delivery of ITIs. The dashboard has missing data points as ITIs do not have staff to fill the volume of data the dashboard asks for.

It is observed that Private ITIs tend to outperform government ITIs both in terms of ITI count and number of trades offered. Moreover, grading is not available for some ITIs and for those ITIs that have been graded, they have an average grading of 1-2 stars at most.

Most of the ITIs do not have a curriculum focused on building entrepreneurial capabilities of trainees. Hardly any ITI arranges for tie-ups with financing institutions to make credit accessible to ITI pass outs for starting an enterprise. Though the PM Mudra Yojana is open for a range of self-employed people such as small manufacturers or artisans, ITIs so far have not been able to channel any startup funds for their trainees.

The IMCs of ITIs are not effective and hardly the annual reports are displayed in public domain.

In order to create lateral and vertical progression pathways in the skilling and education domains, it is essential to map out the existing pathways for different VET options. A comparative analysis is presented in the Table 1 below.



Table 2. VET Entries in India

Parameter	B.Voc.	Polytechnics	Community Colleges	CTS through ITIs
Entry requirement	Class XII pass or equivalent from any recognized board or university. Equal weightage, at par with other subjects, to be given to vocational subjects at +2 level.	Class X and XII pass (at least 40%). Additional requirement of Mathematics, Science and English as compulsory subjects in class 10th and 12th. States have own admission tests	Candidates who have passed class XII are eligible to apply.	Class VIII pass for some trades, class X pass for other trades.
Course duration	6 months to 3 years (depending on certificate/ diploma/degree)	3 years	6 months to 2 years	6 months to 2 years
Ministry	MoE	MSDE	MoE	MSDE
NSQF Levels	4,5,6,7	3,4,5,6	4,5,6	3,4,5,6
Lateral entry/ Vertical progression		B.Tech lateral entry or direct second year admission in engineering colleges for polytechnic diploma holder students.	2nd year of B.Voc degree programme after one year diploma and to third year of B.Voc degree programme after a two year advanced diploma.	Any student, qualified through ITI after Class X, can directly enter the second year of polytechnic.

The National Institutional Ranking Framework (NIRF) was adopted in 2015 by the Ministry of Education, Government of India that outlines a methodology to rank institutions across the country. The methodology is based on the general recommendations and comprehensive understanding reached by a Core Committee established by the Ministry. “Teaching, Learning, and Resources,” “Research and Professional Practices,” “Graduation Outcomes,” “Outreach and Inclusivity,” and “Perception” are the 5 broad parameters. One of the unique parameters of NIRF is “Perception” under which the employers and professionals from different organizations are asked to state their preferences for students from a particular course or college through surveys. This feature is absent in ITI grading system.

Some ITIs in India award State Council of Vocational Education (SCVT) certificate to trainees (such students take a state level exam) who complete training at ITI while some ITIs award NCVT certificate (such students take AITT). As reported, industry values NCVT certificates more than SCVT certificates.



6.2 ANALYSIS OF ITI FINANCES

Since poor infrastructure of ITIs has been cited as one of the major grey area of ITI ecosystem in India, it is important to analyse the financial functioning of ITIs. In this section we analyze three aspects of ITI's finances:

1. Typical capital expenditure required to open a new Govt. ITI
2. Typical operational expenditure required to run an ITI
3. Typical financial autonomy to ITI principals.

6.2.1 CAPITAL EXPENDITURE REQUIRED TO OPEN A NEW ITI

As per Table F1 of Appendix - F, it costs INR 10 Crores to build a new ITI. This expenditure is incurred in construction of academic buildings, workshop, staff residence, water and electricity logistics. This cost does not include land costs and also no hostels are included in the building plan (most ITIs in India do not have a hostel).

In addition, it costs INR 20 lakhs to run a trade (such as welder, fitter, electrician, plumber).

6.2.2 OPERATIONAL EXPENDITURE FOR RUNNING AN ITI

As a sample case, budget estimate⁹ of 17 ITIs of Delhi and 3 ITIs of Faridabad has been analyzed as given in Table F2,F3, and F4 (Appendix-F). The prominent factor which emerged after seeing the budget statement of all 20 ITIs is that most of the expenditure in ITIs is towards salaries (ranging from 78.51 % for Khiripur to 82.21% of total budget for ITI Dhirpur). One of the issues about financing is that the ITIs spend over 90% of the allocated funds on salaries, which leaves relatively little to support facility upkeep and other operational costs (World Bank 2008). Moreover, there is no correlation that if the number of trades and instructors are high in ITIs, the budget of those ITIs will be high and vice versa. For example: ITI Shahdara has 15 trades and 8 instructors and is given the allocated budget of Rs. 8.85 crore. ITI Khichripur has 19 trades and 43 instructors and is given the allocated budget of Rs. 6.68 crore. Thus, it is very important to analyze the current capacity of ITIs annually and accordingly allocate the budget based on the number of trades and requirements of instructors.

Apart from unplanned budget allocation, salary differentiation between permanent and contractual instructors is another challenge. Permanent Instructors are paid salary as per Govt. norms. Their remuneration is on average double that of instructors in private ITIs. The Part Time Instructor for CTS is being paid @ Rs. 200/- per hour. The Part time CTS Instructor is being allotted a maximum 6 hours per day with a contract of 3 months for taking class thereby paid Rs. 1400/- per day and average monthly wages of Rs. 28,000/-. The contract of a part time CTS Instructor is renewed after every 3 months with a gap of 15 days or one month. A fresh interview by NSTI is being held every year to fill part time CTS Instructor in the Institute.

Cost per trainee can also be analyzed from the expenditure viz-a-viz intake capacity of total 20 ITIs in and around Delhi. The average allocated budget of 20 ITIs for the year 2020-21 was around 6.3 crore. It can be seen that the total cost of having 3180 government ITIs at this rate is approximately 18 thousand crores.

9 Directorate of Training and Education, Govt. of N.C.T of Delhi vide letter No.FDTE/AC/1(1)/Budget/2021-22 /234-35 dated 09/03/2022



On further disaggregated analysis we witness stark differences between the allocated budget of Delhi ITIs and Haryana ITIs. The average budget of 17 Delhi ITIs for the year 2020-21 was around Rs. 7 crore approximately per ITI and the average budget of 3 Faridabad ITIs for the year 2020-21 was around Rs. 1.15 crore approximately.

We can safely assume an expenditure of INR 10,000 Crores annually on all Govt. ITIs.

Table 3: Average Cost Analysis

Average Cost Analysis	
No. of ITIs	20
No. of total seat available	16776
No. of students trained	6697
% of seat utilized	39.9
Cumulative Expenditure (2020-21) (Rs.)	88,97,03,439
Per seat cost (Rs.)	53,034.30
Per student Cost (Rs.)	1,32,851.04

Source: Authors' compilation

The average cost estimation per student is Rs. 1 lakh 32 thousand. It ranges from minimum of Rs. 21 thousand to maximum of Rs. 2 lakh 96 thousand. Cost depends on many other factors but here we have taken ceteris paribus assumption and calculated average annual expenditure incurred by the total students trained. On the contrary if we see average cost per seat (by seat we mean total seat available in ITIs) then it is 53 thousand which is less than the half of average cost per student trained. The average cost is too high because the utilization of seats is too low. In some ITIs in our sample, the seat utilization is as low as 30%. It was observed that 80% seat utilization is the highest by any ITIs. This clearly depicts the underutilization of resources. Hence, given if ITI perform at their full capacity the average cost per student will come down significantly.

To ensure better utilization of seats in ITIs, it was envisaged to operate the ITIs in and around the industrial areas under PPP mode. The Ministry of Labour & Employment¹⁰ mentioned following advantages of this intervention:

- ⦿ Development of course curriculum as per the host industry demand/present employment trends.
- ⦿ Choice of trades as per the industry demands.
- ⦿ Upgradation of tools, technology & machinery as per latest trends in the industries.
- ⦿ The industries will have access to quality trained candidates as per their requirements of the skill sets.
- ⦿ The trainees will have access to updated curriculum and employable skill sets.
- ⦿ Burden of low expenditure to the government.

However, none of the advantages mentioned above materialized substantially, as found by the authors.

¹⁰ Letter No. -DGET/35(1396)/Guidelines/2014-NIC.



6.2.3 FINANCIAL AUTONOMY TO PRINCIPALS OF ITIs

It is important to analyze the financial autonomy given to the principals of ITIs. The autonomy is required for aspects such as hiring of guest faculty, discarding of obsolete equipment, furniture, buying new equipment and machinery, building maintenance and so on. However, all Govt. ITIs in India are characterized by absence of autonomy.

In Delhi, the financial power of ITI Heads is given in Table F5 of Appendix- F. This table reveals that ITIs are run in quite centralized manner and least powers are entrusted with principals of ITIs. Other states principals were found having even lesser financial powers, and moreover, many of the financial powers delegated were not adequately utilized.

6.3. ANALYSIS OF MIS DATA

Data on MIS portal¹¹ of ITIs ([https://www.ncvtmis\(dot\)gov\(dot\)in](https://www.ncvtmis(dot)gov(dot)in)) was analyzed to probe the health of ITI ecosystem at state level. The four major problems emerging out of the state level analysis are depicted in Figure 12 below:

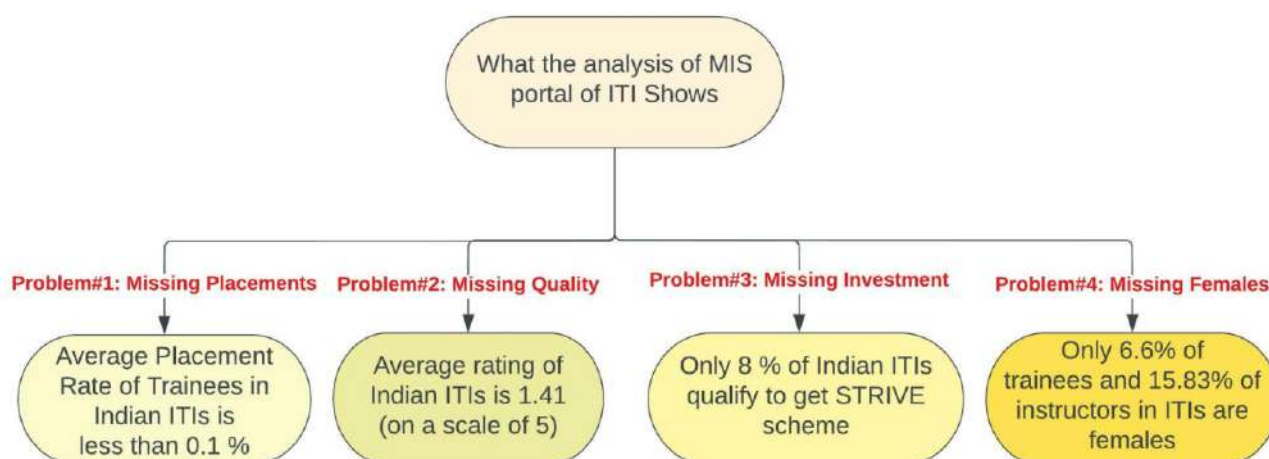


Figure 12: MIS Portal Analysis

India's Analysis

The overall placement scenario looks very bleak with only 405 candidates placed out of 4,14,247 candidates trained which is merely 0.09%. Tamil Nadu has the highest number of placements (3.2%) with 248 candidates placed out of 7676 candidates trained. Gujarat is the second highest in placement with 0.25% of candidates placed. Rest of the States have a very poor placement percentage¹².

A total of 12352 ITIs have been graded by DGT on a scale of 1 to 5. Out of which 20.11% were Government ITIs while the remaining were private ITIs. Nakashipara Government public ITI in

11 There are many missing values in the data on the portal, indicating serious problem with the present monitoring mechanism. It was noted that the vacancy for some ITIs is 100%, indicating that the dashboard is not updated periodically. For some states the latest year available data was 2022 while for some it was 2020. Data Retrieved on 20th July, 2022.

12 The low placement figures can be due to MIS not updated, but generally, as observed through stakeholder interactions the placement rate of ITIs is not high.



Nadia district of West Bengal was the highest graded ITI (4.42) in India. The average grade of Indian ITIs was 1.41 with 4.42 and 0.00 as the highest and lowest ratings respectively. Total 464 private owned ITIs were rated above 2.5 on a scale of 5 and 526 public owned ITIs were rated above 2 which makes a total of 990 (i.e. 8%) ITIs in India to be eligible for the STRIVE funding.

Number of active women ITIs operating in India forms 16.83% of the total ITIs in India. In 2021, only 6.6% of female candidates took admission in ITIs. Only 15.83% of the total instructors were females. This indicates poor gender diversity in ITIs in India. Moreover, there is acute staffing shortage in ITIs. As per NCVT MIS dashboard, only 36% of the sanctioned instructor positions are filled, and the contractual/guest faculty appointment is a lengthy inefficient process. MIS data available for each State/UT was analyzed, following are some findings:

ANDHRA PRADESH

- ⦿ In the year 2020, the total number of affiliated ITIs in Andhra Pradesh was 510. It was observed that 14.90% of these were women ITIs.
- ⦿ This number marginally increased to 515 in the consecutive academic session 2021 and 2022.
- ⦿ In the academic session 2021, the total available seats were 93,280, out of which only 48.90% seats were filled.
- ⦿ Only 3.86% of the total candidates admitted were female.
- ⦿ The latest data for placements is available for the year 2020. It was observed that 10,053 trainees passed from ITIs all over Andhra Pradesh, and only 1 trainee from a government ITI was placed.
- ⦿ As of 2020, there were 8077 sanctioned posts for instructors; out of which 1140 (14.11 % of the total posts) positions were filled. Only 31.67 % of these were CITS certified. It is seen that 15.26 % of the total posts sanctioned were filled by female trainers
- ⦿ Data available for 82 government ITIs shows that around 29.62% of these were graded more than 2. Only 8 of these were graded less than 1.
- ⦿ 91 out of 417 private ITIs were graded above 2.5.

ANDAMAN & NICOBAR ISLAND

- ⦿ As of 2022, the UT had a total of 4 ITIs, of which 3 were government ITIs and 1 was a private ITI.
- ⦿ The ITIs had a total of 716 seats for the academic year 2021-22, the occupancy rate stood at 74.16%.
- ⦿ A total of 3 ITIs were graded ranging from 1.39 to 3.31.
- ⦿ Female enrolment stood at 27.30%.



ARUNACHAL PRADESH

- ◉ Out of 7 affiliated ITIs in the State, there is only one 1 active women ITI. There is no private ITI in the State.
- ◉ Arunachal Pradesh had a total of 1764 available seats, of which 28.17% seats were filled.
- ◉ Only 147 (i.e. 29.6% of 497 students) female students claimed the available seats in Arunachal Pradesh ITIs.
- ◉ In 2020, 208 trainees passed from ITIs. There is no available data for placements, with respect to the performances of the ITI, the trade, and nature of placement/employment.
- ◉ In terms of instructors, 112 posts were sanctioned out of which 80 were filled and only 10 were CITS verified.
- ◉ Only two ITI were graded. The score of grading was below 2.

ASSAM

- ◉ Assam had a total of 42 affiliated ITIs out of which 8 were women ITIs.
- ◉ Total available seats in Assam ITIs was 8352 and only 41.90% seats were filled in the year 2021.
- ◉ Out of 3,500 occupied seats, 22.2% seats were claimed by female students.
- ◉ Data for placements was only found for the year 2020.
- ◉ In 2020, a total of 1,157 trainees passed from the ITIs in Assam.
- ◉ There is no available data for placements, with respect to the performance of the ITIs, the trade, and nature of placement/employment.
- ◉ In terms of instructors, 581 posts were sanctioned and a total of 337 seats (58% of 581 posts) were claimed and 20 trainers had CITS certification.
- ◉ While 80.12% were male instructors, female workers and others claimed 15.13% and 4.75% of the total workforce respectively.

BIHAR

- ◉ Bihar had 1369 affiliated ITIs out of which 215 were women ITIs in the academic session 2021.
- ◉ Total seats were 299,756 and 185,536 in 2019 and 2021 respectively. There was a 38.10% reduction in the number of seats in two years.
- ◉ Total admissions in the year 2021 were 110,399 which was 59.50% out of the total seats offered.
- ◉ Out of total students admitted, only 5.82% constituted female trainees.
- ◉ Out of 118,162 candidates that passed in the year 2020, only 11 were placed.
- ◉ Electrician (9 out of 11 placements) was the trade with the highest placement in Bihar.



- ◉ Out of a total of 16,710 posts of instructors sanctioned, only 4,978 or 29.79% of positions were filled.
- ◉ It was observed from the data that 93.12 % of positions were occupied by men, while 4.42 % of posts were taken by women instructors.
- ◉ Out of 1104 private ITIs, 109 had a ranking more than 2.5. Only one government ITI was graded more than 2. Data available for the 28 government ITIs showed that 16 of them were graded less than 1.

CHHATTISGARH

- ◉ The State had 232 affiliated ITIs, out of which 38 ITIs were for women.
- ◉ Out of 232 ITIs, a total of 200 ITIs participated in phase 2 grading.
- ◉ The grade ranged from 0.2 to 3.22 with an average grade of 1.24.
- ◉ Out of top 10 ITIs of the State, 8 were government ITIs.
- ◉ It was noted that 35,508 seats were available for the academic session 2021.
- ◉ The occupancy of seats stood at 61.95% for the academic session 2021.
- ◉ Dadra & Nagar Haveli and Daman Diu
- ◉ Dadra & Nagar Haveli and Daman Diu had 3 government ITIs and no women ITIs as of 2022.
- ◉ The UT had 1040 available seats out of which 443 students were filled. It was noted that 42.60 % of the seats were vacant in the academic year 2021.
- ◉ Female trainees comprised only 11.96 % of the total admitted students.

DELHI

- ◉ The UT had 53 ITIs, out of which 17 were women ITI as per academic year 2022.
- ◉ Despite being the capital of the country, there is no ITI catering to physically challenged candidates.
- ◉ As per the academic year 2021-22, the total number of available seats stood at 18,812, out of which 46.63% were occupied.
- ◉ For 2021-22 the participation of female candidates in total enrolment stood at 32.72%.
- ◉ A total of 44 ITIs participated in phase 2 grading process.
- ◉ The grading ranged from 0 to 3.43, with average grade of 1.40.

GUJARAT

- ◉ Gujarat had a total number of 508 affiliated ITIs. Out of these, 64 were women ITIs.
- ◉ The State had 136,800 ITI seats in the academic session 2021. Out of which, 81,200 (59.48%) were filled.



- ◉ The number of female students in these ITIs in 2021 was 15,200 (18.71% of 81,200)
- ◉ There is no placement data for the years before or after 2020.
- ◉ Total trainees that passed in the year 2020 were 35,482. Out of these, 92 trainees were placed.
- ◉ With 60 (out of 92) trainees placed, Computer Operating and Programming Assistance became the trade with the highest placements.
- ◉ In 2020, with all 51 of its trainees placed, Shri Punamchand Devraj Foundation Trust, Gujarat (Private ITI) became the ITI with the highest number of placements.
- ◉ In terms of instructors, a total of 10,004 posts were sanctioned and 6,187 posts (61.84%) were filled. Out of this, 25.26 % of those hired were CITS certified.
- ◉ While men occupied 75.74% of the total strength of ITI instructors, women and others claimed 22.7% and 1.56% of the total workforce, respectively.
- ◉ Data available for the 216 government ITIs showed that 49 received a grading more than 2 and 36 received a grading less than 1.
- ◉ Data available for the 156 private ITIs depicted that only 13 were graded more than 2 and 76 of these were graded less than 1. More government ITIs achieved a score higher than 2 as compared to the private ITIs.

GOA

- ◉ The State had 13 affiliated ITIs, out of which 6 were women ITIs.
- ◉ The ITIs offered 4088 seats, out of which 50.88 % of seats were occupied for the academic year of 2021-22.
- ◉ Only 16.63 % of the registered candidates were female.
- ◉ Only 5 ITIs were graded in phase 2, with the average grade of 2.26.

HIMACHAL PRADESH

- ◉ ITIs in urban locations had a better score in terms of grading as compared to ITIs in rural locations for the State of Himachal Pradesh. But, the difference was not so significant.
- ◉ In the academic session 2021, there were 268 affiliated ITIs, out of which 68 were active women ITIs.
- ◉ ITIs in Himachal Pradesh offered a total of 42,360 seats, out of which 47.92% were filled and 22.75% were females.
- ◉ It was noted that 3091 posts for Instructors were sanctioned by the ITIs, out of which 61.98% were filled. From those recruited instructors, 21.03% were female trainers and 722 of the applicants appointed received certification from the CITS.
- ◉ Placement data for years before and after 2020 is either unclear or unavailable. Hence, according to the latest available data, i.e, year 2020 saw only 2 placements out of 7,634 trainees that passed.



- ◉ 13 out of 127 private ITIs were graded more than 2 whereas out of 96 government ITIs, 19 were graded more than 2.
- ◉ Further, 34.37% of the government ITIs were graded less than 1. Similar statistics for private ITIs stood at 34.64%.

HARYANA

- ◉ Haryana had a total of 388 affiliated ITIs, with 13% ITIs for women.
- ◉ For the academic session 2021-22, 95224 seats were offered out of which only 51.49% seats were filled and 18.80% of those admitted were female trainees.
- ◉ Out of 7,104 posts that were sanctioned for instructors, only 40.44% positions were filled. Further, 33.59 % trainers appointed were CITS certified.
- ◉ While 76.9% of the cumulative strength of instructors was made up by male trainers, females and others both claimed 20.24% and 20.86% of the total posts respectively.
- ◉ In 2020, 28423 trainees passed from the ITIs of Haryana, only 2 were able to secure placements.
- ◉ From the data available for 153 government ITIs it was observed that 25.49% were graded more than 2. In case of private ITIs, 12 out of 164 ITIs were graded greater than 2.

JAMMU AND KASHMIR

- ◉ As per the academic year 2021, the UT had a total of 50 ITIs, out of which only 1 was a private ITI.
- ◉ The total available seat stood at 10,532 for academic year 2021-22.
- ◉ The number of seats for engineering streams was lower than the non engineering streams.
- ◉ The occupancy rate was high at 73.20%. Also the participation of women was significant and contributed around 39.2%.
- ◉ The UT had 13 women ITIs.
- ◉ The grades of ITIs ranged from 0.44 to 2.62 with average grade of 1.19 only.

JHARKHAND

- ◉ The State has 345 ITIs, out of which 111 were women ITI.
- ◉ Out of the total affiliated ITIs, only 248 ITIs participated in phase 2 grading exercise.
- ◉ The total number of available seats for the academic session 2021 was 73,432, out of which 40.11% of seats were occupied.
- ◉ The grading of ITIs ranged from 0 to 3.57 with the average grade of 1.35 only.
- ◉ The poor average grade reflects the overall conditions of ITI in the State.



KARNATAKA

- ◉ The State had 1502 affiliated ITIs, offering 172,800 seats.
- ◉ The State had almost 10% of affiliated ITIs of the country, with seat occupancy of only 38.33%.
- ◉ Large number of ITIs participated in the phase 2 grading process, 1435 (95%) ITIs were graded.
- ◉ The grades ranged from 0 to 4.18, with the top 10 graded ITIs being private ones.
- ◉ The average grade of ITIs stood at 1.04 only.

KERALA

- ◉ The number of women ITI in Kerala was 55 which formed 11.9% of the total affiliated ITIs in the year 2022.
- ◉ In the academic session 2021, total available seats were 71,502 out of which 49.58% were enrolled. Only 18.29% of the total admitted were female.
- ◉ Total number of government sanctioned positions for instructors in Kerala ITIs was 5026. Out of which 2991 positions were filled, close to 58.7%.
- ◉ 12.82% of CITS positions were claimed out of the 5026 positions sanctioned.
- ◉ 32 ITIs in Kerala were graded above 2.5 out of which 46.8% were government ITIs showing almost equal market share of both government and private players.

LAKSHADWEEP

- ◉ The UT had only 1 government ITI with 1.82 grade.
- ◉ The ITI had 480 seats as per academic year 2021-22.
- ◉ The seat utilization percentage was high at 77.91% with female participation of 44.65% in total occupied seats for 2021-22.

LADAKH

- ◉ The UT had total of 3 ITIs with a total of 728 seats. There was no private ITI.
- ◉ There are two women ITIs.
- ◉ 37.63% of the total seats were occupied as per academic year 2021-22.
- ◉ Females occupy 72.18% of the total occupied seats.

MADHYA PRADESH

- ◉ The State had 1077 affiliated ITIs with total seats of 171,919 and 209 women ITIs for academic session 2021.
- ◉ The occupancy rate stood at 36.82% for academic session 2021.



- ◉ The grading of ITIs ranged from 0 to 3.80, the 8 government ITIs were graded as top 10 ITIs of the State.
- ◉ The average grade stood at 1.13 only.
- ◉ In 2021, MP had 18% of Govt ITIs, and 82% of private ITIs.

MAHARASHTRA

- ◉ In 2021-22, Maharashtra had 58.95% of private ITIs, and 41.05% of government ITIs.
- ◉ The State had 1028 ITIs for the academic year 2021-2022.
- ◉ The contribution of government ITIs is significant in total number of ITIs.
- ◉ The total number of seats was 2,48,988 with an occupancy of 45.38%.
- ◉ A total of 899 ITIs participated in phase 2 grading, with the grades ranging from 0 to 3.89.
- ◉ The average grade of ITIs was 1.16 only.
- ◉ As of 2022, Govt. ITI Aundh (budget INR 3 Cr) offered 34 trades in 118 batches. It had a capacity of 1712, of which 1618 seats were occupied (an occupancy rate of 95%). Around 10% were girls. Govt. ITI Chinchwad offered 16 trades (7 trades one year trades and 9 two year trades) in 32 batches.

MANIPUR

- ◉ As of academic year 2021-22, the State had 10 government ITIs.
- ◉ Out of 244 seats only 44.26% of total seats were occupied as per academic year 2020-21 with 7.4 % of seats occupied by women.
- ◉ The only one government ITI i.e Govt. Industrial Training Institute Imphal (Takyel) was graded 2.46 in phase 2 grading process.

MEGHALAYA

- ◉ Out of 932 ITI seats available 45% seats were vacant whereas only 39% of seats were occupied by women.
- ◉ Out of 8 affiliated ITIs, 7 were government run, most of them located in rural areas.
- ◉ Out of 64 posts sanctioned, only 6.25% positions were filled. Half of those appointed were female trainers.
- ◉ In the year 2020, out of 212 who graduated passed only 2 got placed.
- ◉ Data available for 5 ITIs showed that none of them were graded more than 2, average grade being 1.23.

MIZORAM

- ◉ As of the year 2022, there were a total of 3 affiliated ITIs.



- ◉ Out of 87 trainees certified in the year 2020, a little more than half were women trainees. All of these trainees belonged to government ITIs located in urban areas.
- ◉ Of the total 792 seats available only 32.07% were filled in the year 2021.
- ◉ Instructor dashboard showed that out of the 52 posts sanctioned only 7 could be filled. One of the ITIs showed 100% instructor vacancy.
- ◉ In the year 2020, 128 trainees passed. Data vis-a-vis placements is absent for the years 2021 and 2022, along with the performance of the ITIs, the trade, and nature of placement/employment.

NAGALAND

- ◉ Out of 384 seats in the academic year 2021-22, total 48.43% were occupied and 23.65% of seats are occupied by women.
- ◉ For the academic year 2021-22, the State had 8 affiliated ITIs. All the ITIs were government ITIs.
- ◉ Only 2 ITIs had grades in phase 2 grading process, with grades of 2.78 and 1.53.

ODISHA

- ◉ There were 513 affiliated ITIs in Odisha, with only 10.35% being government run.
- ◉ In the year 2021, there were 106,270 seats available of which 53.97% of them were filled, and out of this, only 13.52 % of the trainees were females.
- ◉ In the same academic session, 9095 posts were sanctioned for instructors but only 36.30 % of them were occupied.
- ◉ Out of 3137 trainees passed in the year 2020, only 2 were placed, both of them being from government Industrial Training Institute, Chatrapur.
- ◉ In the year 2020, out of 6220 trainees admitted, 60% passed.
- ◉ Out of 431 private ITIs, only 4.18 % of them had a grading more than 2.5 and 40.13% were graded less than 1.
- ◉ Out of 50 government ITIs, 22 were graded more than 2.5 with the highest grade in the State given to Govt Industrial Training Institute, Berhampur.

PUNJAB

- ◉ The State of Punjab had 350 affiliated ITIs and around 32.28% of them were government run.
- ◉ The State had 113 active women ITIs.
- ◉ Out of 84,040 seats available 47.58% of them were filled in the academic year 2021 and 30.87% of them were female trainees.



- ◉ In the year 2020, 19,449 trainees passed but only 1 of them got placed in the Welding trade.
- ◉ 41 out of 94 government owned ITIs i.e.43.61% were graded more than 2 and only 4 of them received a grade less than 1.
- ◉ In case of private ITIs, only 12 out of 180 ITIs were graded more than 2.5.
- ◉ 31.11% of private ITIs were graded less than 1.

RAJASTHAN

- ◉ In the year 2021, a total of 243,120 ITI seats were available for the State of Rajasthan of which 95,215 (39.16%) were filled.
- ◉ Of the total admitted students, 9934 were females i.e, a mere share of 10% implying the need to push a more egalitarian approach to uplift skill development.
- ◉ In the year 2020, 18,259 students successfully completed their training of which 22 students were placed. The placement percentage was 0.12%, hence making Rajasthan among the top 5 States in terms of placements in India.
- ◉ Total number of affiliated ITIs in the year 2022 were 1651 out of which 160 were government ITIs and 1491 were private ITIs.
- ◉ As per the recent NCVT MIS Instructor Dashboard, 18,817 positions were sanctioned out of which only 15.99 % positions were filled.
- ◉ None of the government ITIs were graded above 2.5. Government Women Industrial Training Institute located in Ajmer was graded the highest in the State with a score of 2.44.

SIKKIM

- ◉ As per the MIS, there were 4 government ITIs out of which 2 were women ITI.
- ◉ In the academic session 2021, out of the total 1012 available seats, only 17.88% were filled of which 41.98% of seats are occupied by women.
- ◉ It was noted that 3 ITIs were over-staffed, i.e. the positions filled were more than the posts sanctioned, even for the ITI that was not offering admissions (Government Industrial Training Institute, Gyalshing, West Sikkim).
- ◉ In the year 2022, 192 trainees passed which was less than the previous year (205). In either year, none of these were placed as per the dashboard.
- ◉ No data is available on the grading of any ITI.



TAMIL NADU

- ⦿ The State had 501 ITIs out of which only 17% were run by the government, while 83% were privately owned.
- ⦿ 89% of the total 501 ITIs were located in rural areas.
- ⦿ In the academic session 2021, out of total available seats of 88,212 only 32.30% were filled; a clear depiction of the underutilization of the ITIs. Further, only 15.02 % of the seats were occupied by female trainees, clearly indicating a gross gender divide.
- ⦿ According to the Instructor dashboard, 71.95 % of the sanctioned posts were filled.
- ⦿ In the year 2022, out of 7,676 trainees who passed, only 248 secured any placements as per MIS Portal.
- ⦿ Out of 25 government run ITIs, 64% were graded more than 2. Only one government ITI received a grading less than 1 (Govt. ITI, Central Prison, Tiruchirappalli).
- ⦿ 17.66% of the total private ITIs were graded more than 2.5 and an equal percentage of them scored below 1.

TELANGANA

- ⦿ Hyderabad had the highest count of ITIs and the trades offered were also higher compared to ITIs in other districts of Telangana. Moreover, the number of trades offered was far less in private ITIs as compared to that of government ITIs, irrespective of the low count of government ITIs.
- ⦿ In the year 2022, there were 295 affiliated ITIs out of which 66 were government run. There were more private ITIs (77%) as a whole. Women ITIs were run by the government.
- ⦿ For the years 2021 and 2022, the data on certified trainees is not available but in the year 2020, 3976 trainees were certified.
- ⦿ The ITIs were not running at full capacity as out of the total 54,340 seats only 50% were filled in the year 2021.
- ⦿ In the year 2020, 7,610 trainees passed but NCVT placement dashboard provides no information on the placements of these trainees.
- ⦿ The recent data showed 4,405 posts sanctioned for instructors with only 38% of them being filled.
- ⦿ The instructor dashboard gave rather puzzling numbers, and showed 100% vacancy in some of the ITIs.
- ⦿ All the government owned ITIs were graded below 2.5, except Govt Industrial Training Institute for Girls located in Nizamabad with a score of 3.18.
- ⦿ Only 2 out of 196 Private ITIs were graded above 2.5 and 88 of them were graded below 1.



TRIPURA

- ◉ Tripura has in total 22 affiliated ITIs of which 34% were women ITIs.
- ◉ ITIs in the rural belt accounted for a significant 85% of the total operational ITIs as compared to urban areas.
- ◉ Total instructors as of 2022 were 298 out of which 5 had CITS certification.
- ◉ Around 33.16% of the total available seats for trainees had been occupied in the year 2021 of which 70% were occupied by male trainees while female trainees only accounted for 30% of the total applicants.
- ◉ Close to 90% of the total positions sanctioned were filled by ITIs instructors of which 68% were male and the remaining 32% were female instructors.
- ◉ Pvt. ITI, Ramkrishna Mission and Swadhin Tripura private ITI were the top 2 leading ITIs with 2.45 and 2.18 as their final grades. No ITI in Tripura had a grade equivalent to 2.5 or above. The average grade for Private ITIs was 2.315 while for government ITIs was 1.324.

UTTARAKHAND

- ◉ Uttarakhand had in total 189 affiliated ITIs of which 26% were women ITIs.
- ◉ Out of 25,424 seats available, 35.07% were filled in the academic session 2021 out of which 14.39% of them were female trainees.
- ◉ ITIs in the rural belt accounted for 39% of the total operational ITIs as compared to urban areas.
- ◉ There is no placement data is available.
- ◉ Govt. Industrial Training Institute Chamba in the district of Tehri Garhwal had the highest grading of 2.64 in the State.

UTTAR PRADESH

- ◉ Uttar Pradesh had in total 3,223 affiliated ITIs of which 14% were women ITIs. Total available seats available for academic session 2021 were 5,19,684.
- ◉ ITIs in the rural belt accounted for a significant 72% of the total operational ITIs as compared to urban areas.
- ◉ Total instructors as of 2022 in this State were 3876 out of which 27% of had CITS certification.
- ◉ Around 53% of the total seats for trainees were filled in the year 2021 of which close to 87% were occupied by male trainees while female trainees only accounted for 10.39% of the total applicants.
- ◉ Close to 18.30% of the total positions sanctioned were filled by ITI instructors of which 87% were male, 10.39 % were female instructors and remaining 2.61 % were filled by others.



- A large sample of 58 ITIs were rated above 2.5 all of which were owned by the government.
- UP has system of fee (upto INR 18,000/-) reimbursement for eligible trainees. It was observed during field visit and interviews that after getting reimbursement, some trainees dropped out of ITIs.

WEST BENGAL

- West Bengal had a total of 288 ITIs. Out of these 42 were women ITIs in the year 2021-22.
- ITIs had 71,252 seats in the year 2021. Out of which 29,207 (41%) were filled. The number of female students was 3857(13.20%).
- Total trainees that passed in the year 2020 were 8628. Out of these, 9 trainees were placed.
- Fashion, Design and Technology, Welder and Sewing technology were noted to be the trades with highest placements.
- West Bengal is performing considerably well in terms of grades allotted to ITIs. The highest grade achieved was 4.42 by Nakashipara Government ITI and the average grade received by ITIs in the State was 2.27.
- West Bengal has a State level monitoring unit for ITIs, which authors found impactful in improving quality of ITIs.



6.4 OVERALL ANALYSIS

The ITI ecosystem in India is caught in multiple vicious loops, which are depicted in the Figure 13 below:

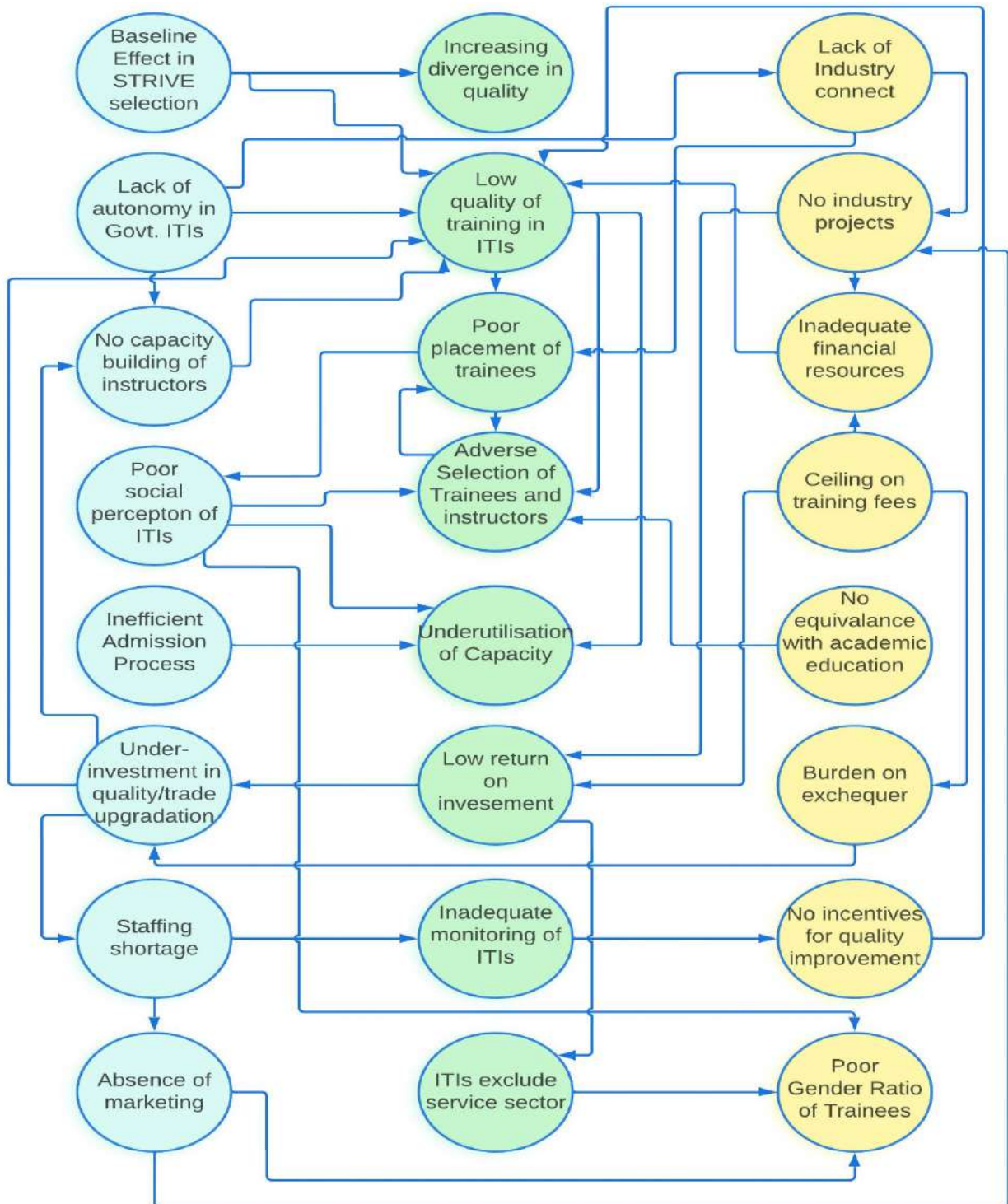


Figure 13. Multiple vicious loops in ITI ecosystem in India

However, there are some strengths and opportunities also visible in the ITI ecosystem. A SWOT analysis of the ITI ecosystem in India is presented in the Figure 14 below:



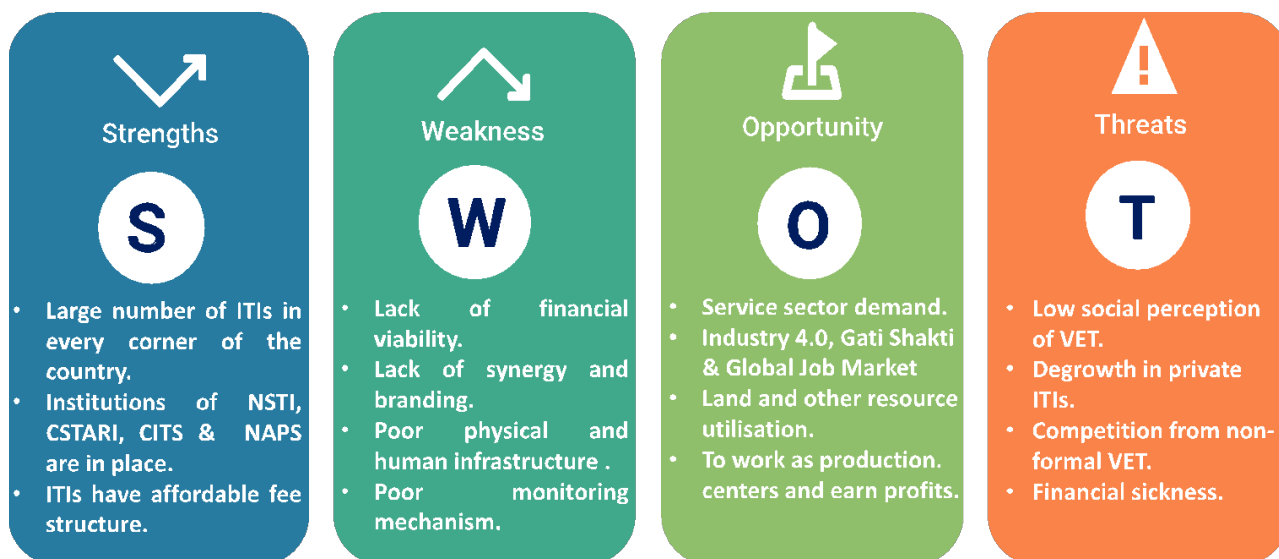


Figure 14. SWOT Analysis of ITIs



7

CASE STUDIES

In this section, some case studies of ITIs are presented. These cases reflect the recent intervention in VET space of India. Though limited number of such cases indicates problem of scalability of these interventions, they are worth analyzing for researchers interested in transformation of ITI ecosystem in India.

Story of India's Highest graded ITI

A district around 150 km away from Kolkata, located in the heart of the Bengal plains named 'Nadia' has India's highest graded ITI. with a phase 2 grading of 4.42. The ITI is in Nakashipara town of Nadia district. The institute has been operating in PTP (private training partner) mode. The concept of PTP provides a platform for public-private partnership, where the land and building are provided by the government and the private entity runs the courses and trades. The training partners need to invest in machinery, raw materials for workshops, faculties, instructors & other staff members along with day to day operational costs.

Founded in 2016, the Government ITI Nakashipara is presently operated by SWADHIN (Society for Welfare and Development of Human Initiatives) Trust. The Directorate of West Bengal has identified SWADHIN Trust as a private training partner for government ITI Nakashipara through the transparent process of RFP. The trust has been operating multiple educational institutions i.e. polytechnics, B.Ed college and ITIs.

The ITI has an Institute Management Committee (IMC), under which 80% of the seats are filled through regular admission process, where the fee is around 30 INR per month. The DIT West Bengal provides grant of around 7000 INR per candidate to the PTP. Rest 20% of the seats are filled through IMC quotas with higher fees (market level). The PTP mode IMC has more freedom and authority in decision making, recruitment of faculty members & staff, procurement of machinery & raw materials etc. This is a method adopted by the West Bengal government for public-private partnerships by onboarding a private training partner to operate a government ITI through request for proposal (RFP) mode. The DIT is responsible for the monitoring.



The Institute has 5 trades; Electrician, Fitter, Surveyor, Mechanic diesel and Welder. Many of the trainees aspire to compete for the railway recruitment board's exam along with pursuing higher education. The Institute has a training and placement cell with a designated training and placement officer. The below section provides a SWOT analysis of the PTP model:

Strengths	Weakness	Opportunities	Threats
<ul style="list-style-type: none"> • Professional Industry partners • More freedom and authority in decision making. • Reduction in financial burden on states. 	<ul style="list-style-type: none"> • Financial viability in remote locations. • Lack of DIT & PTP collaboration and partnership. • Low and non-standardized salary of instructors. 	<ul style="list-style-type: none"> • Participation of big players of education sector in PTP mode. • Involvement of manufacturing & service industries to run the ITIs in PTP mode. • Introduction of indigeneous courses/locally demanded courses through SCVT. 	<ul style="list-style-type: none"> • Monopoly of PTP partners. • Poor monitoring mechanisms may raise questions against the quality of the trainings.

Volkswagen CSR funding to ITI Pimpri-Chinchwad Pune

The objective of the intervention was to enhance the employability of ITI students by strengthening and upgrading the training infrastructure of the institute.

Volkswagen India has donated a new modern soldamatic welding simulator to ITI in order to provide a risk free training ground which simulates real life shop floor scenario. The group has planned to invest 2 crores for a period of 5 years in ITI in a phased manner to improve the overall infrastructure & learning experience. Until now, a total of 80 Lakhs has been spent on teaching aids, faculty & staff development, infrastructure development and training of students¹³.

In addition to the above efforts, further investments will be targeted towards construction and up gradation of webinar rooms, installation of high speed internet, landscaping & beautification of the campus, development of E-learning modules and the improvements in amenities such as canteen, library etc.

Apart from the above steps, the group also aims to revise & update the course curriculum & training infrastructure to make it more suitable for changing technologies in the automobile sector. The above initiatives will help in providing exposure to actual working environment & practical knowledge to the graduates.

This case study can be replicated in the ITIs which are in & around industries. Similar collaboration shall ensure the improvement in the employability of ITI students and technically sound employees for industries (A win-win situation for both the stakeholders).

13 <https://nrinews24x7.com/volkswagen-group-india-makes-iti-students-more-employable-and-future-ready/>



An ITI exclusively for Differently abled candidates: Moving towards Social Inclusion

To ensure the participation of differently abled candidates in vocational educational institutes, the government of West Bengal started an ITI in Kolkata.¹⁴

Course name	Duration	Seats
Computer Aided Embroidery and Designing	1	24
Desk Top Publishing Operator	1	24
Dress Making	1	20
Fashion Design & Technology	1	40

The step has improved the inclusivity in skilling landscape. The institute was established in 2006, and currently runs 4 NSQF affiliated courses.¹⁵

This is the first and only single training institute in the eastern region of India which is providing vocational training to differently abled (DA) candidates of types HI, SI and OH (degree of disability should be above 40%) with an aim to make them self-dependent, competent and to integrate them in the mainstream society.

The total intake capacity of the institute is 124 trainees in 4 trades. The institute is running through the PPP model where the Institute Management Committee (IMC) has been formed and registered under Societies Registration West Bengal Act, 1961.

IMC holds at least 1 meeting per quarter. Many of the trained candidates after completing the course pursue self-employment opportunities. The Institute has potential to make its lab/workshop a production centre as;

Being in the heart of Kolkata city, it has access to the local cloth & textile market.

The institute is equipped with upgraded machinery.

The institute can participate in various exhibitions to display its products (especially the designs of textiles and new dresses).

Help from NGOs and CSR wings can be received as the institute aims for social inclusion.

The PS Group (real estate construction company) has sponsored and supported the establishment of a library. This is one such example where IMC has impacted the quality of the institute's infrastructure. The IMC aims to develop better ITI-Industry linkages. It is an 11 member committee with diverse representation.

The committee has submitted an institute development plan (IDP). A local NGO also helps in mobilization of the differently abled candidates.

Although the institute is exclusively for physically challenged candidates, in case the seats are vacant then only girl candidates are allowed for admission.

The institute's campus is spread over 7700 m², each trade has a workshop. The academic building is accessible through ramps to all the floors along with the lift facility.

¹⁴ https://iti.wb.gov.in/institute/trade_specific_infrastructure/pcbfg

¹⁵ <https://iti.wb.gov.in/institute/about/pcbfg>



Women Industrial Training Institute, Kolkata: A step for social inclusion in vocational education

With the help of the World Bank, and the Directorate of Industrial Training, the Government of West Bengal established Women ITI in 1992. The step was taken to enhance the industrial skills of women candidates to enhance their participation in economic activities. The aim was also to empower women and enable them to become self-sufficient and influence the family income.¹⁶

The institute was started with training facilities for trades in the computer and electronics category, later the institute expanded its training areas in multiple domains. Now, 4 trades are running, as shown in the below table.

Trade name	Duration (years)	No. of seats
Computer Operator & Programming Assistant (C.O.P.A.)	1	72
Secretarial Practice (English)	1	24
Basic Cosmetology	1	48
Electronic Mechanic	2	48

Currently, the ITI is operating through PPP mode, where the IMC was constituted in 2008 with the participation of CREDAI Bengal (an association of builders and developers) to enhance ITI-industry collaboration.¹⁷

With the help of the IMC, the institute has successfully received funds from Garden Reach Shipbuilders & Engineers Ltd. for the upgradation of the training & Infrastructure facility. The institute has a placement cell consisting of 4 faculty members. In 2014, SAMSUNG under its Advanced Repair and Industrial Skills Enhancement (ARISE) program developed laboratories, classrooms and workshops. It also deploys experienced trainers and faculty members to provide specialized training in the areas of repairing, installing and troubleshooting mobile phones and home appliances. After completion of the training, the candidates receive on the job training at Samsung service centre for one month. The facility is open to anyone with fulfillment of eligible criteria. Apart from the technical knowledge, Samsung also provides soft skills to the trainees to ensure excellent service delivery. The aspirations of trainees differ according to the trade, the candidates of basic cosmetology aspire to become self-employed, while the trainees of electronic and mechanic trades aspire to compete for Indian railway's recruitment.

¹⁶ <http://womenitikolkata.org.in/>

¹⁷ http://womenitikolkata.org.in/index.php?option=com_content&view=article&id=1&Itemid=34



8

RECOMMENDATIONS

Based upon the analysis in the previous section, the following wide-ranging, forward-looking recommendations are proposed to transform ITIs into aspirational vocational training institutes.

8.1 GOVERNANCE AND ADMINISTRATION

8.1.1 Separate Board for Vocational Education for Better Credibility and Recognition

There is a need for robust vertical and horizontal progression pathways for linking ITI graduates to other vocational education opportunities, academic education and job market. Further, National Credit Framework (NCrF) formulated by NCVET needs to be implemented for qualifying the learning in form of credits and facilitating progression. Currently, the NCVET functions as an overarching regulator establishing regulations and standards to ensure quality in TVET. In order to garner better credibility and recognition for vocational education, it is suggested to extend the current role of NCVET as a National Board for Skill Development (NBSD) which can be a vocational education counterpart of CBSE. It can be empowered to conduct examinations and award degrees to ITI students which will be equivalent to academic degrees awarded by Education Boards such as CBSE. This will facilitate permeability between the domains of general education and vocational education and will make vocational education aspirational for the masses.

The Board can combine ITI and SSC certifications and act as a one stop shop for examinations, assessments and awarding national-level certificates in compliance with NSQF, for skill development courses in the country. A credit framework implemented through the Board will facilitate equivalence and mobility between general and vocational education and enable lifelong learning. Further, a dedicated Board for vocational education will aid in reducing dependence of vocational education on general education for academic certifications and career progression and mainstreaming vocational education.

8.1.2 Centralized Admission Process

Currently admissions to Government ITIs are done at the State level through their respective portals. Some states such as UP also have such state level centralized admissions for Private ITIs. However, to further streamline the process and ensure transparency, it is suggested that admissions are done through a National level centralized portal following the pattern of Joint Seat Allocation Authority (JOSAA) used for engineering admissions in the country.



A centralized, web-enabled admission process for filling vacancies of ITIs at pan India level will not be a cost intensive reform as the model already exists for all-India level admissions like JEE and NEET. Additionally, admission in ITIs should not be based only on 8th and 10th marks but also include a mechanism for checking aptitude and inclination of candidates for vocational skills.

8.1.3 Demand based Course Allocation

DGT should undertake state and district wise skill demand assessment for allocation of seats to ITI courses in concurrence with Regional Directorate of Skill Development and Entrepreneurship (RDSDE), State Skill Development Mission (SSDM), District Skill Committee (DSC) and demand assessment should be mapped with local youth aspirations, demand of local industry, pattern of skill migration, this will address mismatch in supply-demand of skilled workforce. Courses offered in ITIs should be based on local demand assessment and employment potential, with strong linkages to local industry. Further, ITIs can be a medium for propagating local product and services by running specialised short term courses for the same.

ITIs should have clear forward linkages with the district employment exchange to enable placement and apprenticeship opportunities through employers registered with the exchange.

8.1.4 Instituting a Robust Process for Continuous Monitoring

The Affiliation Norms for ITIs Year, 2018, mention that ITI affiliation is valid for 5 years. It is recommended that a robust continuous monitoring framework for affiliated ITIs should be institutionalized for **Quality Assurance**. The guidelines also mention concurrent monitoring checks will be performed by DGT to evaluate the performance of the ITIs. However, clear procedure and time frame for monitoring has not been defined. It is suggested that this criterion for concurrent monitoring should be clearly laid out and implemented. The monitoring framework is envisaged to regularly assess the effectiveness of various processes at ITIs. It should be made a pertinent part of ITI affiliation norms in order to overcome significant challenges with regards to delivery of quality of training. A comprehensive **Continuous Monitoring** Process is felt necessary for concurrent review of functioning and operations of ITIs. The monitoring framework should have well defined monitoring indicators and process along provisions for consequences management including corrective actions and penalty for discrepancies observed. The framework may include procedures such as monthly self-evaluation reports, surprise visits, telephonic validations from students to check whether the institute is adhering to performance standards as indicated in affiliation guidelines.

8.1.5 Changes in Grading Process of ITIs

DGT's grading framework has 27 parameters classified into 5 categories which are trades and industry engagement and instructor quality and availability, outcome, knowledge infrastructure and institute processes, and best practices. While this criterion covers pertinent indicators for checking the performance of ITIs, it is felt that the grading framework should also include perspectives of the trainees. The perception feature of National Institutional Ranking Framework (NIRF) ranking reflects the desirability of any organization to hire from a particular college,



and can be incorporated in the ITI grading parameters. Also, the ITI grading framework can be institutionalized and made an annual activity, similar to the NIRF.

Further, it was gathered that the grading team that visits ITIs for physical evaluation does not possess the technical know-how to assess the ITI. The grading evaluators should be trained on technical know-how of VET to be able to understand and appreciate some innovative initiatives and programmes which could be considered for grading or accreditation. Rather than being given a checklist to be mechanically filled, they should assess ITIs qualitatively without compromising objectivity.

8.1.6 Upgrading Training of Trainers

It was observed that the majority of ITIs did not have adequate instructors. Further, as per NCVT MIS dashboard, only 36% of the sanctioned instructor positions are filled. Due to this, the ITI ecosystem is witnessing a lack of competent staff and increased dependency on engaging contractual faculty or guest faculty. Contractual/Guest faculty appointed through the respective State Government is a lengthy and time-consuming process which requires streamlining. Further, there are only 33 NSTIs for training of instructors in the country, and often instructors have to travel to far-off places for training in their specific trade.

As per consultations with experts it was gathered that there are only 33 NSTIs and 18 IToTs for training of instructors with a cumulative capacity to train 12,000 instructors; they need to operate in three shifts to clear the backlog of refresher courses for instructors. The experts shared the estimation that the annual ToT capacity is needed for 20,000 instructors approximately. To meet the immediate demand of qualified trainers, ITI Principals should be given necessary autonomy to appoint guest faculty. A centralized portal for recruitment of guest faculty can be helpful in this regard. Provision of trainee instructors (on the lines of B.Ed system) can improve the quality of future trainers and while addressing the shortage of human resource at ITIs at no extra financial burden.

Availability of quality, competent and trained trainers is of utmost importance for producing a workforce for the future. Trainers play a profound role in effective delivery of skills to trainees, hence their contribution to creation of a pool of required skilled manpower is critical. Increased dependence of contractual staff has led to problems such as limited proficiency and pre-and in-service training capacities. Further, the instructor's job is viewed as less aspirational since it lacks opportunity towards upskilling, reskilling and career progression. It is therefore imperative to provide prospects for refresher trainings, avenues for learning new skills and technologies. Refresher training on a regular basis for upgradation of skill sets should be made mandatory. The process may be formalized through training calendars, certifications and career progression pathways. Instructors may be deputed for exposure visits and training to NSTIs, industrial units, MSME tool rooms and so on. This endeavor will help in enriching their knowledge base and skill set necessary to remain abreast with current industry needs and labor dynamics. Training of trainers requires industry linked curriculum development as well as OJT for trainers. Industry is the best place for training of instructors, since it also enables instructors to be up to date with the latest technology. Many companies such as Mahindra for instance offer a week long training programme for instructors. Selected instructors of high performing ITIs can be sent for exposure visits to Germany.



8.2. FINANCING

8.2.1 Specialized Funding Scheme for Uplifting Poor Performing ITIs

It was observed during field visits that several ITIs were in dire need of funds for meeting basic requirement such as purchase of equipment, hiring guest faculty, and covering logistics cost for industry exposure. Though STRIVE funds are available for upliftment of ITIs but the allocation of STRIVE funds is performance based. As per the guidelines a total of 500 ITIs, consisting of both Government ITIs (400 ITIs) and Private ITIs (100 ITIs), can receive performance-based grants of INR 1000 crore under the project. Government ITIs and private ITIs with at least 2.0 grade and 2.5 grade respectively are eligible to receive financial support under the STRIVE project. Hence, the ITIs which are striving to improve their performance, generally do not have access to funds through this scheme. It is therefore recommended that a scheme can be devised for need based allocation of funds to low graded but promising ITIs with dearth of resources, tools, and equipment. A Centrally sponsored scheme with Centre and State partnership may be institutionalized for uplifting poor performing ITIs. The scheme can provide financial assistance for infrastructural development, ensure capacity building and institutional (IMC, training & placement cell, institute-industry linkage cell etc.) trainings and hand holding support. Considering the diversity and uniqueness of the state specific challenges in the ITI ecosystem, the states should play an active role in fund allocation and monitoring of the scheme.

8.2.2 Financial and Administrative Autonomy

The ITI Principal should have a certain level of financial and operational autonomy for effectively managing day to day activities of ITIs. It was observed that approvals and sanctions were usually delayed which affected the quality of training delivery due to lack of appropriate equipment, absence of qualified teaching staff and so on. The autonomy is required for aspects such as hiring of guest faculty, discarding of obsolete equipment, increasing financial cap for bidding of the obsolete equipment, furniture, buying new equipment and machinery, building maintenance and so on. Introducing sufficient freedom to operate flexibly and efficiently can help in reducing administrative financial constraints of the ITIs thereby leading to better implementation.

8.2.3 Private Training Partner (PTP) Model for Funding

The Private Training Partner (PTP) model has been adopted by West Bengal Government. It offers a platform for public-private partnership, where the state government provides land and building to the partner organization to run the CTS trades. The training partner invests in machinery, raw material for practical classes, teachers' salary and day to day operational cost. The PTP model comes with following benefits;

- a. It provides an opportunity to engage sector specific training partners to provide expertise in long term training programs.
- b. The private training partners can enter into long term training eco system without investing in land and buildings. Hence, it is a low cost entry mechanism.



- c. The students can also get benefits from government's infrastructure along with expertise of private training partners without paying high fees of private institutions.
- d. It reduces the government's expenditure and ensures participation of specialized agencies in training delivery.
- e. It gives scope to onboard industries to function as training partners, hence can function as a bridge between industry & institute.

For the PTP institutions, approximately 80% of the seats are filled through state quota with very low fees paid by the candidates and rest 20% through IMC quota where fees are paid by candidates at market rate. The government pays to training partners for 80% of the seats. (The detailed case study is provided at section no. 7). These ITI are some of the top most rated ITIs of the country. It is therefore suggested that this model may be replicated in other States.

8.3. PARTNERSHIPS

8.3.1 Facilitating Tie-ups with MSMEs

It was observed that most of the well performing ITIs had tied up with renowned industries like Maruti, Havels, Schneider electrical and so on for setting up infrastructural facilities and labs, placements, apprenticeships and OJT. Hindalco Industries Limited for instance works closely with local ITIs and a portion of the ITI curriculum is delivered at Hindalco's training centres. This provides ITI students an exposure to the shop floor and an experiential learning experience.

Similarly, there is scope for ITI collaboration with MSMEs for on the job training for Dual System of Training (DST) and apprenticeships. It is observed that generally large companies have structured modules and frameworks for apprenticeship, industrial training, sharing technological knowhow and so on. However, MSMEs are relatively less organized and also lack infrastructure and expertise to train people. Capacity building and counseling of MSMEs will help them in understanding the benefits of engaging with ITI through DST, Flexi MoUs or apprenticeship. Counseling of MSMEs can be done in clusters through their associations. Further, additional financial incentives for MSME organizations under NAPS may also be explored.

8.3.2 Alumni Network

ITIs should maintain an updated repository of alumni regularly organise knowledge exchange sessions with them on job opportunities, challenges, progression pathways. The suggestions from alumni should be used to better align training to the demands of the industry.

8.3.3 Involvement of Sector Skill Councils (SSCs)

While one of the key objectives of various initiatives to reform ITIs (STRIVE, grading process) has been to strengthen industry participation in the ITI ecosystem, the SSCs do not have a strong connect with the ITIs. This stems from the fact that SSCs do not have active representation at the State level, which is where the financial and operational management of ITIs takes place. ITI should have close connections with industry associations and SSCs. Guest lectures, exposure visits, skill days, job fairs can be organized in collaboration with them.



8.4. CURRICULUM AND NOMENCLATURE

8.4.1 Mapping Relevant Trades and Training in Emerging Areas

The ITIs should keep track of micro & macro-economic trends to stay abreast with the sectors of employment opportunities. ITIs provide vocational training in traditional courses, and demand for these courses is increasingly becoming saturated in the local areas. Training in booming service-sector trades such as retail, BFSI, hospitality needs to be scaled up, specifically in urban areas. There is a need to ensure that the curriculum for trades is modernized and the faculty are well-trained to meet the dynamic needs. A Future of Skills vertical may be created under the DGT to assess future skill demands and the types of training required in a dynamic economic environment, which is increasingly guided by artificial intelligence, machine learning, digitization and platform-led business models. Ultimately, the aspirations of potential trainees need to be addressed along with the demand side of skilling in order to have a perfect match between the demand and supply side of skilling at micro and macro level. DGT can also set up international offices in the USA, EU and the Far East for global placement of Indian ITI talent.

8.4.2 Branding and IEC

ITIs should invest in IEC and branding for popularizing the courses offered and employment prospects. Mass media campaigns through print, TV advertisements, local and community radio, social media should be undertaken for generating awareness and communicating possible future prospects of ITI courses. Further, name of ITIs may be changed to make it more aspirational, for example–Service and Product Design Institute (SPDI).

8.5. REPORTING AND REDRESSAL

8.5.1 Upgrading NCVT-MIS Dashboard

The NCVT dashboard reported extremely poor data for some aspects such as placements, women participation and so on. Further, data was missing for some States and timelines. It shows very low placement rate (0.09%), female participation (6.6% of female candidates admitted in year 2021), and instructor seats filled (36%). The team has also deep dived into State level data and found such skewed figures. These figures may be attributed to MIS not being updated in a timely manner. The dashboard plays a crucial role in reporting scheme implementation, data organization and interpretation. It is therefore suggested that strict monitoring and data management systems should be in place to ensure that the dashboard is updated regularly and reflects the latest data points on various parameters.

8.5.2 Setting up a Time bound Grievance Redressal Mechanism

Operational issues such as lack of adequate equipment, outdated machines and tools, shortage of staff, low placement rate often cause a deterrent in effective training and learning of the students. It is therefore suggested that DGT and State Governments should work together to collaboratively resolve these issues. An online grievance redressal mechanism can be put in



place that can help in ensuring transparency and accountability for resolution of issues in a timely manner.

Further, it is observed that ITIs do not get clear instructions/guidelines/query responses in a timely manner from the State Directorate. Also, owing to multiplicity of stakeholders involved, there is need for integration and establishing a clear channel of communication. This further warrants the need for centralized portal of information exchange and query resolution.

8.6 STUDENT SUPPORT SERVICES

8.6.1 Establishing a Placement and Entrepreneurship Cell

All ITIs should have a dedicated placement and entrepreneurship cell to provide a range of placement linked services to students like apprenticeship opportunities, and access to job databases through industry connect, in addition to entrepreneurship support services such as information about credit access, bank linkages, licenses and permits, etc. to budding entrepreneurs. The placement cell should also collaborate with the district industries center (DIC).

8.6.2 Focusing on Career Counselling and Soft Skills Training

Career counselling plays a prominent role in attracting and retaining candidates for skill based training. Career counselling should provide information to prospective trainees on resume writing, the nature of work in the sector/trade, availability of jobs, deliverables by the employer, entitlements, growth prospects and risks involved. This is aimed at helping both candidates and parents make informed choices and to match aptitude with aspirations. The ITIs should have robust counselling facilities which could either be done in house by building the capacity of instructors in counselling and mentoring or by engaging independent expert counsellors/counselling agencies.

Moreover, the ITI curriculum should include modules on soft skills such as communication, adaptability, problem solving, resilience and so on. These skills can enhance the student's ability to deal with dynamic work situations.

8.6.3 Special Provisions for Women ITIs

As highlighted earlier in the report 16.83% of the total ITIs are women ITIs, however only 6.6% of female candidates took admission in ITIs. It is observed that female enrolments have been affected by many factors such as non availability of hostels, poor road accessibility, no provision of transport from ITIs, and limited number of trades, usually in traditional, stereotypical female sectors such beauty and wellness, apparels, food processing, and so on. These limitations should be addressed with special provisions for transport, hostel facilities for women ITIs and women attending coed ITIs. Also, non-traditional courses such as electrician, plumbing, fitter etc. should be offered in women ITIs. The booming gig and platform economy has also opened new job prospects for women in non-traditional sectors and this opportunity must be leveraged.



8.6.4 Advocacy for ITI and NIOS Equivalence

It was observed that awareness regarding ITI and NIOS equivalence is very low. Many students were pursuing general education to attain graduation degrees along with ITI certification. These students could have attained 10th class certification from NIOS while pursuing 1 year ITI course + 1-year apprenticeship training. Hence, it is suggested IEC strategies should be implemented to raise awareness regarding ITI and NIOS equivalence, the procedure and benefits.

ITIs should undertake IEC and awareness workshops to create awareness and encourage students to obtain an academic certificate through this already existing equivalence between ITI and NIOS and not unnecessarily pursue standalone academic qualifications along with ITI certifications. The possible progression pathways through ITIs are detailed as follows:

- ◉ Class VIII + ITI (2 years) + NIOS bridge course= Secondary School Certificate (Class X of CBSE)
- ◉ Class X + ITI (2 years) + NIOS bridge course = Senior Secondary School Certificate (Class XII of CBSE)
- ◉ Senior Secondary School Certificate + 3 years B.Voc.= B.Voc. degree.
- ◉ ITI Certificate= lateral entry into polytechnics

8.7 INFRASTRUCTURE AND RESOURCE MOBILIZATION

8.7.1 Internal Resource Augmentation

Establishing Production Centres

ITIs and NSTIs can leverage their infrastructure facilities and resources for establishing production centres. The basic principle of production centres is balancing educational outcomes and economic output. While using infrastructure facilities for production centres, ITIs can generate their own resources and become self-sustaining. Students can learn the skills in the training workshop-cum productive enterprise, and gain experience in the marketing of products and services. Trained ITI and NSTI students may also be engaged in the production centres and can be paid honorarium from the revenue generated. Trainees at production centers of ITIs will be able to command a much higher wage premium as they will already be job-trained at the time they pass out. There are many case studies in a report compiled by UNEVOC on the balance that has been reached, giving adequate attention to market, enterprise, profit and income generating capacity while, at the same time, acknowledging the primacy of imparting related specialized technical and general competencies (knowledge, skills, attitudes and values) directly linked to employment. Similarly, in Maharashtra Production Oriented Training Scheme (POTS) enables ITIs to undertake designing and prototyping work for revenue generating production. Such production centres may also be established at NSTIs.

Incorporating production enterprises into ITIs and NSTIs can aid in making vocational education more relevant through promoting entrepreneurship thereby making it a viable economic unit. This will help in inculcating a work culture and business environment in ITIs.



Leveraging Infrastructure and Monetizing Land

The classrooms, workshops and instructors of ITIs can be utilized to implement short term training programs/schemes. The physical & human infrastructure can also be utilized by private industries and corporations as production centres or service centres. The ITIs have ample unused land which can be monetized with immediate effect for infrastructure financing by ITIs.

8.7.2 Sharing of Equipment and Resources

It is observed that some ITIs do not have adequate equipment or have equipment and resources which have turned obsolete. Purchasing new equipment is a time consuming process and often students bear the brunt due to decreased practical exposure. It is therefore suggested that nodal ITIs may be designated to allow sharing of resources and equipment with other ITIs lacking resources. These nodal ITI can function as a hub and other ITIs would benefit from shared services through hub and spoke model. Further, industries/SME could also be encouraged to establish incubators/tool rooms for offering such services to ITIs on subscription basis.

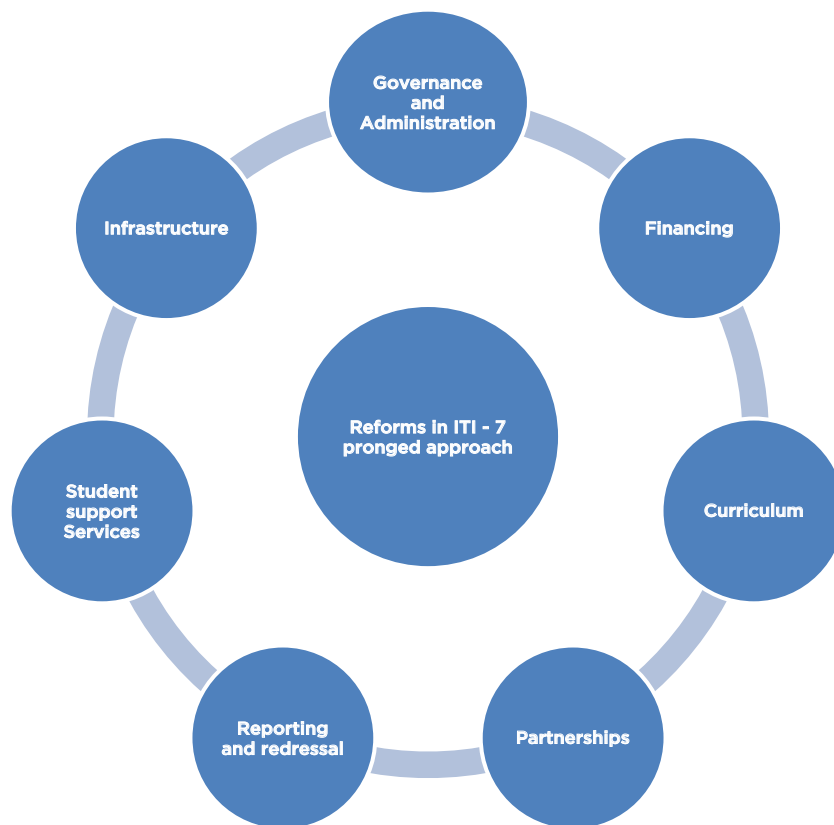


Figure 15: 7 pronged reforms in ITI

Conclusion

Realizing the importance of vocational training in India and in alignment with Vision@2047 of India, an in depth analysis was undertaken to understand the current challenges in the ITI ecosystem and propose suitable pathways for addressing the same. ITIs require revamping and upgrading to be in line with the requirements of the changing world of work and re-look at



courses and curriculum in terms of their relevance and quality. ITIs need to expand their horizon and seek opportunities for long-term sustainability through internal resource augmentation, inculcating entrepreneurial spirit in students and establishing long term collaborations for industry exposures. Appropriate tools, technologies and infrastructure needs to be in place to transition to digital or hybrid mode of learning. Suitable strategies also need to be devised for outreach and advocacy on employment prospects of ITI courses coupled with robust branding and monitoring.

In order to ensure the learners from ITI are adequately skilled for the Future of Work it is pertinent to relook at the quality of vocational training imparted to students at ITIs. This warrants for a **Quality Assurance Framework** for assessing the ITI training ecosystem from the quality lens. A Quality Assurance System places particular emphasis on the monitoring and evaluation of the outputs and outcomes of education and training in terms of increasing employability, improving the match between demand and supply, and promoting better access to lifelong learning, including for disadvantaged people. The quality assurance system should be comprehensive and encompass aspects such as administrative processes, data management systems, placements, counselling, content and curriculum, trainers and so on.

There is a need to take a holistic and revolutionary approach for reforming ITI system through a four faceted reform pathway:

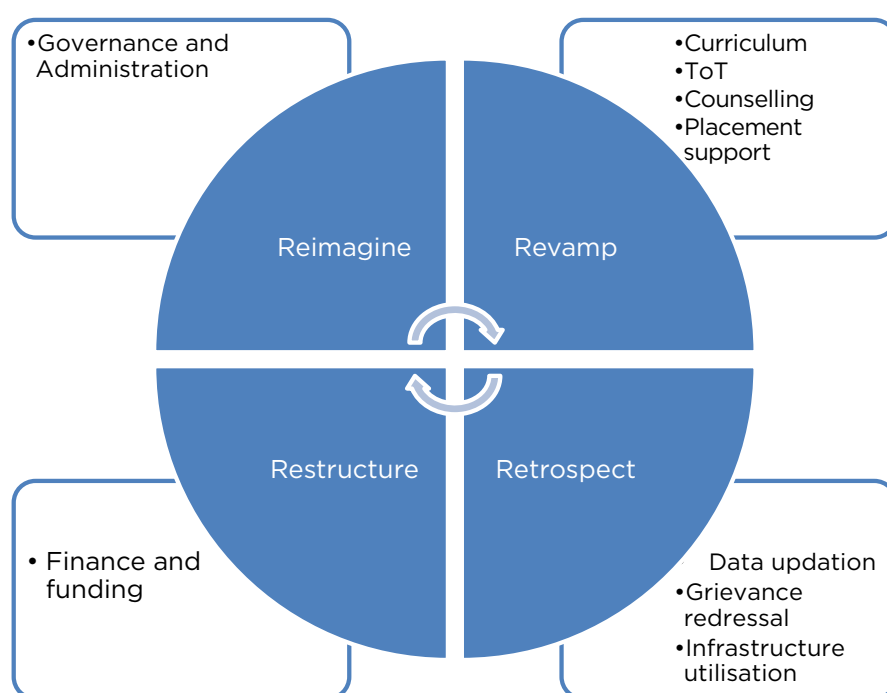


Figure 16: Four faceted reform pathway for ITI

These modifications to policies and practices can have multifold effect; firstly, it can be instrumental in changing the negative perception of skilling, secondly, offering quality skills leading better employment opportunities for youth, thirdly, increased productivity of the labour force employed from TVET institutions.

Quality driven, digitally enabled and technologically empowered ITIs will allow innovative practices for achieving quality in skill development.



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APPENDIX-A: GRADING OF ITIs

Grading of ITIs is done by DGT to create a benchmark for comparison of ITIs (which is used to decide STRIVE funding). Phase 1 of grading ITIs happened in 2017 and results of 4,811 ITIs were released in June 2018. Phase 2, launched in 2019 was mandatory for ungraded ITIs, wherein 12352 ITIs were graded (Grades of 3 ITIs in WB have been suspended). Total 1128 Phase 1 graded ITIs chose not to participate in Phase 2. Total of 13480 ITIs have been graded across Phase 1 and Phase 2. Total 853 ITIs have not participated. Final Grades of Phase 2 were approved and released in 2021.¹⁸

ITIs were graded on an overall scale of 0 to 5 based on 43 pre-defined parameters in Phase 1 and 27 pre-defined parameters in Phase 2.

In Phase 1, offline self-grading, unsupported by any documents by ITIs got physical verification and data validation done by CRISIL. After deciding on appeal by ITIs if any, final grading was released by DGT.

The parameters were used for Evaluation and Ranking in Phase 1:

Table A1. Phase -I Main Grading Parameters

Sr. No.	Categories	% Contribution	No. of Parameters
1	Civil Work	8%	4
2	Trades	11%	4
3	Industry connect	10%	4
4	Outcome	20%	5
5	Instructors	8%	4
6	Production Centre	2%	1
7	Capacity Utilization	8%	2
8	Key Compliance	8%	3
9	Special Achievement	4%	3
10	Miscellaneous	21%	13

Detailed list of 43 parameters used in Phase 1

http://techedu.hp.gov.in/sites/default/files/SKM_C224e17031517150-81595426.pdf

¹⁸ Brochure on grading and information provided by DGT office, Karol Bagh



In the second phase, online self-reporting could be done by ITIs or by Central Govt. / State Dte officers, trainee, parent, faculty, employer, visitor etc. on their behalf. CRISIL was replaced with ICRA and the parameters were simplified as follows:

The following were the parameters used Evaluation and Ranking in Phase 2:

Table A2. Phase-II main parameters

Sr. No.	Categories	% Contribution	No. of Parameters
1	Trade and Industry Engagement	20%	4
2	Trainer Quality and Availability	20%	4
3	Outcome	20%	4
4	Knowledge Infrastructure and Institute Processes	20%	4
5	Bonus Best Practices	20%	11

Detailed list of 27 parameters used in Phase 2

<https://dgt.gov.in/sites/default/files/GradingParametersPhasell.pdf>

Following incentives were given based upon grading:

1. ITIs with grade ≥ 2.5 (both private and Government) will be self-centres for OMR based theory examination.
2. Only ITIs with grade 2.5 or more (both private and Government) will be allowed to apply for addition of new trades/units on the affiliation portal.
3. Only Private ITIs with at least 2.5 grade and Government ITIs with at least 2.0 grade will be eligible to receive financial support under STRIVE (World Bank Project).
4. Principals and Instructors of ITIs (both private and Government) with 2.5 or more grade will be eligible for training in NSTIs or abroad, wherever possible
5. Principals of top rated ITIs may be honored at a National event.
6. Grading of respective ITI as allocated to be displayed on NCVT MIS Portal. Additionally, states display grades on their admission portals so that ITI applicants make informed choices.



APPENDIX-B: SKILLS STRENGTHENING FOR INDUSTRIAL VALUE ENHANCEMENT (STRIVE) SCHEME

STRIVE is INR 2200 Cr World Bank funded Scheme of MSDE to incentivize the critical institutional reforms required in the ITIs and Apprenticeship. The participating State/UTs will enter into a Performance Based Funding Agreement (PBFA) to include the mutually agreed Key Performance Indicator (KPI) targets. STRIVE has following components having Disbursement Linked Indicators (DLIs):

Results Area 1: RA1 has KPIs on capacity utilization, female enrolment, On the job training.

Results Area 2: RA2 has KPIs on development of career progression policy for ITI trainers, Reducing trainer vacancy and tracer studies.

Results Area 3: RA3 has KPIs on improved curricula, learning materials, Capacity Building Program, upgradation of CFIs for Instructor Courses and Advanced Skills, Reforms including examination reforms, Implementation of communication strategy and Soft Loan to Private ITI. This result area will be implemented directly by DGT (CSTARI and NIMI).

Results Area 4: RA4 has KPIs on Center-state-industry agreements, capacity development, apprenticeship contracts, and projects.

Following table lists the states that have received STRIVE funds :

Table B1: Funds released under STRIVE

STATES	RESULT AREAS/ COMPONENT	NO. OF ITIs	FUND TRANSFERRED TO COMPONENTS. (INR) ¹⁹
Arunachal Pradesh	RA2	1	8415000
Chhattisgarh	RA1	1	6000000
Goa	RA1	1	8000000
Gujarat	RA4	2	8000000
Haryana	RA4	2	8000000
	RA1	5	23600000
Himachal Pradesh	SPIU	1	3000000
	RA1	19	39587000
	RA2	1	28320000
	RA4	1	4000000

¹⁹ In addition , INR 1.15 Crore have been provided to ITI Kargil (Ladakh)



STATES	RESULT AREAS/ COMPONENT	NO. OF ITIs	FUND TRANSFERRED TO COMPONENTS. (INR) ¹⁹
Jharkhand	RA1	3	10600000
Karnataka	RA1	2	12000000
	RA4	3	12000000
Kerala	RA1	14	27100000
Madhya Pradesh	RA4	1	4000000
	RA1	14	88200000
Maharashtra	RA1	8	59600000
	RA1	17	122800000
	RA4	2	8000000
Nagaland	RA2	1	5865000
	RA1	1	6000000
Odisha	RA1	8	16800000
	SAMC	1	4622000
	RA2	1	5640000
	RA4	2	8000000
Punjab	RA1	5	29600000
Sikkim	RA1	1	6000000
Tamil Nadu	RA4	1	4000000
	SPIU	1	3500000
	SAMC	1	5478000
Telangana	RA4	2	8000000
Tripura	RA1	8	21900000
Uttar Pradesh	RA1	9	51600000
Uttarakhand	RA1	4	23200000
	RA4	1	4000000
TOTAL			685427000

RA1: Result Area-1

RA2: Result Area-2

RA4: Result Area-4



APPENDIX-C: SURVEY TOOL- INTERVIEW SCHEDULE

- ⦿ Name of the ITI:
- ⦿ Grade:
- ⦿ Capacity for students and instructors
- ⦿ Strength of students and instructors
- ⦿ No. of Trades offered

QUESTIONS FOR ITI PRINCIPALS

- ⦿ What has been your experience with the grading process?
- ⦿ What strategy have you adopted for mobilization of the students?
- ⦿ What are the key challenges that you face and what are your proposed solutions?
- ⦿ What is the dropout percentage of students?
- ⦿ Do you have a placement cell/mechanism in place? What is the placement percentage of the ITI?
- ⦿ What are the work-based learning opportunities offered by the ITI? (apprenticeships/ DST programme)
- ⦿ What is your strategy for engagement with the industry for placement / apprenticeship?
- ⦿ Do you run any production center in place ? If yes, how do you manage it? How much profit do you make and how do you utilize this gain?
- ⦿ Please share details of the yearly financial budget.

QUESTIONS FOR ITI INSTRUCTORS

- ⦿ Where have you received your instructor training?
- ⦿ What is the name of the certification?
- ⦿ What are the key challenges that the ITI/you face and what are your proposed solutions?
- ⦿ What are your thoughts about training in NSTI?
- ⦿ Are you offered any refresher courses through NSTI?



QUESTIONS FOR STUDENTS

- ⦿ Which trade are you pursuing?
 - ◆ Why are you pursuing this programme?
 - ◆ What job opportunities are available after this programme?
 - ◆ What wage do you expect to get?
- ⦿ What is your preferred work location?
- ⦿ Are you open to migrate to another state / another place within the state?
- ⦿ Before admission into the course, was there any counseling done?
- ⦿ What has been your experience with the quality of training offered at the ITI?
- ⦿ What are the key challenges that you face in the institute and proposed solutions?

SURVEY TOOL FOR INDUSTRY

A google form was circulated having mentioned questions.

- ⦿ Do you hire ITI passouts?(Y/N)
- ⦿ If no, then the possible reasons are? यदि नहीं, तो संभावित कारण क्या हैं?
- ⦿ If yes, then do you find their performance satisfactory? यदि हां, तो क्या आप उनके प्रदर्शन को संतोषजनक पाते हैं? (Y/N)
- ⦿ In your opinion, how ITI can improve? आपकी राय में, आईटीआई कैसे सुधार कर सकता है
 - f. Upgradation in Tools & Labs (Infrastructure)
 - g. Course content & curriculum
 - h. industry linkages
 - i. quality of faculty/instructors
 - j. inclusion of soft skills & favorable attitude among trainees
- ⦿ Among the ITI pass-outs, will you prefer employing females over males? (आईटीआई स्नातकों में, क्या आप पुरुषों की तुलना में महिलाओं को नियुक्त करना पसंद करेंगे?
 - a. Yes
 - b. No
 - c. Anyone with relevant skill sets
- ⦿ What are the courses/areas in which the ITI students shall be trained? (कौन से पाठ्यक्रम/क्षेत्र हैं जिनमें आईटीआई छात्रों को प्रशिक्षित किया जाना चाहिए?) (open ended questions)



APPENDIX D: GLIMPSES OF ITI FIELD VISITS AND CONSULTATIONS



ITI Pusa, Pusa Road
New Delhi



Govt. ITI (Women)
Faridabad



Govt. ITI Pali,
Faridabad



Govt ITI Fatehpur
Billoch



ITI Vivek Vihar



NSTI (W) Noidav



Don Bosco Technical
Institute (Private ITI)



Govt. ITI Basti Uttar Pradesh



Pt. Bhagawati Prasad Pvt. ITI,
Kudaraha Basti, UP



Deen Bandhu Ram Roy ITI,
Tenuwa Majhaumeer Basti



Vidya Prasad Pvt. ITI
Kenauna Basti



Harivansh Lali Pvt.
ITI Basti UP



Govt. ITI Harraiya
Basti UP



TARA ITI Basti UP



Govt ITI Pune



Krishak ITI Gaur Basti UP



Krishna Dharmendra Pvt. ITI,
Khakhua, Basti UP



Don Basco ITI Pimpri
Chinchwad Pune



ITI Kolkata



Govt. ITI Jail Road



Durgesh Pvt ITI
Basti UP



ITI Tenakshi,
Tamil Nadu



Online meeting with
Principals of ITI Pune



Meeting with the Heads
of Govt. and Pvt. ITI

APPENDIX- E: STANDING LABOUR COMMITTEE'S (SLC'S) FINDINGS ON ITI REFORMS

The Thirty-Third Report (2017-18) of the SLC regarding ITIs was presented to Lok Sabha and laid in Rajya Sabha on 04th January, 2018. The Committee recommended on the modalities adopted by the Government for Implementation of CTS, Setting up of new ITIs, De-affiliation of ITIs, Trainee count in the ITIs, Target of Training 40 crores youth in seven years, National Apprenticeship Promotion Scheme (NAPS). MSDE furnished their replies indicating Action Taken on the report on 10th April, 2018. The Committee considered and adopted the Draft Report at their sitting held on 06th February, 2019.

After due consideration of the draft report by the Committee, the Forty Sixth Report of the SLC (2018-19) regarding on ITIs was presented in Lok Sabha on 07.02.2019 and laid in Rajya Sabha on 07.02.2019. Dr. Kirit Somaiya as Chairperson of SLC.

Total no. of recommendations is 24 in the Forty Sixth Report of the SLC (2018-19) for which replies have been submitted by MSDE. The reply of MSDE, Govt. of India on 20 recommendations has been accepted by the Committee. One recommendation was not required to be pursued by the Committee in view of Govt. reply. The Reply of MSDE on three (recommendations no. 47, 57 & 71) was not accepted by the Committee. Recommendation No. 47, 57 & 71 is related to implementation of CTS, de-affiliation of ITI and target of training of 40 crores youth in seven years respectively.

The Committee were concerned to note an underutilization of available capacity as the total trainee count in the ITIs is 19.44 lakhs as against the seating capacity of 21.94 lakhs, which comes to about 88%.

Earlier, the SLC (2017-18) in its report on ITIs and Skill Development Initiative Scheme' noted that the Quality Council of India (QCI) in 2012 was commanded to provide accreditation to ITIs, but the QCI jeopardized the quality of accreditation. The Committee then prescribed a grading framework. A "Star Rating" to well-performing ITIs was directed. This would provide some space for the underdeveloped ITIs to improve upon and achieve higher rating during the next grading process. The MSDE aimed to identify 500 ITIs to propel them into "World-Class" institutes which would provide strategic direction for other institutes to follow. This would innervate the ITIs by forging a competitive environment and boost their current operational performance. Recently, a study titled "Pilot Tracer Study of ITIs in Haryana" was carried out in 2020. It was aimed to get the hang of the career progression of ITI graduates, and the data would be then used to determine the status of the ITIs for STRIVE project of World Bank.



APPENDIX-F: BUDGETARY ESTIMATES OF SOME ITIS VISITED

Table F1. Estimate of New ITI Construction (Draft of ITI Basti-UP)

S. no	Description of the item	Amount (INR Lakhs)
1	Cost of academic building	
	Cost of civil works	323.96
	Cost of internal water supply and sanitation works	10
	Cost of internal electricity works	27.71
	Cost of external w/s and sewerage	15.13
	Cost of fire fighting works	20.66
	Cost of rainwater harvesting	5
	Total	412.46
2	Cost of workshop a building	
	Cost of civil works	121.4
	Cost of internal water supply and sanitation works	3.16
	Cost of internal electricity works	8.6
	Cost of fire fighting works	1.24
	Cost of rainwater harvesting	5
	Total	139.4
3	Cost of workshop b building	
	Cost of civil works	114.87
	Cost of internal water supply and sanitation works	3.27
	Cost of internal electricity works	8.61
	Cost of external w/s and sewerage	1.24
	Cost of fire fighting works	1.46
	Cost of rainwater harvesting	5
	Total	134.45



S. no	Description of the item	Amount (INR Lakhs)
4	Cost of type residence 2 nos	
	Cost of civil works	21.83
	Cost of internal water supply and sanitation works	1.32
	Cost of internal electricity works	1.46
	Total	24.61
5	Cost of type residence 1 nos	
	Cost of civil works	17.9
	Cost of internal water supply and sanitation works	1.21
	Cost of internal electricity works	1.57
	Total	20.68
6	Cost of pump room	
	Cost of civil works	3.72
	Cost of internal water supply and sanitation works	0.3
	Cost of deep tubewell with submersable pump	7.01
	Cost of india marka-ii hand pump	0.5
7	Cost of boundary wall	116.79
	A. Cost of MS Gate 4:50 MT Wide	1.09
	B. Cost of cow catcher	1.23
	C. Cost of gaurd room	
	(a) Cost of civil works	3.15
	(b) Cost of internal electricity works	0.27
	Total (7)	122.53
	TOTAL [A]= 1 to 7	858.04
8	Cost of 20 kl rcc over head tank	10.25
9	Cost of internal road pathway	49.55
10	Cost of drain	18
11	External street lighting with flurescent lamps	17.87
12	Cost of cycle stand	16.08
13	Cost of earth filling	
	Total (B)	195.91
	TOTAL (A to B)	1053.95
	Add 2% contingencies	21.08
G. TOTAL		1075.03



Table F2. Budget of Govt ITIs in Delhi

In Rs. Thousand

Major Head, Detailed Head	ITI DHIR PUR	ITI KHICHRI PUR	ITI Pusa	ITI SHAHDARA	ITI NARELA	ITI ARAB KI SARAI	BTC Pusa	ITI NAND NAGRI	ITI MAL NAGAR	ITI JAFAR PUR
Salaries	87000	52500	113200	73020	43500	128900	49200	70300	39600	36000
Wages			5000			320	1947		360	
O.T.A.				0						
Domestic T.E	100	100	150	100	100	100	100	100	100	100
Office Exp.	5700	3500	6000	6000	2500	11700	4800	2200	2350	1500
Professional Services			200							
R.R.T	535	600	1760	2580	580	600	500	250	145	500
Scholarship	250	50	350	25	30	700	140	100	35	50
O.C (Voted)	800	480	100	200	500	1350	180	200	300	180
O.C (CHARGED)			500							
Advt. & Pub.										
Medical Treat	1934	900	5700	2600	800	4500	2200	4200	1350	2000
Minor Works, Maint.		120				50	50			
Office Expenses (Info. tech.)		120								
Office Exp. (Pvt. ot. Sec. & Sani.)	6500	5000	7000	3000	4200	7000	6000	5000	1825	5300
Supplies & Materials	3000	3500	600	1000	900	3250	250	500	800	524
Total	105819	66870	140560	88525	53110	158470	65367	82850	46865	46154

Continued....



Major Head, Detailed Head	ITI JAIL ROAD	ITI SIRI FORT	ITI MORI GATE	ITI TILAK NAGA (W)	ITI JAHAN PURI	ITI VIVEK VIHAR	ITI MANGOL PURI	WORLD CLASS SKILL	TOTAL
Salaries	78300	42200	30080	18900	55300	29440	44210		991650
Wages	2150	800		650			400		11630
O.T.A.									0
Domestic T.E	100	90	100	100	100	100	100		1740
Office Exp.	4000	4800	1300	1000	3000	6500	2500		69350
Professional Services									200
R.R.T		1500	50			400	500		10500
Scholarship	100	35	20	20	60	50	185		2200
O.C (Voted)	60	500	30	150	40	190	330		5590
O.C (CHARGED)									500
Advt. & Pub.									0
Medical Treat	4500	800	600	600	3000	1016	1150		37850
Minor Works, Maint.			50	50					320
Office Expenses (Info. tech.)									120
Office Exp. (Pvt. ot. Sec. & Sani.)	5000	3200	2675	1500	3200	6000	4100		76500
Total	95013	54425	35155	23370	66241	43806	54400	0	1227000

(all Figures INR*)



Table F3. Govt. ITI (Women) Faridabad Budget (all Figures INR*)

Obj Code Description	Amount Allocated	Cumulative Expenditure	Balance Amount (as on 24-03-2022)	Remark (% Expenses)
Salary	11000000	7182026	3817974	65%
Dearness Allowances	1870000	1841689	28311	98 %
Travel Expenses	80000	12130	67870	15%
Office Expenses	87000	86988	12	100%
Scholarships and Stipends	81200	59000	22200	73%
Material and Supply	396000	42670	353330	11%
Medical Reimbursement	26462	26462	0	100%
Contractual Service	3825496	3825493	3	100%
Leave Travel Concession	263835	263835	0	100%
Ex-Gratia	368368	360679	7689	100%
Energy Charges	350000	317530	32470	91%
Scheme Total	18348361	14018502	4329859	76%
Scholarships and Stipends	200000	138897	61103	69%
Scheme Total	200000	138897	61103	69%
Material and Supply	38000	38000	0	100%
Scheme Total	38000	38000	0	100%



Table F4. Govt. ITI , Pali Faridabad Budget (all Figures INR*)

Description	Directorate of Industrial Training And Vocational education renamed as Skill Development and Industrial Expenses -Establishment Expenses			Apprentices training of Skilled Craftsman			Skill Training for Scheduled Castes student			Total		
	Amount Allocated	Cumulative Expenditure	Balance Amount (as on 24- 03-2022)	Amount Allocated	Cumulative Expenditure	Balance Amount (as on 24- 03-2022)	Amount Allocated	Cumulative Expenditure	Balance Amount (as on 24- 03-2022)	Amount Allocated	Cumulative Expenditure	Balance Amount (as on 24- 03-2022)
	Salary	60,00,000	5940028	59972	0	0	0	0	0	0	60,00,000	59,40,028
Dearness Allowances	14,44,000	1430045	13955	0	0	0	0	0	0	14,44,000	14,30,045	13,955
Travel Expenses	14,026	14025	0	0	0	0	0	0	0	14,026	14,025	0
Office Expenses	55,000	39886	15114	0	0	0	0	0	0	55,000	39,886	15,114
Scholarships and Stipends	31,600	0	31600	1,31,811	131811	0	0	0	0	1,63,411	1,31,811	31,600
Material and Supply	3,15,000	183020	131980	0	0	0	0	0	0	3,15,000	1,83,020	1,31,980
Professional and Special Services	0	0	0	0	0	0	0	0	0	0	0	0
Medical Reimbursement	15513	15513	0	0	0	0	0	0	0	15,513	15,513	0
Contractual Service	1836085	1836085	0	0	0	0	2396335	2396335	0	42,32,420	42,32,420	0
Leave Travel Concession	90496	90496	0	0	0	0	0	0	0	90,496	90,496	0
Energy Charges	211166	198756	12410	0	0	0	0	0	0	2,11,166	1,98,756	12,410
Scheme Total	1,00,12,886	97,47,854	2,65,031	1,31,811	1,31,811	0	23,96,335	23,96,335	0	1,25,41,032	1,22,76,000	2,65,031

Note 1: Distribution of Budget to BCOs/DDOs from Govt. ITI Pali is nil in all three schemes for Financial year 2021-22.

Note 2: DDO-Drawing and Disbursing Officer, BCO-Budget Controlling Officer.

Scholarship and Stipend: In Govt. ITI Pali Faridabad, Scholarship @Rs 1200/- is being given to all SC-ST trainees annually in both years. General Category (boys) and all category of Girls Trainees are being given stipend @ Rs 1000/- annually in both years on producing bill of purchasing tool-kit from market. Under this head, Rs. 7700/- per month is also given to the Interns under Internship scheme in the Financial Year 2021-22. There are three sanctioned strengths for internship in Govt. ITI Pali, Faridabad. Now this amount has been revised i.e. Rs. 10188/- per month from next Financial Year i.e. 2022-23.

Material and Supply: Expenses of purchasing or repairing Machines/Instrument for a trade incurred from Material and Supplyhead.

Professional and Special Services: Expense on wages given to the temporary staffs for office work incurred from Professional and Special Services head.



Table F5. Govt. ITI Fatehpur Billoch Budget (all Figures INR*)

Obj Code Description	Amount Allocated	Cumulative Expenditure	Balance Amount (as on 24-03-2022)	Remark (% Expenses)
Salary	6104080	6104080	0	100%
Dearness Allowances	907891	907891	0	100%
Travel Expenses	24956	24956	0	100%
Office Expenses	14515	14515	0	100%
Scholarships and Stipends	11600	11600	0	100%
Material and Supply	174440	174440	0	100%
Medical Reimbursement	74331	74331	0	100%
Contractual Service	1433847	1433847	0	100%
Energy Charges	73277	73277	0	100%
Scheme Total	8818937	8818937	0	100%
Scholarships and Stipends	136474	136474	0	100%
Scheme Total	136474	136474	0	100%
Material and Supply	2000	2000	0	100%
Scheme Total	2000	2000	0	100%
Machinery and Equipment	3650	3650	0	100%
Furniture	423225	423225	0	100%
Scheme Total	426875	426875	0	100%

A typical Delhi TI annual budget 2021-22 is as in following table (all Figures INR*): [Govt. ITI Jail Road]

1. Heads*
 - a. Salaries- 7,91,00,000
 - b. Wages- 21,53,000
 - c. Domestic T.E.- 1,00,000
 - d. Office Expenses- 40,00,000
 - e. Scholarship- 1,00,000
 - f. Medical Treatment- 45,00,000
 - g. Office Expenses(outsourced sanitation & security)- 50,00,000
 - h. OC (Voted)- 60,000
 - i. Supplies & Material - 8,00,000
 - j. Machinery & Equipment- 6,00,000



k. Minor Works (Taasks)- 60,000

l. Professional Services (TECOS)- 2,90,000 – for short term courses run by NGOs

A typical Uttar Pradesh ITI annual budget 2021-22 is as in following table (all Figures INR*):
[Govt. ITI Basti and Harraiya]

ITI Basti (16 trades)				ITI Harraiya (12 Trades)			
Sr. No.	Head	Allotment	Expenditure	Sr. No.	Head	Allotment	Expenditure
1	Salary	37206975	37206975	1	Salary	7736983*	7736983
2	Wages	25000	24770	2	Office Expenditure	50000	50000
3	Office Expenditure	25000	24994	3	Electricity	500000	500000
4	Electricity	2000000	2000000	4	Office Stationary	70000	69868
5	Office Stationary	10000	10000	5	Office Furniture	25000	24995
6	Other Expenditure	700000	699999	6	Anurakshan	250000	249927
7	Computer Maintenance	5000	5000	7	Laghu Nirman	100000	100000
					Other Expenditure	1500000	1499906
	TOTAL	39971975	39971738		TOTAL	10231983	1021679



Table F6: Pitampura ITI (all Figures INR*)

Budget Head	Surrender Amount	Accounted Expenditure	Bills Under Process	Remaining Budget	Available BCO Expenditure Limit
N/A	0	0	2,60,030	0	1,86,99,35,636
House rent	0	2392	0	0	27,06,790
Festival Expenses	0	40,000	0	80,000	21,00,000
T.A. Trip Expense	0	29,065	0	0	36,56,149
S.P.S Doctor	0	1,500	0	0	54,202
Telephone Service	0	35,061	0	0	2,88,775
Maintenance Charges	0	9,04,084	0	0	31,29,755
Secondary utility Cost	0	15,600	0	0	0
Stationery	5	4,995	0	0	15,570
Other Utilities	0	5,000	0	0	0
Exam fees	1,456	8,544	0	0	0
Home maintenance	75,650	2,08,750	0	0	30,01,982
Vehicle Cost	300	0	0	0	0
Equipment Cost	70	1,20,922	0	0	0
Education Awareness Campaign Fees	13,400	800	0	0	0
Student support funds	3,410	6,090	0	0	8,86,473
Maintenance Charges	0	53,26,407	0	0	8,90,28,874
Inflation Costs	0	6,04,224	0	0	1,15,48,578
Other Utilities	0	73,981	0	0	11,77,363
Décor Costs	0	13,250	0	0	4,42,815
Telephone Costs	0	7,132	0	0	3,55,129
Electricity	0	1,95,039	0	0	5,10,546



Table F7: NSTI Noida Budget (all figures in INR)

Name	FE (thousand)	Monthly Exp.	Progressive	Total Progressive Exp. thousand	%age Exp.
Salaries	40000	233203	39814772	39815	100
Wages	50	24808	43958	44	88
Overtime	0	0	0	0	0
Medical Treatment	770	100467	428071	428	56
Domestic Travel Exp.	664	137381	571289	571	86
Office Expenses	8700	1511867	8413998	8414	97
Rent Rate & Taxes	0	0	0	0	0
Publications	0	0	0	0	0
Other Adm. Expenses	140	90003	133436	133	95
Supplies & Material	760	423686	712720	713	94
Advertising & Publicity	120	0	18986	19	16
Minor Works	6513	0	625139	6259	96
Professional Services	1340	343770	1328120	1328	99
Scholarships & Stipends	0	0	0	0	0
Other Charges	0	0	0	0	0
Total	19057	2631982	17909717	17910	94
Total (Al. + Non Sal.)	59057	2865185	57724489	57724	98
Capital Section					
Motor Vehicles	0	0	0	0	0
Machinery Equipment	5100	1248538	4812777	4813	94
Total	5100	1248538	4812777	4813	94
Grand Total	64157	4113723	62537266	62537	97



Table F8. Financial Powers of an ITI in Delhi

Sl No.	Nature of Power	Powers of Head Of Office	Power of Head of Department	Powers of the HOD delegated to the Principal ITI's / Dy. Apprent. Advisor
1	Contingent Expenditure [Unspecified Items (Non Recurring)]	INR 6,000/- per annum in each case	INR 5,00,000/- per annum in each case	INR 50,000/- per annum in each case
2	Fixtures and Furniture's (a) Repairs		Full Powers	Full Powers
3	(a) Hiring of: Office furniture, electric fans, heaters, coolers, and call bells	INR 2,500/- per annum per office for hire of furniture, electric fans & clocks	Full Powers	INR 1,50,000/- per annum
4	(a) Purchase of Official Publications	INR 2,000/- per annum	Full Powers	INR 20,000/-
i	(b) Purchase of non-official publications include books, newspaper, other periodical publications, etc.	Nil	Full Powers	INR 10,000/-
	(a) Repairs to and removal of machinery (where the expenditure is not of a capital nature)	Nil	Full Powers	Full Powers
	(b) Repairs / Periodical servicing / AMC of machinery and equipments	INR 5,000/- per annum	Full Powers	INR 20,000/-
5	(a) Purchase of Stationery Stores	INR 10,000/- per annum	INR 25,00,000/- per annum in each case	INR 1,00,000/- per annum
6	(b) Purchase of rubber stamp	INR 500/- per annum	Full Powers	INR 1,000/- per annum
7	Advance drawal of money on abstract bill for eeting contingent expenditure where advance drawal is inevitable	Nil	Full Powers (subject to the conditions as specified in col.6)	INR 20,000/- per annum
8	Stores: (A) Other stores i.e. stores required for the working of an establishment; instruent, equipment, and apparatus	INR 10,000/- per annum	Full Powers	Full Powers



SI No.	Nature of Power	Powers of Head Of Office	Power of Head of Department	Powers of the HOD delegated to the Principal ITI's / Dy. Apprent. Advisor
	(b) Purchase of equipment of Training Institute	INR 10,000/- per annum	Full Powers	Full Powers
9	Printing and binding (private printers / press)	INR 10,000/- per annum	INR 15,00,000/- per annum in each case, if the job is executed locally	INR 30,000/- per annum, if the job is executed is locally
10	Disposal of obsolete surplus or unserviceable stores	INR 10,000/- at one time	Up to 20,00,000/- at a time, subject to acceptance of the recommendations of the Condemnation Board by the competent authority	Up to 10,00,000/- at a time, subject to acceptance of the recommendations of the Condemnation Board by the Principal being the competent authority
11	Merits, awards, stipends, loans, and other educational scholarship to students	Nil	Full Powers, subject to approved scale / pattern	Full Powers, subject to approved scale / pattern
12	Payment of publicity charges on DAVP rates or on rates approved by Government of NCT of Delhi	Nil	Full Powers	Full Powers
13	Payment of remuneration to part time teachers / Guest Speakers, etc	Nil	Full Powers	Full Powers
14	Payment of registration fee for seminars / conferences	Nil	Full Powers	Full Powers
15	GPF Withdrawal	Nil	Full Powers	Full Powers

Source: Vide Directorate of Training & Technical Education , Govt. of NCT of Delhi Order No. F.1(2)/DTTE/AC/DFPR/2021-22/5442 to 5449 dated 23/12/2021.



Table F9: Per seat cost analysis (Govt ITI)

State	Name of ITI	Cummulative Expenditure (2020-21) INR	No. of seat available	No. of trained students	Per student Cost on basis of student trained INR	CSS scheme
Haryana	ITI (Women) Faridabad	1,40,18,502	1296	647	21,666.93	NA
Haryana	ITI, Pali Faridabad	1,22,76,000	264	105	1,16,914.29	PPP
Haryana	ITI Fatehpur Billoch	88,18,937	184	109	80,907.68	NA
Delhi	ITI DHIR PUR	10,58,19,000	1684	793	1,33,441.36	VTIP and strive
Delhi	ITI KHICHRI PUR	6,68,70,000	912	330	2,02,636.36	PPP and strive
Delhi	ITI Pusa	14,05,60,000	2520	742	1,89,433.96	Model ITI
Delhi	ITI SHAHDARA	8,85,25,000	936	299	2,96,070.23	PPP
Delhi	ITI NARELA	5,31,10,000	728	317	1,67,539.43	PPP and strive
Delhi	ITI ARAB KI SARAI	15,84,70,000	2120	796	1,99,082.91	Covered under VTIP
Delhi	BTC Pusa	6,53,67,000	760	336	1,94,544.64	NA
Delhi	ITI NAND NAGRI	8,28,50,000	1424	627	1,32,137.16	PPP
Delhi	ITI MAL NAGAR	4,68,65,000	980	239	1,96,087.87	PPP
Delhi	ITI JAFAR PUR	4,61,54,000	564	291	1,58,604.81	PPP
Delhi	ITI JAIL ROAD	9,50,13,000	1244	664	1,43,091.87	Covered under VTIP
Delhi	ITI SIRI FORT	5,44,25,000	1160	402	1,35,385.57	PPP
Delhi	ITI MORI GATE	3,51,55,000	348	156	2,25,352.56	PPP
Delhi	ITI TILAK NAGA (W)	2,33,70,000	232	137	1,70,583.94	NA
Delhi	ITI JAHAN PURI	6,62,41,000	832	364	1,81,980.77	PPP
Delhi	ITI VIVEK VIHAR	4,38,06,000	288	235	1,86,408.51	NA
Delhi	ITI MANGOLPURI	5,44,00,000	96	0		NA
Total		88,97,03,439	16,776	6,697	2367545.081	0

Note: No. of trained students need to be confirmed as on MIS it is not given whether it is annual figure or cumulative figure(which year of data) Source: Annual Budget estimate has been taken from respective ITIs and no. of student's trained from NCVT MIS portal





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NITI Aayog