



Infrastructure Development of Industrial Estates of Tripura

Skills and Capacity Development Plan

March 2024

Final

FOREWORD

Secretary to Government of Tripura

Department of Industries and Commerce

Tripura has tremendous development potential due to its natural resources and connectivity to the neighbouring countries. Industrial development in Tripura is critical to provide economic opportunities for MSMEs and job opportunities for youth. Development of industrial infrastructure in Tripura will not only give an impetus to economic development of the state, it is expected to have cross-border implications in facilitating transportation and regional trade, and is pivotal in implementing India's Act East Policy.

Government of Tripura is working at an enhanced pace to develop infrastructure in the state. Lately, there has been an interest by various industries to establish and operate from Tripura due to these strengths as well as support provided by the state government. The Department of Industries has also developed a strategy to attract industries in identified priority sectors. This will also provide job opportunities and entrepreneurship avenues to the youth of the state. To achieve this, developing the right skills in the state at all levels- from government institutions to the future workforce- is necessary.

The skill ecosystem of Tripura comprises of various stakeholders including Department of Industries, Directorate of Skills development, 19 government ITI, 2 private ITI, 6 state government Polytechnics, National Skills Training Institute, and Training Partners under various schemes. Various steps are being taken by the Government of Tripura to assess the skills gap, enhance seat utilisation across trades, and put in place mechanisms for better opportunities for its youth as well as reliable workforce for the industries.

The emerging sectors in the state require skilled workers to enable them to be more productive and efficient. The skilling ecosystem has to be inclusive, market-responsive, and provide adequate and equal opportunities for the workforce in Tripura.

This study highlights critical gaps, both current and emerging, in line with the industrial strategy/outlook of the state. These gaps need to be addressed by strengthening the skilling ecosystem keeping pace with market demand. This report will be useful to all the stakeholders engaged in the skilling ecosystem- both in public and private sector- and provides a guide map for actions to be undertaken for strengthening the skilling ecosystem in the state.

I would like to acknowledge the Asian Development Bank for lending support for this important study that highlights the specific areas which require skill development along with an action plan, and will enable the government of Tripura take progressive actions for enhancing skilling opportunities for the youth.

PREFACE

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Managing Director

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Government of Tripura

The state of Tripura and Asian Development Bank (ADB) has started a strategic engagement for the development of the state. ADB has been supporting Tripura in various sectors, viz. Transport, Industry, Energy, Urban and Municipal Affairs, and Tourism. Tripura Industrial Development Corporation Limited (TIDCL) has been engaged with ADB for the development and upgradation of industrial estates in the state. ADB provided a Project Readiness Financing (PRF) facility for the infrastructure development of industrial estates and bring in policy and regulatory improvement in Tripura. ADB has already conducted a study on the development of North East Economic Corridor (NEEC) that identified various actions required at infrastructure, institutional, policy and regulatory levels.

The recent studies conducted through the PRF by TIDCL aim to chart an industrial development path for the state through undertaking demand assessment, infrastructure assessment, policy and institutional mapping, and have identified potential sectors for industrial investments in the state. The studies have also highlighted the need to address the policy, institutional, and skill gaps in the state to spur growth and investments. The studies identified potential sectors of industrial growth based on the current trends, demand in the region and other lucrative markets, and the strengths and resources available within Tripura. A few priority sectors such as Rubber, Bamboo, and Food processing have been identified with high potential to spur economic growth, and where significant investments can be mobilised. Other sectors such as medical devices, natural gas, agar, automobiles, etc. have also been assessed and prioritised for next phase.

During these studies and consultations across industry value chains, skill gaps became evident. Especially in a business scenario of attracting and sustaining substantial investments from industries the skill gap seems to be very large. To ensure that infrastructure, institutional, and policy interventions are successful, skill gap needs to be addressed on a priority basis. Hence, this study was undertaken to determine skill adequacy with respect to emerging industries and technology, assess the current skill ecosystem in the state and prepare an action plan to strengthen this ecosystem.

This report on 'Skills and Capacity Development Plan' captures insights from research and interactions on the current skilling ecosystem, estimation of workforce requirement, and recommendations to address the skill gap. The study builds on previous reports on Industry Strategy and Infrastructure Assessment, and the 2022 District Skill Development Plan reports of Tripura. The feedback received on the assessment, findings and recommendation of the report, from stakeholder consultation workshops has further helped identify the next steps and strengthen the action plan.

This report will help readers gain insights on the emerging opportunities in Tripura's skilling ecosystem, and is one step forward in enabling a skills ready workforce in Tripura.

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List of Abbreviations Used

ADB	Asian Development Bank
BCDI	Bamboo and Cane Development Institute
CII	Confederation of Indian Industries
CIPET	Central Institute of Petrochemicals Engineering & Technology
CTS	Craftsmen Training Scheme
CTTC	Central Tool Room and Training Centre
DGT	Directorate General of Training
DoSD	Directorate of Skill Development
DPIIT	Department for Promotion of Industry and Internal Trade
EA	Executing Agency
GoT	Government of Tripura
GSDP	Gross State Domestic Product
IA	Implementing Agency
IIE	Indian Institute of Entrepreneurship
IIM	Indian Institute of Management
ISB	Indian School of Business
ITI	Industrial Training Institute
KGTTI	Karnataka German Technical Training Institute
MSDE	Ministry of Skill Development and Entrepreneurship
MTs	Million Tons
NAPS	National Apprenticeship Promotion Scheme
NEC	Northeastern Council
NIESBUD	National Institute for Entrepreneurship and Small Business Development
NIFTEM	National Institute of Food Technology Entrepreneurship and Management
NCVET	National Council for Vocational Education and Training
NOS	National Occupation Standard
NSDC	National Skill Development Corporation
NSDF	National Skill Development Fund
NSQF	National Skills Qualification Framework
NSTI	National Skill Training Institute
PD	Project Director
PFME	PM formalization of Micro Food Processing Enterprises
PIA	Project Implementation Agency
PMKVY	Pradhan Mantri Kaushal Vikas Yojana
PMU	Project Management Unit
PPP	Public-Private Partnership
PRF	Project Readiness Financing
QP	Qualification Pack
RCPSDC	Rubber, Chemical and Petrochemical Skill Development Corporation
RPL	Recognition of Prior Learning
RSDC	Rubber Skill Development Council
RSETI	Rural Self Employment and Training Institute
SANKALP	Skill Acquisition and Knowledge Awareness for Livelihood Promotion
SCVT	State Council for Vocational Training
SOFED	Society for Entrepreneurship Development
SSC	Sector Skill Council
TBM	Tripura Bamboo Mission
TIDCL	Tripura Industrial Development Corporation Limited
TP	Training Partner
ToT	Training of Trainer
TRLM	Tripura Rural Livelihood Mission

TSDM	Tripura Skill Development Mission
TTAADC	Tripura Tribal Areas Autonomous District Council

1. Background

1.1 About the Project

The Government of Tripura (GoT) has applied for financing under Project Readiness Financing (PRF) facility from the Asian Development Bank (ADB). The PRF loan is sought for project readiness activities, for preparing a sector development program and preparation of the project and design activities for investment-ready ensuing project(s) for the “Infrastructure Development of Industrial Estates in Tripura” in and around 15 industrial estates of 6 districts in the state. The Department of Industries & Commerce (DoI&C), GoT is the executing agency (EA) with Secretary, DoI&C as the Project Director (PD). The PD will be assisted by a project management unit (PMU) established under implementing agency (IA)–Tripura Industrial Development Corporation Limited (TIDCL) with suitable resources.

The expected outputs of the PRF loan are (a) Output 1: sector strategy and investment plans prepared; (b) Output 2: feasibility studies, due diligence and detailed engineering designs for priority subprojects completed; and (c) Output 3: institutional capacity development strengthened. As a part of PRF loan, five individual consultants from PricewaterhouseCoopers Private Limited (PwC) are recruited to support the EA/ IA and PMU-TIDCL in project readiness activities for preparing a sector development program and for initial stage of PRF project preparatory work of Outputs 1 and 3.

1.2 Skills and Capacity Development for the Project

Of the five individual consultants, the ‘Skills and Capacity Development Expert’ has been engaged by TIDCL to determine skill adequacy with respect to emerging industries and technology and prepare an action plan to meet the skills gap. Building on the outputs presented in the Infrastructural Assessment study, the current study aims to develop a strategy and design a roadmap for skill and capacity building to meet the skilled workforce requirements of the manufacturing units. The expert will design the various phases of skill training and workforce development depending on the recommendations made by the Infrastructure Assessment Team. This document is the first draft of the skill plan from the expert and is based on findings from primary interaction with key stakeholders, secondary research, the recommendations made in the “Industry Strategy Report and Infrastructure Assessment Report” and the 2022 District Skill Development Plan (DSDP) reports for each district of Tripura (except Sepahijala).

1.3 Scope of Work

Scope of Work

The scope of work of the Skills and Capacity Development expert is as follows¹:

1. Support the PMU-TIDCL by conducting desk reviews.
2. Carry out close consultations with stakeholders such as training providers, domain experts, and industry practitioners.
3. Technical/ analytical/ advisory inputs to arrive at deliverables of skill mapping.
4. Study of job roles across the value chain.
5. Infrastructure and capacity gap assessment of select Industrial Training Institutes (ITIs).
6. Estimation of skill gap in priority sectors; skill requirement and workforce estimation.

¹ Terms of Reference document

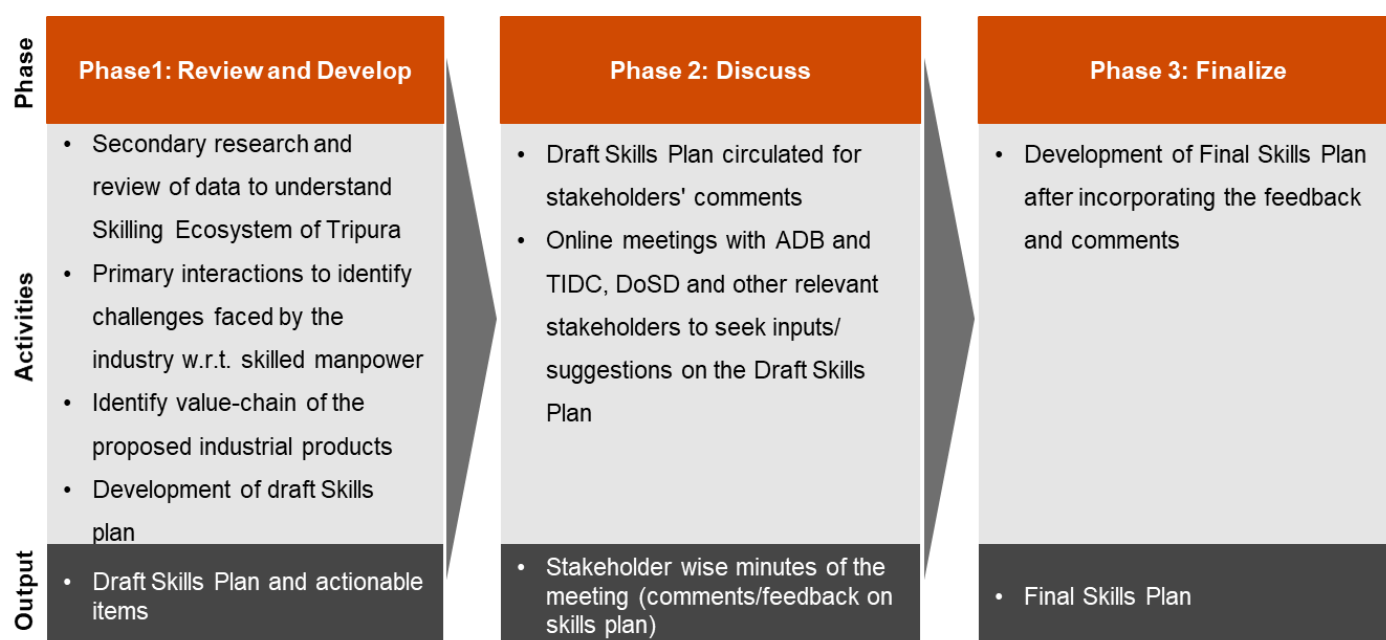
7. Work closely with other national individual consultants recruited under the PRF loan.
8. Handover upstream work/ outputs to the PMU-TIDCL.

Detailed Activities and Deliverables are provided in Annexure 1.

2. Approach to Develop the Skill plan

In line with the study objectives and understanding of the scope of work, the study has been undertaken using a phased methodology. The three distinct but interlinked phases of delivery are broadly categorized into, 1) Review and Develop, 2) Discuss and 3) Finalize. The exhibit below represents these phases:

Figure 1: Approach to Develop the Skill Plan



The approach to Develop the Skill plan covers following key activities:

- Detailed interaction with multiple stakeholders to understand the present skilling scenarios, challenges faced in adopting new skills, the participation of women candidates and their preferred trades, job related challenges.
- Detailed interaction with Industrial units to understand the workforce related challenges, availability of skilled workforce, how they deal with the talent gap, challenges faced due to unavailability of required skilled workforce, measures taken to attract and retain skilled workforce, in-house training methodology, requirement of new skills, preference for certified candidates, and expansion plans, if any.
- Secondary research findings about the value chain of the proposed products.
- Review of District Skill Development Plans (DSDPs) for the State of Tripura and Demographics of the state.
- Review of various schemes and trades on which training is happening in the state.
- Review of women specific training schemes and trades currently active in the state.
- Discussions with ITI regarding challenges faced, and infrastructure and resource gaps
- Identifying the skills, skill gap, interventions to fill the skill gap and action plan for implementation.

3. The Skilling Ecosystem

3.1 Skilling Ecosystem in India

India is home to a fifth of the world's youth population (the age-group of 15-29 years (as defined by National Youth Policy 2014)) and this population advantage could play a critical role in achieving the nation's ambitious target to become a US\$ 5 trillion economy. The country is experiencing a demographic window of opportunity, a "youth bulge" and the youth population will contribute significantly to realize the country's economic potential².

To capture this demographic dividend, it is essential that the economy supports the increase in the labor force, and the youth have the appropriate education, skills, health awareness and other enablers to productively contribute to the economy. The Government of India makes significant investment on programs for the youth, through its various Ministries/ Departments. In addition, the State Governments and other stakeholders are also working to support youth development and to enable productive youth participation.

The skilling journey of India can be traced back to 1956 when National Council for Vocational Training (NCVT) was established, and vocational training was formalised through establishment of ITIs. At present there are more than 15,000 ITIs (both government and private) in the country. Also, the Government has laid special emphasis on short-term training programs and introduced National Skills Qualification Framework (NSQF) levels (based on competency required) to ensure quality of the training imparted.

Figure 2. Key Milestones in Development of Skilling Ecosystem in India³



There have been multiple skilling initiatives and schemes that were undertaken by different Ministries and industry and private bodies to ensure that the youth get employable by acquiring in-demand skills both in India and abroad. However, to consolidate the skilling efforts and bring convergence, Ministry of Skill Development and Entrepreneurship (MSDE) came into existence in the year 2014. The Ministry is responsible for co-ordination of all Skill Development efforts across the country, removal of disconnect between demand and supply of skilled workforce, building the vocational and

² Report titled "Youth in India, 2022" by Ministry of Statistics and Program Implementation, Govt. of India

³ <https://www.msde.gov.in/>

technical training framework, skill up-gradation, building of new skills and innovative thinking not only for existing jobs but also jobs that are to be created⁴.

Some of the key policy interventions undertaken by MSDE are: National Policy for Skill Development and Entrepreneurship, 2015, National Skill Development Mission, establishing Centres of Excellence (CoE), establishing Skill Universities, Common norms for training cost, among others. Further, MSDE has been implementing several initiatives to achieve women empowerment through skill development and to increase the women participation in workforce.

The information about institutions, initiatives, and schemes of MSDE is mentioned in Annexure 2.

3.2 Skilling Ecosystem in Tripura

Skill development is one of the top priorities for the Government of Tripura. The need for it was identified as early as in 2001. The State Government started a self-employment scheme called 'Swavalamban' (self-reliance) to facilitate training, and entrepreneurship development and link it with bank loans. Under the scheme, the training was provided through public private partnership (PPP) by partnering with training providers, central government, and autonomous entities. Skill development became more structured and organized through NSDC and the State scaled up the efforts by forming the State Skill Development Mission (SSDM).

In Tripura, the Directorate of Skill Development (DoSD) under the Department of Industries and Commerce (DoI&C) is the coordinating agency for all skill development efforts of the state⁵. The DoSD was set up after national missions and programs like Skill India, Pradhan Mantri Kaushal Vikas Yojana (PMKVY), Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY), and National Urban Livelihood Mission (NULM) came to light. DoSD works with ITIs, Private Training Partners, Tripura Bamboo Mission (TBM), Rubber Skill Development Council (RSDC) and Assessment Agencies, among others to fulfil its mandate to train and employ youth in various industry sectors. It also implements skill development projects funded by MSDE and state departments. In Tripura, mobilizing people for training is a challenge, hence, the directorate utilizes the administrative system, the Block Development Officer, the gram panchayat, and others in publicizing the training programs directly.

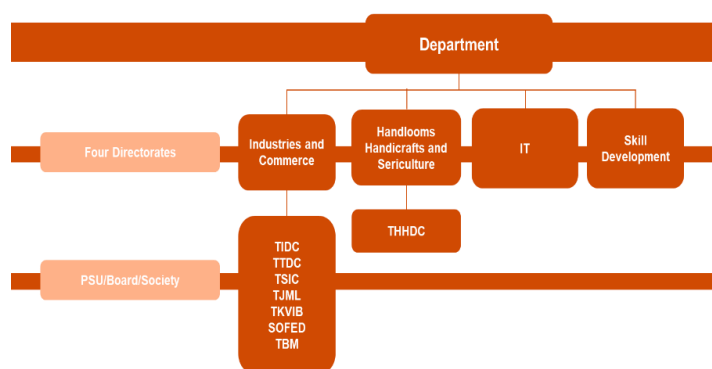
In association with Tata Trust, DoI&C launched world class ITIs in Agartala and Ambassa with an objective to promote private sector participation in skill development in the state. The institutes are expected to evolve as Centre of Excellence (CoE) in automobile engineering, hospitality, and food processing.

Training Implementation in Tripura

The state of Tripura provides training opportunities for technical and vocational skills through a network of partners and schemes mentioned below. The curriculum and course duration varies amongst different schemes and programs.

- Craftsmen Training Scheme through Industrial Training Institutes (ITIs)
- Tripura Skill Development Mission (TSDM)
- Rubber Skill Development Council (RSDC) for short-term Qualification Pack (QP) based training programs
- Skills Strengthening for Industrial Value Enhancement (STRIVE) scheme of MSDE funded by World Bank
- Enhancing Skill Development Infrastructure in North-eastern States (ESDI)
- Government Polytechnic Colleges
- Tripura Bamboo Mission (TBM)

Figure 3. Organizational Structure – DoI&C



⁴ <https://www.msde.gov.in/>

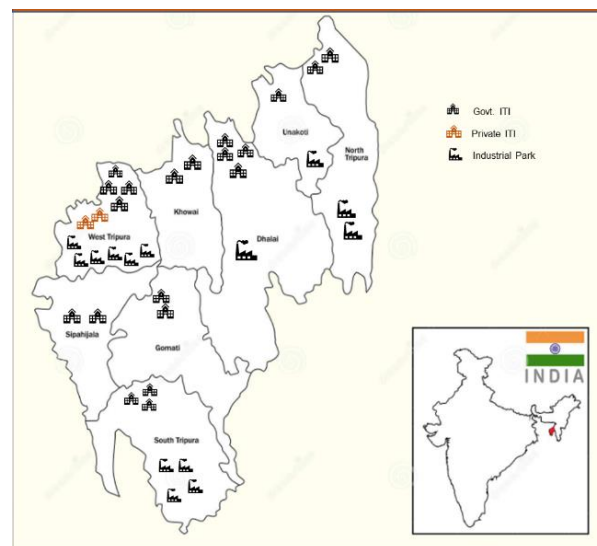
⁵ Tripura.gov.in, Skill Development of Youth in Northeast India: Way Forward – Research by Priyadarsan Amitav Khuntia*, Nationalskillsexpert.in, niti.gov.in

- National Skill Training Institute (W) – Agartala
- Ministry of Food Processing Industries (MoFPI) Incentives: Prime Minister Kisan Sampada Yojana (PMKSY)

ITIs in Tripura

The ITIs are the technical training institutes that offer opportunity to 10th pass candidates in getting trained not only on the theoretical but also the practical application of machines etc. These institutions are equipped with labs and workshops so that the candidates get not only the classroom learning, but also practical and technological experience. There are 19 government ITIs and two private ITIs in Tripura offering training in 27 trades. Of these, three ITIs (ITI Santirbazar, ITI Kanchanpur, and ITI Gandacherra) are newly constructed under ESDI scheme of Government of India. The first ITI in Tripura came into existence in the year 1956 in Indranagar, Agartala with a motive to train workforce in the field of mechanical, electrical, civil, and automobile engineering for meeting the skill requirements of the local industry as well as the state. The government ITIs in Tripura provide training programs in more than 20 trades, offering 4830 seats with a utilisation of 73%. The details about ITIs are provided in Section 4.7 and Annexure 3.

Figure 4. Mapping of ITIs with Industrial Parks



Polytechnics in Tripura

The Polytechnics have been playing an important role in preparing technical workforce for the industries. They train youngsters with specific industry skills from an early age itself to make them employable. In India, polytechnics are set up and run by the state governments or are private institutions with varying degrees of government aid, offering diploma and certificate courses that can be done after Class 10th. Polytechnics have hostel facilities as well.

Presently there are 6 (six) state government polytechnics in Tripura, namely, (1) TIT Polytechnic (2) Women's Polytechnic (WPTI), Hapania, (3) Dhalai District Polytechnic (DDP), Ambassa, (4) Gomati District Polytechnic (GDP), Udaipur, (5) North Tripura District Polytechnic (NTDP), Dharmanagar and (6) TTAADC Polytechnic Institute (TPI), Khumulwng. Apart from these, there are two Government of India Polytechnics in the state, namely, (1) National Institute of Electronics and Information Technology (NIELIT) Agartala, under the Ministry of Communications & Information Technology, Government of India and (2) Central Institute of Plastics Engineering & Technology (CIPET) Agartala, under the aegis of the Ministry of Chemicals & Fertilizers, Government of India. The details about polytechnics are provided in Annexure 3.

National Skill Training Institute (NSTI)⁶

National Skill Training Institute (NSTI) is one of the premier institutes run by the Directorate General of Training (DGT), MSDE, Government of India. It was initially set up in 1963 with the main objective of imparting training to the instructor of ITIs in the country. There are total of 33 NSTIs in India and two in the Northeast states (NSTI (w) Tripura and NSTI (w) Meghalaya). Both these NSTIs are women NSTI.

NSTI(W) Agartala was established in the year 2015. The training is given in trades of Cosmetology, Dressmaking, Secretarial Practice (English) and Office management. Each course has a capacity of 24 candidates. There are no

⁶ Msde.gov.in, <http://ddugky.gov.in/>

courses in the priority sectors of proposed industrial park development⁷. For Craft Instructor Training Programs, the female candidates are sent to other states to get trained. Since it is difficult to get quality instructors in Tripura, through NSTI (w), the aim is to have a good pool of trainers and instructors for popular trades. All the courses are recognised by NCVET and any addition to the existing ones are as per order of Government of India.

Post course completion, the candidates are given placement support, however, due to low wages given by industry (INR 10,000 – 12,000 per month), the focus is more on building the entrepreneurial capacity of the candidates. To enable that, they are also given trainings by National Institute for Entrepreneurship and Small Business Development (NIESBUD). The NSTI has plans to expand with courses for males with trades like welder, fitter, turner, electrician, Mason etc.⁸

Short Term Trainings (PMKVY and DDUGKY combined)

There are 35 Training Partners (TPs) spread across Tripura⁹ who provide short term training in 64 trades in 20 sectors. The most popular sector is Beauty and Apparel (7 trades, 25 TPs providing training) followed by Tourism and Hospitality (7 trades, 20 TPs providing trainings). We observed an inadequate training infrastructure to support the skilled workforce requirements for Rubber, Bamboo and Food Processing sector industries proposed in the state available through the training partners. The information about short term courses offered is provided in Annexure 4.

Bamboo and Cane Development Institute, Tripura¹⁰

Established in 1973 in Agartala, Tripura, the institute's aim has been to work towards capacity building, training on new products, market linkages and research and development activities in the Bamboo Sector. The centre has been championing development of new bamboo-based products and ensuring market linkages for the same.

All the key training schemes of Government of India are implemented in Tripura such as ITI (for NCVT courses), Polytechnics, NSTI, Sector Skill Council (SSC) led short-term skill development programs, World Bank funded STRIVE and SANKALP schemes, PMKVY, among others.

4. Key Insights

4.1 Key Insights based on review of District Skill Development Plans

Below is a district wise snapshot to understand the present skill development scenario for each district of Tripura. It is based on the review of the District Skill Development Plans (DSDPs) developed by DoSD. DSDPs are prepared by districts at behest of Ministry of Skills Development and Entrepreneurship (MSDE), GoI as a decentralised approach to strengthen the skill ecosystem and are expected to guide the skill interventions under State and Central schemes. Tripura's DSDPs referred in this report were finalised in August 2022 for Year 2022-2023. The table also highlights the mapping of target sectors to industrial parks and proposed industries in target sectors based on the Industrial Strategy report.

District North Tripura

Table 1: Brief of Skilling Ecosystem in North-Tripura District

No. of ITIs	
No. of Polytechnics	1
Trades on which training is given (ITIs, Training Partners, Polytechnics)	Assistant Electrician
	Home Care Support
	Advance Care Support
	Sample Collection Support

⁷ Tripura Industrial Development Corporation Limited (TIDCL) engaged consultants to conduct market studies and prepare an industrial strategy for the state. The consultants have done assessment of potential sectors for industrial development and identified Bamboo, Rubber and Food processing as some of the priority sectors for the state.

⁸ Based on Primary interaction with Principal NSTI(W), Agartala

⁹ <https://employment.tripura.gov.in/>

¹⁰ Role of Bamboo and Cane Development Institute in upgrading and disseminating bamboo handicrafts, <https://worldbamboo.net/>

	Computer Operator and Programming Assistant		
	Fashion Design & Technology		
	Welder		
	Electrician		
	Electronic Mechanic		
	Mechanic Motor Vehicle		
	Wireman		
	Dress Making		
	Plumber		
	Surveyor		
	Customer Care Executive (Call Centre)		
	Retail Sales Associate		
	F&B Service: Steward		
	Field Technician Networking & Storage		
	Domestic Data Entry Operator		
Industrial Parks ¹¹ and Identified Sectors ¹²			
Industrial Park	Bamboo	Rubber	Food Processing
Dharamnagar Industrial Estate			
Dewanpassa Integrated Infrastructure Development Centre			
Proposed Industries in the District	Timber Substitute		Canned pineapple
	Agarbatti		Pineapple squash
	Floor Panels		Pineapple concentrates
			Frozen pineapple snacks
			Pineapple pulp
			Canned jack fruit bulbs
			Dried jack fruit slices
			Preserves/ Jams
			Fruit snacks
			Orange juice, frozen, not fermented or spirited
			Orange juice, not frozen, of a Brix value not greater than 20
			Orange juice, not fermented, spirited, or frozen
			Essential oils of orange
Key highlights about skilling			
<ul style="list-style-type: none">Sectors proposed in the industrial parks – Bamboo and Food ProcessingSectors in which skilling is happening presently – IT-ITeS, Electronics, Hospitality, Tourism, Beauty & Apparel, Retail and AutoSectors in which training is planned in DSDP – Agriculture and Capital GoodsGap – Skilling initiatives required for Food Processing sector and Bamboo sector to meet the requirements for proposed industries¹³			

District Unakoti

Table 2: Brief of Skilling Ecosystem in Unakoti District

No. of ITIs	
No. of Polytechnics	0
No. of Training Partners	5
Trades on which training is given (ITIs, Training Partners, Polytechnics)	Stenography (English)
	Computer Operator and Programming Assistant
	Desktop Publishing Officer
	MMV
	Draughtsman
	Surveyor

¹¹ <http://trpervis.ni-c.in/>

¹² Final Industrial Strategy Report, TIDCL

¹³ Section 6 provides details on skill requirement, proposed courses, along with aggregate workforce projections.

	Fitter		
	Information Communication Technology System Maintenance		
	Mechanic (Refrigeration and Air conditioner)		
	Mechanic Medical Electronics		
	Electronics Mechanic		
	Electrician		
	Front Office Associate		
	Retail Sales Associate		
	Airport Safety Crew		
	Mason General		
	Hair Stylist		
	Light Motor Vehicle Driver		
	Self Employed Tailor		
	Handset Repair Engineer		
	Latex Harvest Technician		
	Latex Harvest Technician (Tapper)		
	Domestic IT Helpdesk Attendant		
	Field Technician Computing Peripherals		
Industrial Parks ¹⁴ and Identified Sectors ¹⁵			
Industrial Park	Bamboo	Rubber	Food Processing
Kumarghat Industrial Estate			
Proposed Industries in the District	Timber Substitute		Canned pineapple
	Agarbatti		Pineapple squash
	Floor Panels		Pineapple concentrates
			Frozen pineapple snacks
			Pineapple pulp
			Canned jack fruit bulbs
			Dried jack fruit slices
			Preserves/ Jams
			Fruit snacks
			Orange juice, frozen, not fermented or spirited
			Orange juice, not frozen, of a Brix value not greater than 20
			Orange juice, not fermented, spirited, or frozen
		Essential oils of orange	
Key highlights about skilling			
<ul style="list-style-type: none">Sectors proposed in the industrial park – Bamboo and Food ProcessingSectors in which skilling is happening presently – IT-ITeS, Construction, Automobile, Beauty and Apparel, RubberSectors and skills in which training is planned – Soft-skill training, Agriculture and Animal Husbandry, Tourism and Hospitality, Beauty, Wellness and Apparel, Construction, RubberGap – No skilling happening to support workforce requirements for Bamboo and Food processing industry therefore initiatives required for these sectors.¹⁶			

District West Tripura

Table 3: Brief of Skilling Ecosystem in West Tripura District

No. of ITIs	5
No. of Polytechnics	4
Trades on which training is given (ITIs, Training Partners, Polytechnics)	Food & Beverage Service
	Domestic Data entry Operator
	Technical Support Executive (Non-Voice)
	Food & Beverage Service-Steward

¹⁴ <http://trpensis.nic.in/>

¹⁵ Final Industrial Strategy Report, TIDCL

¹⁶ Section 6 provides details on skill requirement, proposed courses, along with aggregate workforce projections.

	Sewing Machine Operator		
	Assistant Beauty Therapist		
	Trainee Associate		
	General Duty Assistant		
	BPO Voice		
	Hospitality Assistant		
	Front Office Associate		
	CCTV Installation Technician		
	Airline Reservation Agent		
	Solar PV Installer (Surya Mitra)		
	Assistant Hair Stylist		
	Bamboo Utility Handicraft Assembler		
	Medical Sales Representative		
	Self Employed Tailor		
	Mason General		
	Bar Bender & Steel Fixer		
	Assistant Electrician		
	Unarmed Security Guard		
	Gardener		
Retail Sales Associate			
Industrial Parks ¹⁷ and Identified Sectors ¹⁸			
Industrial Park	Bamboo	Rubber	Food Processing
BodhjungNagar			
RK Nagar			
Nagicherra			
Dukli			
Badharghat	No Recommendation		
AD Nagar	No Recommendation		
Proposed Industries in the District	Timber Substitute	Latex Gloves	Canned pineapple
	Agarbatti	Floor mats	Pineapple squash
	Floor Panels	Male / Female contraceptives	Pineapple concentrates
		Vehicular Tyres	Frozen pineapple snacks
		Vehicular Tyre Tubes	Pineapple pulp
			Canned jack fruit bulbs
			Dried jack fruit slices
			Preserves/ Jams
			Fruit snacks
			Orange juice, frozen, not fermented or spirited
			Orange juice, not frozen, of a Brix value not greater than 20
			Orange juice, not fermented, spirited, or frozen
			Essential oils of orange
Key highlights about skilling			
<ul style="list-style-type: none">Sectors proposed in the industrial parks – Rubber, Bamboo and Food ProcessingSectors in which skilling is happening presently – IT-ITeS, Construction, Automobile, Beauty and Apparel, Rubber, Bamboo, Tourism and HospitalityGap – Skills like machine operator, innovative Bamboo Products, other skills which are more relevant for the industries proposed are missing both in the current and planned trainings.¹⁹			

District Dhalai

Table 4: Brief of Skilling Ecosystem in Dhalai District

¹⁷ <http://trpervis.nic.in/>

¹⁸ Final Industrial Strategy Report, TIDCL

¹⁹ Section 6 provides details on skill requirement, proposed courses, along with aggregate workforce projections.

No. of ITIs		4	
No. of Polytechnics		1	
Trades on which training is given (ITIs, Training Partners, Polytechnics)		Mushroom Grower (small entrepreneur)	
		Organic Grower	
		Self Employed Tailor	
		Latex Harvest Technician (Tapper)	
		Automotive Service Technician (Two & Three-wheeler)	
		Computer Operator and Programming Assistant	
		Desktop Publishing Operator	
		Draughtsman Civil	
		Dressmaking	
		Electrician	
		Electronics Mechanic	
		Fashion Technology	
		Fitter	
		Information Technology & Electronics and System Maintenance	
		Interior Design and Decoration	
		Mechanic Diesel	
		Mechanic Motor-vehicle	
		Mechanic Radio & Television	
		Mechanic AC and Refrigeration	
		Plumber	
		Sanitary Hardware Fitter	
		Stenography	
		Surveyor	
		Turner	
		Welder (Structural)	
		Wireman	
Industrial Parks ²⁰ and Identified Sectors ²¹			
Industrial Park	Bamboo	Rubber	Food Processing
Lalchari, Ambasa			
Proposed Industries in the District			Canned pineapple
			Pineapple squash
			Pineapple concentrates
			Frozen pineapple snacks
			Pineapple pulp
			Canned jack fruit bulbs
			Dried jack fruit slices
			Preserves/ Jams
			Fruit snacks
			Orange juice, frozen, not fermented or spirited
			Orange juice, not frozen, of a Brix value not greater than 20
			Orange juice, not fermented, spirited, or frozen
			Essential oils of orange
Key highlights about skilling			
<ul style="list-style-type: none">Sectors proposed in the industrial parks – Food ProcessingSectors in which skilling is happening presently – IT-ITeS, Construction, Automobile, Beauty and Apparel, Rubber, AgricultureGap - Training on skills required for Food Processing industries is needed²².			

District Gomti

Table 5: Brief of Skilling Ecosystem in Gomti District

²⁰ <http://trpensis.nic.in/>

²¹ Final Industrial Strategy Report, TIDCL

²² Section 6 provides details on skill requirement, proposed courses, along with aggregate workforce projections.

No. of ITIs		2	
No. of Polytechnics		1	
Trades on which training is given (ITIs, Training Partners, Polytechnics)		Domestic Data Entry Operator	
		Chauffeur	
		Sewing Machine Operator	
		Light Motor Vehicle Driver	
		Computer Operator and Programming Assistant	
		Information Technology & Electronics and System Maintenance	
		Mechanic Motor-vehicle	
		Mechanic Radio & Television	
		Interior Decoration and Designing	
		Computer Science and Technology	
		Diploma in Civil Engineering	
		Diploma in Electrical Engineering	
		Welder (Structural)	
Wireman			
Industrial Parks ²³ and Identified Sectors ²⁴			
Industrial Park	Bamboo	Rubber	Food Processing
None			
Key highlights about skilling			
No Industrial Park, therefore, no skill gap is identified w.r.t. industry requirements, however with other neighboring districts of Dhalai, Khowai, South Tripura, Sepahijala and West Tripura where there are industrial parks, the youth of the district can be trained to work in the neighboring districts.			

District South Tripura

Table 6: Brief of Skilling Ecosystem in South Tripura District

No. of ITIs		3	
No. of Polytechnics		0	
Trades on which training is given (ITIs, Training Partners, Polytechnics)		Computer Operator and Programming Assistant	
		Electrician	
		Welder	
		Sanitary Hardware Fitter	
		MMV	
		Electronic Mechanic	
		Wireman	
		Draughtsman	
		Stenography	
		Electrical Technician	
		Domestic Data Entry Operator	
		Mushroom Grower	
		Paper Bag Making	
		Light Motor Vehicle Driver	
		Self Employed Tailor	
		Assistant Beauty Therapist	
		Latex Harvest Technician	
		Bamboo Utility Handicraft Assembler	
Industrial Parks ²⁵ and Identified Sectors ²⁶			
Industrial Park	Bamboo	Rubber	Food Processing
Jalefa, Sabroom			
Dhajanagar (Udaipur)		None	
Sarashima, Belonia			

²³ <http://trpensis.nic.in/>

²⁴ Final Industrial Strategy Report, TIDCL

²⁵ <http://trpensis.nic.in/>

²⁶ Final Industrial Strategy Report, TIDCL

Santirbazar			
		Latex Gloves	Canned pineapple
		Floor mats	Pineapple squash
		Male / Female contraceptives	Pineapple concentrates
		Vehicular Tyres	Frozen pineapple snacks
		Vehicular Tyre Tubes	Pineapple pulp
			Canned jack fruit bulbs
			Dried jack fruit slices
			Preserves/ Jams
			Fruit snacks
			Orange juice, frozen, not fermented or spirited
			Orange juice, not frozen, of a Brix value not greater than 20
			Orange juice, not fermented, spirited, or frozen
			Essential oils of orange
Key highlights about skilling <ul style="list-style-type: none"> • Sectors proposed in the industrial parks – Food Processing, Rubber • Sectors in which skilling is happening presently – IT-ITeS, Electronics, Automobile, Beauty and Apparel, Rubber, Agriculture, Bamboo • Sectors and skills in which training is planned – Agriculture and Animal Husbandry, IT-ITeS, Entrepreneurship • Gap - Although demand is identified for almost all the sectors, the planned skill intervention focuses more on Agriculture and Animal Husbandry practices related training and IT-ITeS sector. 			

District Sepahijala

Table 7: Brief of Skilling Ecosystem in Sepahijala District

No. of ITIs	2
No. of Polytechnics	0
Trades on which training is given (ITIs, Training Partners, Polytechnics)	Latex Harvest Technician (Tapper) Organic Grower Self Employed Tailor Bamboo Utility Handicraft Assembler Front Office Associate Retail Sales Associate Documentation Assistant DTH Set top box Installer & Service Technician Assistant Electrician Sewing Machine Operator Street Food Vendor Showroom Hostess - Customer Relation Executive Mushroom Grower (Small Entrepreneur) Field Technician Computing Peripherals Light Motor Vehicle Driver Draughtsman Civil Dressmaking Electrician Electronics Mechanic Information communication technology system maintenance Pump Operator cum Mechanic Stenographer and Secretarial Assistant Surveyor Plumber Mason Automotive Repair Dress Making COPA (Computer operator and Programming Assistant)

Industrial Parks ²⁷ and Identified sectors ²⁸			
Industrial Park	Bamboo	Rubber	Food Processing
None			

District Khowai

Table 8: Brief of Skilling Ecosystem in Khowai District

No. of ITIs	2
No. of Polytechnics	1
Trades on which training is given (ITIs, Training Partners, Polytechnics)	Mason
	Pump Operator cum Mechanic
	Computer Aided Embroidery and Designing
	Makeup Artist
	Consignment Booking Assistant
	Computer Operator and Programming Assistant
	Desktop Publishing Operator
	Draughtsman Civil
	Retail Sales Associate
	Electrician
	Electronics Mechanic
	Fashion Technology
	Fitter
	Information Technology & Electronics and System Maintenance
	Bamboo Utility Handicraft Assembler
	Mechanic Diesel
	Domestic Data Entry Operator
	Self Employed Tailor
	Chauffeur/Taxi Driver
	Street Food Vendor
	Beauty Therapist
Industrial Parks ²⁹ and Identified sectors ³⁰	
No Industrial Park in this District	

The table below summarises the key insights from all 7 DSDPs.

Table 9: Summary of Insights from 7 DSDPs

Districts	Trades on which Skilling planned as per DSDPs	Interventions proposed in DSDPs
North Tripura	<ul style="list-style-type: none"> Operator – Arecanut Plate Bending Machine (new job-role) Skill Training on Agarwood Processing (New job-role) 	<ul style="list-style-type: none"> Introducing new QPs at NSQF level 2 Skilling through existing and new training centres
Unakoti	<ul style="list-style-type: none"> Agriculture Sector Trades Animal Husbandry Sector Tea Plantation Worker Healthcare Tourism and Hospitality Beekeeping Apparel Beauty and Wellness 	<ul style="list-style-type: none"> Capacity building of training partners by helping them in expansion and including more trades for training Identifying Government colleges and institutes and onboarding them to utilize their resources for skill training Identifying institutions like ITIs, KVKs, Fisheries Department, Zonal Vocational Training Centres etc. for capacity building Workshop with District Skill Committee (DSC) and line department for upskilling the youth

²⁷ <http://trpervis.nic.in/>

²⁸ Final Industrial Strategy Report, TIDCL

²⁹ <http://trpervis.nic.in/>

³⁰ Final Industrial Strategy Report, TIDCL

Districts	Trades on which Skilling planned as per DSDPs	Interventions proposed in DSDPs
	<ul style="list-style-type: none"> Construction Rubber Injection Moulding Operator Latex harvest Technician 	<ul style="list-style-type: none"> Promotion of Entrepreneurship Development Programs (EDP) Training youth on soft skills to make them more employable
West Tripura	<ul style="list-style-type: none"> Baking Technician/ Operative Dairy Products Processor Fish and Sea Food Processing Technician Spice Processing technician Recyclable waste Collector & segregator Solar Lighting Technician: Home Lighting System, Street Light Solar PV Installer (Surya Mitra) Bamboo Basket Maker Bamboo Mat Weaver Bearing Maintenance EOT Overhead Crane Operator Fitter -Electrical Assembly Fitter – Instrumentation Fitter – Levelling alignment balancing Gas Tungsten Arc Welding Iron & Steel – Machinist Plasma Cutter Rigger – Rigging of Heavy Material Web Developer Domestic IT Helpdesk Attendant Application Developer – Web and Mobile Domestic Data Entry Operator General Worker – Rubber Plantation Latex Harvest Technician (Tapper) Machine Operator Rubber Nursery Worker Food & Beverage Service Steward Housekeeping Attendant (manual Cleaning) Multi-cuisine Cook Electrical technician HVAC Technician Plumber (General) Elderly Caretaker General Duty Assistant 	<ul style="list-style-type: none"> Focus on high-end courses like software development, android app development, entrepreneurship development, soft skills etc. To implement these, state to support creation of a pool of master trainers for providing training on these skills. Training of Trainers (ToT) to be organized for select no. of candidates per year on 5 different job-roles of priority sectors – Rubber, Bamboo, Tourism and Hospitality, Handicraft and Handloom, Agriculture. Training of assessors for select nos. of candidates per year on state specific priority sectors like rubber, tourism and hospitality, handicrafts and handlooms, agriculture, and bamboo sector, to be imparted by State Skill Development Mission (SSDM). Training on Soft Skills and Employability Skills for the trained youth. Number of candidates – 150 for soft skills in the ITIs/ Degree college/ Polytechnics and Training Partners. Strengthening of DSC (comprising of at least 3 members) to monitor all activities within the district regarding DSDP and update the district administration and State body. The DSDC will play a significant role in Counselling and Monitoring of skill and identify the shortcomings in the on-going skilling related activities. Development of training activity in the district to mobilize candidates. Counsellors to be recruited who will help the candidates in identifying the best suited trade for training.
Dhalai	<ul style="list-style-type: none"> Skills required for food processing unit Ancillary skills like Plumbing, Electrician, Machine technician, Packaging skills etc. Skills in Agri-processing industry, Skills in service industry Entrepreneurs Soft Skills 	<ul style="list-style-type: none"> Intervention with Tribal population in Aspirational Blocks Intervention with Rubber & Honey Production Intervention with Integrated Farming (Plantation/Pisciculture/Duck farming) Strengthening the skill ecosystem of the district with the help of DSC

Districts	Trades on which Skilling planned as per DSDPs	Interventions proposed in DSDPs
Gomti	<ul style="list-style-type: none"> • Trades related to Agriculture • Trades related to Animal Husbandry • Trades related to Beauty and Apparel • Rubber Sheet Processor • Grader 	<ul style="list-style-type: none"> • Strengthening of Government Institutes like ITIs by introducing short term vocational courses • Support in creating a pool of master trainers for skill training • Village and school level awareness drives and workshops to create awareness about skilling programs and motivate the youth to get skilled • Skilling of Highschool and Intermediate students in basic computer skills and soft skills • Forming a district level subcommittee to monitor and evaluate the progress of all skilling related activities
South Tripura	<ul style="list-style-type: none"> • Agriculture and farm Management skills 	<p>Primary Sector</p> <ul style="list-style-type: none"> • Training in High Yielding Variety (HYV) seed utilization and effective soil management • Training on maintenance of irrigation pipes and other farm mechanics • Skills to make value added products of Jute • New technology in livestock management and farm mechanization • Value addition to animal products like production of clean/organic milk etc., meat chilling and meat processing • Brooder house technology for unemployed youth • Self Help Group (SHG) sensitization on hatchery management • Efficient running of Veterinary Hospitals and training of doorstep worker • Training on layer farming <p>Secondary Sector</p> <ul style="list-style-type: none"> • Strengthening of ITI Infrastructure: <ul style="list-style-type: none"> ◦ Induction of identified required NSQF aligned courses ◦ Advanced training institutes can be collaborated with for better mobilization of candidates after training ◦ Training the trainers to update about new technologies as per market demand ◦ An active placement cell to ensure effective collaboration with industries through a Memorandum of Understanding (MOU). ◦ Promotion and implementation of on-the-job-training and apprenticeship in collaboration with industries. ◦ Promotion of self-employment through Prime Ministers Employment Guarantee Program (PMEGP) and Swabolamban. • Utilization of skilled individuals through convergence of existing and upcoming schemes. • Regarding schemes like PMEGP, Swabolamban and Mudra, preference ought to be given to candidates with skill training certificates. • Strengthening of MSMEs
Khowai	<ul style="list-style-type: none"> • Mushroom grower • Automobile • Mobile repairing • Web developer • Agri Extension 	<ul style="list-style-type: none"> • Establishment of Placement cum Counselling support centre for ITI/college students • Improve the livelihood of rubber grower of Khowai through skill development training

Districts	Trades on which Skilling planned as per DSDPs	Interventions proposed in DSDPs
	<ul style="list-style-type: none"> • Computer hardware mechanic • Two-wheeler/Three-wheeler repairing • Table fan, ceiling fan & water pump repairing • Security guard etc. • Latex harvest Technician (Tapper) 	<ul style="list-style-type: none"> • Quality improvement of tribal fish farmers by capacity building of fish production and livestock development • Intervention with one district one product (Rice based product) by ensuring maximum utilization of the product and its allied products • Advance training and online marketing of pottery • Strengthening of District Skill Committee • Job fair, Skill fair and Loan fair at Sub-Division level and identifying and mobilizing of candidates for the same • Training on paper bag making

4.2 Key Insights based on Industry Consultation

Industry consultation was carried out with 11 industrial units spread across three priority sectors of Rubber, Bamboo and Food Processing in the industrial areas of Kumarghat, Bodhjunnagar and RK Nagar.

Most of the units are semi-automated, which means the workforce requirement is high. Some units such as Abhisar Buildwell, Malaya Industries, and Pran Beverages are planning expansion in their capacity by adding new production lines, but scarcity of skilled workforce is proving a deterrent. It was also highlighted that there is limited availability of local mechanics to repair the machines in case of breakdowns.

Industry is of the view that the unskilled workers (both male and female) are available, however, once they get skilled on a trade they move on to another factory/unit for higher wages. The units want skilled/semi-skilled workers on the shop floor as it will reduce the training time and the workers will fast become productive. Some of the units train people for a couple of months on the machinery to ensure that instances of accidents are minimized. The machine vendors also provide trainings on machines they are providing. In some cases, like the smoke house, Trainers from outside the state are engaged to provide trainings and these trained candidates then further train the other candidates. The trained workers do not carry any formal certificate of training, however, the units mentioned that they will be comfortable in hiring workers with certificates as it gives an assurance that they are aware of basic safety measures.

The local ITI trained youth is not open to work in factories as the remuneration is not as per their expectation. They prefer to work in government jobs or take tuitions. Industries further opined that the course content of ITIs is not aligned with industry requirement. The short period the students come to industry for apprenticeship is not sufficient. They believe that there is a gap between demand and supply, and they are not getting enough required manpower / technicians from local ITI institutes. Industry is of the view that ITI course should be divided in such a manner that the student will spend one year in the industry and industry certificate should be made mandatory for qualifying examination, so that students will attend and learn while working in the industry.

The units have different outlook when it comes to wages, while some of them practice wage parity for males and female workers (e.g., Abhisar Buildwell, Pran Industries), some practice differential wages (e.g., Malaya Industries), however the perks remain the same. Units employing female workers maintain separate utility areas (resting rooms, toilet facilities) for them and employ them only for day shifts.

Further, women participation in the manufacturing sector has been restricted to only some industrial units. Agarbatti sector has the highest women employed (90% of the workforce is women – as indicated during the primary consultations). Women workforce is not preferred on shop floor where heavy physical labor is required as it is considered that they are not as physically strong as men and are therefore more prone to accidents due to fainting (because they skipped their meals or fatigue), safety (cannot employ women for late shifts) etc. In Food processing sector, traditionally women workforce is employed at worker level, therefore they do not need special impetus to encourage women participation at this level, however, supervisory, machine operator etc. are the roles which require more participation from women workforce.

In case of Rubber sector also, the manufacturing units do not prefer women workforce for shop floors due to heavy physical work involved. Differences in wages paid is also evident by these units; women are paid marginally less than

men (INR 400 per day for women and INR 450 per day for men). While Rubber blocks manufacturing units employ women for some labor work, smokehouse do not even have a single woman worker and they do not seem to employ women in future also due to the working conditions and physical labor involved. In addition, women workers prefer to work near their homes and due to security reasons, they are employed only for day shifts. With automation of almost all the sectors and examples like 'Ceat Tyres' attracting more and more women in the workshop, it gives us clear indications that with right skilling strategies, we can increase the participation of women in auto-industry (tyre manufacturing) as well.

The consultation with District Industries Centre (DICs) further revealed that training on machines is required to supply trained workforce to existing as well as new industries. Industry currently hires senior machine operators from outside Tripura (primarily from West Bengal) who in turn train local workers under them. There is a need to introduce new trades in ITIs to ensure supply of trained machine operators and other skilled workforce. It was also revealed during the consultation that repair and maintenance of machines is inadequate in the state due to paucity of trained mechanics to do so. Further, it was highlighted that youth is less willing to work in factories due to low wages and even industry is unwilling to provide high wages to skilled people (issue of skill premium).

4.3 Sector specific insights about Skill Development

Bamboo Sector

Skill requirement in bamboo industry can be divided into two sections: (1) industry relevant skills, (2) handicraft skills. Bamboo being the traditional craft of Tripura, most of the handicraft skills are passed down from the previous generations. However, with technological advancements and demand for high quality craft products, there is a need for advanced skilling in the bamboo industry.

The key insights and gaps relevant from the perspective of skill development are mentioned in figure below.

- **Knowledge and skill**
 - Identify mature Bamboo to avoid wastage
 - Treatment of bamboo before deploying it for making product
 - Packaging skill to avoid Bamboo shoots being spoiled during transportation
 - Trades like product design, polishing, finishing, packaging are important
 - Skilled workforce like fitter, turner, electrician is not easily available
 - Industry requires machine operators for new products like bamboo tiles, glue-board etc.
 - Lack of machine mechanics within the industrial park
 - Entrepreneurship skills needed to set up units for new bamboo products like glue-board, crockery and cutlery, bottles etc.
- **Industry**
 - High attrition: Semi-skilled/ unskilled workers leave the unit as soon as they get skilled
 - In the Agarbatti units, 90% of the workforce is women with Recognition of Prior Learning (RPL) certification
 - Participation of women is less in units producing bamboo timber substitute, floor panel etc.
 - Units provide On-the-Job (OJT) to the workers due to limited or no formal skill training facilities
- **Institutional**
 - Limited Bamboo industry related trainings provided by the state skilling ecosystem
 - Bamboo and Handicraft SSC upgrades the existing skills of the artisans through QP based trainings
 - Generic National Occupation Standard (NOS) on packaging and entrepreneurship to be included in all the QPs
 - BCDI conducts training programs and workshops and acts as a resource centre

Food Processing Sector

The key insights and gaps relevant from the perspective of skill development are mentioned below.

- **Knowledge and skill**
 - Limited or no master trainers and limited knowledge about the advanced technology
 - Traditional food processing skills of jams, preserves, canned fruit and juices etc. are known

- Limited knowledge about processing of other products like dehydrated pineapple flakes which are high in demand
- Lack of Quality Control experts - no microbiologist for quality control in food products
- **Industry**
 - Candidates trained in Lathe machine operator skills are not employable
 - No skilled worker available for operating the boiler
 - Majority workforce in food processing is from outside state (Siliguri District of Bengal)
- **Institutional**
 - Ambassa ITI is established with a focus on food processing but there are few enrolments
 - No training institute in Tripura for training on technology for dehydrated fruits
 - Under PMKVY 3.0, candidates from Tripura were sent to Bangalore for training
 - Lack of co-ordination between the academia and industry
 - industry needs technological know-how on processing of produces like jackfruit, pineapple etc., while the state agriculture institute does not have the trainers
 - there are more than 60 QPs and multiple new QPs are under development, however, training is limited

Rubber Sector

The key insights and gaps relevant from the perspective of skill development are mentioned below.

- **Knowledge and skill**
 - Technical skilled workforce is sourced from other parts of the country as these skills are not readily available in Tripura
 - Skill gaps exist in terms of Industry relevant skills like:
 - machine operators
 - ancillary skills like electricians, mechanics, (heavy commercial vehicles and light motor vehicles), drivers for heavy commercial vehicles
 - No formal training before starting to work as a tapper
 - improper tapping techniques reduces the productive life of the rubber tree
- **Industry**
 - No dearth of unskilled labor, however, loading of finished blocks is done by contractual labors as locals are unable to do heavy physical work
 - Rubber sheets are heavy therefore females are not a regular sight at grading houses
 - For the graders, the training happens on the job. Their wages increase with experience
 - Trained candidates from ITIs are difficult to retain due to low wages
 - Existing units are planning to expand, leading to job opportunity for trained youth
- **Institutional**
 - Rubber Board has done trainings for latex harvesting technicians; more is needed
 - Four TPs are training in Latex Harvest Technician and Latex Harvest tapper
 - Wages for women workforce are marginally less than male counterparts.
 - No linkage with training partners for availability of apprentices
 - No formal training in industry relevant skills
 - Most of the training is conducted on the job by trainers from Kerala, Assam etc.
 - these trained candidates then further train the other workers

4.4 Other Key Insights about Skill Development

The other key insights and gaps relevant to skill development based on interaction with stakeholders are mentioned below:

- **Knowledge and skill**
 - Dearth of trainers in the state
 - role of NSTI becomes crucial to develop trainers who can transfer skills

- Modifications in the pedagogy like mandating industry immersion program, is required to make candidates more industry ready
- ITI graduates don't prefer jobs from local industries as they see it below their qualification category – low wages
- **Industry**
 - Industry requires more of technical trained workers like lathe machine operators, boiler operators, electricians, polishing skills etc.
 - these skills are scarce due to insufficient training infrastructure
- **Institutional**
 - Distress migration is low due to MNREGA and preference to take up job near homes
 - Educated youth is more allured with government jobs due to wage disparity and the stability associated with them. However, youth will be interested to work in factories if the wages are at least INR 15,000-20,000 along with perks
 - Inadequate infrastructure, nature of products to be handled on shop floor and social obligations result in low participation of women
 - People trained on entrepreneurial skills lack necessary funds to start their own business
 - Institutions are willing to introduce new trades depending on the demand
 - ITIs in the state of Tripura are under DoI&C, while short-term training is managed by DoSD, leading to limited synergy between the two
 - DoSD acts as an implementing arm of Tripura Skill Development Mission (TSDM), however, DoSD is not empowered to drive coordination and convergence of all skill development programs in the state

4.5 Key Insights from Review of Draft Skill Gap Report of DoSD

The Directorate of Skill Development (DoSD) has conducted a study – skill gap analysis and impact assessment of Tripura. The report dated December 2022 has been shared with the expert with an objective to include relevant portion in this study. The skill gap study has identified following job roles in three priority sectors – Rubber, Bamboo and Food Processing, for providing training in the state.

Sector	Recommended job roles to be introduced for training (no training happening currently)
Rubber	<ul style="list-style-type: none"> • QA Technician (Latex) • Quality Controller - TSR • Sorting/Packing Operator (Latex) • Packaging Operator • Storage Operator
Food Processing	<ul style="list-style-type: none"> • Fish & Seafood Processing Technician • Multi Skill Technician • Packing Machine Worker - Food Processing
Bamboo	<ul style="list-style-type: none"> • Agarbatti Maker • Automatic Stick Maker • Bamboo Work Artist

Further, the skill gap study has recommended following interventions:

- For coordination, accounting, and resource use, the entirety of the state's skilling activities be placed under the purview of DoSD, Tripura.
- Analyse the aspirations of youth and then initiate trainings. This will be more impactful as youth will be interested to do skill training in job role of his/her choice.
- Focus on increasing the number of small-scale industries in rubber, food processing etc. so that the youth get more opportunities and better chances of staying employed.
- More long-duration trainings are recommended as short duration trainings don't give adequate time to understand both the theory and practical aspects of a trade.

- Encouraging interactions between training partner and industry so that training partner can identify which all areas of training need to be improved to be more in alignment with industry demand.
- Convergence of State Skill Development Mission with the Tripura Bamboo Mission (TBM) and the Livelihood Mission.
- Leveraging SFURTI scheme to develop 8-10 clusters in different districts of Tripura.
- Set up Migration Counselling cum Registration Centre (MCRC) to support migrants from the state of Tripura to other states and districts - counselling services, identity documentation services, accommodation assistance, better job opportunities, post placement support, healthcare services, social/welfare entitlements, banking services, remittance etc. and function for addressing all such sensitive issues of state migrants on time.

4.6 Key Insights based on Review of Draft Proposal under PMKVY 4.0

The DoSD has proposed three special projects under PMKVY 4.0 and submitted the same to MSDE, GoI. The projects are - RPL in Rubber Sector for the State of Tripura, Bru (Migrant) Community and Dhalai (Aspirational District). We have reviewed the proposal provided by DoSD and details are mentioned below.

Project 1 – RPL in Rubber Sector for those who are engaged in the sector

Objective	<ul style="list-style-type: none"> • To improve the production of rubber and quality of latex sheets produced in the state thereby increasing the income for rubber tappers • To improve the number of days of harvesting by providing training in rain guarding of rubber trees
Gaps Identified	<ul style="list-style-type: none"> • Lack of properly trained tappers • Absence of rain guarding of rubber trees • Lack of focus on quality during processing of latex • Non-availability of industry connects • Growers are fabricated by local and outside traders
Proposed Interventions	<ul style="list-style-type: none"> • Providing training in latex harvesting and processing to plantation farmers and processing workers to ensure: <ul style="list-style-type: none"> ○ The latex collected is with least impurities (foreign material like piece of wood, dust etc.) ○ The processing workers are trained to ensure correct procedures are followed while processing the latex into sheets • Rain-guarding of Rubber Trees <ul style="list-style-type: none"> ○ Tripura witnesses a prolonged season of rain that impacts the number of days of harvesting. By rain-guarding the rubber trees, the number of days of harvest can be increased thereby increasing the productivity per hectare and also increasing the income of the plantation farmer ○ The project proposes to provide on-the-job training to install rain-guards • Modern Smokehouse - To set up at least one state of the art modern smokehouse to produce graded sheets as specified by the rubber industry • To facilitate credit linkage, branding and market linkage to ensure sustainability of the enterprise
Expected no. of Beneficiaries	20,000 rubber growers and workers from Tripura
Job-roles proposed	Latex Harvest Technician (Tapper) – RSC/Q610 Processing Technician – RSS Rubber – RSC/Q6117

Project 2 – Special Project for Bru Migrant Communities in Tripura

Objective	<ul style="list-style-type: none"> • To provide short term training to the Bru migrant communities of the state in three districts - Dhalai, North Tripura and Gomati and provide sustainable livelihood options
Beneficiaries	Bru community youth between the age of 18 – 45 years
Job-roles identified	<ul style="list-style-type: none"> • Assistant Electrician • Bamboo Utility Handicraft Assembler • Domestic Data Entry Operator • Light Motor Vehicle Driver • Mushroom Grower • Plumber General • Self-employed Tailor

	<ul style="list-style-type: none"> Two Shaft Handloom Weaver
Target no. of trainees	Total of 500 candidates from Bru Community

Project 3 –Special Project in Dhalai (Aspirational District) in Tripura

Objective	<ul style="list-style-type: none"> To provide composite training (training on extra trades that can be undertaken along with the current means of livelihood) and increase the income of the candidate
Beneficiaries	<ul style="list-style-type: none"> Rubber growers, Tribal and Bru migrants of Dhalai District Priority to women, particularly tribal women and women from Bru migrant community
Job roles Identified	<ul style="list-style-type: none"> Latex Harvest Technician Processing Technician – rubber sheeting Small Poultry Farmer Piggery Farming Bamboo Utility Handicraft Assembler Mushroom Grower Beekeeper Two-shift handloom weaver
Target no. of trainees	2000

The training proposed under the above projects is beneficial for the state. The job roles proposed are aligned with the findings of this study in terms of skill gap. Specifically, four job roles – Latex harvest technician (Tapper), Processing technician – rubber sheeting, Assistant electrician and Bamboo utility handicraft assembler will be beneficial for the proposed industrial investment in the state.

4.7 Key Insights from Assessment of ITIs

Brief about ITI ecosystem in India

Established in the 1950s, the Industrial Training Institutes (ITIs) are responsible for running the long-duration vocational training system in India. The vocational training 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 courses through the Craftsman Training Scheme (CTS). These courses are based on a semester pattern and cover many 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.

The key institutions involved in ITI ecosystem in India are a) Directorate General of Training (DGT), which frames overall norms, policies, and standards for vocational training programs and training of instructors, operates the Apprenticeship Act, 1961, and accredit the ITIs, which is done once in every five years; b) National Skill Training Institutes (NSTIs), which provides training to instructors under Craft Instructor Training Scheme (CITS) and offers training under high end CTS courses such as welder, turner, machinist, etc. requiring expensive tools and machinery; c) Central Staff Training and Research Institute (CSTARI), which designs curricula for vocational training (CTS, CITS as per NSQF) in India; d) National Instructional Media Institute (NIMI), which develops instructional materials content of the syllabus finalized by CSTARI. While DGT under MSDE is the nodal agency to coordinate CTS at the national level, State Directorates dealing with CTS are responsible for implementation of CTS through Government and Private ITIs of their respective States. Training delivery is monitored and reported through the NCVT-MIS, a data portal managed by DGT.

There are more than 14,500 ITIs in India providing training in 142 trades,³¹ of which around 22% are government institutions, and the remaining are owned and operated by private entities. The ITIs have around 26 lakh seats available and around 66% of total ITIs are concentrated in six states i.e. Uttar Pradesh, Rajasthan, Karnataka, Bihar, Madhya

³¹ <https://www.ncvtmis.gov.in/Pages/Dashboard/DashboardMain.aspx>

Pradesh and Maharashtra.³² Among the most popular trades are Electrician, Fitter, Machinist, Welder, Motor Vehicle Mechanic, Draughtsman, etc.

Several schemes have been targeting the improvement of the ITI ecosystem in India. In 2006–2007, some ITIs were provided resources to turn them into Centres of Excellence (CoEs). Out of the 500 government ITIs that were vying to be upgraded to CoEs under this program, 100 ITIs received direct funding from the government, and the other 400 received funding from the World Bank. At the same time, another scheme was launched to upgrade remaining 1396 ITIs through PPP in association with an industry partner for each ITI. To improve the industry-ITI connection, an attempt was made to adopt the German model of Vocational Education through Dual System of Training (DST) 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. Subsequently, World Bank assisted Skill Strengthening for Industrial Value Enhancement (STRIVE) was launched for improving the relevance and efficiency of skills training provided through ITIs and apprenticeships. In addition, some ITIs have implemented Flexi MoU schemes for on-the-job training and industrial exposure.³³

Later, DGT instituted a grading framework in 2017 to evaluate ITIs. 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 DGT 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. 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. As per the incentives based on grading decided by NCVT sub-committee in 2018, only ITIs with a grade of 2.5 and above will be allowed to apply for addition of new trades/units on the affiliation portal, and only their principals and instructors will be eligible for training in NSTI and abroad.

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. 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. During the two-year course at ITIs, students undergo trade-specific classroom and laboratory training. After the course, an ITI trainee takes a computer-based exam known as All India Trade Test (AITT) and a practical exam to secure National Trade Certificate (NTC). NTC is a recognized qualification for the purpose of recruitment to subordinate posts and services under the Central and State Governments.

Institute Management Committee (IMC) is supposed to manage the functioning of ITIs. IMC was introduced in 1998 as a key institutional level reform initiative to involve local industry partners in managing ITIs. IMC is a registered society that should comprise total of 11 members of which 5 from industry and 5 from government along with the principal of ITI. This institution was reenergized through PPP scheme when an interest free loan was directly given to it for upgradation of ITI.

Every ITI is supposed to have a placement cell to facilitate the placement of ITI graduates. After the course, ITI pass outs in India have several options such as – become an apprentice, or get job of technician/supervisor, become self-employed or freelancer, become a private trade tutor, take admission in 2nd year polytechnic, join Bachelor of Vocation Education (B.Voc) course, join CITS to become instructor.

Despite all the reforms and huge annual public expenditure in running the ecosystem of government ITIs, the twin deficit continues. Placement of ITI students remain low, and industry keeps complaining of shortage of skilled technicians.

Select Case Studies from ITIs in India

Industry Collaborations	Assam Tata Technologies is partnering with Assam Government to upgrade Polytechnics and ITIs of the state into futuristic CoEs, entailing an investment of about INR 2,390 crore ³⁴
	Odisha

³² <https://www.ncvtmis.gov.in/Pages/Dashboard/AdmittedTraineeDashboard.aspx>

³³ Directorate General of Training

³⁴ <https://economictimes.indiatimes.com/>

	<p>Bharat Benz has set up a Regional Training Centre (RTC) in ITI Cuttack which is equipped with over 500 equipment and tools, and 2 vehicles and 10 aggregates of trucks and buses for training programs. Trainers from the BharatBenz Dealer Network and ITI instructors will be conducting a variety of training programs at this RTC.³⁵ The institute has also collaborated with Toyota Kirloskar, Tata Motors, Honda Scooters, EdgeFX Technologies, SMC Pneumatics, Mitutoyo, Schneider Electric, Phillips Machine Tools, IG Drones, NDT-TCIS, John-Bean, Skyy Rider Electric, IASC-Sector Skill Council etc. The collaboration will help in producing futuristic mechanical tools³⁶</p> <p>Haryana and Uttar Pradesh NTPC has entered a Memorandum of Agreement (MoA) with the State Governments of Haryana and Uttar Pradesh for the upgradation of ITIs at Faridabad and Dadri respectively. It has adopted 17 ITIs creating 1530 seats in them. NTPC aims to introduce new courses relevant to local industries. Its salient features include a makeover for the classrooms and the institute buildings, upgrading the libraries and new machinery for the workshops & laboratories³⁷.</p> <p>In Uttar Pradesh, Tata Technologies has signed a MoA for a period of 10 years to upgrade and modernize 150 government ITIs across the state with modern infrastructure, industry-oriented courseware, training, and support for advanced equipment and software as per Industry 4.0. Post upgradation, the ITIs will not only cater to advanced skill requirements of students as well as prospective employers but also act as technology hubs, including skill centres for the large industries as well as Micro, Small and Medium Enterprises (MSME). Total project cost is INR 4887 crores.³⁸</p> <p>Karnataka Karnataka government signed Memorandum of Understanding (MoUs) with several Industry Partners supporting government ITIs under CSR. M/s. Bosch Ltd runs bridge program in 25 ITIs, M/s. Toyota Ltd (10 ITIs), M/s. Maruti Suzuki (5 ITIs), and there are many more industry partners.</p> <p>In 2020, Tata Technologies collaborated with the state government to transform 150 government ITIs as technology hubs by investing in latest infrastructure, industry-oriented courseware, training, and support for advanced equipment and software. It's a 10-year partnership with proposed investment of INR 4600 Cr. Tata Technologies will collaborate with 20 global industry partners to implement this project. The company will also deploy 300 training personnel along with industry partners.³⁹</p>
Financial Assistance	<p>Odisha Government of Odisha has launched many schemes to provide financial assistance to the candidates of ITI. They are:</p> <ul style="list-style-type: none"> • Prerana Scheme –SC/ST students whose parents have an annual income less than INR 2.5 lakhs don't have to pay any fees / charges except caution money of INR 100, at the time of admission into Government ITIs. • Building & Other Construction Workers (BOCW) Stipend Scheme - stipend at enhanced rate for the children of BOC Workers for pursuing Diploma / ITI courses at government institutes by L&ESI Dept. • Sudhakshya Scheme – providing financial support to girls by waving off their tuition fee and reimbursing the maintenance fee, • Merit cum Poverty Stipend Scheme - stipend @INR 200/- pm to 500/- pm to 50% of other caste (other than ST/SC) trainees with parent's annual income limiting to INR 1.0 lakh. • Financial Support to Particularly Vulnerable Target Group (PVTG) - for pursuing training at Government ITIs by special projects (whole cost including lodging and boarding charges- ITI Malkangiri for Bonda and Didyai community already notified). • Scholarship by Minorities and Backward Classes Welfare Dept. - OBC students are entitled for stipend @ INR 260/- pm for Hostellers and @ INR 160/- pm for day scholar. • Financial Support to Persons with Disabilities (PWD) students. • Merit stipend @ INR 250/- pm to one trainee in every one unit of 21 trainees selected through Merit Test at the ITI level. • Uniform for Government ITI Colleges - ITI Uniforms designed by NIFT with reimbursable cost of INR 3000/- for all trainees in government ITIs.

³⁵ <https://www.financialexpress.com/>

³⁶ <https://www.educationtimes.com/>, Posted on Tuesday, July 26,2022

³⁷ <https://www.ntpc.co.in/>

³⁸ <https://www.cxotoday.com/press-release/tata-technologies-collaborates-with-the-government-of-uttar-pradesh-to-transform-industrial-training-institutes-itis-into-modern-technology-hubs/>

³⁹ <https://www.tatatechnologies.com/in/newsroom/tata-technologies-collaborates-with-karnataka-government-to-transform-industrial-training-institutes-itis-as-technology-hubs/>

	<ul style="list-style-type: none"> Providing free resources like lending of textbooks to all trainees through ITI library, Industry exposure visits, celebrating ITI Fest to promote sports & cultural activities, innovative skill products, role models interaction & felicitation for improving aspiration level of trainees.⁴⁰ <p>West Bengal⁴¹</p> <ul style="list-style-type: none"> Kanyashree Scheme – The Kanyashree enrolees will get 50% waiver in admission form, counselling fees, and registration fees.
State Schemes Practices	<p>Specific and</p> <p>Maharashtra</p> <ul style="list-style-type: none"> Artizen to technocrat - Introduce vocational diploma and degree education for Artisans to upgrade them to technocrat level. Production oriented scheme was launched with following objectives. The scheme is compulsory for all ITIs.⁴² <ul style="list-style-type: none"> To enhance the skill and practice given to the trainees to make them competent for wage and self-employment. To compensate the expenditure on raw material required for the ITI Training. To provide on the Job training to the trainees and instructors/ staff and develop self-confidence and interest in work. By making optimum utilization of available Machinery, Equipment and Manpower of the institute for generating revenue to the institute and from this revenue procure modern machinery for the institute and implement other developmental projects. By implementing this scheme establish good relationship with the industry in the vicinity, industrial organization, government and semi- government organization and benefits to be made available for the trainees. <p>Odisha⁴³</p> <ul style="list-style-type: none"> Central Placement Cell - Diploma and ITI pass out students of different government ITIs, government / private engineering schools & polytechnics register themselves on the portal. All the registered students get placement assistance, counselling for self-employment and also mapping their skills and specializations with relevant employers⁴⁴. Setting up of IMCs in 25 government and private ITIs combined to ensure that there is adequate industry-academia linkage. The industries which are a part of these IMCs are involved in multi skill training, upgradation and introduction of new trades and setting up of ITOTs. Role Model List is uploaded on the state website which features the ITI students and their details who have successfully completed the training and have been employed. Information about their job, salary drawn, trade and ITI name motivates other candidates to enrol and complete their trainings.

Nakashipara Government ITI⁴⁵

About	<p>Nakashipara Government ITI is situated in “Nadia” district of West Bengal. It is the highest graded ITI in India (4.42) as per the NITI Aayog report. The institute has been operating in PTP (private training partner) mode.</p> <p>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 the ITI through the transparent process of RFP. The trust has been operating multiple educational institutions i.e., polytechnics, B.Ed. college and ITIs. The Directorate is responsible for the monitoring.</p>
Mode of Operation	<p>Private Training Partner (PTP) Mode</p> <p>The concept of PTP provides a platform for Public-Private Partnership (PPP), where the land and building are provided by the government and the private entity runs the courses and trades. The private entity</p>

⁴⁰ <https://dtetodisha.gov.in/>

⁴¹ <http://wbcdwds.gov.in/>

⁴² <https://www.dvet.gov.in/en/production-oriented-scheme/>

⁴³ <https://dtetodisha.gov.in/>

⁴⁴ dtetodisha.gov.in

⁴⁵ <https://nakashiparagovernmentiti.com/>

	needs to invest in machinery, raw materials for workshops, faculties, instructors & other staff members along with day-to-day operational costs. The PTP mode IMC has more freedom and authority in decision making, recruitment of faculty members & staff, procurement of machinery & raw materials etc.
Admission Courses	The ITI has an IMC, under which 80% of the seats are filled through regular admission process, where the fee is around INR 30 per month. The Directorate provides grant of around INR 7000 per candidate to the PTP. Rest 20% of the seats are filled through IMC quotas with higher fees (market level).
Infrastructure	<ul style="list-style-type: none"> Classrooms – The classrooms and lecture halls of the institute are equipped with audio-visual teaching aids and latest equipment. Workshops/ Labs – The institute has well developed labs and workshops equipped with latest equipment and tools to give hands on practical training to the candidates. Library – The library of the institute is well stocked with books and is also equipped with newspapers, working papers, project reports, videos, CDs, journals etc., which act as important source of knowledge for students. Advance CNC Lab – The institute has an advanced CNC lab to enhance the student's knowledge on CNC machines. GYM Centre – To ensure that the students and staff members are fit, the centre has installed a fully functional gym within its campus. Computer Lab – To ensure that the candidates have relevant IT skills pertaining to their sector, the institute has a dedicated computer lab for them. Production unit – The institute has well developed production unit equipped with advanced machines, tools and equipment to ensure that candidates get adequate practical training.
Courses	<p>The Institute has 5 trades: Electrician, Fitter, Surveyor, Mechanic Diesel and Welder.</p> <ol style="list-style-type: none"> Fitter - This is Two years course offered by the institute for those students who want to gain technical knowledge for working with the parts of machines. Electrician - This course is considered a popular course conducted by various ITIs, but here this institute offers this course in a short-term manner, which ultimately helps students able to work with different types of electrical wiring as well as equipment. This course provides all the fundamental knowledge to students, which are essentially required for the electrical field. Surveyor - This course imparts knowledge and practical trainings about surveys for construction sector. In this course, students can learn about different types of surveys. Students enrolled in this course are likely to get a job in the construction sector Welder - it is a job-oriented course in which the candidate also studies about materials (metals, alloys/ non-metals) and different types of welding Mechanic Diesel Engine - ITI Diesel Mechanic is a one-year vocational training program which teaches the students about various aspects of diesel engine such as making alignments & adjustments, correcting deficiencies in vehicles, maintaining pieces of equipment operating in diesel etc.
Industries Institute Linkages	The industries with which the Institute has signed MoUs are: Dixon Technologies, Lava International Ltd., Ather Energy Pvt. Ltd, Bajaj Electrical Ltd., Maruti Suzuki, PASCAL, L&T, Royal Enfield, Shapoorji Pallonji etc.

ITI Pimpri-Chinchwad, Pune (CSR funding by Volkswagen India)⁴⁶

Objective: to enhance the employability of ITI students by strengthening and upgrading the training infrastructure of the institute.

Intervention:

- Volkswagen India has donated a new modern soldamatic welding simulator to ITI 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.
- Investment is also 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.
- Volkswagen India aims to revise & update the course curriculum & training infrastructure to make it more suitable for changing technologies in the automobile sector.

⁴⁶ Transforming ITIs, NITI Aayog, January 2023.

Women ITI, Kolkata⁴⁷

- The ITI was established in 1992.
- Four trades – COPA, Secretarial practice (English), Basic cosmetology, and Electronic mechanic are running.
- 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.
- 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.
- Samsung 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.
- Apart from the technical knowledge, Samsung also provides soft skills to the trainees to ensure excellent service delivery.

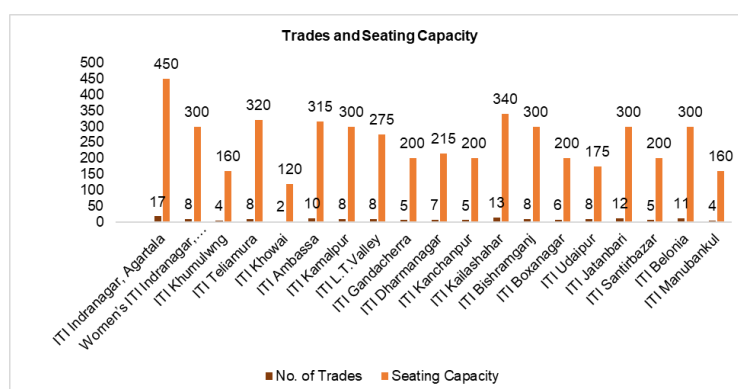
Key insights from ITIs in Tripura

Trades and Capacity: There are 19 government ITIs in Tripura providing training programs in more than 20 trades and offering 4830 seats.⁴⁸ All the trades are of 1-2 years duration and are recognized by NCVET/DGT under MSDE. ITI wise number of trades and seating capacity is depicted in the figure alongside. ITIs in the state do not exercise the flexibility of designing state level courses based on local industry demand. This is further evident from the observation that State Council of Vocational Training (SCVT) at the state level is currently not functioning effectively. Currently, trades like fashion designing, draughtsman civil, surveyor, COPA are in demand therefore the ITIs are running them at higher capacity.

Apart from these, trades such as Electrician and Fitter are also in demand since they provide an opportunity for students to get government jobs. In a discussion with ITI, it was mentioned that trades that provide self-employment like Fashion Designing, Dressmaking are promoted more as they ensure that the candidate remains employed. ITIs encourage females to opt for non-traditional courses like electrician, welder etc. although the takers are less. New trades that are being introduced are Desktop Publishing, CAD for garment designing, however, there are no trades related to rubber, one trade for bamboo (bamboo works, but not operational) and basic trades in food processing areas. Hence, an industry pull will be needed to identify more trades that can be introduced for training.

There are two private ITI that offer about 216 seats only. The RK Mission private ITI has intake capacity of 136 in trades- Electrician, RACT, Plumber, and Swadhin private ITI runs courses in two trades- Electrician and Fitter, with 80 seats only.

Figure 5. Trades and Seating Capacity – Government ITIs



⁴⁷ Transforming ITIs, NITI Aayog, January 2023.

⁴⁸ Data from review meeting on functioning of ITIs held on 23rd Feb 2023

Enrolment and Dropout: The government ITIs in the state has total enrolment of 3532 students across trades with average seat utilization of around 73%, which is lower than national level average seat utilization of 80%.⁴⁹ ITI training is not considered aspirational in the state owing to lack of better job prospects after graduation since industry presence in the state is less and preference for higher education. Similarly, the average dropout rate in government ITIs is around 24% depending on various factors. The ITI admission cycle starts before the regular academic session and if a candidate secures good seat in higher education of its choice, he/she leaves the ITI training program. Other reasons for dropouts are commuting, financial issues and social issues, etc. Some candidates take admissions in ITIs while working, however, they leave ITI after some time due to inability to cope up with both at the same time. The ITI wise seat utilization and dropout rate is mentioned in the figure alongside. As per consultation with ITI, many students enrolled in ITIs are graduates, therefore their salary expectations are higher, for instance, in ITI Ambassa 20-30% students are graduates.

Pedagogy: Currently, the focus at ITIs is more on theory and clearing examinations instead of practical learning. Policy mandates that there should be 80:20 focus towards “hands on” learning. As per discussions with concerned officials, trainers are also focused on completing the syllabus rather than on spending time on experiential learning (discussion points to the fact that in a typical semester of 6 months, 2 months are spent on preparation and examination, reducing the time for actual learning).

Industry Engagement and Placements: The opportunities for On-the-Job Trainings (OJTs) and apprenticeships are limited or non-existent due to limited concentration of industries in the state. Industry is not engaged with local ITIs because there is no incentive for them to partake in placements and other industry-institute engagement activities such as guest lecture, curriculum development, OJT, etc. It was observed from consultation that there are limited or no job councillors available in ITIs to guide students about employment opportunities and career path. In addition, the placement cell at ITIs is either dysfunctional or ineffective to carry out its mandate; existing staff are involved in placement activities instead of a separate dedicated placement team. Student immersion programs with industry is identified as key requirement which will make the candidates more employable as they will have first-hand experience of the factory environment.

Trainers: As per the 12th Five Year Plan (2012-17), the gross need of trainers in India is 80,000 with an annual incremental requirement of 20,000 trainers in the vocational system - the current annual training capacity of trainers at Government National Skill Training Institutes (NSTIs) and private institutes is approximately 13,000⁵⁰. In government ITIs in Tripura, there are 232 trainers posted against sanctioned posts of 291, leading to trainer vacancy rate of 20% which is much lower than national average of 56%.⁵¹ This means that state government is proactive in filling the vacant positions of ITI trainers (no dependence on contract trainers unlike other states) to ensure that training delivery is not impacted for want of trainers. The ITI wise (government) trainers post sanctioned and posted in highlighted in the figure alongside.

Governance: The performance of ITI principals and trainers is not measured by placements of trainees leading to low or even no incentives to perform. The principals of ITI LT Valley and ITI Santirbazar hold additional charge; the positions

Figure 6. Seat Utilization and Dropouts – Government ITIs

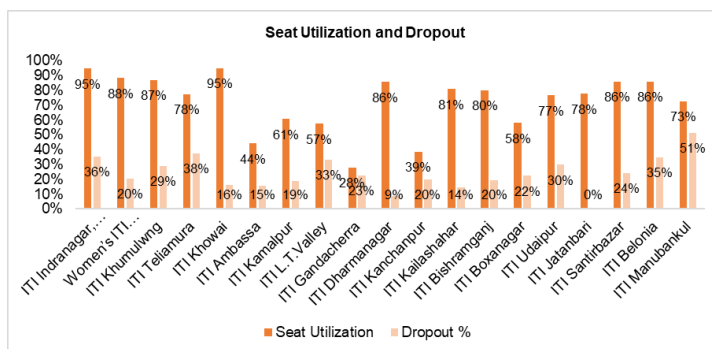
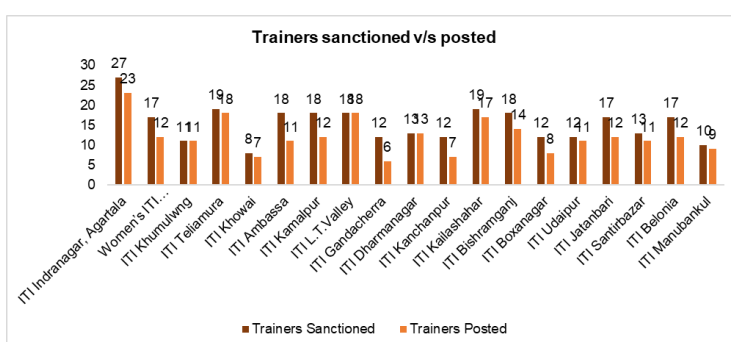


Figure 7. Trainers Sanctioned/Posted – Government ITIs



⁴⁹ Data from review meeting on functioning of ITIs held on 23rd Feb 2023; NCVT MIS, accessed on 27th Mar 2023

⁵⁰ <https://dgt.gov.in/CITS>

⁵¹ Data from review meeting on functioning of ITIs held on 23rd Feb 2023; <https://www.ncvtmis.gov.in/Pages/Dashboard/InstructorDashboard.aspx>

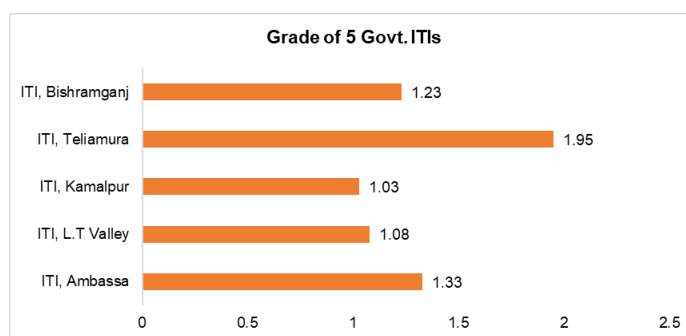
are otherwise vacant for last few months; this may have an impact on decision making. The IMC exists in a few ITIs such as LT valley and meets once a year.

Infrastructure: The students are largely local youth therefore the ITIs have limited or no hostel facilities however, ITI Indranagar is planning to revamp its hostels to attract more candidates from other states as well. Under the ESDI scheme of Government of India, ITI Indranagar was upgraded by constructing three classrooms and three workshops for the newly introduced three trades viz. COPA, mechanic (consumer electronics appliance), and computer hardware networking. Under the scheme, three new ITIs were established in Santirbazar, Gandachara and Kanchanpur, and in one ITI (Belonia), deficient infrastructure was supplemented such as hostel, boundary wall, laying of road, tools and equipment, among others. Similarly, under the World Bank funded STRIVE scheme of MSDE, three ITIs of Tripura were initially covered for strengthening – ITI Dharma Nagar, ITI Belonia and ITI (for women) Indranagar. Subsequently, 5 more Government ITIs have been included in the STRIVE scheme. While ESDI scheme is upgrading the hard infrastructure, the STRIVE scheme is focusing on soft infrastructure. The table below provides mapping of industrial parks with ITIs in the state (both government and private) and also highlights the government ITIs which are currently being upgraded/strengthened under schemes of government of India.

Table 10: Mapping of industrial parks with ITIs and list of ITIs under upgradation

District	Industrial Park	Government ITI	Upgradation/strengthening
North Tripura	IIDC Dharamanagar	ITI, Dharma Nagar	Strengthened under STRIVE scheme of MSDE
	IIDC Dewanpassa	ITI, Kanchanpur	New ITI under ESDI scheme of MSDE
	Sunamukhi Industrial Area	-	-
Unakoti	Kumarghat	ITI, Kailashahar	Included in phase 3 of the STRIVE scheme.
West Tripura	Bodhjunga Nagar	ITI for Women, Indranagar	Strengthened under STRIVE scheme of MSDE
	R.K. Nagar	ITI, Indranagar	Upgraded under ESDI scheme of MSDE. Also included in phase 3 of the STRIVE scheme.
	Nagicheria Industrial Area	ITI, Khumulwng	Included in phase 3 of the STRIVE scheme.
	Dukli	-	-
	Badharghat	-	-
	AD Nagar	-	-
	Kathalia Industrial Area	-	-
Dhalai	IIDC Lalchari	ITI, Gandacherra	New ITI under ESDI scheme of MSDE
		ITI, L.T Valley	
		ITI, Kamalpur	
		ITI, Ambassa	
Gomti District		ITI, Udaipur	Included in phase 3 of the STRIVE scheme.
		ITI, Jatanbari	
South Tripura	IIDC Jalefa, Sabroom	-	-
	Dhajanagar (Udaipur)	ITI, ManuBankul	
	IIDC Sarasima	ITI, Belonia	Deficient infrastructure supplemented under ESDI scheme of MSDE. Also, strengthened under STRIVE scheme of MSDE
	IIDC Santirbazar	ITI, Santirbazar	New ITI under ESDI scheme of MSDE
	Bijoypur Industrial Area	-	-
Sepahijala		ITI, Bishramganj	
		ITI, Boxanagar	
Khowai		ITI, Khowai	Included in phase 3 of the STRIVE scheme.
		ITI, Teliamura	

Grading of ITIs in Tripura: Only 5 out of 19 government ITIs of Tripura participated in the grading conducted by DGT and they scored very poorly. The best of Tripura, ITI Teliamura with grading of 1.95, is much below the top grade – government ITI Nakashipara in West Bengal with grade of 4.42.⁵² Some of the practices followed by top graded ITIs in India are – training of trainers in industry, robust industry engagement, value added trainings in areas such as CNC Turning, Milling, CAD, PCB design, among others, industry visit of students, computer literacy for all students, industry guest lectures, advance lab set-ups, wi-fi campus, audio-visual classrooms, separate placement cell with career counselling activities, introduction of new age trades such as drone pilot, solar technician, etc., among others. This clearly indicates the need for ITIs to adopt the best practices and improve themselves to ensure that they can provide quality and industry relevant training to the people.

Figure 8. Grading of five Government ITIs

The assessment of three ITIs visited in the state by Skills expert is provided in the matrix below.⁵³

Table 11: Assessment of three Government ITIs visited by Skills Expert

#	Parameter	ITI LT Valley	ITI Ambassa	ITI Santirbazar
1	No. of trades	08 (two trades viz. Dress Making and RAC Technician has very low seat utilization (2022) – 10% and 22% respectively). ITI also runs two CITS courses viz. RAC mechanic and Welder.	10 (three trades viz. Bakery & Confectioner, Food Beverage and Driver Cum Mechanic have very low seat utilization (2022) – 10% each.	05
2	Seat capacity with utilization	275, 57%	315, 44%	200, 86%
3	Pass %	80%	84%	NA. Its first batch (NCVT affiliation in Aug 2022)
4	Dropout %	33%	15%	24%
5	No. of trainers	18	11	11
6	Other staff	04 (accountant, storekeeper, 1 UDC and 1 LDC)	03 (accountant, 1 UDC and 1 LDC)	03 (office superintendent, storekeeper, 1 UDC cum accountant)
7	Governance	<ul style="list-style-type: none"> IMC exists and meets once a year depending on the requirement No full time Principal since last six months 	<ul style="list-style-type: none"> IMC exists and meets once a year depending on the requirement Full time principal exists 	<ul style="list-style-type: none"> No IMC Principal is not full time
8	OJT/ Apprenticeship	No OJT and industry visit due to lack of industrial presence	No OJT and industry visit due to lack of industrial presence. Students are made to register on the apprenticeship portal, but industry response is poor.	No industry engagement has started in ITI.
9	Placement and career counselling	No job placement and counselling	No job placement. Only basic counselling at the time of admission.	NA. Its first batch.
10	Placement cell	Exists but mandate is not followed, and existing trainers manage it	Placement cell is not functional	Exists and existing trainers manage it
11	Infrastructure available	<ul style="list-style-type: none"> 8 classrooms 8 labs 1 classroom for workshop calculation 	<ul style="list-style-type: none"> 8 classrooms cum labs IT lab Admin block Principal room 	<ul style="list-style-type: none"> 7 classrooms and labs IT lab Boys hostel only Admin block

⁵² https://dgt.gov.in/sites/default/files/final%20grades_PhaseII.pdf

⁵³ Information and analysis in the matrix are based on data collected during field visits to three ITIs and from DoI&C

#	Parameter	ITI LT Valley	ITI Ambassa	ITI Santirbazar
		<ul style="list-style-type: none"> 1 classroom for engineering drawing Storeroom Staff room IT lab (with deficiency of 5 computers) Library Admin block Canteen (not functional) Boys hostel only Cycle stand Principal room Separate toilets for boys and girls No staff quarters No raw material shortage for practical training in labs 	<ul style="list-style-type: none"> Engineering drawing room Workshop calculation room Boys hostel only Storeroom Staff room Separate toilets for both boys and girls No staff quarters No raw material shortage for practical training in labs 	<ul style="list-style-type: none"> Engineering drawing room Workshop calculation room Library Storeroom Staff room Principal room Separate toilets for both boys and girls No raw material shortage for practical training in labs
12	Trainers	Only one trainer is CITS certified	No trainer is CITS certified	No trainer is CITS certified. 1-2 trainers are sent to CSTARI for training.
13	Training delivery	As per NCVT syllabus	As per NCVT syllabus	As per NCVT syllabus
14	Reform under any scheme of central government	No	Yes. PPP scheme of World Bank under Food Processing trade with lab was set up.	New ITI under ESDI scheme of MSDE.
15	ITI logo	No	No	Yes
16	Boundary wall	No. Only barbed wire fencing.	No. Only front side wall is available. Rest is barbed wire fencing but that too is not complete at some places.	Not complete. Available on two sides only. Rest is barbed wire fencing.
17	ITI approach road	Unpaved	Paved	Paved
18	Course content	Directly sourced from NIMI. Not available in local market.	Directly sourced from NIMI. Not available in local market.	Directly sourced from NIMI. Not available in local market.
Remarks		<p>ITI LT Valley is suitable for starting courses in Bamboo sector given its proximity to industrial parks focussing on bamboo products, however, within existing campus, there are no empty classrooms and labs for utilization. ITI has surplus land on which additional infrastructure will be required to start new courses. Or space can be freed from two existing trades viz. Dress Making and RAC Technician, because in both these trades, seat utilization is very low – 10% and 22% respectively.</p> <p>To begin with, the existing NCVT course on Bamboo (Bamboo Works), which is a one-year course of NSQF level 3 may be launched in the ITI. Going forward, more courses in Bamboo sector can be started commensurate with industrial investment in the sector. In this way, ITI can become the hub for skill development in Bamboo sector in the state.</p>	<p>ITI Ambassa is the nodal ITI for conducting CBT examination for students from three other ITIs (LT Valley, Kamalpur and Gandacherra), apart from itself. However, its existing labs are not adequate and well equipped to accommodate all the students for examination at the same time. Hence, there is a need for new additional infrastructure to conduct CBT examination.</p> <p>Further, ITI Ambassa is well suited for starting courses in Food Processing sector. The ITI was upgraded under PPP scheme of Government of India and a CoE for training in food processing sector was established inside it. The ITI already has three courses running in the sector viz. Agro processing, Bakery & confectioner, and Food beverage.</p> <p>The CoE training lab in the ITI has all the requisite machinery and equipment. As per the CoE curriculum, the lab has 6 training</p>	<p>ITI Santirbazar has total area of 25,910 Sq. mt., of which only 1352.61 Sq. mt. area is covered. Even in the existing covered area, two classrooms and a hall are empty.</p> <p>Further, ITI is surrounded by the rubber plantations and the two proposed industrial parks viz. IIDC Sarasima (Belonia) and IIDC Santirbazar will cater primarily to industrial investment in rubber sector.</p> <p>In addition, this ITI is a new ITI established in 2022 having new infrastructure, facilities, machines and equipment.</p> <p>Hence, new courses to cater to needs of industry in Rubber sector can be started, commensurate with the proposed industrial investment in the sector in the state.</p> <p>Of the five existing courses, only two viz. COPA and Plumber are relevant for providing ancillary skills to industries in the sector.</p>

#	Parameter	ITI LT Valley	ITI Ambassa	ITI Santirbazar
		Of the eight existing courses, five courses viz. COPA, Electrician, Welder, Electronic mechanic, and Pump operator cum mechanic are relevant for providing ancillary skills to industries in the sector.	<p>modules viz. Processed food, Food beverages, Bakery & confectionary, Agro processing, Milk & dairy products, and Food preservation. However, batches are currently running in only three modules (as highlighted above).</p> <p>Some of the gaps identified in the assessment are – design of the lab is not conducive for training given that all the 6 modules are sequentially placed in one single hall, leading to equipment noise from one section of the lab disturbs the others; some of the machines are not properly installed, bolted and connected with each other (as required). Hence, there is a need to restructure and reenergize the existing CoE training lab so that training can be delivered effectively.</p> <p>ITI had a trade on Radio Mechanic which is now discontinued; this space can be utilized for Food Processing.</p> <p>Similarly, ITI has a big hall currently being utilized for small celebrations and gatherings. This hall can be utilized for training in Food Processing sector – some portion of CoE lab can be shifted to this hall with proper fittings and fixtures.</p> <p>One course – Driver Cum Mechanic has seat utilization of 10%. This course may be discontinued, and space utilized for other courses.</p> <p>Further, aggressive marketing will be required to spread awareness about courses and their benefits in the sector, commensurate with the proposed industrial investment in the state.</p> <p>Of the 10 existing courses, five courses viz. COPA, Wireman, Electrician, Welder, and Electronic mechanic are relevant for providing ancillary skills to industries in the sector.</p>	

5. Schemes and Case Studies

We have reviewed select schemes and case studies covering different aspects of skill development and livelihood with an objective to provide information to stakeholders. The schemes and case studies have been incorporated based on secondary research. The relevant aspects of the schemes and case studies shall be considered in recommendations. The schemes and case studies cover following. The details are available in Annexure 8.

1. Centre of Excellence (CoE) scheme of MSDE
2. Recruit Train Deploy (RTD) Model
3. Vertical Pathways from ITIs to Polytechnics
4. Pan IIT Alumni Reach for India (PARFI) Foundation Model of Training
5. Incentivizing Training Partners to drive Placements
6. Skill University in India
7. Utilization of Nirbhaya Fund
8. PM Formalisation of Micro Food Processing Enterprise Scheme
9. Mission Shakti by Government of Odisha
10. MSME Tool Room – Central Tool Room and Training Centre, Bhubaneswar and Indo German Tool Room, Aurangabad

6. Skill Requirement and Estimation of Workforce

This chapter provides details on the skills required for proposed development of industrial parks and estimates for workforce that would be required to support the industrial development. The chapter further provides the analysis of supply of trained workforce vis-à-vis demand for the same. The skill requirement and workforce estimation are based on primary consultations with key stakeholders and secondary research.

6.1 Skill Requirement for Target Products based on Value Chain Mapping

As per the Infrastructure Development of Industrial Estates in Tripura - Industrial Strategy report, three priority sectors have been identified for development in industrial parks in Tripura – Rubber, Bamboo and Food-Processing. Below table summarises the priority sectors and products to be manufactured in these sectors in industrial parks in Tripura.

Table 12: Sector wise products recommended for manufacturing in Tripura

Sector	Products
Bamboo	Timber Substitute
	Agarbatti
	Floor Panels
Food Processing Sector	Canned Pineapple
	Pineapple Squash
	Pineapple Concentrates
	Frozen Pineapple Snacks
	Pineapple Pulp
	Canned Jackfruit Bulbs
	Dried Jackfruit Slices
	Preserves/ Jams
	Fruit snacks
	Orange juice, frozen, not fermented or spirited
	Orange juice, not frozen, of a Brix value not greater than 20
	Orange juice, not fermented, spirited, or frozen
	Essential oils of orange
Rubber	Surgical Gloves
	Rubber Contra (M)
	Rubber Contra (F)
	Tyres for Truck and Bus
	Tubes for cars

Sector	Products
	Tubes for Truck and Bus
	Tubes for bicycle
	Tubes for motorcycle
	Tubes for cycle rickshaw/ powered rickshaw
	Floor Covering and Mats
	Tyre Motorcycle
	Tyre Scooter
	Tyre other than bike/ scooter
	Radial Tyre Cars
	Tyre for Bicycle

Each Industrial unit needs a mix of workforce to function, they are called industrial labor. As defined by Indian Labor Organization (ILO), the individual person is entitled with the label of Industrial workers, when they work for fixed hours and for their work done, the management does make their payment. Depending upon the kind of products being manufactured and the stage of automation, the requirement of skilled, semi-skilled and unskilled worker varies from one industrial unit to another. ILO has also provided a framework of classifications of occupations. According to this classification, a hierarchy of skills is established primarily based on formal education and technical qualifications. While identifying the workforce requirement, we have taken this classification into consideration.

Definition of Skilled, Semi-skilled and Unskilled Workforce ⁵⁴	
Skilled	A skilled worker is one who is capable of working efficiently in exercising considerable independent judgement and of discharging his duties with responsibility. He must possess a thorough and comprehensive knowledge of the trade, craft, or industry in which he is employed. Examples of skilled workers: Carpenter Grade 1, Mason Grade 1, Pipe Fitter Grade 1, auto Driver, Generator Operator, Plant Shop fitter, Engine Fitter etc.
Semi-skilled	A semi-skilled worker is the one who does work generally of defined routine nature wherein the major requirement is not so much of the judgement and skill but for proper discharge of duties assigned to him or relatively narrow job, where important decisions are made by others. His work is thus limited to the performance of routine operations of limited scope. Examples of Semi-skilled workers: Carpenter, lab attendant, Assistant welder, Assistant Fitter, Pump attendant, floor polisher etc.
Unskilled	Unskilled worker is the one who does basic operations that involve the performance of simple duties, which require the experience of little or no independent judgement or previous experience although familiarity with the occupational environment is necessary. His work may thus require, in addition to physical exertion, familiarity with variety of articles or goods. Examples of unskilled labor occupations generally include farm and construction laborers, grocery clerks, hotel maids, and general cleaners and sweepers etc.

To understand the workforce requirement of the industrial units/products recommended in the Industrial Strategy Report, we have identified the worker requirement based on the product manufacturing value chain for each product. The value chain mapping of key products in priority sectors is mentioned in Annexure 5. The skill required based on the value chain mapping of key products is mentioned below.

Bamboo Sector

Agarbatti and Agarbatti Stick Manufacturing Unit

Skill required based on the manufacturing process		
Capacity	Splitting of 200 Bamboo poles	per day
Total Labour Required⁵⁵	35 – 40	
Machine Operator	12	Semi-skilled
Dryer Operator	1	Skilled
Bamboo Cross Cut	1	Semi-skilled
Polish Machine Operator	1	Skilled
Supervisor (optional as proprietor is supervisor in some cases)	1	Skilled

⁵⁴ https://himachal.nic.in/WriteReadData/l892s/14_l892s/1631779308.pdf

⁵⁵ Based on interaction with three Agarbatti industries in Tripura

Labour	20 – 25 depending on the requirement	Unskilled
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Timber Substitute Manufacturing unit

Skill Required based on machines used in the process		
Machine used	Number required	Type of worker
Cross Cutter	1 operator per machine	Semi-skilled
Splitting Machine	1 operator per machine	Semi-skilled
Knot Removing Machine	1 operator per machine	Semi-skilled
2-side planning machine	1 operator per machine	Skilled
Treatment Tanks	1 operator can manage multiple tanks	Semi-skilled
Drying Chamber with Dehumidifier	1 operator can manage multiple chambers	Skilled
Resin Applicator	1 operator per machine	Skilled
Day Light Press	1 operator per machine	Skilled
Package Boiler (non-IBR)	1 operator per machine	Skilled
Spindle moulder, Grinding machine, Spray guns, Compressor, Trolley, Dust Collector, Wide Belt Sander, Tongue, and Groove Cutter	1 operator per machine	Skilled

Manufacturing of Floor Panels using Bamboo

Saw (Trim/Slash)	Approximately 225 people for a unit with capital investment of INR 40-50 crores	Skilled – 31% Semi-skilled -49% Unskilled – 20%
Ripsaw for bamboo tube		
Single head trimmer		
Planer saw bamboo board		
Scraping machine for bamboo sheet		
Transverse slot mortiser for bamboo sheet		
Ultraviolet infrared film and curing apparatus		
Three heads wide belt sander		
Universal wood working grinding machine		
Force planer for bamboo slip		
Boiler		
Single Stringer Crane		
Finishing Planer of Bamboo		
Carbonization container		
Sanding belt, knife tool and other tools		
Machines such as (Saw machines, Wood working grinding machine etc.) are like those that are used in wood/ timber industry.		

Food Processing Sector

Pineapple Products⁵⁶

Manufacturing of Pineapple Products

Skill required based on the manufacturing process		
Machines used	Number required ⁵⁷	Type of worker
Pineapple Washing Machine	Canned Pineapple - 35 workers in one shift (Skilled and Semi-skilled) (capacity of 1500-1600 cans per shift)	Skilled and Semi-skilled
Sorting Conveyor		
Juice Extracting Machine		

⁵⁶ <http://www.pineappleindia.com/>, Ministry of food processing – Government of India – DPR for Pineapple Candy Manufacturing Unit

⁵⁷ Based on consultation with M/s Sree Ganesh Frozen Fruit Pvt. Ltd

Belt Press, Vibro-screener	Pineapple juice/squash – 10/12 skilled workers to work on machines (machine operators)	
Pineapple Juice Mixing Tank / Enzymatic Treatment		
Preheating Machine		
Decanter or Centrifuge		
Juice Evaporator		
Juice Sterilization & Aseptic Filling Machine / Juice Bottle Filling		
Pineapple Corer & Sizer		
Pineapple Slicer / Pineapple Skin Stripper / Pineapple Titbits		
Can Reforming Unit		
Automatic Juice Pasteurizer		

Jackfruit Products

Skill required based on the manufacturing process	
Machine Used	Type of worker
Mechanized Raw Jackfruit Peeler	Skilled
Bulb Remover	Semi-skilled
Jackfruit Slicer	Semi-skilled
Blancher cum Dryer	Semi-skilled
Vacuum Fryer	Skilled
Sealer	Skilled
Boiler	Skilled
Packer	Skilled

Orange Products

Skill required based on the manufacturing process	
Machine used	Type of worker
Disc Centrifugal Separator	Skilled
Evaporator	Skilled
Oil Grinding Roller	Skilled
Bottling, Capping and Labelling Machine	Semi-skilled
Oil Extractor	Skilled

Rubber Sector

Vehicular Tyres Manufacturing⁵⁸

A skill gap study report (2013-14) by NSDC for the tyre manufacturing industry indicates that almost 60% hires are for the production line. The industry prefers to hire trained personnel and is not very pro-active in having direct associations with any training body for their requirement of workers. Most of the jobs are inter-transferable i.e., a worker hired for job A can also be transferred to do job B as the skill required is not very different. They are also given on-the-job training.

Skill required based on the manufacturing process	
Machine used/Job role	Type of worker
Rubber Kneader	Skilled
Open Mixing Mill	Skilled
Rubber Extruder / Extruder Die	Skilled
Rubber Bale Cutter	Skilled
Intensive Mixer	Skilled
Batch of cooling machines	Skilled
Strainer	Skilled
Inner Tube placer	Skilled
Daylight Tube curing press	Skilled
Core Fitting machine	Skilled
Inner tube printer	Skilled

⁵⁸ rubbermachineryworld.com

Vehicular Tyre Tube Manufacturing

Skill required based on the manufacturing process	
Machine used/Job role	Type of worker
Bale cutter Machine	Skilled
Open Mixing Mill	Skilled
Rubber Extruder / Extruder Die	Skilled
Bead wire Gromet Machine	Skilled
Intensive Mixer	Skilled
Batch of cooling machines	Skilled
Trimming and buffing machine	Skilled
Tire Drum Testing machine	Skilled
Tire wrapping and packing machine	Semi - skilled

Manufacturing of Latex Gloves

The manufacturing process for Rubber Gloves involves very few steps due to automatic machines. The machine connects all the forms in moving chain to dip and clean in different tanks of latex and chemicals. This is a continuous process till the packing of Gloves.

Male and Female Contraceptives Manufacturing

The processes of Latex Glove manufacturing and male/ female contraceptive manufacturing are highly automated processes and need very few high skilled workforce and semi-skilled workforce who can be given on the job training for 10-15 days. This type of plant can employ maximum number of female workers as it does not require heavy weightlifting work or presents hazards from heavy machines like sawmill, cutter etc.

Manufacturing of Rubber floor covering and mats⁵⁹

Floormat and Rubber floor coverings need heavy manual labor as the products are heavy to lift, therefore the industry needs mix of unskilled labor who can do the manual lifting of material and high skilled workforce who can operate the machines.

6.2 Skills Requirement for Infrastructure Development

The proposed development of industrial parks in Tripura will require infrastructure development for the industries to run their operations smoothly. To develop and manage these infrastructure facilities, skilled workforce will be needed. Below table highlights the sector wise infrastructure needs (as outlined in the Industrial Strategy Report) and skills required to support the development of the parks. These required skills can be easily provided through existing courses of ITIs.

Table 13: Skills required for Infrastructure development for Food Processing sector

Infrastructure ⁶⁰	Job Role	Skills Required
Warehousing	Stock Receiving/ dispatch Agent	Accounting skills
	Warehouse maintenance staff	Knowledge of the goods stored in warehouse and their maintenance in terms of temperature control, pest control, etc.
	Supervisor	Manages the activities and accounts of the warehouse
	Cleaner	Responsible for cleaning and waste disposal
Cold Chains	Stock receiving/ dispatch agents	Accounting skills
	Refrigeration Technician/ Maintenance staff	Understanding of refrigeration system and skills to repair them in-case if needed. Also responsible for maintenance of temperature.
	Supervisor	Manages the activities and accounts of the warehouse
	Cleaner	Responsible for cleaning and waste disposal

⁵⁹ <https://nextwhatbusiness.com/>, YouTube videos on manufacturing process

⁶⁰ Final Industrial Strategy Report, table 32

Quality and FPO Labs	Lab Technician	Lab technician skills
Truck Terminals	Drivers	Driving Skills
	Cleaners	Cleaning and waste disposal
Food Processing Training Centre	Trainers	Trained in food processing technologies.
Common Facility Buildings	Cleaner	Cleaning and waste disposal
Water Supply System	Plumber	Plumbing skills
Power Substation	Electrician	Electricity related problems and solutions
Other Infrastructure - Waste Disposal (Water and Solid), Firefighting systems, Road, Drainage, Power, and telecommunication systems	Plumber, Electrician, telecommunication person	Electricity, plumbing, maintenance, networking etc.

Table 14: Skills required for Infrastructure development for Rubber sector

Infrastructure ⁶¹	Job Role	Skills Required
Power Supply	Electrician	Electric repairing, setting up of electrical supply to units
Water Supply	Plumber	Plumbing
Waste Disposal	Waste management	Handling, collecting, storage, dumping, safety
Testing facilities	Lab technicians	Understanding of testing of rubber and polymer products

Table 15: Skills required for Infrastructure development for Bamboo sector

Infrastructure	Job Role	Skills Required
Administrative and marketing centre, product design centre	Market Development	Identify potential markets, identify new products and its market potential, ability to convince clients for sale Digital Marketing skills
	Product Designer	Knowledge of CAD/CAM and other design related software
Bamboo stick-making facility, Bamboo Plastic Composite (BPC) facility, Strand woven bamboo block unit,	Construction Workers	Masons, Labor, Architects, Overseers
Vacuum pressure treatment plant, Resin/Glue Plant, Bamboo charcoal plant	Machine operators	Knowledge of operating the machines and how to repair it when needed

Table 16: Skills required for development of Multi-Modal Logistics Park in Sabroom

Infrastructure	Workforce Required	Skills Required
Mechanized warehouses	Warehouse Operator	Stock Keeping, Warehouse Maintenance, Product Maintenance, Machine operator
Specialized storage solutions such as cold storage	Stock receiving/ dispatch agents	Accounting skills
	Refrigeration Technician/ Maintenance staff	Understanding of refrigeration system and skills to repair them, if needed. Also, responsible for maintenance of temperature.
	Supervisor	Manages the activities and accounts of the warehouse
	Cleaner	Responsible for cleaning and waste disposal
Mechanized material handling	Machine Operator, Labor	Responsible for operating the machine
Intermodal transfer container terminals	Drivers, Supervisors	
Bulk and breakbulk cargo terminals	Drivers, Supervisors	
Late-Stage Manufacturing Activities <ul style="list-style-type: none"> Kitting and final assembly Grading, sorting, labelling, and packaging activities 	Semi-skilled workers	

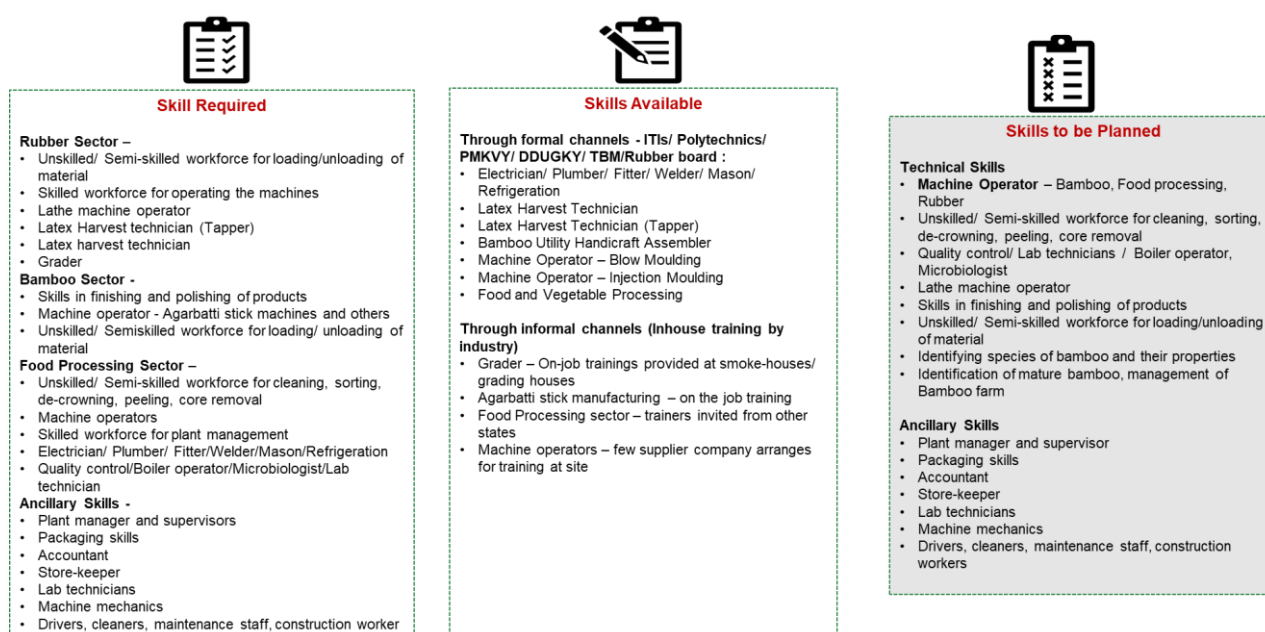
⁶¹ Final Industrial Strategy Report, table 33

- Reworking, and returns management

6.3 Summary of Skills Required

Based on the skills requirement of industries in proposed industrial parks in three priority sectors and skill training available in those sectors, skill gap has been identified which needs to be fulfilled to ensure trained workforce is available for proposed investment in industrial parks. The figure below highlights the gap.

Figure 9: Identifying the Sector Specific Skills Available and Required



From the above figure, it is observed that need for technical skills will increase as more industry investment flows into three priority sectors. Specifically, the skills required for operating different type of machines will be required across all three sectors. Apart from this, in case of Bamboo sector, the skills for managing bamboo farm, identifying bamboo species etc. will be required. In case of Food Processing sector, the demand for quality control specialists, microbiologist etc. will need to be fulfilled. Notwithstanding the technical skills and sector specific skills, there will be need for ancillary skills as well such as packaging, accountant, storekeeper, mechanics, plant manager, among others.

6.4 Estimation of Workforce Required

The skill gap arising out of the proposed investment in industrial parks need to be filled through different interventions outlined in the next chapter. However, it is also important to know the number of people to be trained in required skills given the workforce demand to be generated from new investments in next 10 years (three phases) and supply side scenario. This section estimates the number of people required to support the proposed investments (business induced scenario) and compares it with supply of trained workforce through existing skill development institutions such as ITIs, TPs and Polytechnics (business as usual scenario). The gap between the two will tell us about the additional workforce required to be trained. The estimation is based on assumptions (mentioned in Annexure 9) and insights/data gathered from primary consultations with industry and secondary research.

Demand side analysis

For estimating demand of people required to support investment in three sectors across industrial parks, we have taken into consideration the expected industrial investment (as per TIDC demand assessment report) and the phase wise industrial development (proposed in TIDC infrastructure assessment report). Further, based on the primary consultation with industries and secondary data analysis, we have determined the employment potential per unit of expected

industrial investment. Based on the analysis, the number of people required to support the expected industrial investment across three sectors in industrial parks in three phases is mentioned in table below.

Table 17: Number of people required to support expected industrial investment in industrial parks

Particulars	Rubber			Bamboo			Food processing			Total
Investment expected by industry (INR Cr)	~715			~400			~664			~1779
Phases ⁶²	Ph 1	Ph 2	Ph 3	Ph 1	Ph 2	Ph 3	Ph 1	Ph 2	Ph 3	-
% Investment by industry	20%	60%	20%	20%	60%	20%	20%	60%	20%	-
Direct workforce ⁶³	2,789	8,925	4,574	4,872	15,589	7,990	7,171	22,948	11,761	86,619
Skilled and Semi-skilled (including both technical and ancillary skills)	2,231	7,140	3,659	2,983	9,545	4,892	5,737	18,358	9,409	63,954
Unskilled	558	1,785	915	1,889	6,044	3,098	1,434	4,590	2,352	22,665
Indirect workforce ⁶⁴	4,184	13,388	6,862	7,307	23,382	11,983	10,757	34,421	17,641	129,925
Total (direct and indirect)	6973	22,313	11,436	12,179	38,971	19,973	17,928	57,369	29,402	216,544

Consultant analysis, Assumptions are provided at Annex 9.

Further, to estimate the number of trained people required to support proposed infrastructure investment in industrial parks and logistics park (as per TIDC infrastructure assessment report), we have followed the same approach of determining the employment potential per unit of infrastructure investment. The table below highlights the number of trained people required to support the proposed phase wise infrastructure investment in industrial parks and logistics parks.

Table 18: Number of people required to support infrastructure investment in industrial parks and logistics park

Particulars	Phase 1 (1-3 years) – Infra investment	Phase 2 (3-5 years) – Infra investment	Phase 2 (3-5 years) Logistics Park	Phase 3 (5-10 years)	Total
Investment proposed (INR Cr)	~135	~362	~59		~556
Direct workforce ⁶⁵	2,160	6,204	3,335	667	12,366
Skilled and Semi-skilled (including both technical and ancillary skills)	1,728	4,980	2,668	534	9,910
Unskilled	432	1,224	667	133	2,456
Indirect workforce ⁶⁶	3,240	9,336	5,002	1,000	18,578
Total (direct and indirect)	5,400	15,540	8,337	1,667	30,944

Consultant analysis

Supply side analysis

The demand analysis of required people for proposed investment in industrial parks and logistics park entails the need to assess the supply of trained workforce from existing training institutions. For this purpose, we have analysed the trades and number of seats on offer by ITIs, polytechnics and training partners associated with DoSD. The trades analysed are the ones which are relevant and suitable for required skills. Based on the assessment, we have estimated the supply of trained workforce in next 10 years (aligned with three phases of investment) which is presented in the

⁶² Phase 1 – 1 to 3 years; Phase 2 – 3 to 5 years and Phase 3 – 5 to 10 years

⁶³ Including replacement of 20% of workforce from previous phase

⁶⁴ Including replacement of 20% of workforce from previous phase

⁶⁵ Including replacement of 20% of workforce from previous phase

⁶⁶ Including replacement of 20% of workforce from previous phase

table below. The key assumption is that, in the business-as-usual scenario, how many trained people in relevant trades will be supplied by existing training ecosystem of Tripura to cater to the skill needs of the proposed investment in industrial parks.

Table 19: Number of trained people to be supplied by existing training institutions (ITIs, polytechnics and training partners) in business-as-usual scenario

Sl. No.	Particulars	Skills available (trained people – skilled and semi-skilled) – cumulative	
		5 years	10 years
1	Technical skills (Rubber, Food Processing and Bamboo)	6895	13,790
2	Skills for infrastructure investment (industrial parks and logistics park)	5432	10,864
3	Ancillary skills	5838	11,676
Total		18,165	36,330

Consultant's analysis

The demand supply assessment of skills clearly points to the gap in trained workforce required and its availability. While the proposed industrial investment in three priority sectors and infrastructure investment in industrial parks and logistics park will generate demand of 73,864 (63,954 + 9,910) skilled and semi-skilled workforce over the next 10 years and the training ecosystem of Tripura (ITIs, Polytechnics and Training Partners) will produce 36,330 trained people. This gap of around 37,534 needs to be filled through appropriate measures at different levels such as policy, institutional, infrastructure development and academic improvement. If we also consider the indirect jobs that will be catalysed through the proposed investment, then the demand for trained workforce will increase further. To put things in perspective, in terms of infrastructure required, if we aim to fill the above-mentioned gap through ITIs only, then 15-16 new ITIs will be required in next 10 years.⁶⁷

⁶⁷ One ITI of minimum 4 trades and maximum 12 units. Each unit having 20 students with 100% capacity utilization.

7. Recommendations for Skill Development and Capacity Building

The findings from the previous chapter indicate the skill gaps which need to be filled to enable the setting up of new industries and expansion of existing industries in the priority sectors. Based on the analysis, this chapter lays out the recommendations for skill development and capacity building interventions to fill the required skill gap for the proposed development of industrial parks in Tripura. The interventions recommended are divided into three categories – a) Policy, b) Institutional Development, and c) Training and Capacity Building. Under each category, the interventions are detailed out, based on which DoI&C may consider them for implementation. This chapter further lays out the skilling interventions specific to women given the socioeconomic environment they live in the State. The indicative cost mentioned for interventions (as appropriate) is based on assumptions provided in Annexure 9.

7.1 Policy Interventions

1. Develop and approve Skill Development Policy for the State

Status	There is no existing comprehensive skill development policy for the state of Tripura.
Why is the policy needed?	<ul style="list-style-type: none"> To create opportunities for all to acquire skills throughout life, and especially for youth, women, tribals and other disadvantaged groups. To secure commitment from all stakeholders to own skill development initiatives. To provide desired momentum to skill development activities in the state. To enable effective coordination between DoI&C and other departments/agencies providing skill training. To develop a high-quality skilled workforce relevant to current as well as future workforce needs (stimulated by industrial investment). To have a robust monitoring mechanism to monitor the skill development activities in the state. To promote and drive innovative partnerships with private sector. To impart quality skill development programs and ensure that trained human resources are gainfully employed. To strengthen Labor Market Information System (LMIS) to have a periodically updated information on skills that are in demand both at the supply and demand side of the market.
Primary stakeholder - owner of the policy framework	Department of Industries and Commerce (DoI&C)
Other stakeholders	<ul style="list-style-type: none"> Directorate of Skill Development (DoSD) Directorate of School Education (DoSE) & Directorate of Higher Education (DoHE) Tripura Rural Livelihood Mission (TRLM) District Industry Centres (DICs) ITIs NSTI (w) Training partners Industry Society for Entrepreneurship Development (SOFED) Sector Skill Councils (Rubber, Handicrafts, Food Processing) CII/ other industry associations Others as decided by DoI&C
Examples	Karnataka, Uttar Pradesh, Jharkhand, Bihar, Himachal Pradesh, and Mizoram
Key implementation activities	<ul style="list-style-type: none"> Appointing a committee of concerned stakeholders to draft the skills policy. Committee to be chaired by Principal Secretary, DoI&C. Drafting of policy. Endorsing of policy by committee members. Approving of policy by state cabinet and its notification.

	Timeline to complete the process – 4 to 6 months.
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2. Develop and Approve Plan for Strengthening Directorate of Skill Development (DoSD)

Status	DoSD acts as an implementation arm of State Skill Development Mission, however, it is not institutionally empowered to drive coordination and convergence of skill development programs in the state.
How strengthening DoSD will benefit the state's skills ecosystem?	<ul style="list-style-type: none"> • Support DoI&C in implementing the state's skill policy in alignment with national strategy outlined in the national skill policy. • Better coordination with other state departments/agencies engaged in skill development to ensure that skill development programs in the state are formulated as per current and future needs of the state without duplication. • Promote convergence of skill implementation efforts in the state in DoSD in terms of resources, people and facilities. • Promote development of need-based and outcome-oriented state skill development plan by consolidating efforts at district level. • Better industry engagement to ensure relevance and sustainability of skill development programs in the state. • Promote robust monitoring of skill development programs in the state by DoSD. • Support establishment of strong linkage between DoSD and Education department for effective vocationalization of school and higher education. • Facilitate middle management training for industrial units in industrial parks both online and offline at ITIs and other training centres
Primary stakeholder	DoI&C
Examples	<p>Rajasthan (Rajasthan Skill and Livelihood Development Corporation) has been able to converge all skill development programs in the state.</p> <p>Other states where skill missions have achieved convergence to some extent are: Karnataka, Odisha, Tamil Nadu, Assam, Himachal Pradesh, Gujarat etc.</p>
Key implementation activities	<ul style="list-style-type: none"> • Prepare plan for strengthening DoSD considering its objectives, organization structure, people augmentation, skills and qualification of people, processes, technology, capacity building needs of people, and other resources. • Plan should also include approach to develop a robust linkage with school and higher education department. <ul style="list-style-type: none"> ◦ Joint career fairs ◦ Upskilling to those school students who are doing well in vocational education in schools ◦ Opportunity for students of vocational education in schools and higher education to participate in job mela/ apprenticeship mela organized by DoSD • External consultant may be hired to prepare the plan. • Approval of plan by DoI&C. <p>Timeline to complete the process – 4 to 6 months.</p>
Implementation of the DoSD's strengthening plan	External consultant may be hired to support implementation of the plan.

7.2 Institutional Development Interventions

1. Transform ITI LT Valley into a Hub for Skilling in Bamboo Sector

Name of the course	Bamboo works (CTS course of NSQF level 3 of duration one year), to begin with. Later more courses can be added, or existing course enhanced depending on the needs of industry in the sector.
Rationale	<p>The course leads to following learning outcomes suitable for a candidate to work in Bamboo industry as technician, sr. technician, supervisor etc.</p> <ul style="list-style-type: none"> • Identify bamboo species • Identify and operate various hand tools used in Bamboo technology

	<ul style="list-style-type: none"> Identify, plan & apply preservatives, dyes, smoke treatment & chemical treatment process to preserve bamboo items Operate various bamboo processing machineries and carry out their maintenance Operate Glue Mixing machine & weaving machine for fixing different parts of bamboo products Troubleshoot & perform maintenance procedure of different machines used in Bamboo works Make various decorative products by designing innovative gift items, stationary items models/ prototype Apply different techniques and process of making various kinds of bamboo furniture Use Jigs & fixture to make uniform size & reduce production cost Identify finishing materials & apply different methods of finishing of bamboo products Identify quality products as per market demand for production as per requirement and estimate the cost
Building and infrastructure	<p>As per the competency-based curriculum of the course, space required is 100 Sq. m.</p> <p>There are no empty classrooms and labs for utilization in the existing ITI campus. ITI has surplus land on which additional infrastructure may be built to start new courses. Or space can be freed from two existing trades viz. Dress Making and RAC Technician, because in both these trades, seat utilization is very low – 10% and 22% respectively.</p>
Equipment	The list of tools and equipment along with specifications required for the course are mentioned in the curriculum.
Indicative cost	<p>Building and infrastructure cost (new construction) – INR 30 to 40 lakhs for one unit of the course (one classroom and a lab). One unit of 24 students as per the curriculum</p> <p>Equipment cost (major ones) – INR 1.8 to 2.2 Cr</p> <p>Other tools & equipment – assumed as 25% of major equipment cost = INR 45 to 60 lakhs</p> <p><i>Refer assumptions in Annexure 9 for list of major machines used in Bamboo industry with indicative cost.</i></p>
Key implementation activities	<ul style="list-style-type: none"> Create and develop space required for the course through public works department of the State – classroom and lab (one unit to start with) List of tools and equipment is available in the curriculum Prepare procurement plan and procure the tools and equipment Get the unit affiliated from DGT/NCVET following due process Identify, recruit and deploy trainer and other staff Procure course content from NIMI Generate awareness about the course and mobilize candidates Start the course

2. Transform ITI Ambassa into a Hub for Skilling in Food Processing Sector

Name of course	Start new course in food processing with special focus on pineapple and jackfruit processing.
Rationale	Both pineapple and jackfruit processing have been identified as major sub-sectors for investment by industry (as per TIDC demand assessment report).
Building and infrastructure	ITI Ambassa has an empty hall which can be utilized for setting up the new course. The hall will require some renovation and customized fittings to make it fit for the purpose. Sector expert with knowledge of industry settings can help in this regard.
Equipment	<p><u>Some of the major equipment used for Pineapple processing are:</u></p> <ul style="list-style-type: none"> Pineapple Washing Machine Sorting Conveyor Juice Extracting Machine Belt Press, Vibro-screener Pineapple Juice Mixing Tank / Enzymatic Treatment Preheating Machine Decanter or Centrifuge Juice Evaporator

	<ul style="list-style-type: none"> • Juice Sterilization & Aseptic Filling Machine / Juice Bottle Filling • Pineapple Corer & Sizer • Pineapple Slicer / Pineapple Skin Stripper / Pineapple Titbits • Can Reforming Unit • Automatic Juice Pasteurizer <p><u>Some of the major equipment used for Jackfruit processing are:</u></p> <ul style="list-style-type: none"> • Mechanized Raw Jackfruit Peeler • Bulb Remover • Jackfruit Slicer • Blancher cum Dryer • Vacuum Fryer • Sealer • Boiler • Packer
Indicative cost	<p>Equipment cost (major ones) – INR 50 to 60 lakh for each (pineapple and jackfruit)⁶⁸</p> <p>Other tools & equipment – assumed as 25% of major equipment cost = INR 12 to 20 lakh</p>
Key implementation activities	<ul style="list-style-type: none"> • Renovate and furnish the existing available infrastructure for use • Develop new infrastructure/workshop for conducting CBT examination • Engage with industry to define the learning outcomes, course structure and equipment required • Secure course approval from DGT/NCVET following due process • Secure affiliation of unit from DGT/NCVET following due process • Prepare procurement plan and procure the tools and equipment • Identify, recruit and deploy trainer and other staff • Generate awareness about the course and mobilize candidates • Start the course

3. Transform ITI Santirbazar into a Hub for Skilling in Rubber Sector

Name of the course	Rubber Technician (CTS course of NSQF level 3 of duration one year), to begin with. Later more courses can be added, or existing course enhanced depending on the needs of industry in the sector.
Rationale	<p>The course leads to following learning outcomes suitable for a candidate to work in Bamboo industry as technician, sr. technician, supervisor etc.</p> <ul style="list-style-type: none"> • Observe the safety rules in the shop floor and carry out the firefighting Equipment during emergencies following safety precautions. • Compile knowledge on rubber plantation to understand the process of Sheet making, Testing of Field Latex for Dry rubber content and total solids. • Explain the basic principle of continuous centrifuging, creaming of Field Latex by addition of creaming agents and DRC determination of Cream latex • Apply method of preparation of Sheet Rubber from various collection of Latex, Dilution, Coagulation, Sheetting and Drying, Grading of Sheet Rubber • Care and maintenance of tools equipment and machines observing safety precautions • Identify, operate, troubleshoot & maintain different equipment used in rubber industry • Perform the process of manufacturing of Synthetic rubbers/special rubber • Perform collection of different types of reclaimed rubber and reclaim waste rubber products by powdering and heating applying proper method • Prepare various dipped products by using Typical Compound formulation for important dipped goods • Prepare moulds using plaster of Paris. Compounding & moulding and perform finishing process • Prepare Tyre tread compounds using the blends Mix proper compounds and prepare the products viz. Micro cellular rubber, Mat, extruded beading, handmade hoses, paper weight, washers and Injection bottle caps, and seals • Prepare various gloves and test their properties and quality

⁶⁸ <https://dir.indiamart.com>

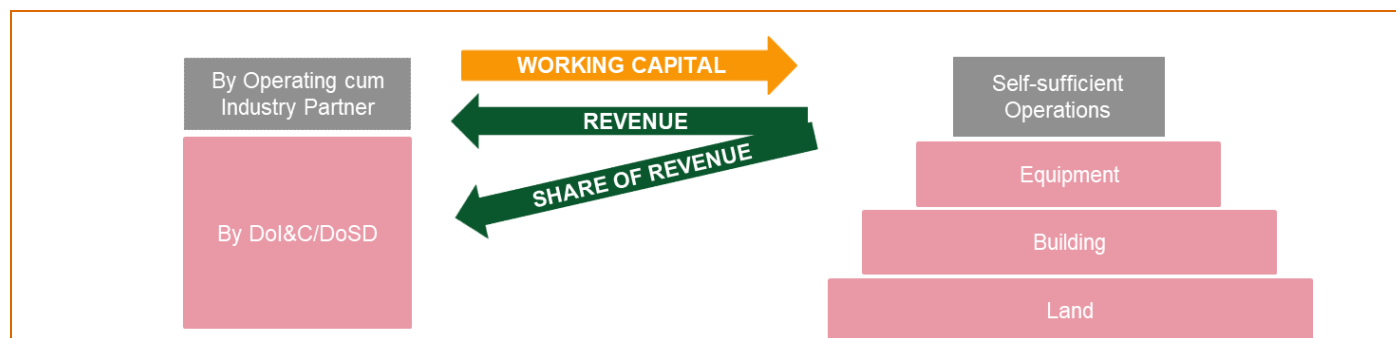
Building and infrastructure	As per the competency-based curriculum of the course, space required is 60 Sq. m. ITI Santirbazar has total area of 25,910 Sq. mt., of which only 1352.61 Sq. mt. area is covered. Even in the existing covered area, two classrooms and a hall are empty. Hence, new courses to cater to needs of industry in Rubber sector can be started, commensurate with the proposed industrial investment in the sector in the state.
Equipment	The list of tools and equipment along with specifications required for the course are mentioned in the curriculum.
Indicative cost	Building and infrastructure cost – new construction is not required. One unit of 24 students as per the curriculum – one classroom and a lab Equipment cost (major ones) – INR 1.0 to 1.4 Cr Other tools & equipment – assumed as 25% of major equipment cost = INR 25 to 40 lakhs <i>Refer assumptions in Annexure 9 for list of major machines used in Rubber industry with indicative cost.</i>
Key implementation activities	<ul style="list-style-type: none"> • Get the available infrastructure ready for the course – classroom and lab (one unit to start with) • List of tools and equipment is available in the curriculum • Prepare procurement plan and procure the tools and equipment • Get the unit affiliated from DGT/NCVET following due process • Identify, recruit and deploy trainer and other staff • Procure course content from NIMI • Generate awareness about the course and mobilize candidates • Start the course

4. Private Sector Participation in ITIs – Engagement Models

The human capital of the workforce – education and skills – contributes not only to productivity growth but also to the employment and earning prospects of individuals. In the last few years, a consensus has emerged that for continued economic growth, India will need to improve both the supply of appropriately skilled workers as well as the quality and labor market relevance of training. ITIs are the key suppliers of skilled workforce. Until few years back, there was limited participation from industry in defining training policies and in developing courses. This has changed to some extent, and industry associations and individual employers have shown interest in being involved in managing ITIs. Further, for improving industry linkages in ITIs, the Government of India (GoI) encouraged the establishment of Institute Management Committees (IMCs), constituted from industry partners, in government ITIs. However, an effective industry influence on ITIs continues to remain weak, because IMCs have very limited decision-making power in the management and operation of ITIs.

A considerable number of partnerships have emerged between government ITIs and industry that support them with technical and material support and provide on-the-job training (OJT) opportunities and employment for graduates. It has been observed that most of the well performing ITIs had tied up with renowned industries like Maruti, Havels, Schneider Electric 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 opportunity. On the similar lines, there is scope for s to collaborate with MSMEs for OJT 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 lack infrastructure and expertise to train people. Capacity building and counselling of MSMEs will help them in understanding the benefits of engaging with ITI through DST, Flexi MoUs or apprenticeship.

In view of this, a few engagement models with industry (Public-Private Partnership) are suggested here for consideration of the state.

Model 1**Key features:**

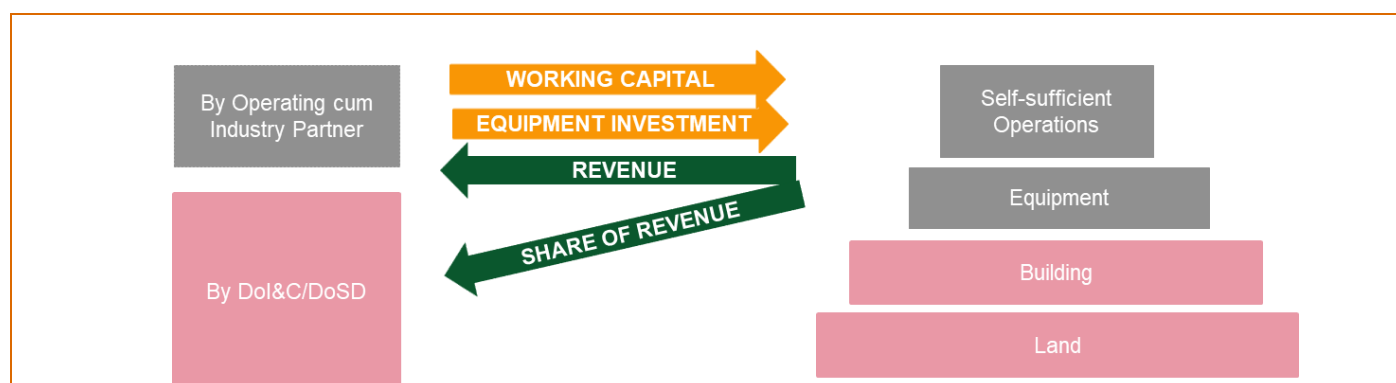
- Government to provide land, building and equipment
- Operating cum industry partner to provide working capital for running the operations and collect revenue
- Government may consider a revenue share arrangement with the partner

Example: Centre of Excellence in Tourism and Hospitality set up by Himachal Pradesh

Key features

- HPKVN (an entity of GoHP) – Land, building, equipment and furniture
- Operating partner – assist in procuring and installing equipment and basic IT; operate, manage and maintain the entire COE infrastructure and equipment; facility management; mobilize students, implement training programs; manage partnerships; assessment and certification; quality assurance and conduct promotion of the COE
- 10% revenue share between HPKVN and operating partner
- Subsidized fee for candidates from Himachal; full fee for others
- Operating partner to hand over the assets at the end of contract period (5 years) on 'as is where is' basis
- HPKVN to monitor the performance of operating partner

HPKVN – Himachal Pradesh Kaushal Vikas Nigam, Skill mission of Government of HP

Model 2**Key features:**

- Government provides land and building
- Operating cum industry partner to provide equipment, working capital for operations and collect revenue
- Government may consider a revenue share arrangement with the partner

Example 1: Community Skill Park (CSP) in Kerala promoted by *Additional Skill Acquisition Program (ASAP)**

Key features

- Multi Skill Development Centers
- Proposed 18 such CSPs across Kerala
- State-of-the-art training facilities with around 15,000-20,000 sq. ft.
- Modular design to ensure flexibility and convenient operation within classrooms
- Excellent training space and mobile training equipment after each session

ASAP- Land, Building and Furniture

Operating partner- Equipment, operations, mobilization, facility management, certification and placements etc.

Operating partner share facility with ASAP - Time sharing (4 hours every day)

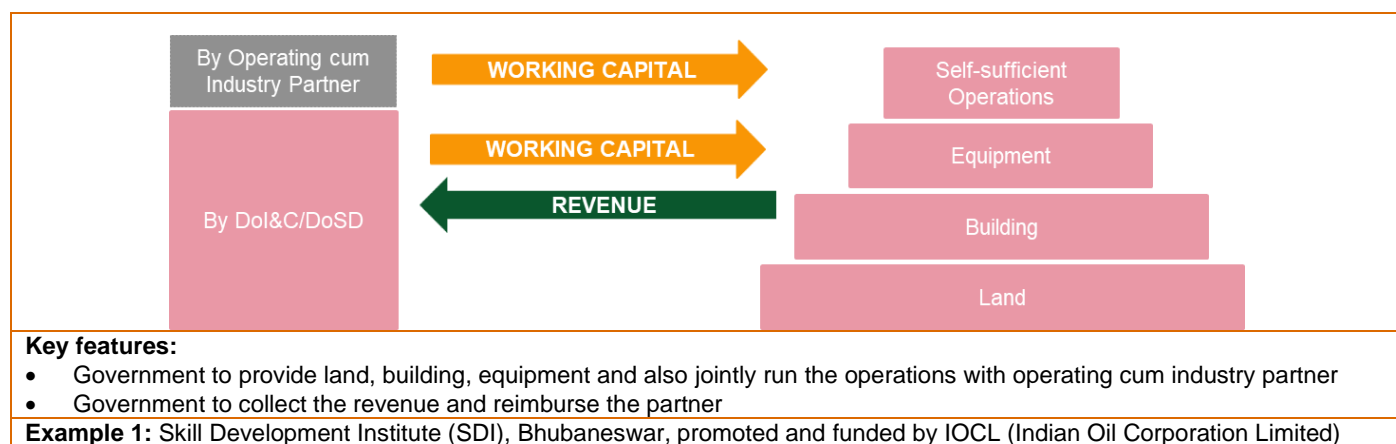
ASAP imparts its own training through its partner/s

ASAP monitors performance of the operating partner

*ASAP – Additional Skill Acquisition Program, an entity of Government of Kerala

Example 2: Private Training Partner (PTP) Model of West Bengal**Key features:**

- State government provides land and building to the partner organization to run the CTS trades
- Training partner invests in machinery, raw material for practical classes, teachers' salary and day-to-day operational cost
- The ITI has an IMC, under which 80% of the seats are filled through regular admission process, where the fee is around INR 30 per month. Government provides grant of around INR 7000 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.
- PTPs are onboarded through RFP process
- Government is responsible for monitoring
- ITIs under this model are some of the top rated ITIs in India (as per DGT's grading mechanism)

Model 3

Key features

- SDI invites industry to set up multiple COEs across sectors
- SDI is a separate legal entity
- SDI – Land, building, equipment and furniture
- Industry partner – CSR funds, student mobilization, training delivery, trainers, joint assessment and certification, and employment
- SDI engages with Industry for infrastructure set up, curriculum development, and equipment set up etc.
- Industry partner manages the CoE for 2-3 years, followed by handholding and knowledge transfer to SDI
- Overall facility management by SDI
- SDI charges a nominal fee and provides deficit funding
- SDI to monitor the performance of industry partners

Example 2: Global Skill Park (GSP) in MP, supported and funded by ADB**Key features**

- GSP invites industry to set up training centers at designated spaces
- GSP is a separate legal entity
- GSP – Land, building, equipment and furniture
- Industry partner – CSR funds, student mobilization, training delivery, trainers, joint assessment and certification, and employment
- GSP consults with Industry for infrastructure set up, curriculum development, and equipment set up etc.
- Overall facility management by GSP
- GSP charges a nominal fee and provides deficit funding
- GSP to monitor the performance of industry partner

Model 4

Pan IIT Alumni Reach for India Foundation (PARFI) model of operating ITI	
Role of state government	<ul style="list-style-type: none"> • Government provides land, building, and equipment • Government can also provide some funding depending on the need and context of the state • Decision making through a Board where one member from PARFI and minimum two government officials are part of the Board • Overall supervision and monitoring
Role of PARFI	<ul style="list-style-type: none"> • PARFI develop its own courses for ITIs as per industry needs and secures approval through SCVT • PARFI brings own trainers and staff for its courses • Focus is on tribal areas • Residential courses – mandatory • Connect each student to skill loan facility • Mandatory acceptance of job offers by student on joining the training • Establish production centres in ITI • Course fee ranges from INR 75k to 1.0 lakh – linked to skill loan • 20-25% seats of any ITI can be aligned to PARFI courses
Examples	Jharkhand, Madhya Pradesh

5. Establish Core Placement Cell at the State Level

Status	No placement cell at the state level
Objective	<p>To enhance overall employment and income prospects of young men and women from ITIs. The cell will:</p> <ul style="list-style-type: none"> • Act as a central placement cell to facilitate and drive the job employment efforts of ITIs • Create progressive career opportunity

	<ul style="list-style-type: none"> Strengthen institutional capacity building Systematic and structured approach to reach out to the industries
Functions of core placement cell	<ul style="list-style-type: none"> As-Is analysis of placement at ITIs Creating Placement plan for the ITIs Demand aggregation Facilitate industry connect/MoUs Facilitate Industrial Tour/Guest Lectures/ToT/ Shop Floor Exposure etc. Facilitate OJT/Placement Drives/Handholding Handhold institute IMCs
Primary stakeholder (owner)	DoSD to lead the core placement cell under the leadership of Director (Industries)
Other members of the Cell	Senior officials from Directorate of Industries and DoSD, not below the rank of Joint Director
Key implementation activities	<ul style="list-style-type: none"> Formation of core placement cell at DoSD Defining roles and responsibility of core placement team members Mapping industry clusters to have uniform distribution of work within core placement team Distribution of ITIs within the core placement team As-Is situation of ITIs pertaining to industry engagement and placement of the students trade wise Meeting with industries Consultation with the stakeholders Mapping of ITI trades with the industry cluster/industries Prioritization of tasks and seek approvals from the competent authority Define the roles, responsibilities against each task Define the time frame to complete each task

7.3 Training and Capacity Building Interventions

1. Partnership with NSTI to create a pool of Master Trainers in Priority Sectors

Status	<ul style="list-style-type: none"> NSTI is a central government institute for training of trainers in identified trades/courses It offers CITS courses of one year duration in one trade – Office management However, the institute has plans to start more trades for training of trainers under CITS NSTI offers CTS courses in trades such as Cosmetology, Dress Making and Secretarial Practice and plan to start new courses in more trades including Bamboo Works NSTI also plans to start diploma courses in Welding, Industrial electronics, and Automotive
Rationale and benefits	<ul style="list-style-type: none"> To create skilled trainers in three priority sectors so that they can be made available to deliver skill development programs in ITIs To encourage youth of the state to take up trainer courses at NSTI
Primary stakeholder (owner)	DoSD
Other stakeholders	<ul style="list-style-type: none"> NSTI ITIs TBM Industry
Key implementation activities	<ul style="list-style-type: none"> DoSD to forge partnership with NSTI to develop courses in required trades in three priority sectors to create a pool of master trainers <ul style="list-style-type: none"> Indicative trades could be – Bamboo works, Fruits & vegetable processing, Dairying, Agro processing, Rubber technician, among others. This will be long duration training of at least 6 months DoSD to fund the cost of training to candidates who are opting to get trained as master trainer in priority sectors at NSTI DoSD to forge partnership with other institutes outside the state with which joint training programs can be conducted in a tri-partite arrangement including NSTI for sending candidates for training as master trainers. <ul style="list-style-type: none"> National Institute for Rubber Training (Rubber Board) Indian Rubber Institute ...and others DoSD to monitor the training programs
Indicative cost	Course development cost – As per norms of NIMI (MSDE) Training cost - INR 15,000-20,000 per candidate

2. Enhance Branding and Increase Awareness about Skill Programs

Status	Limited activities about awareness generation
Rationale and benefits	<ul style="list-style-type: none"> To position state as the Skills Hub/Capital of the region providing skilled workforce to industry requirement not just in Tripura but other states of the region To make skilling aspirational amongst the youth, which would lead to operational and financial sustainability of the programs To make youth aware of the skill development programs in the state To enhance participation in skill development programs To make youth aware about the potential career path/jobs associated with a training program
Primary stakeholder (owner)	DoSD
Other stakeholders	<ul style="list-style-type: none"> DoSE and DoHE DICs Industry ITIs Training providers TRLM TBM NSTI (w) SSCs (Rubber, Handicrafts and Food Processing)
Key activities	<ul style="list-style-type: none"> Identify and define the promotion and branding activities for skill programs and jobs in the priority sectors Define and approve the budget Hire and onboard an external agency to carry out the promotion and branding activities Monitor the activities of branding agency
Indicative cost	Annual budget for agency – INR 1.5 to 2.0 Cr

3. Capacity Building of DoSD Officials, ITI Principals and Trainers

Rationale and benefits	<ul style="list-style-type: none"> Effective governance and management of ITIs Faster decision making in introduction of new courses in ITIs Better training delivery by trainers, leading to achievement of learning outcomes Performance based culture and management Enhanced technical and soft skills of trainers Enhanced reputation and public image of ITI as a skill developer Enrichment of present job and increased job satisfaction Better use and management of staff (both academic and non-academic) More effective and efficient management and monitoring of skill programs in the state by DoSD
Primary stakeholder (owner)	Directorate of Industries
Other stakeholders	<ul style="list-style-type: none"> DoSD ITI principals ITI trainers Trainees
Areas of capacity building	<p>DoSD</p> <ul style="list-style-type: none"> Leadership and people management Strategic thinking and change management Project development and management VET management and ecosystem Alliances/partnership management Monitoring and evaluation Financial management Procurement management <p>ITI Principal</p> <ul style="list-style-type: none"> Leadership and people management Project management VET management and ecosystem Alliances/partnership management <p>ITI Trainers</p> <ul style="list-style-type: none"> Sector/trade specific technical training

How to conduct capacity building?	<ul style="list-style-type: none"> • Soft skills and behavioral training <p>In partnership with reputed institutes of India, for example (indicative):</p> <ul style="list-style-type: none"> • IIM, ISB or any other good B-School and ASCI for leadership and people management • IIM Lucknow, online Ed-tech program from UpGrad for Project management • Bhartiya Skill University, Jaipur and Central Tool Room and Training Centre (CTTC), Bhubaneswar for VET management and systems • IIM, ISB, NSDC for alliances/partnership management • Reputed B-School or ASCI for strategic thinking, change management, financial management, procurement management and monitoring & evaluation • L&T Training Institute, Bhartiya Skill University, Jaipur and Central Tool Room and Training Centre (CTTC), Bhubaneswar, NTTF Bangalore, KGTTI Bengaluru for technical training of ITI trainers • IIM, National Institute of Technical Teacher's Training & Research (NITTTR) for soft skills and behavioral training of ITI trainers
Indicative cost	Refer Annexure 9

4. Capacity Building of TIDC

Rationale and benefits	<ul style="list-style-type: none"> • Training of TIDC on different aspects will lead to effective management of industrial parks • Client engagement skills will enable TIDC to encourage the industries to set up enterprises in industrial parks • More investments by the industries in setting up enterprises that will result in overall growth of the district
Primary stakeholder (owner)	Directorate of Industries
Other stakeholders	<ul style="list-style-type: none"> • TIDC • DICs • Industry
Areas of capacity building	<ul style="list-style-type: none"> • Industrial Park management • Client engagement • Grievance redressal management • Gender sensitization and responsiveness • Inclusive workplaces • Workplace safety • Prevention of sexual harassment • Behavioral skills • Incident management • Planning and coordination • Event management •and other relevant areas
How to conduct the capacity building?	In partnership with management institutes, industry, industry associations, other operational industrial parks in India, civil society organizations, practitioners, SMEs, public policy institutes, among others.
Indicative cost	Refer Annexure 9

5. Conduct tracer study to ascertain the Wages Paid to Workforce in the State

Status	Most of the employers in the state pay differential wages to male and female workers
Rationale and benefit	Minimum wages will ensure skill premium and motivate workers to work in industry
Primary stakeholder (owner)	Dol&C
Other stakeholders	<ul style="list-style-type: none"> • Directorate of Industries • TIDC • DICs • Industry and industry associations • Workforce • Directorate of Employment Services and Workforce Planning
Key implementation activities	<ul style="list-style-type: none"> • Conduct a tracer study on wages paid in the state to different category of industrial workers/technical graduates in coordination with Directorate of Employment Services and Workforce Planning

	<ul style="list-style-type: none"> Update/ revise the minimum wages standards for workers in the state
Indicative cost	INR 0.8 to 1.0 Cr per study based on sample size of 500-600 respondents

7.4 Skilling Strategies Specific for Women

Based on the women specific insights drawn during field interactions with industry for three priority sectors and considering the socio-economic factors associated with women, we can conclude that units involved in heavy physical labor and heavy machinery do not prefer to employ women workforce, however, consultations with ITIs, NSTI and other stakeholders indicated that females are more inclined towards trades that give them an opportunity for employment or self-employment.

The table below highlights some skilling strategies for Women for three priority sectors.

Table 20: Skilling Strategies for Women in Priority Sectors

Product	Key Characteristics	Skilling Required	Key Implementation Activities
Rubber			
Latex Gloves/ Contraceptives and other products	Highly automated manufacturing process therefore high opportunities for women workers.	<ul style="list-style-type: none"> Monitoring the machines and preparation of the machines for starting the manufacturing process Quality testing of products Packaging and dispatch Office management House Keeping 	<ul style="list-style-type: none"> Training to be provided in ITIs meant for Rubber based training. Theoretical training about the product, the importance of various job-roles, safety measures on the shopfloor and basic decision making should be done in the proposed common training facility in the park. For office work like accounting, inventory management, HR practices short term courses should be introduced in ITIs. Practical/OJT to be given in the industrial units. Industry will provide machine specific training material. Create awareness and encourage more women trainers in the proposed trades Training of women trainers on proposed job-roles in NSTI. Incentivizing the units by tax breaks, financial assistance for hiring apprenticeships, participating in training programs (giving tax concessions on amount spent in skilling of women workers)
Vehicle Tyre/ Tyre-tube	<p>Automated machines</p> <p>Focus of industry in reducing gender gap will prompt the industries to employ more women workforce</p> <p>Tripura can be promoted to tyre industry for its “CSR activity” to involve more and more women in the manufacturing</p>	<ul style="list-style-type: none"> Machine Operator Quality testing of products Industrial vehicles (forklifts, drivers) operator Lab technician Packaging and dispatch 	<ul style="list-style-type: none"> Trainings through ITIs by industry partnership for identifying courses, providing shopfloor exposure to candidates, hiring interns from ITIs. Introduction of new courses (as per skills required) in ITIs, and seats reserved for women candidates for each course. Practical/OJT to be given in the industrial units. Industry will provide machine specific training material. OJT for quality testing, packaging, and dispatch. Create awareness and encourage more women trainers in the proposed trades. Training of women trainers on proposed job-roles in NSTI. Upskilling for women workers to be done at regular intervals. Incentivizing the units by tax breaks, financial assistance for hiring apprentices, participating in training programs (giving tax concessions on amount spent in skilling of women workers).

Product	Key Characteristics	Skilling Required	Key Implementation Activities
Food Processing			
All processed food manufacturing	<p>Majority of women workforce is at the worker level</p> <p>Menfolk handle the supervisory and machine operations</p>	<ul style="list-style-type: none"> Machine Operators Supervisory roles Lab technicians Packaging Housekeeping accounting etc. 	<ul style="list-style-type: none"> Training to be provided in ITIs meant for Food processing training. Introduction of lab technician courses in ITIs. Monitoring and encouraging training partners to have gender diversity in trainings for all job-roles. Create awareness and encourage more women trainers in the proposed trades. Encourage industry to provide employment opportunities to women trainees. Practical/OJT to be given in the industrial units. Industry will provide machine specific training material. Training of women trainers on proposed job-roles in NSTI. Upskilling for women workers to be done at regular intervals. Incentivizing the units by tax breaks, financial assistance for hiring apprenticeships, participating in training programs (giving tax concessions on amount spent in skilling of women workers).
Bamboo			
Agarbatti stick	Dominated by women workers (90% are women)	Machine Operators	<ul style="list-style-type: none"> Training to be provided in ITIs meant for Bamboo based training. Practical/OJT to be given in the industrial units. Industry will provide machine specific training material. Other training modes may include TBM, BCDI, training partners of DoSD. DoSD to implement RPL certification to women workers having experience in

Product	Key Characteristics	Skilling Required	Key Implementation Activities
			<p>the trade but don't have certificates to acknowledge the same.</p> <ul style="list-style-type: none"> • Training of women trainers on proposed job-roles in NSTI. • Upskilling for women workers to be done at regular intervals. • Incentivizing the units by tax breaks, financial assistance for hiring apprenticeships, participating in training programs (giving tax concessions on amount spent in skilling of women workers).
Timber Substitutes and Floor Panels	Heavy physical work required hence dominated by male workforce	<p>Depending on the automation of the plant in industry, training of women workers on forklift operating, machine operating can be planned</p> <p>Apart from this carpentry skills, painting and polishing skills can also be introduced.</p>	<ul style="list-style-type: none"> • Training to be provided in ITIs meant for Bamboo based training. • Practical/OJT to be given in the industrial units. Industry will provide machine specific training material. • Implementation should be done based on requirement of the industrial unit. • DoSD to encourage training partners to introduce trainings on carpentry skills and paint and polish skills.

8. Action Plan

Table 21: Action Plan for Implementing Recommendations for Skill Development and Capacity Building

#	Proposed Intervention	Short Term (1-3 years)	Medium to Long Term (after 3 years)	Primary Stakeholder (Owner)
Policy Interventions				
1	Develop and Approve Skill Development Policy for the state	Prepare the policy Approve and notify skills policy Implement the policy	Monitor the implementation of policy Update the policy commensurate with the evolving needs of stakeholders	Dol&C
2	Develop and Approve Plan for Strengthening Directorate of Skill Development (DoSD)	Prepare and approve the strengthening plan Implement the plan – start with convergence of skill implementation efforts including ITIs and capacity building Monitor the plan implementation	Monitor the performance of DoSD	Dol&C
Institutional Development Interventions				
1	Transform ITI LT Valley into a Hub for Skilling in Bamboo Sector	Develop required space in the ITI for new course Affiliate unit with DGT/NCVET Procure tools and equipment Appoint trainers and other staff Procure course content from NIMI Mobilize candidates Start the course with one batch Continuous engagement with industry	Continuous engagement with industry Monitor course implementation Update course based on industry demand Plan and launch new course in the sector	Dol&C

#	Proposed Intervention	Short Term (1-3 years)	Medium to Long Term (after 3 years)	Primary Stakeholder (Owner)			
		Increase the batch size in 2 nd year based on demand					
2	Transform ITI Ambassa into a Hub for Skilling in Food Processing Sector	Renovate and furnish the available infrastructure for use	Continuous engagement with industry	DoI&C			
		Develop course structure in consultation with industry and sector experts	Monitor course implementation				
		Secure course approval from DGT/NCVET	Update course based on industry demand				
		Affiliate unit with DGT/NCVET	Plan and launch new course in the sector				
		Procure tools and equipment					
		Appoint trainers and other staff					
		Procure course content from NIMI					
		Mobilize candidates					
		Start the course with one batch					
		Continuous engagement with industry					
		Increase the batch size in 2 nd year based on demand					
		3	Transform ITI Santirbazar into a Hub for Skilling in Rubber Sector		Get the available infrastructure ready for use for new course in the sector	Continuous engagement with industry	DoI&C
Affiliate unit with DGT/NCVET	Monitor course implementation						
Procure tools and equipment	Update course based on industry demand						
Appoint trainers and other staff	Plan and launch new course in the sector						
Procure course content from NIMI							
Mobilize candidates							
Start the course with one batch							
Continuous engagement with industry							
Increase the batch size in 2 nd year based on demand							
4	Establish Core Placement Cell at the state level			Identify the team and form the cell	Carry out the tasks (by cell members)	Directorate of Industries	
				Define the roles and responsibilities of cell	Monitor the operations of cell		
				Map industry clusters/parks to team members			
		Distribute target ITIs amongst team					
		Proactive industry engagement by team					
		Consultation with stakeholders					
		Define tasks to be accomplished					
		Carry out the tasks (by cell members)					
		Monitor the operations of cell					
Training and Capacity Building Interventions							
5	Partnership with NSTI to create a Pool of Master Trainers in Priority Sectors	Develop training programs in partnership with NSTI	Develop more programs based on need	DoSD			
		Provide financial support to trainees	Provide financial support to trainees				
		Forge partnerships with institutes from other states and manage the partnerships	Renew the existing partnerships and forge new ones				
		Conduct and monitor the training programs	Conduct and monitor the training programs				
6	Enhance Branding and Increase Awareness about Skill Programs	Identify and define the promotion and branding activities	Review the activities	DoSD			

#	Proposed Intervention	Short Term (1-3 years)	Medium to Long Term (after 3 years)	Primary Stakeholder (Owner)
		Define and approve the budget	Review the budget	
		Hire and onboard an external agency	Monitor the performance of external agency and carry out course correction (if required)	
7	Capacity Building of DoSD Officials, ITI Principals and Trainers	Identify and forge partnerships with reputed institutions in India for capacity building in identified areas	Monitor the implementation of programs	Directorate of Industries
		Develop the customized capacity building programs	Update programs based on need	
		Prepare the training calendar and form batches	Manage the partnerships	
		Implement the capacity building programs – online, campus, hybrid	Incorporate learning outcomes in performance evaluation system	
		Monitor the implementation of programs		
		Update programs based on need		
		Manage the partnerships		
		Incorporate learning outcomes in performance evaluation system		
8	Capacity Building of TIDC	Identify and forge partnerships with identified institutions in India for capacity building in identified areas	Monitor the implementation of programs	Directorate of Industries
		Develop the customized capacity building programs	Update programs based on need	
		Prepare the training calendar and form batches	Manage the partnerships	
		Implement the capacity building programs – online, campus, hybrid	Incorporate learning outcomes in performance evaluation system	
		Monitor the implementation of programs		
		Update programs based on need		
		Manage the partnerships		
		Incorporate learning outcomes in performance evaluation system		
9	Conduct a tracer study on wages paid in the state	Conduct a tracer study on wages paid in the state to different category of industrial workers/technical graduates in coordination with Directorate of Employment Services and Workforce Planning	Institutionalise the tracer studies on wages	DoI&C
		Update/ revise the minimum wages standards for workers in the state	Update/revise the minimum wage standards in alignment with the outcome of tracer study	
			Ensure that minimum wages are paid	

Annexures

Annexure 1: Detailed Activities and Deliverables

S. No.	Task	Deliverables
1	Work with PMU-TIDCL and ADB to undertake any study/ research/ review of skill and capacity development requirements based on draft institutional and capacity development plan prepared by other national individual consultants with regards to study of skill classification and job roles across the institutions and value chain for various industrial products in/ around industrial estates in Tripura, interventions for entrepreneurship development, etc.	Report on Comprehensive Skill Development Plan
2	Map and analyse the skills gaps based on demand assessment with respect to business induced scenario, assess current availability of skilled staff/ labor engaged across the institutions/ product value chain (baseline data), Quantify the requirements for skilled persons for– institutional staff, workers, entrepreneurs, especially women (quantify gaps for different job roles to the extent possible, based on data availability)	
3	Review skill development ecosystem, which shall include the availability of training institutes, trainers, courses aligned with NSQF/ NCVT/ SCVT etc. standards; and infrastructure gap analysis should cover the status of current skill training programs at the district level (select ITI institutions), national or international best practices	
4	Undertake stakeholder consultations (with DoI&C- GoT, TIDCL, DPIIT/ MoMSME/ NEC/ MDoNER, Industrial Units, training providers, domain experts, and Industry practitioners; and ADB	

5	Facilitate DoI&C and PMU-TIDCL in processing of sector development program for skills and capacity development of institutions/ other stakeholders in industrial sector	
6	Handover upstream work/ outputs to the PMU-TIDCL and facilitate further smooth handover through any meetings/ clarifications/ other inputs required once the PDMC firm is recruited and mobilized for subsequent work of preparing the ensuing project.	
7	Any other task as assigned by the PMU-TIDCL from time to time under PRF	

Annexure 2 – MSDE's institutions, initiatives and schemes

Major Institutions under Ministry and their role in Skill Development

Institution	Role in Skill Development
Directorate General of Training (DGT)⁶⁹	<p>Apex organization for the development and coordination of the vocational training through Industrial Training Institutes (ITIs) including Women's Vocational Training of the employable youth in the country and to provide skilled workforce to the economy.</p> <p><i>Key Functions of DGT include-</i></p> <ul style="list-style-type: none"> • To frame overall policies, norms, and standards for vocational training. • To diversify, update and expand training facilities in terms of craftsmen and crafts instructor training. • To organize and conduct specialized training and research at the specially established training Institutes. • To implement, regulate and increase the scope of training of apprentices under the Apprentices Act, 1961. • To organize vocational training programs for women. • To provide vocational guidance and employment counseling. • Assist scheduled castes/scheduled tribes and persons with disabilities by enhancing their capabilities for wage employment and self-employment.
National Council for Vocational Education and Training (NCVET)⁷⁰	<p><i>Functions of NCVET</i></p> <ul style="list-style-type: none"> • Recognition and regulation of Awarding Bodies (ABs), Assessment Agencies (AAs) and Skill related Information Providers • Approval of qualifications as per the NSQF • Monitoring, Evaluation and Supervision of recognized entities • Grievance Redressal of the varied stakeholders
National Skill Development Corporation (NSDC)⁷¹	<p>NSDC is a Public Private Partnership company set up by the Ministry of Finance, India in 2009. Since 2015 it has been working under the administration of MSDE. It has an investment management agreement with National Skill Development Fund (NSDF), a trust under MSDE.</p> <p><i>Functions of NSDC</i></p> <ul style="list-style-type: none"> • Incubation and governance of Sector Skill Councils (SSCs) • Nurture and finance private training providers through social impact funding • Industry connects and participation • Implementation support to government schemes • Support through standards, quality assurance and courseware • Promotion of Digital Skills and skills for 'Future of Work' • Providing advisory services to states, government, private sector, and international partners • Promoting international collaboration in skill ecosystem • Providing market analytics technology led enablers for robust monitoring, reporting and evaluation systems

⁶⁹ Dgt.gov.in

⁷⁰ <https://ncvet.gov.in/>

⁷¹ Nsdcindia.org

Institution			Role in Skill Development
Sector Skill Councils (SSCs) ⁷²			<p>SSCs are set up as autonomous bodies and not-for-profit organizations by the NSDC and are led by industry leaders in the respective sectors. Currently there are 37 SSCs active in the country.</p> <p><i>Functions of SSCs</i></p> <ul style="list-style-type: none"> • Identification of skill development needs including preparing a catalogue of types of skills, range, and depth of skills to facilitate individuals to choose from them. • Development of a sector skill development plan and maintaining skill inventory. • Determining skills/competency standards and qualifications and getting them notified as per NSQF. • Standardization of affiliation, accreditation, examination, and certification norms and process in accordance with NSQF as determined by NCVET. • Conduct skill-based assessment and certification for QP /NOS aligned training programs. • Plan and facilitate the execution of Training of Trainers along with NSDC and states. • Promotion of academies of excellence. • Focus on skilling needs of ST/SC, differently abled and minority groups. • Ensure that the persons trained and skilled in accordance with the norms laid down are assured of employment at decent wages.
National Skill Development Fund (NSDF) ⁷³			NSDF was set up in 2009 by the Government of India for raising funds from Government and Non-Government sources for skill development in the country with an objective to enhance, stimulate and develop the skills of Indians.
National Institute for Entrepreneurship and Small Business Development (NIESBUD) ⁷⁴			NIESBUD's activities include training, conducting research/evaluation studies, developing course curricula/syllabi for Entrepreneurship Development Programs, and undertaking development programs in clusters.
Indian Institute of Entrepreneurship (IIE) ⁷⁵			<p>IIE is functioning as a National Apex body for Entrepreneurship Development through Training, Research and Consultancy Services with its Head quarter at Guwahati, Assam.</p> <p><i>Functions of Institute of Entrepreneurship</i></p> <ul style="list-style-type: none"> • Organizes training programs for prospective entrepreneurs, students, teachers, development functionaries. These programs are classified as: Entrepreneurship Development Programs (EDP); Entrepreneurship cum Skill Development Programs (ESDP); Management Development Programs (MDP), and • Other programs including Entrepreneurship Orientation Programs (EOP), Training of Trainers (TOT), Faculty Development Programs (FDP), Business Incubation Training.
National Instructional Media Institute (NIMI) ⁷⁶			<p><i>Functions of NIMI</i></p> <ul style="list-style-type: none"> • Prepare instructional material for the use of the trainees and trainers to achieve overall improvement in the standard of training imparted in ITIs, short term skill development courses and for industries/establishments implementing the Apprenticeship Training program. • Develop Question Bank (QB), translation of content/QB in Hindi and other regional languages • Develop e-Content to facilitate new age learners and enhance its reach to masses in pace with the fast-growing technology.
Central Staff Training and Research Institute (CSTARI) ⁷⁷			<p><i>Functions of CSTARI</i></p> <ul style="list-style-type: none"> • Research Wing: It conducts skill analysis and prognosis for the purpose of identifying occupational profiles for the existing and future vocations/ trades in which training could be imparted. • Training Wing: Conducts various in-house training program as per schedule and off campus training programs based on request for faculty and principals of state government on training

⁷² Nsdcindia.org⁷³ Msde.gov.in⁷⁴ Nisebud.nic.in⁷⁵ msde.gov.in⁷⁶ Nimi.gov.in⁷⁷ Cstaricalcutta.gov.in

Institution	Role in Skill Development
	methodology, Training of Trainers (TOTs), Employability skill, Managerial and supervisory development
Directorate of Jan Shikshan Sansthan (DJSS)	<p><i>Functions of DJSS</i></p> <ul style="list-style-type: none"> Provides technical information for the policy formulation as well an executive direction of the Ministry for its implementation. Parliament matters including replies to questions concerning the subjects allotted to DJSS. All other matters not otherwise assigned to MSDE

Select Schemes and Initiatives for Skilling through MSDE's Institutions

Institution	Schemes and Initiatives
Schemes and Initiatives through NSDC⁷⁸	<ul style="list-style-type: none"> Pradhan Mantri Kaushal Vikas Yojana (PMKVY) Pradhan Mantri Kaushal Kendras (PMKK) School Initiatives (vocationalisation of school education) Higher Education (vocationalisation of higher education) India International Skill Centres (IISCs) Rozgar Mela Udaan for youth from J&K Pre-Departure orientation training (PDOT) for people going abroad for work
Schemes and Initiatives through DGT	<p>Schemes for Training</p> <ul style="list-style-type: none"> Craftsmen Training Scheme (CTS) Flexi MoUs Dual System of Training (DST) Advanced Vocational Training Scheme (AVTS) for skilling of employed people Apprenticeship Training under the Apprentices Act, 1961 and NAPS <p>Schemes for Training of Trainers</p> <ul style="list-style-type: none"> Crafts Instructor Training Scheme (CITS) <p>Schemes for creation/ improvement of training infrastructure</p> <ul style="list-style-type: none"> ESDI – Northeastern States Skill Development – LWE Districts 1396 Government ITIs in PPP World Bank funded STRIVE for transformation of select ITIs Model ITI Grading of ITIs World Bank funded Vocational Training Improvement Program (VTIP) for upgradation of select ITIs <p>Polytechnics</p> <ul style="list-style-type: none"> Setting Up of New Polytechnics in Un-served & Underserved Districts Central assistance for Construction of Women's Hostels in selected Polytechnics Central assistance for up-gradation of selected Polytechnics Scheme of Community Development Through Polytechnics (CDTP)
Schemes for Entrepreneurship Development⁷⁹	<ul style="list-style-type: none"> National Entrepreneurship Awards (NEA) Pilot Project on Entrepreneurship

⁷⁸ <https://msde.gov.in/en/schemes-initiatives/schemes-initiatives-through-nsdc>

⁷⁹ Msde.gov.in

Institution	Schemes and Initiatives
Other Schemes and Initiatives⁸⁰	<ul style="list-style-type: none"> • Skill Loan Scheme • Indian Institute of Skills (IISs) – large scale advanced skill institutions • World Bank funded SANKALP for strengthening of short-term training ecosystem • Rozgar Mela

Women centric Skilling Schemes and Initiatives in India⁸¹

S. No.	Initiative Name	Key Features
1	Long Term Skill Development Training via ITIs and NSTIs	<p>Special focus on enrolment of women in ITIs under CTS (Craftsmen Training Scheme) and National Skill Training Institutes (for women) under CITS (Craftsmen Instructor Training Scheme) courses in several areas such as Office Management, Electronics, Fashion Design & Technology, and Computer Aided Embroidery and Designing.</p> <p>A total of 4445 regular seats (2731 CTS+1714 CITS) have been sanctioned in these NSTIs(W) in 2019-20 in various training courses.</p> <p>Eight new NSTIs(W) are being set up, one each in the States of Tamil Nadu, Punjab, Himachal Pradesh, Tripura, Bihar, Goa, Telangana, and Jammu & Kashmir.</p>
2	Short Term Skill Development Training	<p>Out of a total of 1.21 crore youth trained under PMKVY, close to 50% are women candidates. The efforts are made to continually revise job roles considering market demand and the industry requirement for female professionals. While women dominate sectors such as Apparel, Beauty & Wellness and Healthcare, there is significant presence in non-traditional roles such as those in Electronics and Hardware, with many female enrolments under the Field Technician - Computing and Peripherals job role in this sector.</p> <p>Skill India has partnered with other government initiatives such as Ayushman Bharat, Swachh Bharat Mission, Smart City Mission etc. to align skill development efforts to these national missions by ensuring a steady flow of skilled workforce. These programs are also generating lakhs of jobs, particularly for women by creation of job roles like caregiver, midwives, nurses, diabetes educators etc.</p> <p>Women needs are met by providing safe transport, flexible schedules, and childcare support, to ensure that they do not fall behind in getting skilled due to social obligations.</p>
3	Recognition of Prior Learning (RPL)	More than 9 lakh women have been certified in multiple sectors ranging from garment manufacturing to aerospace
4	Policy Interventions	<p>The National Policy for Skill Development and Entrepreneurship 2015 focuses on inclusive skill development. Additional infrastructure both for training and apprenticeship for women; flexible training delivery mechanisms such as mobile training units, flexible afternoon batches along with local need-based training to accommodate women; and ensuring safe and gender sensitive training environment, employment of women trainers, equity in remuneration, and complaint redressal mechanism.</p> <p>Besides these, the Common Norms approved by MSDE for various skill development programs provide special support for women candidates such as provision of boarding and lodging facilities; reimbursement of transportation cost for non-residential training programs and post placement stipends to enable new trainees to settle.</p>
5	Special Women-Centric Project	NSDC, through its training partners such as Mann Deshi Foundation, Shri Mahila Sewa Sahkari Bank Limited and Sri Sarada Math Rasik-Bhita are working exclusively on skill development of women, especially in rural areas. The training constitutes imparting digital, accounting, and entrepreneurial skills to facilitate the possibility of setting up their own business
6	Partnerships with Private & Non-Government Organizations to boost skill development	<p>The project is focused towards vulnerable and marginalized groups and tribal population. Some of the collaborative efforts with the private organizations to provide more opportunities for women are:</p> <ul style="list-style-type: none"> • Airbnb to support homestay services by providing training in hospitality and tourism sectors, • Under a PMKVY project, Amrita Vishwa Vidyapeetham is targeting remote villages to foster women empowerment through skill development and creation of occupational opportunities,

⁸⁰ Msde.gov.in

⁸¹ Made.gov.in, pib.gov.in, <https://static.pib.gov.in/>

S. No.	Initiative Name	Key Features
		<ul style="list-style-type: none"> Partnership with Humara Bachpan Trust in Odisha aims to give employment and entrepreneurship opportunities to about 1500 women belonging to the disadvantaged sections, Partnership with Industree Crafts Foundation, a formation of producer group companies is helping in training and supporting women targeted to benefit 1500 women in Karnataka, and Partnership with Youthnet Home Stay project in northeast (Nagaland and Arunachal Pradesh) in improving the quality of homestays and providing a source of income to residents.
7	Future jobs and industry-oriented courses	There are nearly 450 job roles which are concentrated towards skill training of women. Females are encouraged to get trained in new age skills like Data Automation, cybersecurity etc. and even unconventional skills like automation specialist, CNC operators etc.
8	Entrepreneurial Initiatives	NIESBUD has designed Entrepreneurship Development Programs for the rural women with the objective to inculcate entrepreneurial values, attitude, and motivation to take up challenges to set up an enterprise/group enterprise. The Livelihood Business Incubation (LBI) approach is also used to promote woman entrepreneurs by the Institute.
9	Support to Training and Employment Program for Women (STEP)	The STEP program is a central sector scheme of Ministry of Women and Child Development, GoI under which training is provided to poor and marginalized women in traditional trades to improve employability. Training courses under STEP would primarily be of 3 to 6 months duration, with total assistance per beneficiary at INR 18,000 and 28,000 respectively. The maximum number of beneficiaries per project will not exceed 200. Key sectors under the STEP scheme are agriculture, horticulture, food processing, handloom, tailoring and stitching, handicraft, computer and IT, gems and Jewellery, travel and tourism and hospitality. Amongst the states, Manipur received the maximum funding under the scheme, followed by Madhya Pradesh and Assam.

Annexure 3 – Details about ITIs and Polytechnics in the State

List of Government ITIs, Seating capacity, Trainers and Dropout rate⁸²

Sl. No.	Name of ITI (Govt.)	No. of Trades	Seating capacity	Trainers		Avg. Dropout rate
				Sanctioned	Posted	
1	ITI Indranagar, Agartala	17	450	27	23	35.53%
2	Women's ITI Indranagar, Agartala	08	300	17	12	20.41%
3	ITI Khumulwng	04	160	11	11	28.99%
4	ITI Teliamura	08	320	19	18	37.55%
5	ITI Khowai	02	120	08	07	16.40%
6	ITI Ambassa	10	315	18	11	15.41%
7	ITI Kamalpur	08	300	18	12	18.95%
8	ITI L.T.Valley	08	275	18	18	33.31%
9	ITI Gandacherra	05	200	12	06	22.78%
10	ITI Dharmanagar	07	215	13	13	8.64%
11	ITI Kanchanpur	05	200	12	07	19.66%
12	ITI Kailashahar	13	340	19	17	14.32%
13	ITI Bishramganj	08	300	18	14	19.50%
14	ITI Boxanagar	06	200	12	08	22.43%
15	ITI Udaipur	08	175	12	11	29.74%
16	ITI Jatanbari	12	300	17	12	0%
17	ITI Santirbazar	05	200	13	11	24.40%
18	ITI Belonia	11	300	17	12	34.85%
19	ITI Manubankul	04	160	10	09	51.39%

Government ITI wise List of Trades⁸³

Name	Trades
ITI Indranagar, Agartala	Stenography (English)
	COPA (Computer operator and Programming Assistant)

⁸² Data from review meeting on functioning of 19 Government ITIs held on 23rd Feb 2023.

⁸³ Based on information available online on respective ITI websites and visits to three ITIs (LT Valley, Ambassa and Santirbazar)

Name	Trades
	Plumber
	Welder
	Mech. Diesel
	Draughtsman (Civil)
	Surveyor
	Mechanic (Motor Vehicle)
	Fitter
	Turner
	Refrigerator & Airconditioning Mechanic
	Mechanic (Radio & TV)
	Electrician
	Wireman
	I.T.E.S.M (Information Technology & Electronic System Maintenance)
	Electronic Mechanic
Women ITI, Indranagar, Agartala	Stenography (English)
ITI Udaipur	COPA
	Draughtsman (Civil)
	I.T.E.S.M (Information Technology & Electronic System Maintenance)
	Dress Making
	Electronic Mechanic
	Mechanic (radio and TV)
	COPA
ITI Jatanbari	I.T.E.S.M (Information Technology & Electronic System Maintenance)
	Desktop Publishing Operator
	Mechanic Motor Vehicle
	Welder
	Interior decorator and designing
	Stenography (English)
	Wireman
ITI, Belonia	COPA
	Electrician
	Welder
	Sanitary Hardware Fitter
	MMV
	Electronic Mechanic
	Wireman
	Draughtsman (Civil)
ITI Ambassa	Driver cum Mechanic
	Electrician
	Electronics Mechanic
	Draughtsman Civil
	Wireman
	COPA
	Agro Processing
	Bakery and Confectioner
	Food Beverage
	Welder
ITI Dharmanagar	COPA
	Fashion Technology
	Electronics Mechanic
	Wireman
	Welder
ITI, Kailasahar ⁸⁴	COPA
	Desktop Publishing Operator
	Draughtsmen (Civil)
	Electrician
	Electronics Mechanic

⁸⁴ <http://itikailashahar.edu.in/>

Name	Trades
	Fitter
	Information Technology and Electronic System Maintenance
	Medical Electronics
	Motor Vehicle (Mechanic)
	Refrigerator & Air Conditioning Mechanic
	Stenography (English)
	Surveyor
ITI, Khumlnwng ⁸⁵	COPA
	Motor Vehicle (Mechanic)
	Dress Making
	M.A.E.E. (Mechanic Auto Electrical and Electronics)
ITI, Boxanagar	Plumber
	Mason
	Electrician
	Automotive Repair
	Dress Making
	COPA
ITI, Manubankul	Dress Making
	Electrician
	Electronics Mechanic
	Mechanic Motor Vehicle
ITI, Bishramganj ⁸⁶	Draughtsman Civil
	Dressmaking
	Electrician
	Electronics Mechanic
	Information communication technology system maintenance
	Pump Operator cum Mechanic
	Stenographer and Secretarial Assistant
	Surveyor
ITI, Teliamura ⁸⁷	Fashion design and Technology
	Mechanic Diesel
	Desk Top Publishing Operator
	Computer Aided Embroidery and Designing
	Fitter
	Electronics Mechanic
	Information communication technology system maintenance
	Draughtsman (Architectural)
ITI, L.T Valley ⁸⁸	COPA
	Dress Making
	Surveyor
	Electrician
	Electronics Mechanic
	Pump Operator cum Mechanic
	Refrigeration and Airconditioning Mechanic
	Welder
ITI, Kamalpur ⁸⁹	COPA
	Draughtsman Civil
	Electrician
	Electronics Mechanic
	Information communication technology system maintenance
	Pump Operator cum Mechanic
	Stenographer and Secretarial Assistant
ITI, Gandacherra	Details not available
ITI Kanchanpur	Details not available
ITI Santirbazar	Architectural Draughtsmanship

⁸⁵ <http://itikhumulwng.edu.in/>

⁸⁶ iti.directory.com

⁸⁷ <https://ititeliamura.com/course/>

⁸⁸ <http://www.itiltvalley.edu.in/>

⁸⁹ <https://iti.directory/dhalai/govt-itikamalpur>

Name	Trades
ITI Khowai	COPA
	Dress Making
	Plumber
	Surveyor
	Electrician
	COPA

List of Polytechnics, Trades and Seats in the State

S No.	Name	Trade	Seats
1	TTAADC Polytechnic Institute, Khumulwng	Diploma in Civil Engineering	60
		Diploma in Electrical Engineering	60
		Diploma in Mechanical Engineering	60
2	Women's Polytechnic, Agartala	Diploma in Information Technology	30
		Diploma in Computer Science & Technology	30
		Diploma in Fashion Technology	30
		Diploma in Electronics and Telecommunication	30
3	Tripura Institute of Technology (Erstwhile Polytechnic Institute), Agartala	Full-Time Diploma in Automobile Engineering	20
		Full-Time Diploma in Civil Engineering	30
		Full-Time Diploma in Computer Science & Technology	40
		Full-Time Diploma in Electrical Engineering	30
		Full-Time Diploma in Electronics & Tele-Communication Engineering	40
		Full-Time Diploma in Food Processing Technology	20
		Full-Time Diploma in Mechanical Engineering	30
		Full-Time Diploma in Architectural Assistantship	20
4	National Institute of Electronics & Information Technology, Agartala	Diploma in Computer Science & Technology	60
		Diploma in Electronics and Tele-Communication	60
5	Central Institute of Plastics Engineering and Technology (CIPET), Agartala	Diploma in Mould Technology	60
		Diploma in Plastic Technology	60
6	Gomati District Polytechnic, Gomati	Diploma in Computer Science & Technology	60
		Diploma in Civil Engineering	60
		Diploma in Electrical Engineering	60
7	North Tripura District Polytechnic, Dharmanagar	Diploma in Civil Engineering	60
		Diploma in Mechanical Engineering	60
		Diploma in Electronics & Telecommunication Engineering	60
8	Dhalai District Polytechnic, Dhalai	Diploma in Civil Engineering	40
		Diploma in Mechanical Engineering	40
		Diploma in Electronics & Telecommunication Engineering	40

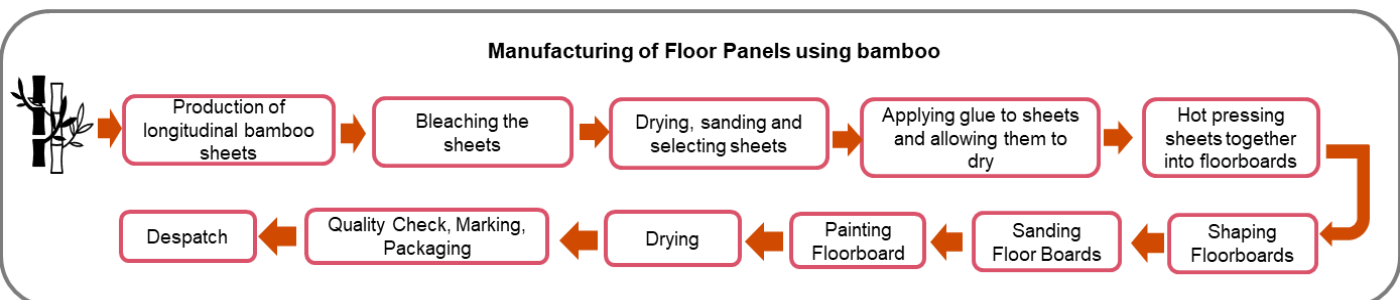
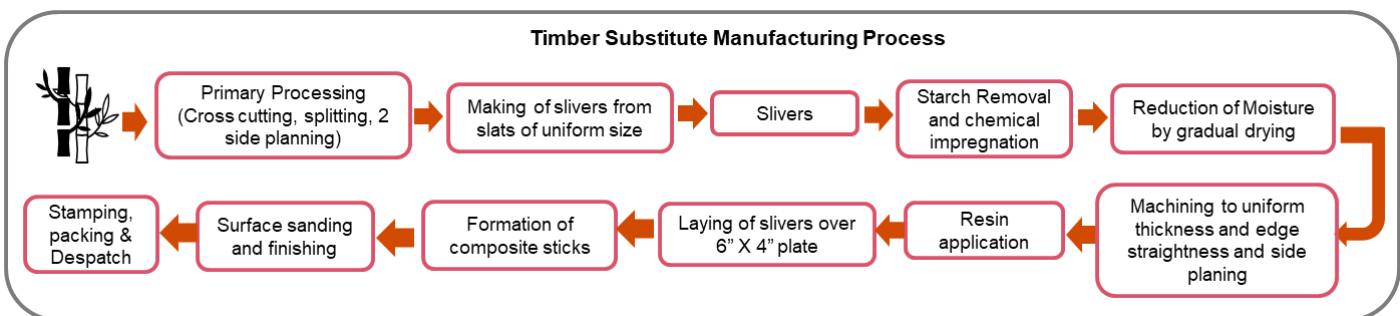
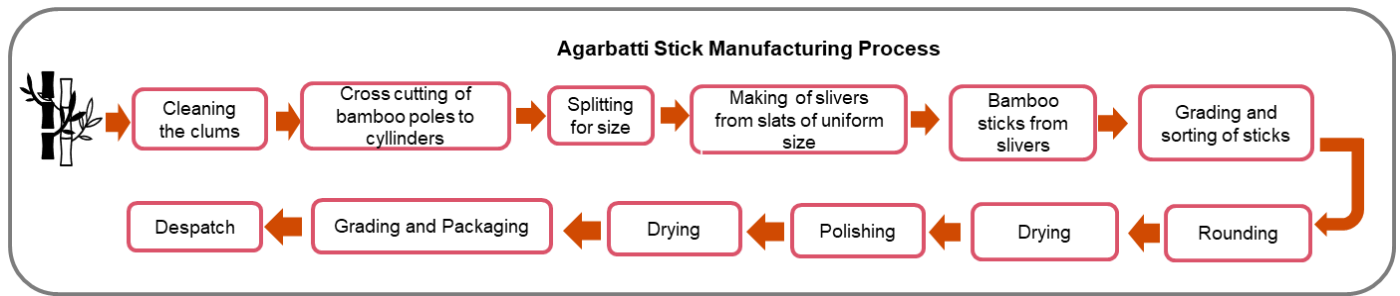
Annexure 4 - Count of TPs skilling in NSQF aligned job-roles for PMKVY and DDUGKY Schemes

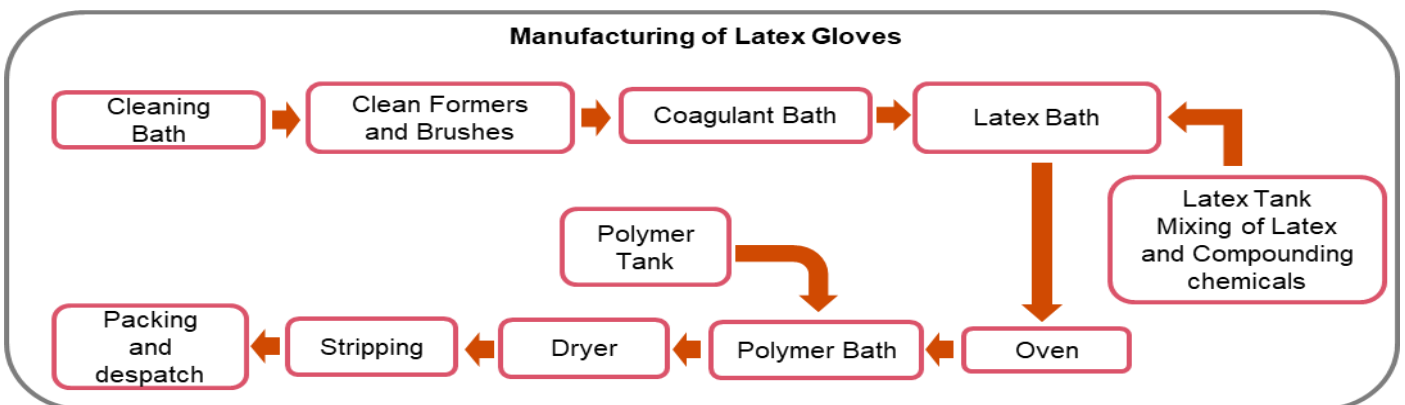
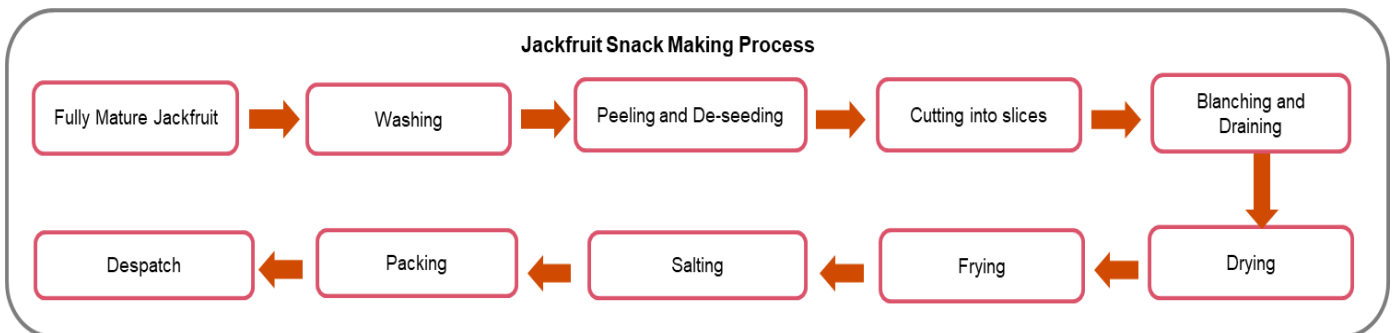
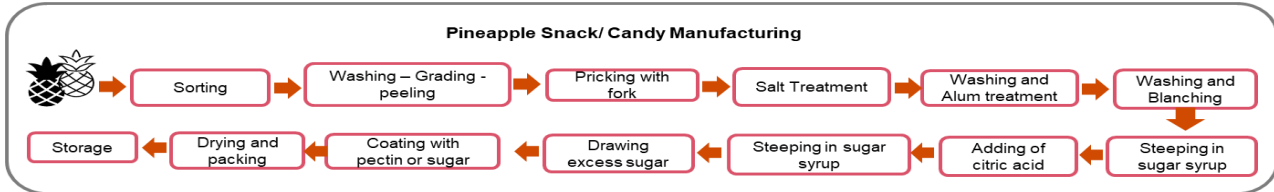
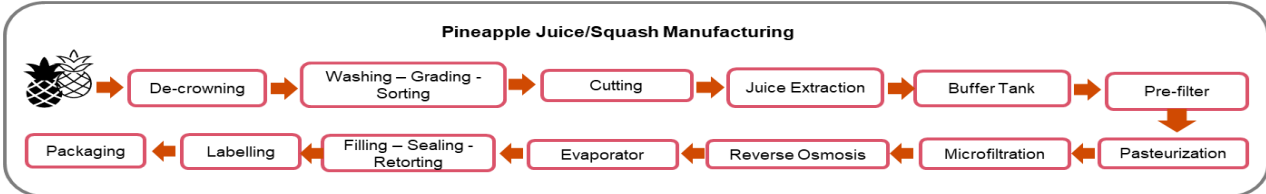
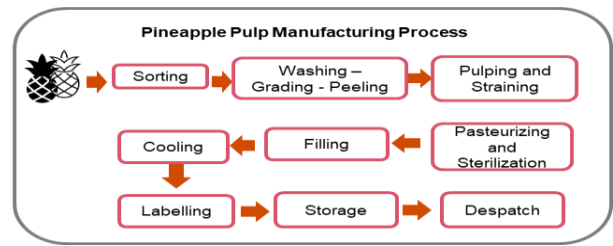
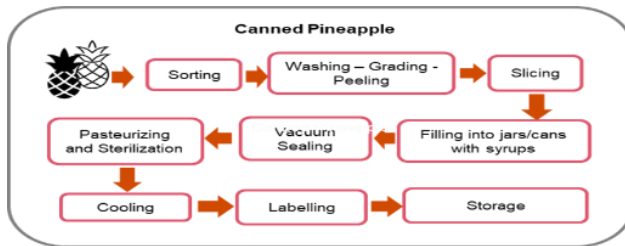
S. No.	Sector	QP/Job Role	No. of TPs
1	Tourism and Hospitality	Front Office Associate	4
2		Tour Escort	1
3		Hospitality Assistant	4
4		Food & Beverages Service	4
5		Street food Vendor	2
6		Multi-cuisine Cook	1
7		F&B Service Steward	4
8	Electronics	Field Technician, computing peripherals (Retired QP) ⁹⁰	2

⁹⁰ <https://www.nsdindia.org/field-technician-computing-and-peripherals>

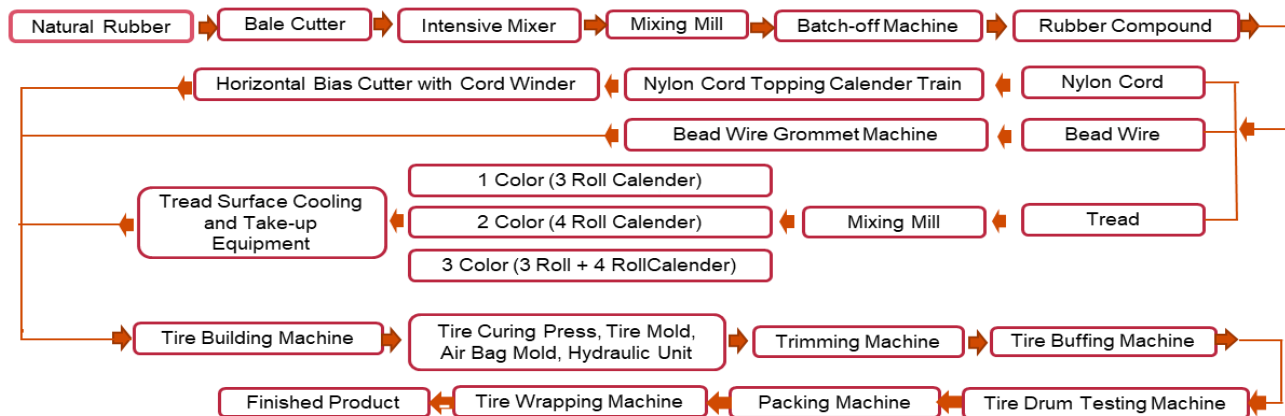
S. No.	Sector	QP/Job Role	No. of TPs
9	Rubber, Chemical and Petrochemical	Handset Repair Engineer	1
10		Assistant Electrician	4
11		DTH Set-top box installer and service technician	1
12		Mobile phone hardware repairing technician	1
13		CCTV installation Technician	1
14		Field Technician Networking and Storage	2
15		Machine Operator Assistant Blow Moulding	1
16		Machine Operator Assistant Plastic Extrusion	1
17		Machine Operator Assistant Plastic Processing	1
18		Machine Operator Assistant Plastic Recycling	1
19		Machine Operator Assistant Injection Moulding	1
20		Testing & Quality Control for Plastic Materials	1
21		Latex harvest Technician	4
22		Latex Harvest Technician (Tapper)	8
23	Automotive	Chauffer/ Taxi Driver	4
24		Light Motor Vehicle Driver	3
25		Automotive Service Technician (2+3) wheeler	2
26	IT-ITeS	Domestic Data Entry Operator	4
27		Domestic IT Helpdesk Attendant	1
28		BPO Voice	4
29		Technical Support Executive-Non Voice	2
30		Customer Care Executive (callcentre)	2
31		BPO Non-voice	1
32	Healthcare	Medical Sales Representative	1
33		General Duty Assistant	1
34	Aerospace and aviation	Airline reservation agent	1
35		Airport Safety Crew	1
36	Retail	Trainee Associate	2
37		Showroom Hostess – Customer Relationship executive	1
38		Retail Sales Associate	7
39		Showroom Hostess – Customer Relation Executive	1
40		Distributor Salesman	1
41	Beauty and Apparel	Makeup Artist	2
42		Self Employed tailor	9
43		Pedicurist and Manicurist	1
44		Hair Stylist	1
45		Beauty Therapist	4
46		Sewing Machine Operator	6
47		Assistant Hair Stylist	2
48	Agriculture	Mushroom Grower Small	2
49		Organic Grower	3
50		Gardner	1
51	Solar Sector	Solar PV Installer	3
52	Bamboo	Bamboo Utility Handicraft Assembler	3
53	Water management and Plumbing	Plumber General	1
54	Construction	Mason (general)	3
55		Bar Bender and Steel fixer	2
56	Logistics	Documentation Assistant	1
57		Consignment booking assistant	1
58	Domestic Worker	Elderly caretaker (non-clinical)	1
59		Housekeeper	2
60	Management & Entrepreneurship and Professional	Unarmed Security Guard	3
61	Food Processing	Fruits & Vegetables Processing	1
62	Telecom	Customer Care Executive	1
63	BFSI	Goods and Service Tax Accounts assistant	1

Annexure 5 – Value chain mapping of key products across three Priority sectors

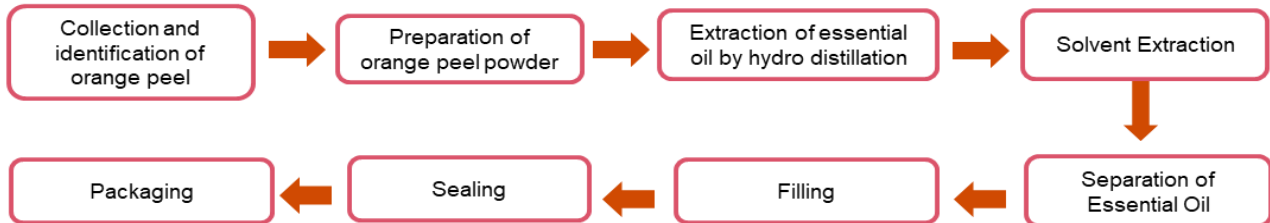




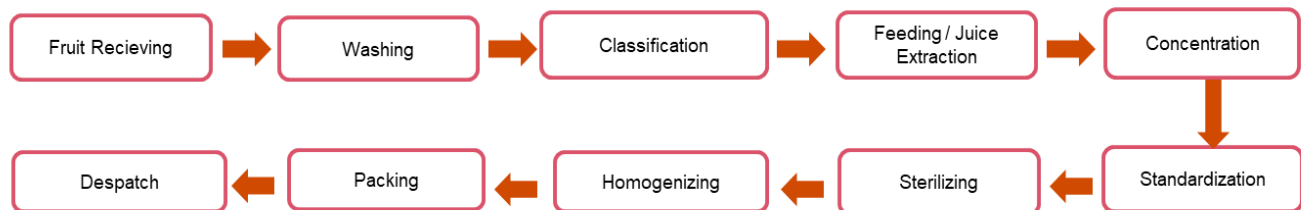
Bicycle Tyre Manufacturing Process



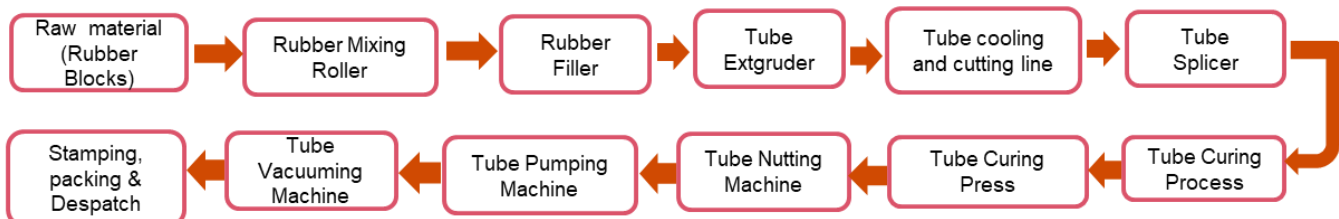
Orange Essential Oil Manufacturing Process

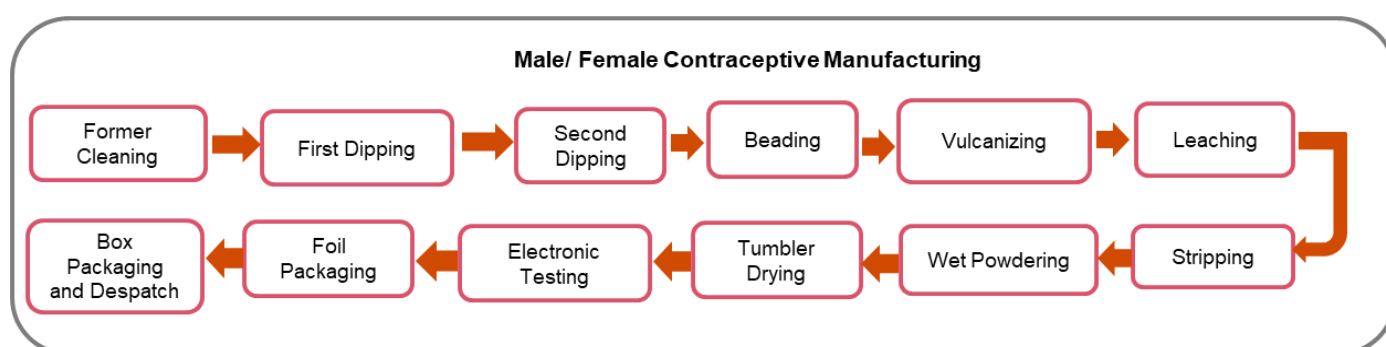
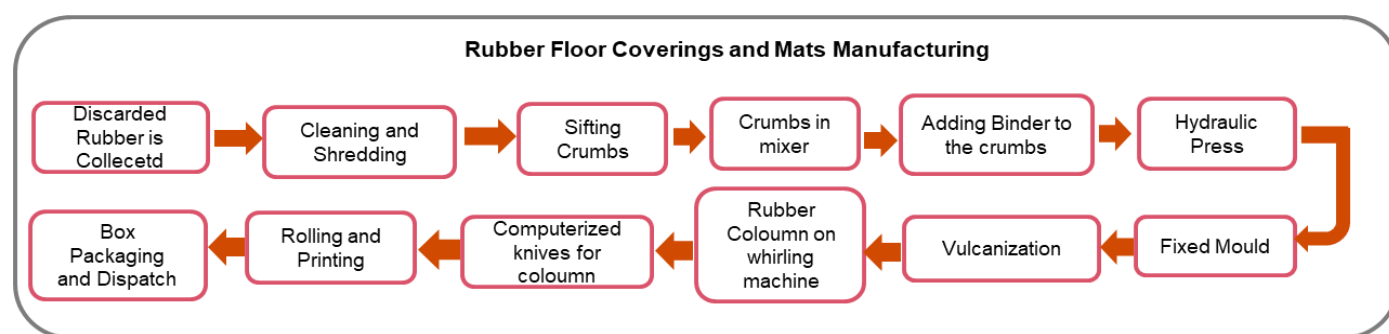


Orange Juice Manufacturing Process



Vehicular Tubes Manufacturing Process





Annexure 6 – Details of interaction with stakeholders

Confederation of Indian Industries (CII) ⁹¹

CII is a non-government, not-for-profit, industry-led, and industry-managed organization, with around 9000 members from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 300,000 enterprises from 286 national and regional sectoral industry bodies.

Extending its agenda beyond business, CII assists industry to identify and execute corporate citizenship programs. CII partners with civil society organizations to carry forward corporate initiatives for integrated and inclusive development across diverse domains including affirmative action, livelihoods, diversity management, skill development, empowerment of women, sustainable development etc.

Person/s Met - Ms Rupa Das – Head, Tripura State office

Discussion Topics - Industries present in the state and their skilled workforce requirements, youth aspirations, issues with existing practices.

Key Insights –

Bamboo Sector – since bamboo handicraft is a traditional skill, the knowledge is passed on from generations, therefore not much of a skill gap in this sector in traditional handicraft, however training for upgraded products is required. Another product for which skilling will be needed is Bamboo Charcoal. The demand for export of this product is gradually gathering pace.

Rubber Sector – a rubber park is already existing. The manufacturing units bring their trainers from Kerala who train the local people in the skill and then go back. Presently, the emphasis is more on setting-up smoke houses as there is a huge demand of the same in tyre industry.

Skilling Centres – Tripura CII runs 10 CoEs to impart skilling trainings to the youth in the state.

Youth Aspirations – distressed migration is very less in the state. Therefore, the youth population prefers to work in its hometown. However, the youth prefer government job over private one and therefore they are not active participants in skilling and

⁹¹ Cii.in

entrepreneurship activities run by various institutions in the state. Another reason why youth is not very motivated to join industries in Tripura is because of low wages offered by the manufacturing units in state.

Directorate of Skill Development, GoT⁹²

Directorate of Skill Development (DoSD) was set up in 2015 with an objective to bring more focus and coordination in skill development in the state in a holistic manner. The DoSD is functioning under the Department of Industries and Commerce (DoI&C), Tripura. All the skill development programs of DoSD are being implemented in coordination with various national/state level stakeholders such as NSDC, state line departments, RSDC, training partners and Industry.

Person/s Met – Mr. Sanjoy Chakraborti – Director, DoSD

Ms. Sutirtha Paul – Joint Director, DoSD

Discussion Topics – Skilling environment, present skills and need for advanced skilling

Key Insights –

Rubber Sector – currently more than two lakh people from the state are involved in the Rubber Sector. Majority are working as tappers. Skilling has been provided in tapping and processing of rubber. For the existing workforce, skill upgradation was done by means of RPL certification, while for youth which is not associated with industry, short term training programs at various NSQF levels have been conducted.

Challenges with youth – the youth population of Tripura do not want to migrate; therefore, they need to be trained and subsequently employed in the area where they live. The educated youth want to work for reputed organizations paying them high salaries. Government jobs are aspirational therefore, the educated youth is very reluctant in engaging in the manufacturing sector as factory workers.

Challenges plaguing the industry – the major challenge faced by the industry is the market linkage. The handloom products are not linked to market therefore there is a gap in the understanding of the actual demand. The artisans are creating products that do not have much demand in market and due to lack of understanding, they are unable to make marketable products. Another gap is lack of marketing related skills like digital marketing, branding, and positioning, targeting the correct consumer segments etc. that are required to ensure the industry grows at desired pace.

Further, there is a gap in the skills required to develop the grading of rubber sheets as that would ensure better pricing. The education institutions are very strong in Tripura with current literacy level above 90%, but this also causes a concern as the educated youth is not utilized adequately.

Society for Entrepreneurship Development – SOFED⁹³

Society for Entrepreneurship Development (SOFED) is an autonomous organisation under administrative control of DoI&C, GoT. It aims to develop new micro and small enterprises and facilitate performance improvement of existing enterprises and entrepreneurship development in the state by providing guidance, counselling, and training to prospective candidates and existing entrepreneurs.

The key activities undertaken by the society are:

- Awareness program for self-employment and entrepreneurship
- Business opportunity guidance
- Entrepreneurship development program
- Skill development programs (in different skills)
- Management development programs
- Preparation of business plan / project report for establishing MSMEs
- Conducting survey on business and related activities

Person/s Met - Mr. Badal Dey – Deputy Director, SOFED Tripura

⁹² Dit.tripura.gov.in

⁹³ Sofed.in

Discussion Topics – Challenges faced by the entrepreneurs, youth aspiration, issues plaguing the development of entrepreneurial activities in state

Key Insights-

Rubber Sector – presently rubber industry has more than two lakh people engaged in the sector in various trades. Farmers are only interested in making rubber sheets but not setting up of smoke houses. The major infrastructure required for smoke house is the availability of natural gas in absence of which the cylinders are used which is a costly affair.

Bamboo Sector – under National Bamboo Mission (NBM), the entrepreneurs get 60% grant on the capital expenditure and bamboo handicraft is a traditional skill which is passed on from generations. However, availability of proper markets to consume the end products is causing fund related issues.

Food Processing Sector – Cashew, Jackfruit, Pineapple, Rice are the major produces than can fuel the food processing industry, however in absence of proper supporting infrastructure like cold storages, logistics and absence of knowledge on advanced technology related processing of these produces leads to less participation of youth in this sector. Another issue as identified is the lack of packaging facility. The Nitrogen plant required for food packaging industry is very expensive therefore it discourages the participation of small entrepreneurs in this sector.

Workforce Training – due to lack of proper training infrastructure, the entrepreneurs train the workers in-house.

Focussed Group Discussion with several Stakeholders

Participants - RSDC, Tripura Bamboo Mission, DIC, Directorate of Handloom and Handicraft Sector, Member of working group – NBM, Bamboo and Cane Development Institute, Handicrafts SSC, Food Processing SSC, Indian Institute of Packaging – Kolkata.

Rubber Sector – Tripura is the second highest producer of Rubber in the country. With the help of Rubber Board, the focus on the sector has enabled bringing 60,000 hectares under rubber production with an aim to bring one lakh hectare under the same. There are 16 rubber industries in the state. These industries require 100-150 people per company as direct employees. The state requires approximately one lakh tappers to meet the latex demand. RSDC with the help of rubber board is reaching out to the farmers in the field to train them on relevant tapping skills. There have been approximately 1500 short-term trainings imparted till date with 36 trainers. 10 PMKVY registered training partners are providing trainings on 4 NSQF aligned job roles on Rubber tapping technology. The Tripura University has a B.Voc. program on rubber technology which sees a 100% placement and is high in demand.

The lack of knowledge and existing skills of tappers and improper techniques used for tapping the rubber tree will reduce its productive life by many years. Also, it was highlighted in the discussion that the farmers are not investing in 'rain guards' needed for rubber tree since they are unable to harvest latex for at least 60 days in a year resulting in a loss of 60 days' worth of produce. Therefore, proper information dissemination in adopting practices that will improve productivity is also required.

At present, only 30% of the rubber sheets produced are graded which is required by the tyre industry. Due to the middlemen, the farmers are not getting adequate prices for their produce and therefore they take it as an additional activity. Since this does not result in significant increase in the earnings, farmers are not putting in investment and efforts to make graded rubber sheets. Further, the smokehouses, usage of which can yield better price of rubber sheets, require access to natural gas, in absence of which, it will be very difficult for the farmers to run these smoke houses as firewood is scar.

New skill required in Rubber Sector - Rubber wood carving. A Qualification Pack (QP) has already been developed for this job role by RSDC and is under approval process with NCVET.

Bamboo Sector - knowledge about the species of bamboo, packaging of bamboo products for transportation, skill gap w.r.t to the product polishing, and marketing activities are some of the areas of concern.

The skill requirement in bamboo industry can be divided into two sections: (1) industry relevant skills, (2) handicraft skills. Bamboo being the traditional craft of Tripura, most of the handicraft skills are passed down from the previous generations, however with technological advancements and demand for high quality craft products, need for advanced skilling in the bamboo industry is there.

Bamboo and Handicraft SSC – The focus of this SSC is to ensure upgrading the existing skills of the artisans through short term trainings on the QPs (bamboo work artisan, bamboo basket maker, bamboo mat maker). In addition to these QPs, a generic National Occupation Standard (NOS) on packaging and entrepreneurship is being developed to be included in all the QPs and trainings. Digital fluency is another skill which has been included in the trainings.

Bamboo and Cane Development Institute, Tripura - the institute caters to the changing designs and technology needs of the buyer and provides support to the artisans and craftsmen in these two aspects. The institute conducts training programs and workshops and acts as a resource centre. In partnership with TBM, the institute arranges for training in following:

- Mapping of raw material to the industry requirement
- GIS techniques, drone pilot training for surveys and activities
- Focus on training of trainers (ToT) programs to ensure availability of trainers for skill training

- Partnership with other state bamboo missions for the upliftment of the sector

The key issues that were identified in the discussion are:

- The knowledge about bamboo, identification of correct raw material, mapping of raw material to the industry requirements are the major challenges that the industry is facing
- While the state exploits the existing bamboo farms, like Rubber, there is a great need to focus on bamboo farming as well
- Treatment of bamboo before deploying it for making products
- Due to lack of knowledge about correct packaging, products like bamboo shoots get spoiled during transportation
- Being a handicraft industry, presentation of the product is extremely important, therefore trades like polishing of bamboo products, finishing, packaging is also an important skill
- Traditionally bamboo handicraft engages the women folk, therefore their migration is not possible. Hence the industries must be either near to the location of artisans or rely on clusters (SHGs) for the products.
- With the introduction of new products like bamboo tiles, glue-board etc. specific industry skill requirements are for skills like machine operators

Other products that are being explored:

- Bamboo Charcoal
- Use of bamboo as packaging material

Food Processing Sector – Ambasa, Dhalai District ITI is established with a focus on food processing industry but there are few enrolments. The ITI is not able to attract quality candidates from outside the state and the very few which have opted are not at par with the industry standards. Limited infrastructure is available for training purposes. There is no training institute in Tripura for technology on dehydrated fruits. Food testing lab is also not available. Under PMKVY 3.0, candidates from Tripura were sent to Bangalore for training.

Jackfruit – no master trainer is available, very limited knowledge available about the advanced technology. Under the PM formalization of micro food processing enterprises (PFME) scheme, incubation centres are being set up which will encourage and engage local youth.

Pineapple – only the traditional food processing skills of jams, preserves, canned fruit and juices etc. are known. About other products like dehydrated pineapple flakes which are high in demand, knowledge about technology is limited

Majority workforce in food processing is from Siliguri district of West Bengal. Till date, approximately 6000 people have been trained in food and beverages sector. There are more than 60 QPs and multiple new QPs are under development. FSSAI certification training is also provided by the concerned SSC.

Industry Interaction

As part of the consultation process during the field visit, expert interacted with three industrial units, one each in recommended priority sectors. The key insights about skilling generated from these interactions are mentioned below.

Rubber Industry – Abhisar Buildwell Pvt. Ltd. (Rubber Division)
(A Subsidiary of Dharamapal Satyapal Ltd.)

Brite Rubber Processor Pvt. Ltd.
(Rubber block Manufacturer)

Malaya RubTech Industries Pvt. Ltd.
(Rubber block Manufacturer)

Mittal Associates
(Smoke house and Rubber sheet grading unit)

As part of its expansion plans in the Northeast India, DS Group set up a manufacturing unit at Agartala (Tripura) in year 2006 for manufacturing of Heat Resistant Latex Rubber Thread with a total installed capacity of 5,000 MTs annually. The factory is in the sprawling area of 11 acres with current installed capacity of 5,000 MTs/annum which is under expansion to become 10,000 MTs/annum. The heat resistant latex Rubber thread project has generated employment among local youth of Tripura and the North-eastern region of India. It has benefited thousands of families engaged in Rubber plantation and processing, as the raw material latex is totally procured locally.

Sourcing of workforce – the company needs two types of work-force – 1) skilled workforce and 2) unskilled workforce. The skilled workforce is recruited from ITIs (mostly freshers) and given on-the-job training in the factory. The youth is more inclined towards

government jobs and earnings through private tuitions as they are sceptical about the stability of factory jobs. The availability and engagement of apprentices is also not easy. The company must identify the apprentices on their own. The unskilled labor is not a problem as its available in plenty.

The unit is a fully automated unit therefore requirement of machine operators, lathe machine operators etc is there, but the local skilling ecosystem fails to fulfil the requirement. Further, the contractual labor is easily available, but a minimum number must be kept employed even if there is no requirement, otherwise they will not be available when the need arises. Wages for women workforce is same as that for men, but due to the night shift safety norms, the factory hesitates in employing women.

Summary of Interaction from other Rubber products units

- No dearth of unskilled labor, however, loading of finished blocks is done by contractual labors (e.g., from Bihar) as local labors are unable to do heavy physical work.
- Highly technical skilled workforce is sourced from other parts of the country as these skills are not readily available in Tripura
- Trained candidates from Tripura ITIs are difficult to retain as they don't want to work at the wages provided by the local industries
- The wages for unskilled women workforce are marginally less than that of men (INR 400 per day for women and INR 450 per day for men)
- Skilled workforce - Graders: The skilling is done on the job as skilled graders are not available. Wages vary depending on the number of years of experience they have.

Skill gaps –

- Industry related skills – machine operators
- Ancillary skills - electricians, mechanics, (heavy commercial vehicles and light motor vehicles), drivers for heavy commercial vehicles etc.

Bamboo Industry – Mutha Industries Pvt. Ltd. Epitome Bamboo Wood Products

Pioneer Bamboo Products (Agarbatti stick manufacturing)

Syamal Agarbatti (Agarbatti stick and agarbatti Manufacturing)

Anup Agarbatti (Agarbatti stick and Agarbatti Manufacturing)

Spread across 1,00,000 sq. ft of factory space and was completed in a rapid 14 months. It employs approximately 100 personnel directly and provide indirect employment to 500. Mutha industries is the first successful company to get into bamboo industrial production like panels etc.

The unit reaches out to the local population for its workforce requirements. The candidates are sourced from local ITIs, Engineering colleges and from the training partners. They are then given on-the-job inhouse training. The attrition rate is high because the youth aspire to be in government jobs or opts for alternatives like tuition for which they easily get INR 2000-3000 per student per month for two days a week class.

Given the nature of work, the engagement of women on the shop floor is not possible as owing to the social factors, they have less strength than what is required on the shop floor.

Summary of Interaction with Agarbatti Manufacturing Units

- Absence of technical workforce like electrician, machine mechanic, plumber etc as a common facility who can support in case of machine breakdowns results in delays in production as the mechanics are not easily available
- These are women centric enterprises (90% women workforce) therefore proper infrastructure in terms of well-lit roads, uninterrupted electric supply will make it safer for them to travel to the units
- The workers are given on the job trainings, it will be desirable if trained people are available as they will become productive in short span of time
- Certified workers (RPL certification, PMKVY certificate to name a few) are desirable as they come with a promise of better skills than the uncertified workers.

Skill gap – less knowledge about bamboo itself. Very few people identify mature bamboo from immature one. This is a desirable skill for this industry. Fitter, turner, electrician are few other skills which are required

Food Processing Industry – Pran Beverages India Pvt. Ltd

Sarvasiddhi Agrotech
(Dairy processing unit)

M/S Sree Ganesh Frozen Fruit Pvt. Ltd.
(Pineapple and pineapple based processed products)

A Bangladesh based food and beverages processing company, the PRAN Group, has set up a plant in Tripura with an initial investment of INR 50 crores at Bodjungnagar Industrial Area. They have plans to expand the investment to the tune of INR 150 crores in the area. PRAN group is Bangladesh's largest grower and processor of fruits, beverages, and vegetables.

The machines are mostly imported from Italy, Russia, and Delhi and therefore, there is a need for skilled workforce that can operate these machines. To fulfil their workforce requirement, Pran beverages arranges for in-house, on the job trainings for the operators. The company faces high rate of attrition as the skilled labor very frequently change jobs for more lucrative opportunities in other companies. Most of the hirings are done from the state ITIs and polytechnics. Currently the unit has employed approximately 650 people on various job roles, out of which 575 nos. are shop floor workers. The minimum wage provided is INR 6000+ yearly bonus plus medical and conveyance facilities along with performance incentives.

The industry is facing issues due to infrastructural gaps like no cold storage, non-availability of food testing laboratory, cold chain logistics etc.

Skill and knowledge gaps – for an agro-based industry, there is no linkage between the horticulture department and the agriculture university, for instance, there is no know-how available with the concerned departments for expertise on latest technologies in Jackfruit and Pineapple processing.

Quality control experts - no microbiologist for quality control in food products

Lathe machine operator skills - there are courses available, but the trained candidates are not employable

Boiler operator - no skilled worker for operating the boiler. The company is currently managing with just one boiler operator

The company engages industry players like L&T and Omron to conduct trainings on electrical panels installed by them

Food Processing Industry - Mothers Food Product

This is a micro enterprise in food industry based out of Tripura that is equipped with Hi-Tech dehydration unit for Agro produce. Being a micro enterprise, while they are not facing the problem with skilled workforce, they are willing to become knowledge partners and training partners for food processing industry as they are the only ones in the state with the Hi-tech dehydration units.

Micro units like these with hi-tech machines and advanced technologies can be used as feeder training units for providing the skilled workforce to the relevant industry.

Sarvasiddhi Agrotech

(Dairy processing unit)

This is a small enterprise which set up first Rice Mill in the State of Tripura. They employ a total of 60 workers, some labors are kept in buffer as labor is not easily available. They have sourced 6 Dairy Technicians from BHU. Being a dairy industry, the role of drivers is important in collection of milk, they have employed 10 drivers for this purpose. Skilling and Training is done on the job.

Institution	Key insights and discussion points
Directorate of Skill Development (DoSD), Government of Tripura	<ul style="list-style-type: none"> It is important to have interlinking between DoSD and Directorate of School Education and Higher Education for the purpose of implementing vocationalisation of education as per New Education Policy (NEP) of GoI. To start with, three priority sectors of Rubber, Bamboo and Food Processing may be considered. It is important to recognise the distinct skill requirement of rural and urban areas of the state. Under the Skill Hub initiative of MSDE, 1280 institutions have been identified as skills hubs excluding Kendriya Vidyalaya and Navodaya Vidyalaya. However, training targets are yet to be decided. Availability of required infrastructure in schools is critical to implement NEP provisions related to vocational education. To implement vocational education in schools, initial focus should be on courses requiring less machines and equipment. Course curriculum for vocational education should be local language also. There should be provisions for upskilling of those students who perform better in vocational education in schools. Provision of scholarship for such students may be considered to create learning pathways. An effective coordination between and convergence of skill development programs in the state should be pursued. Convergence of funds, people and facilities with respect to skill development programs should be taken up through DoSD. Focus on Training of Trainers and Master Trainers in Tripura with support from NSTI Agartala.
ITI Indranagar, Agartala	<ul style="list-style-type: none"> Maximum students are graduates therefore they don't like to do jobs that they get from the local industries as they see it below their qualification category. Few modifications in the pedagogy like mandating industry immersion program, is required to make candidates more industry ready.
Women ITI, Indranagar, Agartala	<ul style="list-style-type: none"> High demand trades: Civil draughtman, Garment making and Cosmetology. New trades that are being introduced: Desktop Publishing, CAD for garment designing. No trades related to food processing, bamboo, and rubber sector. Focus is more to develop them as entrepreneurs as job opportunities are very less in Tripura. An industry pull will be needed to identify more trades that can be introduced for training.
National Skill Training Institute for Women (Agartala)	<ul style="list-style-type: none"> Focus is more to develop trainers as availability of master trainers in all the trades is difficult. Girls from the state of Tripura are sent to other states for Craft Instructor Program. Plan is to start courses for male candidates as well.
Bamboo and Cane Development Institute (BCDI)	<ul style="list-style-type: none"> Entrepreneurs are needed to set up units for new bamboo products like glue-board, crockery and cutlery, bottles, and other utility items.
Tripura Rural Livelihood Mission (TRLM)	<ul style="list-style-type: none"> TRLM presently has no skill program (QP) to cater to skilling needs of three priority sectors, however, the mission is planning to design relevant training programs. TRLM currently has 16 active Project Implementation Agencies (PIAs) to deliver training programs under DDU-GKY scheme. Training is currently being provided in trades such as Retail sales associate, Multi skill technician, Front office trainee, Electrical technician, Security guard, Domestic data entry operator, Fitter mechanical assembly, AI-Data scientist, Sewing machine operator, among others. Course duration varies from 3 to 8 months. Qualification required is 8th/10th/Graduate depending on the course. Placement rate of DDU-GKY training programs is around 45%. There is a provision for industries to become PIA for their captive employment. Rubber wood products have big potential, and skilling needs to be planned to train people on machines required for manufacturing such products. In case of Bamboo, skills related to product design, polishing etc. will be more relevant to make bamboo products attractive and competitive, not just in India but abroad. For food processing, technology for dehydration of fruits needs to be brought in and accordingly skilling to train people on required machines is needed. Youth of the state will work in factories if wages are at least INR 15,000-20,000 along with other benefits.

Institution	Key insights and discussion points
Joint Forest Management Committee (JFMC)	<ul style="list-style-type: none"> Other promising sectors/sub-sectors for skill training are fisheries, piggery, and agro based (maize as fish feed, pig feed etc.). Some of the key sector/sub-sectors for training are: fish farming/fisheries, rain water harvesting, maintenance of water bodies, processing and marketing of black pepper, poultry farming, Agar, arecanut, honey bee cultivation, piggery, duckery, cultivation of mushroom including its quality and marketing, ornamental flowering, candle making, bamboo shoot pickle, among others. Processing, marketing, quality and selling of products is a key skill gap appearing across different forest products.
Members of Self-Help Groups (SHGs) – 28 in total	<ul style="list-style-type: none"> SHGs are the community institutions of women formed under TRLM, which aim to promote social and economic empowerment of women through providing training to its members, ensuring financial services, enhancing livelihood in farm and non-farm sectors, and establishing market linkages. Each SHG has 10 members. Training is currently provided in, a) functional areas such as micro credit planning, bookkeeping, team building, revolving fund, business correspondence, role of TRLM, working capital management; b) product specific such as candle making, beautician, ecological farming, goat rearing, fisheries, among others. Product based training varies from one week to 10 days. There is a need for training in following areas: marketing and selling of products, advance techniques, development of goat milk soap, quality and testing, training in applying for bank loan, packaging of product, how to obtain market information about price, product in demand etc., how to obtain product certifications, cultivation of organic products, etc.
Tool Room and Training Centre, Bodhjung nagar	<ul style="list-style-type: none"> Department of Industries and Commerce, Government of Tripura established the tool room at R.K. Nagar with an objective to a) develop production facilities of moulds, jigs, fixtures, gauges and other sophisticated tools preferable for small scale industries, b) train manpower in the field of industrial engineering & other allied engineering trades both for the fresher's and for personal already engaged in the field, c) provide common facilities in precision machining, d) provide consultancy facilities primarily for MSME units in the field of tool engineering aimed at improvement in productivity, and e) train youth of various segments of society in different fields both in short and long term basis to enhance their employability and promotion of entrepreneurship. Tool room has following infrastructure facilities (as per site plan): admin block, seminar hall, library, office space, meeting rooms, training rooms, workshops, café, boys' hostel (capacity of 50), girls hostel (capacity of 50), multipurpose hall, IT& server room, furniture store, music hall, arts workshop, GYM, Indoor sports block, general store room, equipment store, canteen, playground, VIP guest house, among others. After establishment, the tool room successfully offered training program in AutoCAD (civil) of 96 hours duration to three batches in 2019. Assessment and certification were conducted by Guwahati tool room. In 2022, the tool room Agartala was leased out to Guwahati tool room for 30 years for operation and management. Presently, the Tool room offers 11 short term training programs (of 30 days each) for engineering diploma/engineering students. Only one course – Conventional Machining (Lather) – is currently running with one student. Tool room has no separate website and marketing collateral to promote about its courses and facilities. Guwahati tool room has deployed six people (four trainers, one accountant and one store manager) to manage the operations. Tool room has no boundary wall and main gate. Tool room has enough required machines, however many of them are not fitted, connected and bolted properly. Transformer and DG set is not installed and there is no dedicated power supply. Tool room has water supply. No round the clock security of the tool room and its facilities. General maintenance, housekeeping and cleaning of the tool room and its facilities is non-existent.

Institution	Key insights and discussion points
	<ul style="list-style-type: none"> • Potential students refrain from joining courses due to non-availability of transport facilities. • Limited furnishing and fittings in hostels (both boys and girls). • No kitchen and dining equipment in canteen.
KVIC (for PM SFURTI scheme)	<ul style="list-style-type: none"> • KVIC is the nodal agency appointed by Ministry of MSME, GoI for PM SFURTI scheme. • Tripura Bamboo Mission (TBM) under Directorate of Industries along with Indian Institute of Entrepreneurship (IIE) has executed one project – Bamboo mat-based utility products – under the scheme with IIE as the nodal agency. TBM is the implementing agency. • Under the project artisan clusters are formed with nine spokes and one hub. Hub is a common facility centre which is managed by a special purpose vehicle represented by artisans, banks, concerned government departments including industries department etc. • Training is also provided by the hub under the project.
Department of School Education, Government. of Tripura	<ul style="list-style-type: none"> • Vocational education in schools was started in 24 schools in four sectors in 2019. Sectors are – IT, Electronics, Agriculture, Beauty & Wellness. Subsequently, Beauty & Wellness was replaced by Retail sector. More sectors such as Automotive, Power, and Tourism & Hospitality are added later. • Currently, vocational education is offered in 205 schools, out of 4200 schools in the state. Additional 90 schools are in pipeline. • Vocational education is delivered through recognised VTPs and assessment of two batches have been conducted by respective SSCs. • There is no direct linkage with DoSD at present, however, department is planning to conduct joint career fair with DoSD. • There is no B.Voc program in the State of Tripura, which limits the vertical pathway for students passing out of schools with vocational education certificate. • Practical part happens in school while guest lectures are also being organised from industry. • Enrolment rate in vocational subjects is high in schools – around 90%. • Two challenges are highlighted – insufficient funds for setting up labs in the school and availability of required infrastructure in the school for classrooms. • Directorate of Secondary Education under the department has issued a circular to Districts to link schools with ITI/industry/polytechnics to implement the provisions of New Education Policy of GoI. • The Higher Education department started vocational education programs (as an add-on program) in 11 degree colleges in May 2022 in partnership with DoSD. However, students left the program in middle due to additional burden and bleak job prospects.
Branch office of Indian Institute of Entrepreneurship (IIE)	<ul style="list-style-type: none"> • The branch office has completed the following programs: <ul style="list-style-type: none"> ○ Beauty therapist and Entrepreneurship Development Program (EDP) sponsored by National Backward Classes Finance & Development Corporation (NBCFDC) under PM DAKSH scheme ○ Bamboo utility handicrafts products training sponsored by National Safai Karamcharis Finance & Development Corporation (NSKFDC) ○ Elderly care giver program ○ Assistance design maker program (textile) - Digibunai, sponsored by Textile and Handloom SSC under Digital India Mission ○ Bamboo mat-based cluster under PM SFURTI scheme with IIE as nodal agency, TBM as implementing agency and School Net as technical agency (500 artisans) ○ Charilam handicrafts cluster under PM SFURTI scheme with IIE as nodal agency, Ganadoot Social Welfare Centre as implementing agency and Bhavishya Learning India Pvt. Ltd. As technical agency (250 artisans) ○ Life skill training programs in partnership with DoSD ○ IIE currently has ongoing programs in elderly care giver and Digibunai while talks are going on with SIDBI to start village enterprise development program on Bamboo handicrafts

Annexure 7: Relevant QPs from Food Processing Sector Skill council

List of QPs
Oil Extraction and Refining Technician
Artisanal Fruit Wine Maker
Fruit Pulp Processing Technician
Fruits and Vegetables selection in charge
Jam, Jelly and Ketchup processing technician
Pickle and paste making technician
Preservation technician - Fruits and Vegetables
Squash and Juice processing technician
Assistant Electrician - Food processing facility
Assistant lab technician - food and agricultural commodities
Cold storage technician
Effluent treatment plant operator - food processing facility
food micro-biologist
Food packaging developer
Food product developer
Food products packaging technician
Food regulatory affairs manager
Food safety team leader
Food sales promoter
Hygiene coordinator
Industrial Production Worker - Food processing
Multi-skilled technician
Packing Machine Worker - Food Processing
Processed Food Entrepreneur
Production Manager
Purchase Assistant - Food and Agricultural Commodities
Quality Assurance Manager
Refrigeration Technician - Food Processing Facility
Sanitation Worker
Store Assistant - Food Manufacturing Facility
Technical Lead - Food Analysis
Convenience Food Maker
Food Technologist - Plant Based Proteins
Spice Processing Technician
Traditional Snack and Savory Maker
Traditional Sweet and Savory Product Maker

Relevant QPs from RSDC

List of QPs
Latex Mixing Operator
Latex Compounding Supervisor
Lab Chemist (Latex)
Curing Chamber operator
Latex Thread Extrusion Operator
Finishing and Packaging Operator (latex)

List of QPs
Rubber Foaming Machine Operator
Latex Dipping Plant Operator
Mould Cleaning & Inspection Operator (latex)
QA Technician
Stock/Component/Bead Preparation Supervisor
Bladder Assembly Operator
Bladder Curing Operator
Solid Tyre Moulding Operator
Pre & Post Tyre Moulding Operator
Bead Room Operator
Tyre Fitter – Servicing and Maintenance
Rubber adhesive fabric dipping Operator
Creel Room Operator
Tyre Building Operator – Auto & 2/3-Wheeler
Tyre building operator- Passenger Vehicles
Tyre Building Operator- Commercial Vehicles
Radial Building Operator
Tyre Building Operator: Off the Road Tyre
Bicycle-Rickshaw Tyre Building Operator-TBM
Bicycle/Rickshaw Tyre Building Operator-Mono Band
Tyre Building Operator-Solid Tyres
Pneumatic Tyre Moulding Operator
Tyre Pre-cure preparation operator
Retread Tyre Curing Operator
Dip Solution Preparation Operator
Synthetic Cord Dipping operator
Ply cutting Operator
Wire Cutting Operator
Tyre Casing Inspection Operator
Tyre Casing Buffing Operator
Tyre Tread Preparation and Building Operator
Retreaded Tyre Curing Operator
Final Inspection Operator (Retreaded Tyre)
Tyre Fitter
Tyre Wheel Balancing Operator
Senior Rubber Technician
Building Operator-Footwear
Building Operator-Sports Goods
Finishing Operator (Non-Tyre)
Building Operator-Conveyor Belts
Building Operator-Rubber Roller
Assembling & curing Operator – Footwear & Sports
Building Operator-V belts for Transmission
Building Operator-Rubber to Metal Bonding
Building Operator – Hoses
Building Operator-Cables
Rubber Calendaring Operator
Calendaring Supervisor
Rubber Extruder Operator
Extrusion Supervisor
Rubber Tube Extruder Operator

List of QPs
Rubber Product Finishing Operator
Finishing Supervisor
Lab Chemist – Rubber
Mould Inspection, Cleaning, Storage and Handling Operator
Moulding /Curing Supervisor
Autoclave Operator
Compression Moulding Operator
Transfer Moulding Operator
Injection Moulding Operator
Rubber Curing Operator
Rubber Internal Mixer Operator
Rubber Adhesive-Cement Mixing Operator
Mixing Supervisor
Mill Operator
Rubber Pre-Mixing Operator
Junior Rubber Technician / Technical Assistant
Whole Tyre Reclaim Operator
Rubber Products Reclaim Operator
Warehouse Supervisor
Material Handling and Storage Operator
Tyre Retreading Inspection & Buffing Operator
Tyre Retreading – Building & Curing Operator
Tyre Balancing Operator
Tyre Uniformity Operator
Tyre Component Stock Preparation Operator
Rubber Product – Quality Assurance Supervisor
Internal Mixer Operator
Kneader Operator
Lab Chemist – Incoming Raw Material Testing
Lab Chemist – Batch Release Testing
Lab Chemist – Cured Compound Testing
Lab Chemist – Finished Product Testing
Lab Supervisor
Quality Control Inspector-Statistical Process Control
Quality Control Inspector-Visual Inspection
Quality Control Inspector-Dimension Check
QA Supervisor
Extruder Operator
Quality Control Inspector- Extrusion
Quality Control Inspector -Calendaring
Autoclave Operator – Rubber Reclaim
Cracker Operator
Grinding Operator
Pre-refining Operator
Refining Operator
Straining Operator

Annexure 8: Select Case Studies

A. Centre of Excellence (CoE) scheme of MSDE⁹⁴

Centre of Excellence in skilling ecosystem is envisioned to be one stop resource centre, established/working in partnership with industry to raise training standards, boost productivity, address emerging skill gaps and align training & research with industry needs. These centres are set up to ensure continuous supply of quality trainers in each sector.

Existing Models of Centre of Excellence – There are three operational models for CoE.

Model 1 - Centres within a training institution - The most common is establishing a CoE within an institution, such as a university (especially existing skill universities) or training provider. Existing facilities may be used, or new ones may be constructed. The institution once declared as a CoE can be elevated from "good" to "great" by acquiring expert/ master trainers, upgrading existing facilities, acquiring tools, equipment and facilities as per the market requirement, introducing domain-specific blended learning.

Example: Centre of Public Policy (CoE) at IIMB- is an independent public interest-oriented policy think tank engaged in pioneering research, teaching, training and capacity building. The Centre established in 2000 through a partnership agreement between the Department of Personnel and Training (DoPT), Government of India (GoI), United Nations Development Program and IIMB aspires to lead policy-thinking and praxis in India, promoting equitable, inclusive and sustainable solutions to the concerns of citizens and public governance.

Model 2 - Stand-alone Independent centres – If it is identified that required training needs are not fulfilled by any existing training centre, then this model can be adopted. This centre can be set up from scratch on a brownfield or greenfield site not connected to an existing institution. This requires intensive capital and human resources investment, as all facilities, recruitment, operational structures, and processes need to be established. These centres may be linked to wider governance or organizational structures. There are several advantages to linking a new centre to an industry skills council or similar industry body, including the ability to use established governance structures, and immediate links with industry and government policy priorities.

Example: Tata Institute of Social Sciences and UNFPA have launched a Centre of Excellence on Youth and Adolescents. It focuses on research and policy advocacy for advancing young people's agenda.

Model 3 - Networks of Excellence - These are organizational structures or agencies that bring existing training providers together in a network. This can be an appropriate option when good-quality training providers operate in isolation from each other or do not collaborate with industry. Establishing a network does not involve the physical construction of new training facilities. Capacity-building efforts are focused on existing providers. These may involve upgrading equipment, strengthening human resources, and the granting of a recognized "kitemark" or certification of quality. Networks of excellence can be an effective means of ensuring that provision in specific areas is aligned with government policy priorities. They are also particularly useful in situations wherein the skill needs of a particular sector or subsector are diverse.

Example: CII Institute of Logistics, Chennai, provides specialized Services to build Leadership, Strategy for Sustainability, Identify and Adapt Clean Technologies and Management, Enhance Energy efficiency and become Environment friendly, adopt world class practices in Logistics and Manufacturing Management

B. Recruit – Train – Deploy Model

About	Recruit-Train-Deploy (RTD) is an opportunity where the industry can engage in developing the skills of the youth as per their requirements. In this model, candidates are screened first and offered job and only on their acceptance and readiness for all the terms and conditions of the offered job and location, they are provided necessary customized training, the successful completion of which guarantees them the promised placement. This scheme also provides flexibility of course content, duration of training and assessment and certification for the applicant organization.
Salient Features⁹⁵	<ul style="list-style-type: none"> Industry demand driven program

⁹⁴ <https://msde.gov.in/>, Guidelines for recognition of centre of excellence"

⁹⁵ <https://asdm.assam.gov.in/>

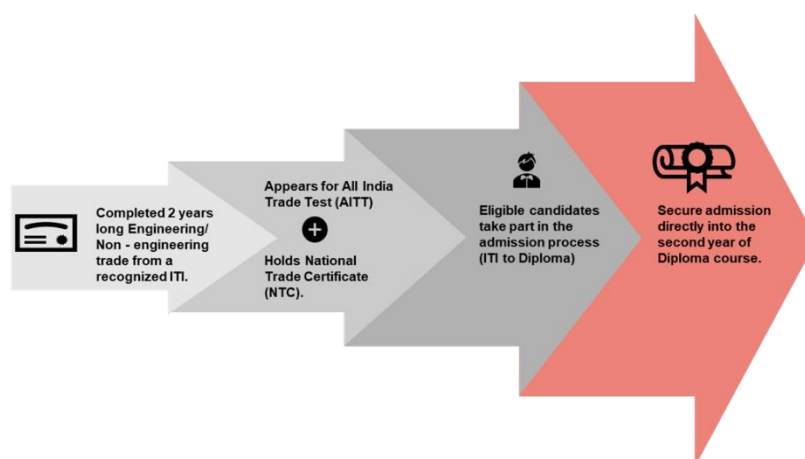
	<ul style="list-style-type: none"> • Industry will forecast their future manpower needs • Youth is mobilized as per the requisite qualification / eligibility criteria. • Candidates will be given LOIs/provisional offer letters up front i.e., prior to start of training, • Candidates are trained as per the specifications of the industry • Trained candidates get absorbed by the industry.
States/ Agencies that have adopted R-T-D Model	<ul style="list-style-type: none"> • Bihar Skill Development Mission (BSDM) • Assam Skill Development Mission (ASDM) • Paschim Banga Society for Skill Development (PBSSD)
Other agencies that have implemented R-T-D Model	<ul style="list-style-type: none"> • Teamlease • Powertrain Overseas

C. Vertical Pathways from ITI – Polytechnics

ITI to Diploma admission is usually overseen by Technical Education admission committee/board. Names of such committees/boards may vary from one state to another – Gujarat, Maharashtra, Rajasthan, UP, Tamil Nadu, Kerala, Madhya Pradesh, Karnataka, Orissa etc. The state reserves 10 – 20% seats in Polytechnics to enable lateral entry of ITI pass candidates.

Eligibility – Candidates who have completed 2 years Engineering Trade with an ITI, have appeared for All India Trade Test (AITT) and hold National Trade Certificate (NTC).

Admission Process – Eligible candidate then applies for lateral entry in polytechnics of their choice through online application form. They appear for “Lateral entry Polytechnic Test” conducted by some states and based on the merit they get admission in 2nd year of Polytechnic.



D. Non-traditional catalysts driving skill education in India – Pan IIT Alumni Reach for India Foundation (PARFI)⁹⁶

About	<p>PanIIT Alumni Reach for India (PARFI) Foundation incorporated in 2009, headquartered in IIT Bombay, is a not-for-profit Section 8 social enterprise managed by Pan IIT professionals and domain experts, and is overseen by an advisory board of IITians and invitees from various walks of life including corporate and academia. PARFI is building India's first best-in-class, public-vocational-education system that is economically viable:</p> <ul style="list-style-type: none"> • Impact-driven: admissions are exclusively for disadvantaged. • 100%-skill-loan-financing: to ensure affordability and covering operating-costs, amounts varying from INR 10,000 for 2-month courses to INR 1,50,000 for 2-year trade-license courses, with program-fee-to-annual-income-pay-back-period of 6-12 months. • State-financed-and-co-curated: a non-profit joint venture with state (specifically welfare department for affirmative-action-groups), leveraging land-buildings-capex and insider like access to bureaucracy, but retaining autonomy. This makes it the largest public vocational nursing system for women in the country with 1080 candidates. • Market-led to guarantee 100% job-placements with top employers actively involved in designing best-in-the-class infrastructure, curriculum and pedagogy. This ensures 87% candidates are offered post-training salaries of 2-4 times their family incomes, impacting 53,200 beneficiaries.
Pan IIT Alumni for Jharkhand Foundation	

⁹⁶ <https://give.do/nonprofits/paniit-alumni-reach-for-india-foundation>, <https://paniitalumnifoundation.org/>

About	Pan IIT Alumni Reach for Jharkhand (PREJHA) Foundation is a Non-profit, special purpose vehicle (SPV) set-up, under Section 8 of Companies Act 2013, as a Joint social enterprise between Pan IIT Alumni Reach for India Foundation and agencies of Department of Welfare (DoW), Government of Jharkhand (GoJ).
Objective	The objective of the foundation is to design, implement and scale, in an institutionalized manner across various districts of the state, initiatives for skill development and livelihood enhancement with a special focus on marginalized communities such as Scheduled Tribes (ST), Particularly Vulnerable Tribal Groups (PVTG), Scheduled Caste (SC), and other minorities.
Residential “Kaushal Colleges”	<p>Imparting 1-2 Years trade license courses under SCVT/SNRC in ANM nursing, Manufacturing, Culinary trades with a training capacity of 2500 candidates per annum. Training is imparted using latest technologies including simulators to create worksite like infrastructure.</p> <ul style="list-style-type: none"> • ITI – Commie Chef – It is the one-year ITI-Culinary (Commie Chef) course of Kaushal College. This course is only for the girls of Jharkhand who want to get employment in cooking, and related fields. • Assistant Nurse Midwifery (ANM) Nursing - A.N.M course duration is two years. The curriculum in nursing skillshas been designed keeping in mind the backward class women of Jharkhand to make them a better nurse to be placed in state-of-the-art technology and world-class campuses and to provide employment in the country's renowned health sector. • ITI – Manufacturing - ITI Manufacturing Skills College is for those girls of Jharkhand who want to pursue a career in manufacturing. Special attention is paid to the skills and their training in the skills college, especially as machinist inspectors, testers, sorters, samplers, and weighers.
Kalyan Gurukul	Kalyan Gurukul is the initiative for assured placement-linked skill development of marginalised communities and Naxal affected areas. Gurukuls (capacity to annually train 7,500 students) are full time, short term, residential skill development centres imparting ‘Fit-for-Purpose’, 2-3 months training in varied trades including construction, manufacturing, logistics, technical services and apparel. Even before Gurukul is set up, the foundation contracts employers for technically skilled jobs, to assure placements ⁹⁷ .
Residential “Kaushal Vidya Academy”	Two years ITI integrated with class XI and XII. Proposed LEED certified 50-acre campus being set-up with a capacity of 2000 candidates per annum.
Viral Research Diagnostic Lab (VRDL)	Advance BSL-3 lab in Jharkhand, With Capacity of 1 lakh pooled tests in a month.

E. Incentivising Training Partners to drive placements

DDU-GKY Scheme

DDU-GKY is a demand-driven placement-linked skill training initiative of the Ministry of Rural Development, Government of India (MoRD), uniquely aimed at rural poor youth between 15 and 35 years of age, with the purpose to create income diversity in poor families and help rural youth realize their career aspirations. Under DDU-GKY, the training partners are mandated to place at least 70% of the successful candidates in jobs, offering a minimum salary (CTC) of INR 6,000 per month for 3 months. Training providers are also given incentives for job retention (staying on the job or labor market for a period of 12 months post placement) and career progression (growth in monthly salary of INR 15,000/- per month within the first year, wherein the position is held for at least 90 days) of candidates. Incentives are also given for facilitating foreign placements and conducting live distance training. Currently, the incentives are as follows:

- Job retention for 12 months from completion of training: INR 3,000/- per candidate
- Career progression: INR 5,000/- per candidate
- International placements: INR 10,000/- per candidate

Hunar se Rozgar Tak⁹⁸

The initiative was launched by Ministry of Tourism in the year 2009-10 for creation of employable skills amongst youth. The initiative is fully funded by the Ministry of Tourism. The features common to the training programs under the initiative are: the trainees should be in the age group of 18-28 years; each training program is of short duration – 6 to 8 weeks;

⁹⁷ <https://businessindia.co/>, <https://paniitalumnifoundation.org/state-jv>

⁹⁸ <https://pib.gov.in/newsite/printrelease.aspx?relid=87115>, <https://tourism.gov.in/> “Revised Guideline of the Hospitality training courses under Hunar SE Rozgar Tak ”

and no fees chargeable to the trainee. Under this scheme, 20% of training cost is to be released to the training partner ONLY after the placement of successful candidates is achieved.

To encourage the training providers who exceed the prescribed outcomes, the following additional incentives should be provided:

- For every candidate, where outcome achievement is above 70% to 85%, the training provider should be paid an additional amount of INR 3000/- per candidate.
- For every candidate where outcome achievement is above 85%, the training provider should be paid an additional amount of INR 5000/- per candidate.

F. Skill Universities in India

Skill Universities are institutions of National importance established under the National Skills university Act 2015. The main objective of the skill universities is to conduct sector-specific skilling programs providing certificate/ degree programs which have been designed to fulfil the requirements of a specific sector both nationally and internationally. The skill universities come under the purview of State Government and will offer sector-specific certificates, degree programs directly related to the job role. These programs will be higher than currently offered by ITI/Polytechnics and also different from the traditional degrees⁹⁹

Affiliations – Provides degree/ diploma/ certificates and other distinctions that conform to the provisions of University Grants Commission Act 1956 or the National Skills Qualification Framework (NSQF) as the case may be.

Financial Assistance – Skill Universities are Not-for-profit legal entities.

- Grants from central government for supporting its establishment and infrastructure development and scholarships or fellowships for students from socially and educationally backward classes or categories of citizens enrolled in such institutes. Financial assistance by UGC up to INR 1.7 Cr for three years for up to two courses and further assistance of INR 25 lakhs for up to four courses (maximum of INR 2.2 Cr).
- Land Grants from State Government
- Contributions from the industry if the university is being established in PPP model
- Fees from students

Courses/ Curriculum –

- Sector-specific Certificates, Diploma of Vocation, Advanced Diploma, Bachelor of Vocation (B.Voc.), BBA, Under Graduation and Post-Graduation. The courses offered at skill universities or colleges offering skill-based courses are NSQF compliant up to NSQF level 7.
- The curriculum will contain the general education component 40% and skill component 60%.
- For the skill component the model curriculum developed by the respective SSC can be adopted or adapted in consultation with the industry partners.
- In case the model curriculum is not available for the selected job role the institution can develop the curriculum in consultation with the relevant SSC and industry partner.
- Assessment to be done by SSC for the selected job role and certified for the same.
- The skill training is done by the industry body (60% of the curricula).

Industry Partnership – Industry is associated as a partner that provides a platform for OJT and also gives the stipend to the candidates which acts as an incentive for them. Industry is also encouraged to mentor the students by enabling site visits, mentorship and guest lectures for the students

Example – Sri Vishwakarma Skill University – Haryana¹⁰⁰

About	Shri Vishwakarma Skill University, Haryana, earlier known as Haryana Vishwakarma Skill University is a university established by the Government of Haryana at Dudhola village of Palwal district of India. It is currently running from a temporary campus in Gurugram. It was established in 2016 via a legislative act of Government of Haryana, ^[5] to impart skills training with an objective to develop entrepreneurship and skill based education and research in the emerging areas of various sectors.
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⁹⁹ <https://www.msde.gov.in/>, Draft Bill on the national skill university

¹⁰⁰ <https://svsu.ac.in/>

Model (State run/ private/ PPP etc.)	Industry Integrated Dual Education Model. The institute has partnered with the industry bodies to run the courses in PPP model. The student earns 40% of the credits by theoretical and conceptual learning and rest 60% is earned by On-the-job training. The pedagogy is designed to develop an application-based learning that makes students job ready by earning industry work experience and learning the technical concepts hands-on.						
Courses	The University offers Master of Vocation, Post graduate diplomas, Bachelor of Vocation, Diploma of Vocation, Diploma, Certificates and Short courses. The table outlines the details about programs						
Eligibility	B.VoC 10+2 or Equivalent	M.VoC B.VoC/ Graduation with Min 50% Marks	Diploma 10 + 2 or Equivalent	MTech B.Tech./B.E. in the appropriate area in Mechanical/ Electrical/ Electronic Engineering.	BTech As per AICTE Norms	MBA As per AICTE Norms	BBA As per
Mode of Admission	Entrance Test + Interview Counselling	Online Application + Group Discussion/ Personal Interview by each skill faculty + Counselling	Entrance Test + Interview Counselling	GATE Score / Appeared for GATE	JEE Main Score	CAT/ MAT/ XAT/ GMAT entrance exam score + Academic Score + Group Discussion/ Personal Interview by each skill faculty + Counselling	Entrance Test + Interview Counselling
Approved by	UGC	UGC	UGC	AICTE	AICTE		
Fee (per Sem) – INR	11,000/-	15,000/-	10,000/-	37,500/-	50,000/-	40,000/-	16,000/-
Duration (Years)	3	2	1	2	4	2	3
Pedagogy and Training Model	The university has designed, developed and deployed Industry Integrated Dual Education Model (IIDEM) that enables students to “earn-while-learn” and provides an opportunity to enhance their qualification with the flexibility of entry and exit into a program. SVSU has conceptualized the IIDEM program, which is designed in such a manner that 60% of the credits are earned while working on the OJT and the rest 40% come from the theoretical and conceptual training. OJT is integrated with National Apprenticeship Promotion Scheme (NAPS), offering stipend.						
Innovative Practices	<p>Attendance- A Student is required to attend a minimum of 75 % of the lectures delivered (In theory and practical's combined) and 90% of On-the-Job-Training (OJT).</p> <p>Industry partner for OJT- Further, every program has an industry partner mapped to it to facilitate OJT.</p> <p>Feedback- Students are required to give online feedback for all the subjects of a course as well as on the overall course. This is taken into account while evaluating the quality of training and trainer progress.</p>						
Motivating the Students	<p>Awards- Students are incentivized through awards. The following Awards and Certificates are given to overall high percentage holders (merit is prepared based on overall marks in the program, curriculum activities, sport activities, attendance record and participation in other activities).</p> <ul style="list-style-type: none"> Governor Award: Gold Medal (A cash award of Rs 31000/-) Chief Minister Award: Silver Medal (A cash award of Rs 21000/-) Vice- Chancellor Award: Bronze Medal (A cash award of Rs 11000/-) Dean Merit Certificate 						
Placement support	<p>It has a Placement cell which also provides career counselling to the students. The main objective of this cell is:</p> <ul style="list-style-type: none"> To support the students in the development of soft skills and communication abilities for upgradation in their career path Awareness in various, state of art courses, relevant to their skill sets Awareness in identifying careers and different required competencies. To identify and provide the much-needed life skills to students and help them find jobs. Enabling the students to develop skills as required in global job market and to facilitate them in getting placement. The training was provided for aptitude and reasoning skills to crack interviews. Several workshops were conducted to increase the employability of the students. 						

Infrastructure	<p>Spread across 82.7 acre of land the university offers various facilities to students like hostels, market, gymnasium, library, swimming pool, workshops, a health centre, the Centre of Excellence, labs, and other facilities.</p> <p>The University has an extensive library that gives students an array of learning options and platform to complete their syllabus. The library is equipped with a digitally enabled learning system – e-books, application, simulation, cloud, virtual, etc.</p>
Industry Engagement and partnership	<p>Signed more than 50 MOUs with corporates, institutions & industries to run its programs. Some of these include Bikanervala, Anand Group, Gurugram Metropolitan Development Authority, GNC group, HDFC, Concentrix etc.</p> <p>Course-wise industry partnership is outlined in the table below:</p>
Course Name	Industry Partner
Engineering and Technology	
B.Voc Mechanical Manufacturing	Anand Group, Hero MotoCorp, SKH Metals, Sr. India
B.Voc Mechatronics	Hero MotoCorp
B.Voc Robotics and Automation	JBM Group
B.voc (Solar Technology)	Quadson Solar Solution
Skill Diploma- Production Press Tool and Die Maintenance and Stamping	JBM
D.Voc Industrial Electronics	East West Automation
D.Voc Mechanical Manufacturing	Roop Auto
BTech in CSE Artificial Intelligence	Amazon
BTech Mechanical and Smart manufacturing	JBM Group, Schneider Electric
MTech Robotics and Automation	JBM Group
Management Studies and Research	
MBA Business Analytics	IIMBx, Grant Thornton, Ernst & Young, Mazar LLP, Amazon Internet Services Pvt. Ltd., Sarabhai AI, Jayem Automotives, Psychotropic India Ltd., C-Dass Group of Companies, Indo Autotech Ltd., Super Screws (P) Ltd
MBA	IIMBx, Grant Thorton, EnnobleIP, Jayem Industries, Jayem Automotives, Psychotropic India Ltd., C-Dass Group of Companies, Indo Autotech Ltd., Super Screws (P) Ltd.
B. Voc. Management (Financial Services)	
BBA (Retail Management)	Maruti Suzuki India Ltd.
Diploma Hospitality-Ethnic Foods and Sweets Processing	Bikanerwala
M. Voc. Management (Banking and Finance)	HDFC Bank
M. Voc. Management (Human Resource Management)	Mount Talent
B. Voc. Management (BPM & Analytics)	Concentrix
M. Voc. Entrepreneurship	A. I. C. Sangam
Agriculture	
B.Voc. Agriculture	Shivansh Farming
M. Voc. Agriculture	Shivansh Farming
Applied Sciences and Humanities	
MOOC Course in B.Voc. (MLT)	
Diploma-in-English-Language-	
Diploma-in-Japanese-Language	
Diploma-in-German-Language	Concentrix
Diploma-in-Music-(Folk-Art-Banchari)-	SujarKund Mela Organization
Diploma in Yoga	
Post Graduate Diploma in Criminal Forensic	
B.Voc.-Medical Laboratory Training -	Healthians, QRG Hospitals, Rotary Blood Bank- Gurugram
B.Voc. – Public Service	Alternative Learning System – IAS Academy
Diploma in Graphics & Communication Design	
M. Voc in Geo Informatics	Gurugram Metropolitan Development Authority
M.Voc in Public Health	Gurugram Metropolitan Development Authority

Example – TeamLease Skills University, Vadodra¹⁰¹

¹⁰¹ <https://www.teamleaseuniversity.ac.in/>

About	India's first vocational skills university setup under public-private partnership with government of Gujarat under Gujarat Private Universities Act, 2013. Offers employment-oriented Programs and a unique program for non-graduate employees who are working professionals and enable them to create a career path for themselves primary mission is to combine apprenticeship with other forms of learning to promote skill learning in the employment market and help its students to be shop-floor ready, it makes use of traditional and non-traditional programs, focusing on academic, vocational, professional, technical and life skills.
Model (State run/ private/ PPP etc.)	It is a private university created in a public-private partnership between the Government of Gujarat and TeamLease Services Limited, one of India's largest recruitment agencies.
Courses	TeamLease Skill University offers Various programs through 7 departments:

Department of Commerce and Management

The courses focus on training students to gain knowledge in the fields related to management, Accounting & Finance

Course Name	Duration	Eligibility	Intake	Fees/ Semester	Job Opportunities
BCom Finance and Business Operations	3 years (6 Semesters)	10 + 2 or equivalent in any stream	60	15000/-	<ul style="list-style-type: none"> Accountant Account Executive Tax Auditor Tally Trainer Tax Consultant
Advanced Diploma in Finance and Business Operations	2 years (4 Semesters)	10 +2 or equivalent in any stream		15000/-	<ul style="list-style-type: none"> Terminal Operator Finance Executive Relationship Officer Finance Manager Finance Analyst Finance Planner Portfolio Manager Stockbroker
Bachelor of Business Administration (BBA) (Finance/Marketing)	3 years (6 Semesters)	10 +2 or equivalent in any stream	60	25000/-	<ul style="list-style-type: none"> Marketing Manager Sales Manager Business Associate Strategic Manager Advertising and Selling Executives
Bachelor of Business Administration (BBA) (Sports Management)	3 years (6 Semesters)	10 +2 or equivalent in any stream	60	25000/-	<ul style="list-style-type: none"> Sports marketing Sports operations Sports branding Venue management Athlete management Sports PR Sports agent Sports media management Sports advertising Sports budgeting Sports event management

Hospitality & Tourism

The curriculum is designed to aim at imparting comprehensive knowledge, competency as well as understanding of all the core areas of Hotel operations.

Course Name	Duration	Eligibility	Intake	Fees/ Semester	Job Opportunities
B.Sc. (Hospitality and Tourism Management)	3 years (6 Semesters)	10 +2 or equivalent in any stream	60	25000/-	<ul style="list-style-type: none"> Hotels, Resorts and Guest House Airlines - Cabin Crew and Ground staff Cruise line - National and International Quick Service Restaurants Multiplexes, Malls and Retail Sectors
Advanced Diploma in Hospitality and Tourism Management	2 years (4 Semesters)	10 +2 or equivalent in any stream	60	25000/-	
B.Sc. (Hotel Management: Work Based Learning)	3 years (6 Semesters)	10 +2 or equivalent	10	25000/-	

		in any stream			<ul style="list-style-type: none"> Indian Armed Forces and their Catering Institutes Catering - Industrial, Hospitals, Institutional MNC and Corporate Houses Travel Agencies - National and international IRCTC
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Information Technology

This novel specialization in BCA ensures that students who graduate from this Programme would be capable of implementing IT infrastructure solutions and handling the industry challenges along with the basic concepts of programming.

Course Name	Duration	Eligibility	Intake	Fees/ Semester	Job Opportunities
Bachelor of Computer Applications (BCA) (Software Development /Infrastructure Management Services)	3 years (6 Semesters)	10 +2 or equivalent in any stream	60	25000/-	<ul style="list-style-type: none"> Desktop Support Engineer Network Support Engineer Server Support Engineer IT Infrastructure Support Engineer IT Engineer Service Engineer Technical Support Engineer Network Engineer Network Administrator Network Analyst IT Officer

Mechatronics

Multidisciplinary mechatronics program enables students to work in multiple job profiles. It helps students to design, synthesize and test intelligent products and processes that incorporate suitable computers, sensors, electronics and actuators

Course Name	Duration	Eligibility	Intake	Fees/ Semester	Job Opportunities
B.Sc. Mechatronics	3 years (6 Semesters)	10 +2 or equivalent in Science Stream*/ 10+2 ITI related trade/ 10+3 Diploma	60	25000/-	<ul style="list-style-type: none"> Mechanical equipment and product manufacturing Défense and Research Organisation (DRDO /ISRO) Automation and Robotics Avionics and Aerospace Chemical process industries Pharmaceutical process plant Service industries Engineering Project Companies Transportation and Logistics Food processing MEMS, Nanotechnology
Advanced Diploma in Mechatronics	2 years (4 Semesters)		60	25000/-	

Department of Health, Life Sciences and Applied Sciences

Course Name	Duration	Eligibility	Intake	Fees/ Semester	Job Opportunities
Bachelor of Science in Medical Laboratory Technology (B.Sc. MLT)	3 years (6 Semesters)	10 +2 or equivalent in any stream	60	25000/-	<ul style="list-style-type: none"> Educational institutes Private, and government hospitals. (Laboratory and Blood banks) An Opportunity for Government Health Centre Job (CHC/PHC) Run his/her own laboratory consultancy services, health care centres Career in Product Development Marketing Sales Quality Assurance

					<ul style="list-style-type: none"> • Biotechnology Research Laboratory (Tissue Culture) • Blood Donor Centres Diabetes Centres
Diploma in Medical Laboratory Technology (DMLT)	1 year (2 Semesters)	10 +2 or equivalent in any stream	60	15000/-	<ul style="list-style-type: none"> • Government hospitals • Private hospitals • Minor emergency centres • Private laboratory • Blood donor centres or Blood Banks • Doctor's clinics • Research facilities
Department of Life Skills It teaches the use of Emotional intelligence to develop and maintain healthy professional relationships at workplace for mutual gain by using effective communication and professional etiquettes. The courses are common across all the domains					
Centre of Industry and Knowledge Partnerships Centre Objectives <ul style="list-style-type: none"> • To identify and initiate programs with Industry and/or Knowledge Partners to help train and create skilled and employable workforce for industry at all levels. • To design, develop and conduct all the job-oriented programs/courses aimed at creating employability for candidates through focused skill enhancement by collaboration between TLSU and Industry and/or Knowledge partners. • To take the expertise of the Industry/Knowledge partners to design/ improve/ redesign curriculum periodically in tune with the requirement of the industry. • Most programs offered under the Centre align with Work Integrated Learning (WIL) for working professionals and or apprentices. Elective courses may be designed as per requirement of the industry if aligned with TLSU regulations. This program may be offered and implemented at multiple sites with multiple Industry/Knowledge partners. 					
Apprenticeship	<ul style="list-style-type: none"> • The institute has an apprenticeship program, "TeamLease Degree Apprenticeship Program (TLDA)" • It is an apprenticeship program offered by TeamLease Skills University based on National Employability Enhancement Mission (NEEM) guidelines notified by Ministry of HRD. • Set up in 2014 as a 100% employer funded public-private partnership (PPP), TLDA stakeholders currently include Teamlease Skills University, Schoolguru, CII and Ministry of Skill Development • It also offers online academic connectivity to apprentices from 25+ Universities for 200+ certificate, diploma, degree and postgraduate courses • Offers employers a range of digital solutions for trainee workflow management and sends 200 trainers every day to employer sites for targeted learning interventions. • Facilitates employers to design training programs relevant to their organization and industry to create the right talent. • TLDA has associated with more than 600 employers across sectors pan India Location • At the end of the training period, the employer has the first right to hire the candidate else he or she will return to TLSU. • The students enrolled in the program receive the requisite stipends 				
Placement	<ul style="list-style-type: none"> • The placement cell of the university helps the students in facing the real-world competitions and challenges in various sectors of business. It also provides for career development paths for students. • For preparing students for industry and jobs roles, the placement cell conducts various mock interviews and special grooming skills are also provided for developing student skills. • Some of the recruiting companies are GMR Group, Sterling Accuris Diagnostics, SLTL Group, Zenith Engineering, Grand Mercure Surya Palace, ASE Group, GAAR etc. 				
Pedagogy	A mixture of prescribed textbooks and web materials.				
Infrastructure	<ul style="list-style-type: none"> • Library facility is available to students for reading/reference of Books, Journals, Magazines • Digital library is also planned in future • Cafeteria on Campus • No Hostel or transportation facility available at present 				
Best Practices	<ul style="list-style-type: none"> • The University offers students four classrooms: On-campus, Online, On-site, and on-the-job. It also offers students four qualifications: Certificates, Diplomas, Advanced diplomas and Degrees • The university offers courses such as, English & Communication skills, Personality development & Job skills • Enterprise Learning Services (ELS) business, housed under TLSU, has been delivering technical, soft skills, leadership training & executive coaching to corporate clients and individuals since 2008. The industry partners for ELS programs involves Oracle, Red hat, Informatica and Comptia. 				

	<ul style="list-style-type: none"> • TLSU provides 8 scholarships for each program to students who have scored at least seven SGPA in each semester without ATKT. TLSU conducts a Common Aptitude Test and prepares a separate program-wise merit list of the admitted students. • Scholarship to the tune of 25% of the course fee is given to 5 students of each program and to the tune of 50% to 3 students of each program. • 36 out of 60 seats per degree program is allocated for scholarship.
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Example – Bhartiya Skill Development University – Jaipur¹⁰²

About	<ul style="list-style-type: none">• First Indian University to offer only skill-based programs• Holistic skills training based on Swiss Dual System using machinery and equipment• Multidisciplinary skills university offering B.Voc, M.Voc and Ph.D degrees in different skills disciplines• BSDU also offers programs on Skill Certificate, Diploma, Advanced Diploma, PG Diploma and Specialized Trainings in different skill domains• Home to Thirteen Skill Schools		
Recognition	BSDU programs are in compliance with UGC Instructions for Vocational Programs, National Skills Qualifications Framework (NSQF) and the guidelines provided by respective Sector Skill Councils (SSC) incorporating the relevant National Occupational Standards (NOS) and Qualification Packs (QP)		
Pedagogy	<ul style="list-style-type: none">• Training is based on Swiss Dual System comprising of “On the job Training” and “Vocational School” which has been adopted after carrying out due modifications to suit the Indian industry.• The BSDU model is for three-years degree course, each year comprising of two semesters, with I, III & V semester with BSDU and II, IV & VI semester with the industry.• BSDU has evolved B.Voc curriculum having 60% Skills and 40% General Education component.• To supplement the skills acquired at the university, the students are sent for industrial internship every alternate semester.		
Best Practices	<ul style="list-style-type: none">• Swiss Dual System of Training• Flexible Entry and Exit• One Student One Machine concept• Possibility of Earning while Learning• Every alternate semester in Industry• Placement after 6 months of training• Training under the supervision of Swiss Trainers• Program designed to meet industry requirements		
Infrastructure	<ul style="list-style-type: none">• The School has well equipped laboratories and library		
Placement	<ul style="list-style-type: none">• A very active Placement Cell in the University, helps in placing all the students in relevant industries for their internships in alternate semesters, for further enhancing their practical skills.		
Skill Schools	<ul style="list-style-type: none">• The Skill training is imparted by 13 skill schools		
1. School of Automotive Skills <ul style="list-style-type: none">• The program is designed to introduce the students to the operation of today’s complex vehicles by giving them a comprehensive understanding from basic to advance, of various automotive systems like transmission, brakes, steering, suspension, Electrical & Electronics, and Engine Performance, etc.• Students under this program will acquire the necessary skills to diagnose and repair mechanical and computer controlled electronic systems on the latest models of automobiles.• The school ensures best training with its training partners including service stations of Jaguar Landrover, Maruti, Honda, John Bean, Blue-Point and others.• The school ensures upgradation of skills and its syllabus with its industry partners through an MoU with companies like, Axalta Coating Systems, Automotive Skill Development Council, Hero Motocorp., Fleeca India Pvt. Ltd., Studio34, Maruti Care Centre etc.• The school has a Centre of Excellence for Two-Wheeler Training in collaboration with Hero Motocorp.			
Course Name	Duration	Eligibility	Job Opportunities
B.Voc. in Automotive Skills	3 years	10+2 PCM or ITI after 10th or Polytechnic Diploma will be considered as equivalent to 10+2.	The students will be eligible for various positions, starting from entry level in the automobile service sector, of various brands of cars and tractors
M.Voc. in Automotive Skills	2 years	B.Voc., B.Tech., Any other graduate with level 7 skill certificate from NSQF	Opportunity to become a skills trainer/teacher in any Skills University, India or abroad

¹⁰² <https://ruj-bsdu.in/>

2, School of Computing Skills

- Specialized labs for preparing industry ready skilled workforce
- Robotics Lab is offering Mobile Robotics courses which provides training for building customized robots.
- IoT Lab and 3D Printing Lab are other state-of-the-art facilities.
- Several innovative products are being designed and deployed at the school level. Raspberry Pi based Standalone computer, Smart Dustbin, Wi-Fi cooler to name a few.
- Well managed high-end computing and CISCO networking lab to get hands-on experience in networking hardware and software.
- Machine Learning and Artificial Intelligence lab with GPU optimized environments for fast computing power, AI/ML software frameworks like TensorFlow, Caffe, Theano and Torch, Google Cloud Vision or Natural Language APIs, Technologies like the AWS public cloud and private clouds like OpenStack or VMware.
- Seven MoUs have been signed by the School in the past few years.

Course Name	Duration	Eligibility	Job Opportunities
B.Voc. in Machine Learning & AI Skills	3 yrs	10+2 PCM or ITI after 10th or Polytechnic Diploma will be considered as equivalent to 10+2	<ul style="list-style-type: none"> • Data Science interns in ML techniques like NLP or Python programming • junior data scientists • Data Scientist in Deep Learning • career in Automation with ML • Scientist in Analytics and Machine Intelligence
B.Voc. in IT/Networking Skills	3 yrs	10+2 or ITI after 10th or Polytechnic Diploma will be considered as equivalent to 10+2	<ul style="list-style-type: none"> • Network Specialist or Network Service Technician • Network Administrator • Network Engineer • Network Analyst/Programmer • Network Manager • Network Solutions Architect
B.Voc. In Telecom and Electronics Skill	3 yrs	10+2 with PCM/ ITI/ Diploma or equivalent	Job opportunities in the telecom sector like: <ul style="list-style-type: none"> • Optical fiber planning, installation and operations, • Microwave planning, tower (passive infrastructure) engineering, broadband planning, and • IOT hardware and software developer,
B.Voc. in VLSI Design Skills	3 yrs	10+2 with PCM/ ITI/ Diploma or equivalent	Will be able to get jobs in any VLSI design and fabrication companies
M.Voc. in Embedded Systems & IoT	2 yrs	B Tech/ BVoc	

3. School of Electrical Skills

- The school aims to train and equip students to become professionals par excellence in the field of Renewable Energy Technology,
- The School of Electrical Skills offers various programs from Skill Certificate, Diploma, Advance Diploma, B.Voc, M.Voc to PhD in Electrical domains including Smart Power Systems and Renewable Energy Technology.
- Well-equipped Electrical Skills Training Labs.
- Advanced Renewable Energy Technology Skill Training Lab.
- State-of-the-art Smart Power System Training facilities.

Course Name	Duration	Eligibility	Job Opportunities
B.Voc in Electrical Skills	3 yrs	<ul style="list-style-type: none"> • 10+2 with PCM/ ITI/ Diploma or equivalent • Polytechnic Diploma Holder will be considered for lateral entry into II year of B.Voc. 	Employment in manufacturing as well as service sectors
B.Voc in Renewable Energy Technology Skills	3 yrs	<ul style="list-style-type: none"> • 10+2 / ITI/ Diploma or equivalent • Polytechnic Diploma Holder will be considered for lateral entry into II year of B.Voc. 	Companies like Bhadla Solar Park (2255 MW), Solar Power Plant of REIL Jaipur, PMKVY Skill Development Solar Power, Rays Power Infra, Rays Future Energy, Solarmaxx Solar Energy Solutions, Rajasthan Rajya Vidyut Prasaran Nigam Limited, Rajasthan Renewable Energy Cooperation Ltd. (RRECL), Ocean Solar Power, Ajit Solar Power Ltd., CVK Solar Enterprises, Vikram Solar Ltd., Solar PV Energy Plants under JNNSM and Solar Thermal Plants under

			JNNSM such as Lanco Solar 100 MW, Reliance Power 100 MW, KSK Energy 100 MW, Godavari Power 50 MW are some of the major employers in the RET sector.
M.Voc in Smart Power System	2 yrs	<p>Normal Entry</p> <ul style="list-style-type: none"> Voc. in respective Vocation B-Tech in related discipline Any other Graduate with NSQF Level 7 Certificate in respective vocation. <p>Lateral Entry (II Year)</p> <ul style="list-style-type: none"> M-Tech in related discipline B-Tech/B.Voc with NSQF level 8 certification in related discipline RPL at NSQF Level 8 through an entrance exam (maximum 21 years of age) 	<ul style="list-style-type: none"> Opportunities to get employed in the power as well as the manufacturing sectors Employment opportunities both in private and public sector like railways, civil aviation, electricity boards and utility companies, electrical construction firms and all types of manufacturing industries. Companies like Oil and Natural Gas Corporation (ONGC), Bharat Heavy Electricals Limited (BHEL), Steel Authority of India Limited (SAIL), Coal India Limited (CIL), Power Grid Corporation of India Limited (PGCIL), Electricity Boards etc.

4. School of Entrepreneurship Skills

Country's first Skill School where one can start their own start-up and also get a bachelor or master's degree in entrepreneurship. Opportunity to earn the course fee as seed capital for the venture. BSDU established a "Centre of Excellence" (CoE) in Beauty & Wellness. Orane International will act as an Industry Knowledge Partner for BSDU's skill programs in Beauty & Wellness at its campus in Jaipur.

Course Name	Duration	Eligibility	Job Opportunities
B.Voc. in Entrepreneurship Skills	3 yrs	10+2 or ITI after 10thor Polytechnic Diploma will be considered as equivalent to 10+2 for B.Voc.	<ul style="list-style-type: none"> After completion of B.Voc the students will be ready to start their own businesses. They will also be eligible for appearing in competitive examinations like IAS, Banks, and Defense etc.
B.Voc. (Entrepreneurship) in Beauty & Wellness	3 yrs	10+2 or ITI after 10thor Polytechnic Diploma will be considered as equivalent to 10+2 for B.Voc.	After completion of B.Voc the students will be ready to start their own businesses in Beauty and Wellness
M.Voc. in Entrepreneurship Skills	2 yrs	<ul style="list-style-type: none"> B. Tech with 6 months Certificate Course in BSDU or any other University Any other Graduate with NSQF level 7 certificate in respective vocation B. Voc. in respective vocation B. Tech. in related discipline 	
PhD in Entrepreneurship Skills		<ul style="list-style-type: none"> Master's degree from any University recognized by UGC, with at least 55% marks in aggregate or its equivalent grade 	

5. School of Manufacturing Skills

- The training is done in small groups (maximum 15 in number) with multiple trainers, for personalized guidance.
- Each theoretical concept is illustrated by a practical application.

Course Name	Duration	Eligibility	Job Opportunities
B.Voc. in Manufacturing Skills	3 yrs	10+2 or ITI after 10th or Polytechnic Diploma will be considered as equivalent to 10+2	Job opportunities in different domain such as: Manufacturing Industries, Die & Mold making, Automotive sector, Sheet metal and Welding, Assembly and Maintenance, Industrial automation, Tool Maker and Government job (Railway & PSUs).
M.Voc. in Manufacturing Skills	2 yrs	<p><u>Normal Entry</u></p> <ul style="list-style-type: none"> B. Voc. in respective Vocation B-Tech in related discipline 	

		<ul style="list-style-type: none"> Any other Graduate with NSQF Level 7 Certificate in respective vocation. <p><u>Lateral Entry (II Year)</u></p> <ul style="list-style-type: none"> M-Tech in related discipline B-Tech/B.Voc with NSQF level 8 certification in related discipline RPL at NSQF Level 8 through an entrance exam (maximum 21 years of age) 	
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6. School of Woodworking Skills

- The only school in the country to award a Bachelor's degree in woodworking skills.
- Equipped with an unmatched state of the art workshop replete with high end imported machines worth more than 3 Crores INR.
- Modern curriculum designed by Swiss experts with inputs from Indian Industries and approved by the Board of studies having membership from various industries, Skill sector councils and reputed academic institutions.

Course Name	Duration	Eligibility	Job Opportunities
Advanced Certificate	24 weeks	B.Tech	<ul style="list-style-type: none"> Woodworking industry at the level of supervisors after going through a GET (graduate engineer training) phase Employment in skill universities/colleges as trainers
BVoc in Woodworking Skills	03 years full time. Flexibility in program allows for entry and exit from the program with Certificate, Diploma or/and Advanced Diploma.	10+2 or equivalent from any stream of education including vocational education.	<ul style="list-style-type: none"> Employment in multinational and national companies engaged in furniture/interior designing, manufacturing and fittings at supervisory/ managerial level. Start their own venture
M. Voc in Woodworking Skills	2 yrs	<ul style="list-style-type: none"> Bachelor's in mechanical/ Production/Industrial engineering or equivalent course with at least 01-year Industrial experience, preferably in a furniture industry or a Level 7 skill certificate under NSQF OR B.Voc in Woodworking/Carpentry Skills. 	Employment at managerial level in any of the multinational and national companies engaged directly or indirectly with the woodworking industry

7. School of Refrigeration and Air-Conditioning Skills

- Countries only Skill school providing Bachelor, Master and PhD degree in RAC field
- World class laboratory for split AC, VRF and Central air conditioning system

Course Name	Duration	Eligibility	Job Opportunities
B.Voc in Refrigeration and Air-Conditioning Skills	3 yrs	<ul style="list-style-type: none"> 10+2 or ITI after 10th or Polytechnic Diploma will be considered as equivalent to 10+2 	Career within different domain such as: RAC Industries, Die & Mold making, Automotive sector, Maintenance, Industrial automation, Tool Maker and Government job (Railway & PSUs).
M.Voc in Refrigeration and Air-Conditioning Skills	2 yrs	<ul style="list-style-type: none"> B.Voc., B.Tech., Any other graduate with level 7 skill certificate from NSQF. 	<ul style="list-style-type: none"> Refrigeration and Air-conditioning Managers Refrigeration and Air-conditioning Engineers Project Managers Refrigeration and Air-conditioning Mechanical Designers,

			<ul style="list-style-type: none"> Refrigeration and Air-conditioning Installers, Refrigeration and Air-conditioning Mechanics, Service Technician, Field engineer etc
8. School of Health Care and Paramedics Skills <ul style="list-style-type: none"> The course trains the students in multiple skill sets so as to enable them assisting the procedure eg- Nail care, Hair Care, Sponge bath, drug administration, colostomy care etc. Execution of various tasks related with care of the patient. Well-equipped medical and skill lab. Highly qualified faculty for training in soft skill as well as hand skills. Internship + Placement support with good stipend First Aid and CPR training. 			
Course Name	Duration	Eligibility	Job Opportunities
B.Voc in Healthcare Skills (Patient Relation Service)	3 yrs	10+2 any stream	As paramedics In Nursing homes
9. School of Office Administration Skills <ul style="list-style-type: none"> Provides training to students to become proficient in running the institution smoothly, effectively and efficiently Well Equipped Computer and IT Labs. Highly Qualified Faculty for Training in Soft Skill as well as Core Skills. Internship to all Students with Good Stipend. 			
Course Name	Duration	Eligibility	Job Opportunities
B.Voc in Office Administration Skills	3 yrs (Multiple entry-exit points)	10+2 with PCM/ ITI/ Diploma or equivalent Polytechnic Diploma Holder will be considered for lateral entry into II year of B.Voc.	<ul style="list-style-type: none"> Job in any Organization as an Office Manager, Security Officer, Warehouse Supervisor etc. Job opportunities are at the levels of Administrative Assistant, Personal Assistant and Executive Assistant
10. School of General Education <ul style="list-style-type: none"> Caters to the needs of all the schools of BSDU by offering various courses for holistic development of the students' personality The School of General Education does not offer Degree Courses of its own Provide a judicious mix of soft skills relating to a professional and appropriate content of General Education. Personality Development with a special focus on communication Skills. Holistic Development through Extra -Curricular activities. Remedial Classes for students coming from vernacular backgrounds. 			
11. School of Metal Construction Skills <ul style="list-style-type: none"> Range of skilled courses pertaining to fabrication and processing of metal parts for component manufacturing integrated with the science and technology A comprehensive training in different metal processing domains which include sheet metal fabrication together with different high end joining and welding techniques. The students will also be introduced to metal forming processes such as rolling, bending, forging, deep drawing etc. The core element of the training is on fabrication and welding various grades of steel and aluminum alloys for different structural constructions World class welding and plasma cutting facilities. Industry scale shear, press brakes and cutting saws. Newly established press forming shops equipped with cold forge and deep draw presses. Newly commissioned powder coating shop for finish metal product painting. Meet certification test standards conducted by the Indian Institute of Welding (IIW) and officials from the American Welding Society (AWS). 			
Course Name	Duration	Eligibility	Job Opportunities

B.Voc in Metal Construction Skills	3 yrs (multiple entry/exit points)	10+2- or two-years ITI after 10th will be considered as equivalent to 10+2 or and Polytechnic Diploma	
12. School of Hospitality and Tourism Skills <ul style="list-style-type: none"> Provides wide knowledge in the Hospitality sector and trains the students how to become knowledgeable in all aspects of Hotel and Tourism management and operations. The aim of this course is to train the students to work in the Hospitality Industry as well as the knowledge and expertise to become competent Hoteliers. Understand proficiency with common hotel management software. Understand extensive understanding of business practices, especially the hospitality industry. 			
Course Name	Duration	Eligibility	Job Opportunities
B.Voc. in Hospitality and Tourism Skills	3 yrs (Multiple entry/exit points)	10+2 or two years ITI after 10th will be considered as equivalent to 10+2 or and Polytechnic Diploma (Lateral Entry admission in II year of B.Voc)	Work experience potential and entrepreneurial opportunities found in the tourism industry
13. School of Construction Skills <ul style="list-style-type: none"> Training of students to supervise various site activities in the construction industry. Students master on the tools, materials, construction procedures along with all safety precautions to achieve quality output. Students have the opportunity to work on construction related projects. 			
Course Name	Duration	Eligibility	Job Opportunities
B.Voc. in Plumbing Skills	3 yrs (multiple exit points)	10+2/ 2 years ITI after 10 th Polytechnic Diploma holders will be considered for lateral entry into II year of B.Voc.	<ul style="list-style-type: none"> Supervise plumbing teams in construction and maintenance industry. They will also be able to start their own plumbing services
B.Voc. in Construction Skills	3 yrs (multiple exit points)	10+2/ 2 years ITI after 10 th Polytechnic Diploma holders will be considered for lateral entry into II year of B.Voc	<ul style="list-style-type: none"> Supervisor Structure, Supervisor Erection, Supervisor Finishes, Supervisor Fabrication, Supervisor Electrical works, Plant & Machinery, Storekeeper construction, Quality Technician, Supervisor site EHS (Environment, Health and Safety). Career opportunities exist in major construction companies, entrepreneurship, and self-employment.
B.Voc. in Building Maintenance Skills	3 yrs	<ul style="list-style-type: none"> In First Semester (I year) <ul style="list-style-type: none"> 10+2 (any subject) ITI after 10th. In Third Semester (II year) <ul style="list-style-type: none"> Polytechnic Diploma holders will be considered for lateral entry into the second year of B.Voc. 	
Placements	<ul style="list-style-type: none"> Regular talks by industry experts through lectures/webinars. Full involvement of the faculty/trainers during industrial internships. Large base of industrial partners. Internships with relevant industry including abroad. Development of entrepreneurship skills of all students to become job providers rather than seekers. 		

G. Nirbhaya Fund

About	<p>Nirbhaya Fund can be utilized for projects specifically designed to improve the safety and security of women. It is a non-lapsable corpus fund, being administered by Department of Economic Affairs, Ministry of Finance.</p> <p>Funding Pattern¹⁰³ – Cost of Projects/ Schemes of state government will be shared in the ratio of 60:40 (as per guidelines of Ministry of Finance)</p>
Projects	<p>Projects under Nirbhaya Fund are initiated both at National Level and in co-ordination with other Ministries and state governments. Some of them are¹⁰⁴:</p> <p>National Level</p> <ul style="list-style-type: none"> • Compensation Scheme for Women Victims/ Survivors of Sexual Assault/ Other Crimes – 2018 • Setting up of “One Stop Centres”, popularly known as “Sakhi Centres” for facilitating access to an integrated range of services including police, medical, legal, psychological support and temporary shelter to women affected by violence. • Universalization of Women Help Line (providing a single helpline no. 181) to provide 24 hours emergency and non-emergency response to women affected by violence • Mahila Police Volunteer (MPV) Scheme - MPVs serve as a public police interface to fight crime against women and report incidents of violence against women <p>Projects in collaboration with other Ministries</p> <ul style="list-style-type: none"> • Building new/ improving infrastructure to plug in the gaps between police and women citizens • Improving the safety of women passengers by installing CCTV cameras, Panic button, controllers, interceptors etc. through projects with Ministry of Railways/ UP Government/ MoRTH etc. • Special Police Unit for Women & Children (SPUWAC) and Special Police unit for North-East Region (SPUNER) – New building at Delhi • Hiring of Professional Counsellors/ Social workers at the District, Sub-Division and Police Station level in Delhi Police • A state-of-the-art DNA Analysis facility at Central Forensic Science Laboratory (CFSL), Chandigarh • Training and skill building programs for Investigation Officers, Prosecution Officers and Medical Officers and procurement of Forensic kits for sexual assault cases. • Projects to create awareness about the schemes, safety measures etc. in different states • Setting up of Fast Track Court


H. PM Formalisation of Micro Food Processing Enterprise Scheme (PM FME Scheme)¹⁰⁵

About	<p>The PM FME scheme is a central sector scheme with an outlay of INR 10,000 Cr to support the unorganized micro food processing units in the country. The scheme aims to achieve:</p> <ul style="list-style-type: none"> • Formalization of micro food processing units. • Financial assistance to individuals for up-gradation of units. <p>Under the scheme, 2,00,000 micro food processing units will be directly assisted with credit linked subsidy. Adequate supportive common infrastructure and institutional architecture will be supported to accelerate growth of the sector.</p>
Objectives	<p>The objectives of scheme are to build capability of microenterprises to enable:</p> <ul style="list-style-type: none"> • Increased access to credit by existing micro food processing entrepreneurs, FPOs, Self Help Groups and Co-operatives. • Integration with organized supply chain by strengthening branding & marketing. • Support for transition of existing 2,00,000 enterprises into formal framework. • Increased access to common services like common processing facility, laboratories, storage, packaging, marketing and incubation services. • Strengthening of institutions, research and training in the food processing sector. • Increased access for the enterprises, to professional and technical support.

¹⁰³ <https://wcd.nic.in/>, “Guidelines for proposals from Central Government Ministries/ Departments, State/ UTs to be funded under the Nirbhaya Fund.

¹⁰⁴ <https://www.impriindia.com/>, Pib.gov.in “Schemes under Nirbhaya Fund”

¹⁰⁵ pmfme.mofpi.gov.in

The Approach	<ul style="list-style-type: none"> The scheme adopts “One District One Product Approach”. ODOP for the scheme will provide the framework for value chain development and alignment of support infrastructure. The States would identify the food product for a district, keeping in perspective the focus of the scheme on perishables. Support to existing individual micro units for capital investment, preference would be given to those producing ODOP products. However, existing units producing other products would also be supported. New units, whether for individuals or groups would only be supported for ODOP products. Support for common infrastructure and marketing & branding would only be for ODOP products.
Program Components	<p>The program has four broad components addressing the needs of the sector:</p> <ul style="list-style-type: none"> Support to individual and groups of micro enterprises. Branding and marketing support. Support for strengthening of institutions Setting up robust project management framework.  <p>Component 1 - Support to Individual Micro Enterprises Individual micro food processing units would be provided credit-linked capital subsidy @35% of the eligible project cost with a maximum ceiling of INR10.0 lakh per unit. The Scheme would support clusters and groups such as FPOs/SHGs/ producer cooperatives along their entire value chain for sorting, grading, assaying, storage, common processing, packaging, marketing, processing of agri-produce, and testing laboratories.</p> <p>Support for Common Infrastructure - The following common infrastructure would be funded under the Scheme: i) Premises for assaying of agriculture produce, sorting, grading, warehouse and cold storage at the farm-gate; ii) Common processing facility for processing of ODOP produce; iii) Incubation Centre should involve one or more product lines, which could be utilized by smaller units on a hire basis for processing of their produce.</p> <p>Component 2 - Branding and Marketing Support Marketing and branding support would be provided to groups of FPOs/SHGs/ Cooperatives or an SPV of micro food processing enterprises under the Scheme. Following the ODOP approach, marketing & branding support would only be provided for such product at the state or regional level.</p> <p>Component 3 - Capacity Building & Research Support to National Institutions - At the National level, National Institute for Food Technology Entrepreneurship and Management (NIFTEM) and Indian Institute of Food Processing Technology (IIFPT) would play pivotal role in capacity building & research. They would be eligible for financial assistance towards research and capacity building.</p> <p>Support to State Level Technical Institutions - State Government will nominate a State Level Technical Institution for the Scheme.</p> <p>Component 4 - Project Management Robust institutional architecture at all administrative levels would be set up for the scheme. There would be committees at the National, State and District levels (for policy guidance) for implementation and to monitor the progress of the Scheme.</p>
Eligibility criteria	<ul style="list-style-type: none"> The proposal should relate to ODOP Minimum turnover of product to be eligible for assistance should be INR 5 Cr The final product should be the one to be sold to the consumer in retail pack Applicant should be an FPO/SHG/cooperative/ regional - State levels SPV to bring large number of producers together Product and producers should be scalable to larger levels Management and entrepreneurship capability of promoting entity should be established in the proposal.
Allocation for Scheduled Caste (SC)/ Scheduled	Specific allocations for SC/ST and NER would be made in the budget allocations under the Scheme. These funds would be allocated to the states based on population of SC/ST in the states.

Tribe (ST)/ Northeastern Region (NER)	
Disbursement of Funds	<p>The scheme is a centrally sponsored scheme with the following sharing of resources between the Centre and the States:</p> <ul style="list-style-type: none"> Centre-State share at 60:40 90:10 sharing between Centre and Himalayan and Northeastern states UTs with legislature sharing would be 60:40 between the Centre and the States UTs without legislature 100% funds would be provided by the Central Government. <p>The following components would be met 100% by the Central Government:</p> <ul style="list-style-type: none"> Capacity buildings & training. Administrative cost of national PMU for MoFPI Training support in terms of audio-visual, development of print material, development of modules etc. at the national level. MIS. Development of technologies, products, etc. Support to national level partner institutions. Promotional activities at the national level. Any other expenditure made directly by Government. of India would be borne 100% by MOFPI.
Convergence Framework	<p>Food processing enterprises being supported under the scheme would be eligible for benefits under the following Government Schemes:</p> <ul style="list-style-type: none"> National Rural Livelihood Mission – Providing seed capital, training, handholding support and interest subvention to SHGs. Start-up Village Entrepreneurship Program (SVEP) –It is a Centrally Sponsored Scheme, a part of NRLM, provides capital and technical support to rural start-ups through training, handholding and support through Community Enterprises Fund (CEF) as a loan up to INR 1.0 lakh for individual entrepreneur and INR 5.0 lakh for group entrepreneurs at 12% interest. Interest subvention scheme for incremental credit to MSMEs 2018 – 2% interest subvention on outstanding balance. Credit Guarantee Trust Fund for Micro & Small Enterprises (CGTMSE) for collateral free loan up to INR 2.0 Cr; v) PM MUDRA Yojana for loan up to INR 10 lakh. A Scheme for Promotion of Innovation, Rural Industry and Entrepreneurship (ASPIRE). Scheme for Fund for Regeneration of Rural Industry (SFURTI). Public Procurement Policy for MSE Benefits available under various other Schemes of MoFPI such as Backward & Forward Linkages, Agricultural Production Cluster, Cold Chain etc. would be used to provide support to clusters/groups. Support from PMKVY and NRLM for skill training for SHGs, if falling within the guidelines would be taken. For shorter duration on site trainings, support would be provided from NRLM and the PM FME scheme, tailor-made for such purposes

I. Mission Shakti by Government of Odisha¹⁰⁶

About	<ul style="list-style-type: none"> Self-help mission for empowering women through promotion of Women Self Help Groups (WSHGs) to take up various socio-economic activities. Clear objective of empowering women through gainful activities by providing credit and market linkage. A separate Directorate of Mission Shakti has been created under the Department of Women & Child Development and Mission Shakti in 2021.
Beneficiaries	Nearly 70 lakh women have been organized into 6 lakh groups in all blocks and urban local bodies of the state so far.
Key Features	<ul style="list-style-type: none"> Institutionalization of WSHGs by federating them at gram panchayat, block and district levels Building up the capacity of Community Based Organizations (from SHGs to Federations) Ensuring market linkage to SHG products across the state Creating awareness among women on social entitlements and promoting inter-agency convergence for livelihood promotion Linking women with formal financial institutions

¹⁰⁶ <https://missionshakti.odisha.gov.in/>

	<ul style="list-style-type: none"> • Fostering Gender Transformative Changes: Issues around gender discrimination and social evils are taken up by Mission Shakti for public discussion • It provides a platform to bring out the changes as intended for a just society where women can also have a say. • A novel initiative of having a dedicated MIS portal to monitor the SHG bank credit linkage status and settlement of claims under the State Interest Subvention Program with support from, Tata Steel Foundation and E & IT Department. Interest subvention claims amounting to INR 58.81 crore has been settled through the BLIS portal during FY 2021-22.
Income Generating Activities	<ul style="list-style-type: none"> • Paddy Procurement - SHGs involved: 562 Cumulative Turnover: INR 1452 Cr, Cumulative Commissions: INR 23 Cr • Electricity Meter Reading, Billing and Collection of Charges - SHGs involved: 1334 Cumulative Commissions: INR 8.8 Cr • Pisciculture in GP Tanks - SHGs involved: 9229 Cumulative Turnover: INR 63.5 Cr • Poultry (Layer) Deep Litter - SHGs involved: 1002 Cumulative Turnover: 4.8 Cr • Supply of School Uniform - SHGs involved: 1644 Cumulative Turnover: 29.4 Cr • PDS Dealership - SHGs involved: 2571 Cumulative Turnover: 58.7 Cr, Cumulative Commissions: INR 8.2 Cr • Dietary Service in Hospitals - SHGs involved: 33 Cumulative Turnover: INR 3.9 Cr • Mushroom Cultivation - SHGs involved: 3000 Cumulative Turnover: INR 15.7 Cr • Vegetable Cultivation - SHGs involved: 6000 Cumulative Turnover: INR 68.0 C • OUAT Convergence prog. - SHGs involved: 3000 Cumulative Turnover: INR 2.04 Cr • Millet Mission - SHGs involved: 802 Cumulative Turnover: INR 1.24 Cr • NTFP/Nursery/ Vermicompost/ Livelihood - SHGs involved: 1144 Cumulative Turnover: INR 6.65 Cr • Supply of provisions to establishment - SHGs involved: 20 Cumulative Turnover: INR 11.0 Cr • Aahar Centre MGMT. - SHGs involved: 158 Cumulative Turnover: INR 5.55 Cr • Farm pond supervision under MGNREGS - SHGs involved: 9483 Cumulative Turnover: INR 3.7 Cr • MUKTA - SHGs involved: 13,867 Cumulative Turnover: INR 137.9 Cr • Jalasathi - SHGs involved: 13,867 Cumulative Turnover: INR 2.46 Cr • Urban Sanitation - SHGs involved: 1767 Cumulative Turnover: INR 7.79 Cr • BCA - SHGs involved: 2203 Cumulative Turnover: INR 0.48 Cr • PG (ORMAS) - SHGs involved: 300 Cumulative Turnover: INR 11.75 Cr
Mission Shakti Living Lab	<ul style="list-style-type: none"> • The plan includes provisions to help 10,000 women-led micro-businesses gain better access to inexpensive market opportunities, funding for business development, and market solutions to improve linkages. • Mission Shakti has established an exclusive e-commerce platform for women producers of Mission Shakti • Under this initiative, the construction of a 'Mission Shakti Bazaar' at the SIRD campus, Bhubaneswar has been approved by Government
Millet Shakti	<ul style="list-style-type: none"> • Mission Shakti, in partnership with the Odisha Millets Mission (OMM), is supporting the establishment of Tiffin Centres and mobile food trucks under the brand name 'Millet Shakti, • These cafes provide millet-based hot cooked foods, millet drinks, bakery products, ready-to-cook and ready-to-eat products, and will be run entirely by Women Self Help Groups and their Federations • The organizations are assisting in the distribution of 'Ragi Laddus' to preschool children at AWCs. • These programs aim to popularize a variety of millet-based food products by providing nutritious and delicious options to people of all ages at an affordable price.
Mission Shakti Cafe	<ul style="list-style-type: none"> • Empower women through the SHG movement by providing them different avenues to exhibit their skills and earn a living from it. • They are quickly becoming one of the favorite destinations for locals as well as travelers.

J. MSME Tool Rooms

The Government of India in its endeavour to provide the right stimulus for growth of industry in country – particularly with the objective of helping SMEs has established ten Tool Rooms at Aurangabad, Ahmedabad, Bhubaneswar, Guwahati, Hyderabad, Indore, Jamshedpur, Kolkata, Jalandhar and Ludhiana. These Tool Rooms provide invaluable service to the Indian industry by way of precision tooling and providing skilled manpower in the tool and die making.

The Tool Rooms are equipped with the best technology and are also abreast with the latest advancements in the field and periodically add new technology like CAD/CAM, CNC machining for Tooling, Vacuum Heat Treatment, Rapid Prototyping, etc. Tool Rooms are equipped with state-of-the-art machinery and support facilities. All the Tool Rooms adhere to the principles of Total Quality Management (TQM). They are ISO 9001-2000 certified institutions and a few of them are ISO-14000 and OHSAS-18000 certified. Central Tool Room & Training Centre, Bhubaneswar is also AS-9100 certified for Aero-space Component Supply.

Key Features

- Well structured, modular, practically oriented long term training programs
- Numerous courses – both regular and tailor-made ones – to meet the specific needs of the industry
- Various levels of courses, viz., certificate, diploma, advanced diploma, post diploma, post graduate diploma and post graduate courses offered by Tool Rooms are accepted by the industries in India and abroad for employment purposes – 100% placement of long-term trainees
- On an average in every batch, each tool room trains and makes about 40 school dropouts ready for the job market.
- Standardising the training programs by benchmarking them with International Training Institutes of repute like Fraunhofer Institute of Technology, Germany
- MSME- Tool Rooms have also successfully executed international assignments for setting up Tool Rooms and Vocational Training Centres as well as training of trainers for developing countries like Zimbabwe, Myanmar, Sri Lanka, Tajikistan etc.

Example - Central Tool Room & Training Centre, Bhubaneswar¹⁰⁷

About	<p>CTTC, Bhubaneswar was registered as a Society in 1990 under Society Registration Act, XXI, 1860 and is one of such training, production, design and consultancy Centre established in technical cooperation program between Government. of India & Government. of Denmark. The excellent infrastructural facilities like land, building etc. have been contributed by Government. of Orissa. Training activities started in 1991 and Tool production in 1995.</p> <p>CTTC is unique in imparting industry oriented long- & short-term training programs on CAD/CAM, Tool Design & Manufacturing, Tool & Die Making, CNC Programming & Machining, Machine Maintenance, CCNA, Industrial Automation, VLSI, Hardware & Networking Management, ITI (Machinist/Welder) etc. CTTC believes in PRACTICE MAKES PERFECT.</p>
Divisions and Departments	<p>Production Dept.: Developing production facilities of moulds, jigs, fixtures, gauges and other sophisticated components preferably for Small Scale Industries. It also provides common facilities in precision machining and heat treatment.</p> <p>Training Dept.: Conducting long and short-term training programs in the field of Tool making and other allied Engineering trades both for the freshers and for personnel already engaged in this field</p> <p>Mkt & Consultancy / Quality Control: Providing consultancy facilities primarily to MSMEs in the field of Tool Engineering with the objective of improving their quality and productivity.</p> <p>Admin & Accts/ Purchase department: It includes all non-technical support required for day-to-day functioning of the Centre.</p>
Duties/ Responsibilities	<p>All the authorities of the Society are vested with the Governing Council. The functions, duties and powers to be discharged by the Chairman, Governing Council and General Manager are prescribed in the Memorandum of Association and Rules Regulations of the Society.</p> <ul style="list-style-type: none"> • To supervise the work of the Departments/Divisions in their control, i.e. Training/Production Dept. • To plan and distribute work amongst the subordinate officers in the Department/Divisions under their control. • To fix Departmental target and plan and take necessary action to achieve both financial and physical target fixed for the year.

¹⁰⁷ <https://www.cttc.gov.in/>

	<p>Technical: Senior Engineer/Engineer/Foreman</p> <ul style="list-style-type: none"> To supervise the subordinate staff under their control To take required measures for optimum use of machines and manpower under their control. To assist the Senior Manager/Manager to plant in achieving the target. <p>Technical: Master Craftsman/Technician Gr.I/Technician Gr.II</p> <ul style="list-style-type: none"> To work with the machines/execute the jobs allotted to them. To ensure timely completion of job with minimum rejection of the work <p>Non-Technical: Senior Manager/Manager</p> <ul style="list-style-type: none"> To overall supervise the work of administration, personnel, accounts and purchase division/Sections. To assist General Manager for preparing Agenda and Agenda Notes/Minutes of the Governing Council meeting/other meetings. To assist the General Manager in planning, budgeting and coordination. <p>Non-Technical: Senior Administrative Officer</p> <ul style="list-style-type: none"> To look after recruitment, HRD, security and housekeeping activities. To assist Senior Manager/Manager in planning and coordination. To look after staff welfare activities. <p>Non-Technical: Senior Accounts Officer</p> <ul style="list-style-type: none"> To look after the financial, Accounts activities of the Centre. Drawing and disbursing officer. To look after P.F./ESI/Income Tax/Insurance etc. To supervise staff under his control <p>Non-Technical: Senior Engineer In-charge Purchase</p> <ul style="list-style-type: none"> To look after the Purchase activities for the centre <p>Non-Technical: Store Officer</p> <ul style="list-style-type: none"> In charge of both Production and Training store. To look after the activities of the Store. <p>Non-Technical: Receptionist, Accountant, Administrative Assistants, PAs (Support Staff)</p> <ul style="list-style-type: none"> To assist their immediate authority for activities of their respective Section including maintenance files, noting and drafting etc..
Trainers	The trainers have undergone ToT and are Certified from SSCs
Infrastructure	<ul style="list-style-type: none"> More than 20 CNC Machines More than 1700 Computers loaded with latest CAD/CAM Software viz. AutoCAD, Pro-E, CATIA, FEA, Mastercam etc. FESTO Hydraulic and Pneumatic Kits VLSI & embedded systems CISCO Certified Network Associates Separate Inspection Department with Latest Measuring Instruments and CMM Full Fledged Library with Study Centre Video Conference Facility Vacuum Heat Treatment Plant
Industry Associations	<ul style="list-style-type: none"> Aeronautical Development Agency Indian Space Research Organization Hindustan Aeronautics Ltd. TATA Motors Ltd. Bharat Heavy Plate and Vessels Ltd.
Placement	Placement cell consisting of HOD of training department, HOD of Production Department, Senior most Faculty of Non-Mechanical Stream, Senior Most instructor of Training workshop and a Placement Coordinator.

Example - Indo-German Tool Room (IGTR), Aurangabad, Maharashtra¹⁰⁸

About	Indo German Tool Room (IGTR), Aurangabad has been established under technical co-operation program of Govt. of India and Govt. of Federal Republic of Germany as a Government. of India Society. The management of affairs of the Society rests with the Governing Council constituted by the Government. of India. Additional Secretary & Development Commissioner, Government. of India is the President of the Society and Chairman of the Governing Council. The tool room aims at serving the needs of General Engineering (Auto parts – Metal) sector.
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¹⁰⁸ www.igtr-aur.org, Annual Report, Placement Brochure, Prospectus

	<p>IGTR imparts industry oriented long- and short-term training programs on Tool Design, Tool manufacturing and Training for the modernization of Micro, Small and Medium Enterprises and upgrading the skill levels.</p> <p>The machinery and equipment installed at IGTR is being supplemented by latest Software & hardware. The software being used includes CAD/CAM - Delcam, Solid Works, Unigraphics, Catia, Pro-E, Ansys, Mastercam, Moldflow, Hypermesh, Hyperworks IDEAS, MTS, Auto CAD, LCA – Hydraulics, Pneumatics, PLC, SCADA, VLSI, Embedded System & Mechatronics etc. The constant upgradation of software is being done as per the needs.</p>
Objectives	<p>To provide Technical Support to MSME's for manufacturing various items of production in the State of Maharashtra and neighboring areas by way of aiding in designing, manufacturing of tools, dies, jigs and fixtures for increasing productivity, improving quality and adopting improved methods of production as well as supply of trained manpower to the industry</p> <p>It aims to achieve its objectives by:</p> <ul style="list-style-type: none"> • Providing consultancy to industrial units for effective use of tools, jigs, fixtures & gauges and guidance regarding their procurement or manufacturing. • Designing & manufacturing of tools, jigs, fixtures, moulds, dies and gauges based on drawings prepared by Tool Room or made available by the customer. • Carrying out individual machining jobs (job orders) relating to tools, jigs, fixtures, moulds, dies and gauges etc. manufactured by customers or private Tool Rooms themselves, as well as related technical services (e.g., testing of materials, inspection and overhauling of tools, gauges etc) • Long term training of tool and die makers, machine tool operator as well as medium- & short-term training program for entrepreneurs and employees of the Micro, Small & Medium Enterprises.
Accreditation	<p>IGTR, Aurangabad is an ISO 9001:2008, ISO 299990:2010, ISO 14001:2004, BS OHSAS 18001:2007, ISO 50001:2011, ISP/IEC 17025:2005 Certified Tool Room and Training Centre. A full-fledged standards room offers Calibration Services as per ISO/IEC 17025:2005 requirements.</p>
Divisions and Departments	<p>Production Dept.: Production Department has team of Experienced Specialists, Design & Production Engineers, Plant Supervisors, Foremen, Technicians, e.g., Tool & Die Makers, Fitters & Machine Operators, which can cater to various requirements of the customers</p> <p>Training Dept.: Conducts long term, medium term, short term and customized training programs in the field of Tool making and other allied Engineering trades both for the freshers and for personnel already engaged in this field. It also conducts special training programs for foreign nationals and entrepreneurs.</p> <p>Mkt & Consultancy / Quality Control: Consultancy Service department is a window to the customer for latest developments in the field of Tools and Die manufacturing Technology. It supports and provides guidance to industries with special emphasis for Micro Small and Medium sector.</p> <p>Admin & Accts/ Purchase department: It includes all non-technical support required for day-to-day functioning of the Centre.</p>
Services Offered	<p>Design and Manufacturing</p> <ul style="list-style-type: none"> • Design and Manufacture of Precision Dies and Tools, moulds, jigs and fixtures, gauges etc. and their appropriate use and maintenance • Tool manufacturing using latest technology • Tool related innovations for improved product design • Precision machining and Heat Treatment <p>Training</p> <ul style="list-style-type: none"> • Long Term, Medium term and Short-Term Courses in Tool Engineering, CAD/CAM/CAE, automation, Mechatronics • Specialized High-Tech Courses in Tool engineering, Automation, Mechatronics, Robotics for Engineering Graduates, Diploma and ITI Certificate Holder. • Skill Enhancement Courses for industry Personnel • Upgradation courses for trainers in training institutions and industries, customized training programs for industry/ industrial employees <p>Consultancy and Others</p> <ul style="list-style-type: none"> • Product and process development simulations • Productivity / Quality Improvement • Training Program/ Course curriculum development for training institutes • Execution of turn-key projects <p>New Invention/ Technology Services</p> <p>3D printing, 3D Scanning, Product Development, Reverse Engineering</p>

Training Centre	<p>The Training Centre of IGTR-Aurangabad has one of the most Sophisticated Setup for imparting training in tool & die, CNC and CAD/CAM Technology. the training is imparted through Scientifically Developed Curriculum with the application of latest audio-visual training equipment. the emphasis is on maintaining scientific blend of theory and practice to Equip the trainee for applying acquired knowledge.</p> <p>Training Programs</p> <table border="1"> <thead> <tr> <th>Training Program</th><th>Training provided for:</th></tr> </thead> <tbody> <tr> <td>Long Term and Medium-Term Courses</td><td>Career oriented training programs for 10th pass outs, ITI, Diploma & Degree holders</td></tr> <tr> <td>Short Term Courses</td><td>Skill development training programs for industrial, professionals, 10th pass outs, ITI, Diploma, B.SC Graduates & Degree holders in CAD / CAM / CAE / CNC / Tool Design / General Engineering</td></tr> <tr> <td>Tailor Made Courses</td><td>Custom designed training programs as per industry / institute need</td></tr> <tr> <td>Custom Design Courses</td><td>Custom designed training for foreign nationals</td></tr> <tr> <td>Sponsored Training Programs</td><td>Career oriented / skill development training programs for, 10th pass outs, ITI, Diploma, B.SC Graduates & Degree holders sponsored by Government. Agencies</td></tr> <tr> <td>Entrepreneurship Skill Development Training Programs</td><td>Entrepreneurship skill development training programs in the area of conventional machining, manufacturing practices, computer hardware maintenance & networking for 8th / 10th pass outs</td></tr> </tbody> </table>	Training Program	Training provided for:	Long Term and Medium-Term Courses	Career oriented training programs for 10th pass outs, ITI, Diploma & Degree holders	Short Term Courses	Skill development training programs for industrial, professionals, 10th pass outs, ITI, Diploma, B.SC Graduates & Degree holders in CAD / CAM / CAE / CNC / Tool Design / General Engineering	Tailor Made Courses	Custom designed training programs as per industry / institute need	Custom Design Courses	Custom designed training for foreign nationals	Sponsored Training Programs	Career oriented / skill development training programs for, 10th pass outs, ITI, Diploma, B.SC Graduates & Degree holders sponsored by Government. Agencies	Entrepreneurship Skill Development Training Programs	Entrepreneurship skill development training programs in the area of conventional machining, manufacturing practices, computer hardware maintenance & networking for 8th / 10th pass outs
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Entrepreneurship Skill Development Training Programs	Entrepreneurship skill development training programs in the area of conventional machining, manufacturing practices, computer hardware maintenance & networking for 8th / 10th pass outs														
Training Centres	<p>Sub- The IGTR extends its training through 5 sub-centres in Maharashtra:</p> <ul style="list-style-type: none"> • IGTR - MSME DI CAD/CAM Training Centre – Pune • MSME DI - IGTR CAD/CAM Training Centre – Mumbai • Indo-German Tool Room Aurangabad Extension Centre– Nagpur • ADVANCED TECHNOLOGY CENTRE - Indo-German Tool Room Aurangabad Extension Centre – Kolhapur • Indo German Tool Room, Aurangabad – Pune Centre II 														
Incubation Centres	<p>IGTR Aurangabad has created IIC – “Incubation and Innovation Centre” to foster innovation and promote technology-based entrepreneurship in a focused way. For high-potential start-ups, IIC-IGTR also supports for future financing efforts and provide the opportunities like seed fund to make them successful and help them in achieving new heights.</p> <ul style="list-style-type: none"> • Facilities Offered to incubates on an individual basis • Co-working Space: Reception, Cabin, Workshop, Meeting/Conference Room, etc. • Access to Software & Design Facilities: CAD/CAM/CAE • Access to Machining facilities: Conventional/CNC Machines, 3D Scanning/Printing, Automation Services, etc. • Connecting to Mentors, Angel Investors & Financial Services • Consultation from Functional / Technical Team • Common Infrastructure: Computer, Internet Connection, Printer, Scanner, Photocopier, Electricity, Power Backup, Security, Waiting Area, Cafeteria, Standard Furniture, etc. 														
Activities Performed	<p>Prominent Development of Toolings, 3D Printing Parts and High Precision Machining parts as follows.</p> <p>Defense Sector:</p> <ul style="list-style-type: none"> • Development of Multi Section parts through 3D Metal Printing for M/s Bhabha Atomic Research Centre, Mumbai • Development of Bracket parts thru 3D Metal Printing for 11-BRD, Nasik as a indigenous project. <p>Medical Sector:</p> <ul style="list-style-type: none"> • Dental pins in 3D Metal Printing for Shree Ganesh Engineering Works, Nasik • 3D Metal Printing of Dental Proto Parts for M/s Bharat Dental Innovations Pvt Ltd <p>Automotive and General Engineering Sector:</p> <ul style="list-style-type: none"> • Design and Manufacturing of Sheet Metal Toolings of 380 cover plate for M/s Setco AutoSystem Pvt. Ltd. 														

	<ul style="list-style-type: none">Design, developed and manufactured 2 Row Progressive Die of Driven Plate (to be used for Maruti SANTRO and Cub) for M/s amalgamation Valeo Clutch Pvt. Ltd. Kanchipuram)Designed and developed and manufactured tooling of Flex-plate for M/s Ring Plus Aqua Ltd., Nashik for their OEM BMWIGTR has successfully executed manufacturing of Forging Die for Axle Clamp Capital LH/RH. Dies include Ore-forming Die, Forming Die and Trimming Die for M/s Endurance TechnologiesDesign and manufacturing of High Pressure Die Casting Dies of Crank CaseRH for M/s Bajaj Auto Ltd. For their Export vehicle of KTM 200cc BikeDesign and manufacturing of High pressure Die Casting Dies of Lid and Base M/s Phoenix Mecano Ltd (EOU) for domestic and export marketDesign and manufacturing of Toolings for new development of Skoda Kushaq Roof Rail Mounting Front and Rear LH/RHHigh pressure Die Casting Dies of CE Bracket for M/s Naresh Engineering Aurangabad for their end customer as an export product to Japan.Conformal Cooling Punch G Plane SP in 3D metal for M/s Aurangabad Electricals Ltd. To be used for high pressure Die casting dies to improve the quality of products.3D Plastic printing part for Rapid Proto 7 Pole Truck Charger and Hose Connector Tractor separate Pre-clear3D plastic SLS printing protoparts of 32700 cell holders, helmet lock, Cara Spoiler head, Hose Connector for M/s Vega Auto Accessories Pvt. Ltd3D plastic printing (DLP) protoparts for Street Back Vent and Elbow Freezer																																																									
Infrastructure	<p>Hostel Facilities for Outstation candidates</p> <p>Each Centre is equipped with latest machines as below:</p> <table><tr><th colspan="3">Training centre - Completely equipped with latest CNC & Conventional machines</th></tr><tr><td>CNC MILLING</td><td>CNC LATHE</td><td>CNC WIRE CUT</td></tr><tr><td>CNC SPARK EROSION</td><td>PRECISION SURFACE GRINDER</td><td>SURFACE GRINDER</td></tr><tr><td>CYLINDRICAL GRINDER</td><td>TOOL AND CUTTER GRINDER</td><td>HYDRAULIC TRAINING KIT</td></tr><tr><td>PNEUMATIC TRAINING KIT</td><td>CONVENTIONAL MILLING</td><td>UNIVERSAL MILLING</td></tr><tr><td>SP3D PANTOGRAPH 1GRAVING AUTOMATION</td><td>CONVENTIONAL LATHES</td><td>PLC PROGRAMMING KIT</td></tr><tr><td></td><td></td><td></td></tr></table> <table><tr><th colspan="3">Production - Ultra Modern State-of-the-Art Tool Room Facilities including</th></tr><tr><td>CNC-5 AXIS MACHINING</td><td>CNC SURFACE GRINDER</td><td>CNC TURNING / MILLING</td></tr><tr><td>CNC MACHINING CENTRE</td><td>CNC HIGH PRECISION LATHE</td><td>HIGH SPEED DRILLING</td></tr><tr><td>CNC WIRE CUT</td><td>CNC MILLING</td><td>JIG BORING</td></tr><tr><td>CNC SPARK EROSION</td><td>CNC LATHE</td><td>UNIVERSAL MILLING</td></tr><tr><td>PRECISION SURFACE GRINDER</td><td>CYLINDRICAL GRINDER</td><td>HYDRAULIC PRESS</td></tr><tr><td>MECHANICAL PRESS</td><td>INJECTION MOULDING M/C</td><td>SINGLE & DOUBLE CHAMBER FURNACE</td></tr><tr><td>HARDNESS TESTER</td><td>CENTRE LATHE</td><td></td></tr></table> <table><tr><th colspan="3">Quality Assurance: High Precision Quality Assurance and Calibration Services</th></tr><tr><td>CO -ORDINATE MEASURING MACHINE</td><td>TOOL MAKER'S MICROSCOPE</td><td>PRECISION COMPARATOR STAND</td></tr><tr><td>LINEAR HEIGHT MASTER (ELECTRONIC)</td><td>PROFILE PROJECTOR</td><td>SURFACE FINISH TESTER</td></tr><tr><td>SLIP GAUGES (CARBIDE)</td><td></td><td></td></tr></table>	Training centre - Completely equipped with latest CNC & Conventional machines			CNC MILLING	CNC LATHE	CNC WIRE CUT	CNC SPARK EROSION	PRECISION SURFACE GRINDER	SURFACE GRINDER	CYLINDRICAL GRINDER	TOOL AND CUTTER GRINDER	HYDRAULIC TRAINING KIT	PNEUMATIC TRAINING KIT	CONVENTIONAL MILLING	UNIVERSAL MILLING	SP3D PANTOGRAPH 1GRAVING AUTOMATION	CONVENTIONAL LATHES	PLC PROGRAMMING KIT				Production - Ultra Modern State-of-the-Art Tool Room Facilities including			CNC-5 AXIS MACHINING	CNC SURFACE GRINDER	CNC TURNING / MILLING	CNC MACHINING CENTRE	CNC HIGH PRECISION LATHE	HIGH SPEED DRILLING	CNC WIRE CUT	CNC MILLING	JIG BORING	CNC SPARK EROSION	CNC LATHE	UNIVERSAL MILLING	PRECISION SURFACE GRINDER	CYLINDRICAL GRINDER	HYDRAULIC PRESS	MECHANICAL PRESS	INJECTION MOULDING M/C	SINGLE & DOUBLE CHAMBER FURNACE	HARDNESS TESTER	CENTRE LATHE		Quality Assurance: High Precision Quality Assurance and Calibration Services			CO -ORDINATE MEASURING MACHINE	TOOL MAKER'S MICROSCOPE	PRECISION COMPARATOR STAND	LINEAR HEIGHT MASTER (ELECTRONIC)	PROFILE PROJECTOR	SURFACE FINISH TESTER	SLIP GAUGES (CARBIDE)		
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	NABL Accredited Calibration Lab		
	Calibration Services are offered for Precision measuring equipment like:		
	VERNIER CALIPER	MICROMETER	HIGHT GAUGE
	LEVER DIAL	PLUNGER DIAL	
Attendance	90% attendance is compulsory for all courses individually		
Placement	<ul style="list-style-type: none"> IGTR makes efforts to contact & invite companies to conduct campus interviews and many of the IGTR trainees are employed in industries like Larsen & Tubro, Bosch Chasis India Ltd., Lubricare Ltd. Etc. Many of the IGTR trainees have established their own industry, have been employed abroad in countries like U.S.A., Canada, Netherlands, France, Japan, Hongkong, Australia, Singapore, Malaysia, South Korea, Australia, Singapore, Philippines etc. and are also pursuing their higher education in India / Abroad. 		
SFURTI Scheme	<ul style="list-style-type: none"> IGTR Aurangabad has been appointed as Nodal Agency for the SFURTI Scheme. IGTR Project Steering committee after scrutinizing recommended 5 Clusters to Scheme Selection Committee (SSC) for consideration in the area of Ginning & Garmenting, Dairy Development, Fabric Digital printing & Embroidery Garment, Readymade Garments and Halad Prakriya. 		

K. Scheme of Fund for Regeneration of Traditional Industries (SFURTI)¹⁰⁹

About	<p>Scheme of Fund for Regeneration of Traditional Industries (SFURTI), a program of Ministry of Micro Small and Medium Enterprises, Government of India, aims to organize the traditional industries and artisans and producers into collectives and provide them with support to make quality and competitive products to ensure long-term sustainability of the sector and its artisans.</p> <p>This scheme focusses upon physical infrastructure creation, technology upgradation, training, product development, innovation, design interventions, marketability, improved packaging and marketing infrastructure with aim to improve artisanal income</p>						
Industries Identified	<ul style="list-style-type: none"> Khadi Industries Village Industries Coir Industries 						
Project Interventions	<ul style="list-style-type: none"> <i>Soft Interventions</i> – these interventions aim at developing skills, market promotion initiatives, training programs etc. <i>Hard Interventions</i> – these interventions aim at procuring material to strengthen the infrastructure e.g., common facility centres/ work sheds, tools and machineries, training facilities, warehouses etc. <i>Thematic Interventions</i> - these primarily include activities like brand building and promotion campaign, e-Commerce initiatives, Innovation, Research & development initiatives and technological upgradation of similar group of clusters based on performance, developing institutional linkages existing & proposed clusters 						
Allocation of Funds	<p>The cost of project shall include Hard Interventions and Soft Interventions and shall be subject to a maximum of INR 5.0 Cr.</p> <table border="1"> <thead> <tr> <th>Type of Cluster</th><th>Per Cluster Budget Limit</th></tr> </thead> <tbody> <tr> <td>Regular Clusters (up to 500 artisans)</td><td>INR 2.50 Cr</td></tr> <tr> <td>Major I Clusters (more than 500 artisans)</td><td>INR 5.00 Cr</td></tr> </tbody> </table> <p>Clusters with lesser number of artisans/workers etc. can also be proposed by nodal agency but number of artisans/workers etc. should not be less than 100 (50 for NER & Hilly areas). In such cases, proportionate GIA (Grants-in-aid) may be considered while granting approval.</p>	Type of Cluster	Per Cluster Budget Limit	Regular Clusters (up to 500 artisans)	INR 2.50 Cr	Major I Clusters (more than 500 artisans)	INR 5.00 Cr
Type of Cluster	Per Cluster Budget Limit						
Regular Clusters (up to 500 artisans)	INR 2.50 Cr						
Major I Clusters (more than 500 artisans)	INR 5.00 Cr						
Project Coverage	The project targets to cover more than 677 clusters across the country between 2021-22 to 2025-26 proposing to cover 4,00,000 artisans/producers/beneficiaries under the various scheme components. The focus will be to ensure poorer artisans in a cluster are included and work towards substantial improvements in incomes of						

¹⁰⁹ <https://sfurti.msme.gov.in/>

	the artisans. The geographical distribution of the clusters throughout the country, with at least 10% located in the Northeastern Region (NER), J&K and hilly states is kept in view.
Convergence	The Scheme envisages leveraging resources from the following sources: <ul style="list-style-type: none"> • Private sector participation • Corporate Social Responsibility (CSR) • Participation by Private Equity (PE)/Impact Funds • Other schemes of State and Central Government • Funds from Multi-lateral Development Banks (MOBs)

Annexure 9: Assumptions

Estimation of workforce – demand side projections

Particulars	Assumptions	Reference
Demand side projections - Number of people required to support expected industrial investment in industrial parks		
Investment expected by industry in three priority sectors (INR Cr)	Rubber - ~715 Cr Bamboo - ~400 Cr Food Processing - ~664 Cr	TIDC Demand Assessment Report
Phases	Phase 1 (1-3 years); Phase 2 (3 -5 years); and Phase 3 (5-10 years)	TIDC Infrastructure Assessment Report
Phase wise % of investment by industry across three priority sectors	Phase 1 – 20% Phase 2 – 60% Phase 3 – 20%	Investment proportion is derived based on mapping of industrial parks with three priority sectors as per TIDC Demand Assessment Report and proposed infrastructure investment in those parks as per TIDC Infrastructure Assessment Report
Estimation of direct workforce for all three priority sectors	Rubber – 19 per crore of investment Bamboo – 61 per crore of investment Food Processing – 54 per crore of investment	Rubber https://niir.org/profile-project-reports/profiles/rubber-rubber-products-rubber-based-industries-natural-rubber-synthetic-rubber-tyre-tire-rubber-chemicals-industrial-rubber-products-rubber-for-automobile-extruded-rubber-medical-adhesives-sealants-belt-footwear-gloves-injection-parts/z,,3d,0,a/index.html https://www.entrepreneurindia.co/blog-description/310/list-of-profitable-business-ideas-in-rubber-processing-and-rubber-products-manufacturing-industry Primary consultation with Industry Bamboo Primary consultation with Industry Food Processing http://irjrr.com/irjrr/January2014/10.pdf Primary consultation with Industry
Skilled and Semi-skilled (including both technical and ancillary skills)	Assumed as 80% of direct workforce requirement	Primary consultation with Industry and secondary research
Unskilled	Assumed as 20% of direct workforce requirement	Primary consultation with Industry and secondary research
Estimation of indirect jobs for all three priority sectors	Assumed as 1.5 times of direct workforce	Primary consultation with Industry and secondary research
Demand side projections - Number of people required to support infrastructure investment in industrial parks and logistics park		
Investment proposed (INR Cr)	Infrastructure - ~497	TIDC Infrastructure Assessment Report

Particulars	Assumptions	Reference
	Logistics park - ~59	
Estimation of direct workforce due to infrastructure investment	16 per crore of infrastructure investment	https://www.businesstoday.in/industry/infra/story/govt-eyes-rs-25-lakh-cr-infra-investments-to-create-4-cr-jobs-62259-2016-05-25 https://mohua.gov.in/upload/uploadfiles/files/NIPFP_Report_Final.pdf
Estimation of direct workforce due to logistics park	55 per acre of investment in logistics park	https://www.constructionweekonline.in/logistics/allcargo-groups-malur-logistics-park-to-bring-employment-opportunities https://www.financialexpress.com/industry/flipkart-to-set-up-indias-biggest-logistics-park-create-20000-jobs-in-karnataka/1092853/
Skilled and Semi-skilled (including both technical and ancillary skills)	Assumed as 80% of direct workforce requirement	Primary consultation with Industry and secondary research
Unskilled	Assumed as 20% of direct workforce requirement	Primary consultation with Industry and secondary research
Estimation of indirect jobs for all three priority sectors	Assumed as 1.5 times of direct workforce	Primary consultation with Industry and secondary research

Estimation of workforce - supply side projections

- The ITIs/ Polytechnics/Training partners will continue with existing trades.
- Actual intake capacity for each relevant trade is considered however, average seat utilization for each relevant trade is assumed as 70%.
- Batches per year for each relevant trade are calculated based on course duration – 3 to 6 months for training partner, 1 to 2 years for ITI and 3 years for polytechnics.
- The training partners have an average batch size of 30 candidates for each trade (based on guidelines from Skillhub Initiative)¹¹⁰.
- No time lag assumed between two batches at ITI, polytechnic or training partner.

Indicative costing for suggested interventions

Interventions	Indicative costing (Assumptions)	References/Remarks
Upgradation of ITIs	INR 4-6 crores per ITI	-ESDI scheme of MSDE has provided INR 3.54 Cr for upgrading Government. ITI, Indranagar ¹¹¹ (this includes hard infrastructure only) -STRIVE scheme of MSDE has provided INR 4.02 Cr for strengthening three Government. ITIs in Tripura ¹¹² (this includes soft infrastructure only)
Partnering with National Skill Training Institute (NSTI) to create a pool of master trainers in the state	INR 15,000-20,000 per candidate	Based on inputs from NSTI
Increasing branding and awareness about skilling programs	Agency cost: INR 1.5-2.0 crores	Based on inputs from interacting with market players
Training and Capacity building	Leadership and management training: INR 1.5-2.5 lakh per candidate Project management training: INR 0.5-1.0 lakh per candidate	Leadership and management training of ITI principals and DOSD staff -IIM Indore – INR 1,75,500 (excl. taxes) -IIM Kolkata – INR 1,30,000 (excl. taxes) -IIM Ahmedabad – INR 1,50,000 (excl. taxes)

¹¹⁰ Guidelines for Skillhub Initiative, <https://www.pmkvyofficial.org/>

¹¹¹ https://dgt.gov.in/sites/default/files/ESDI_FINAL_Report_WTM.pdf

¹¹² <https://dgt.gov.in/sites/default/files/DGT-35%284%29-STRIVE-Tripura-RA-1Phase-1-2020-NPIU.pdf>

Interventions	Indicative costing (Assumptions)	References/Remarks
	<p>Training on VET management and systems: INR 1.0-1.5 lakh per candidate</p> <p>Development cost of information system to monitor the progress in training and institutional performance, including gender and social inclusion indicators: INR 1.0-1.5 crores</p> <p>Technical training of ITI trainers: INR 25,000 – 75,000 per trainer depending on the trade</p> <p>Behavioral training of ITI trainers: INR 10,000-15,000 per day per trainer</p> <p>Capacity building of TIDC: INR 1.5-2.5 lakh per candidate</p>	<p>-ISB Hyderabad – INR 1,50,000 (excl. taxes)</p> <p>Project management training https://collegedunia.com/courses/project-management</p> <p>Training in VET management and systems Based on interaction with providers such as BSDU, Teamlease Skill University, NTTF, ITES (Singapore). Program needs to be tailored to the requirement</p> <p>Development cost of information system -Based on inputs from market players</p> <p>Technical training of ITI trainers (training duration – 12 days) -Bhartiya Skill Development University (BSDU) – INR 46,000 per candidate -Escorts, Bangalore – INR 72,000 per candidate -Learnnet, Ajmer – INR 25,200 per candidate -CTTC, Bhubaneswar¹¹³ – INR 29,000 per candidate -NTTF, Bangalore¹¹⁴ – INR 24,900 per candidate -L&T training institute – INR 35,000 per candidate -KGTTI, Bangalore¹¹⁵ – INR 55,800 per candidate</p> <p>Behavioral training of ITI trainers (training duration – 3 to 5 days) -ASCI¹¹⁶ – INR 11,000 to 13,000 per day per candidate -IIM Indore – INR 13,500 to 15,000 per day per candidate</p> <p>Capacity building of TIDC -The program needs to be customised to the requirement of TIDC. Cost has been indicated based on the other management programs of external institutes.</p>
Tracer study cost	INR 0.8-1.0 crores per study	Based on sample size of 500-600 respondents

Major machines required for running ITI course in Bamboo sector

Machine Used (major ones)	Cost of Machine
Cross Cutter	INR 48,000 per unit
Splitting Machine ¹¹⁷	INR 2.20 lakh per unit

¹¹³ Central Tool Room and Training Centre

¹¹⁴ Nettur Technical Training Foundation

¹¹⁵ Karnataka German Technical Training Institute

¹¹⁶ Administrative Staff College of India

¹¹⁷ <https://dir.indiamart.com/search.mp?ss=splitting+machines+for+bamboo&prdsr=1&mcid=38095&catid=164&res=RC2>

Machine Used (major ones)	Cost of Machine
Stick Making Machine ¹¹⁸	INR 2.50 lakh per unit
Knot Removing Machine ¹¹⁹	INR 2.20 lakh per unit
Planning machine ¹²⁰	INR 3.80 lakh per unit
Treatment Tanks ¹²¹	INR 4.5 lakh per unit
Drying Chamber with Dehumidifier ¹²²	INR 8.0 lakh per unit
Resin Applicator	N/A
Day Light Press ¹²³	INR 10.0 lakh per unit
Package Boiler (non-IBR) ¹²⁴	INR 10.0 lakh per unit
Spindle moulder	INR 1.95 lakh per unit
Lathe Machine	INR 1.5 lakh per unit
Grinding Machine ¹²⁵	INR 6.0 lakh per unit
Spray Guns	INR 2500 per pc
Silvering Machine ¹²⁶	INR 1.8 lakh per unit
Compressor	INR 20,000 per pc
Universal Planning Machine ¹²⁷	INR 2.1 lakh per unit
Trolley, Dust Collector	INR 20,000 per pc
Wide Belt Sander ¹²⁸	INR 21.5 lakh per unit
Tongue, and Groove Cutter ¹²⁹	INR 12,000 per unit

Major machines required for running ITI course in Rubber sector

Machine Used (major ones)	Cost of Machine
Wallace Plastimeter ¹³⁰	INR 17.0 lakh per unit
Sheeting Rollers and batteries ¹³¹	INR 0.50 lakh per unit
Ball Mill ¹³²	INR 21.0 lakh per unit
Coagulant Tank ¹³³	INR 0.50 lakh per unit
Hobart Mixer ¹³⁴	INR 1.25 lakh per unit
Autoclave ¹³⁵	INR 0.50 lakh per unit
Rubber Bank Cutting Machine ¹³⁶	INR 0.50 lakh per unit
Calendar ¹³⁷	INR 2.50 lakh per unit
Lab Extruder ¹³⁸	INR 2.50 lakh per unit
Rheometer ¹³⁹	INR 6.0 lakh per unit

¹¹⁸ <https://www.indiamart.com/proddetail/bamboo-round-stick-making-machine-13811342391.html>

¹¹⁹ <https://dir.indiamart.com/search.mp?ss=Knot+Removing+Machine&mcatid=190273&catid=164&prdsr=1&res=RC2>

¹²⁰ <https://www.indiamart.com/anilbamboomachines/bamboo-planer-machine.html>

¹²¹ <https://www.indiamart.com/proddetail/bamboo-treatment-plant-22282129748.html>

¹²² <https://dir.indiamart.com/search.mp?ss=Drying+Chamber+with+Dehumidifier&mcatid=41053&catid=94&prdsr=1&res=RC3>

¹²³ <https://dir.indiamart.com/search.mp?ss=day+light+press+machine+for+bamboo&mcatid=85592&catid=160&prdsr=1&res=RC3&qu-cx=1>

¹²⁴ <https://dir.indiamart.com/search.mp?ss=package+boiler+non+ibr+for+bamboo&mcatid=895&catid=69&prdsr=1&styp=attr=1|attrS&res=RC4&q-u-cx=1>

¹²⁵ <https://www.indiamart.com/proddetail/used-bamboo-grinding-machine-20748791673.html>

¹²⁶ <https://dir.indiamart.com/impcat/silvering-machine.html>

¹²⁷ <https://www.indiamart.com/proddetail/universal-planning-machines-3741840991.html#:~:text=Universal%20Planning%20Machines%20at%20Rs,Machines%20in%20Rajkot%20%7C%20ID%3A%203741840991>

¹²⁸ <https://dir.indiamart.com/search.mp?ss=wide+belt+sander+for+bamboo&mcatid=69685&catid=408&prdsr=1&styp=attr=1|attrS&res=RC2>

¹²⁹ https://dir.indiamart.com/search.mp?ss=tongue+and+groove+cutter&mcatid=69685&catid=408&src=aspopular%257Ckwd%253Dtoungeandgroove%257Cpos%253D5%257Ccat%253D408%257Cmcat%253D69685%257Cctc%253DR%257Ckwd_len%253D15%7C&prdsr=1&res=RC3

¹³⁰ <https://www.indiamart.com/proddetail/rapid-plastimeter-2849705019497.html>

¹³¹ <https://www.indiamart.com/proddetail/350-sheets-hr-automatic-rubber-sheeting-roller-machine-0-5-hp-3751289548.html>

¹³² <https://dir.indiamart.com/impcat/mixing-mills.html>

¹³³ <https://www.indiamart.com/proddetail/coagulation-flocculation-tank-23425919630.html>

¹³⁴ <https://www.indiamart.com/proddetail/hobart-planetary-cake-bakery-mixer-12088519030.html#:~:text=Hobart%20Planetary%20Cake%20Bakery%20Mixer,125000%20%7C%20Bhavnagar%20%7C%20ID%3A%2012088519030>

¹³⁵ <https://dir.indiamart.com/impcat/vertical-autoclave.html>

¹³⁶ <https://dir.indiamart.com/impcat/rubber-band-cutting-machine.html>

¹³⁷ <https://www.indiamart.com/proddetail/3-roll-calendar-machine-18931659333.html#:~:text=New%20Automatic%203%20Roll%20Calendar,at%20Rs%20250000%20in%20Surat>

¹³⁸ <https://www.indiamart.com/proddetail/lab-extruders-6429452712.html#:~:text=Lab%20Extruders%20at%20Rs%20250000,in%20New%20Delhi%20%7C%20ID%3A%206429452712>

¹³⁹ <https://www.indiamart.com/proddetail/torque-rheometer-7381517991.html>

Machine Used (major ones)	Cost of Machine
Two Roll Mill ¹⁴⁰	INR 3.0 lakh per unit
Hydraulic Press ¹⁴¹	INR 30.0 lakh per unit
Metal Moulds for Injection Bottle Caps (multi cavity)	INR 0.80 lakh per unit

Annexure 10: Visits and Consultation Details

Organization	Address	Date	Representative	Designation
Brite Rubber Processor Pvt. Ltd.	Industrial Growth Centre, Bodhjung Nagar, Agartala, Tripura 799008	27-09-2022	Mr. S.K. Dugar	Plant Manager
Mittal Associates	Industrial Growth Centre, Bodhjung Nagar, Agartala, Tripura 799008	27-09-2022	Mr. Divakar	Manager
Malaya RubTech Industries Pvt. Ltd.	Plot No 24, TIDC, Rubber Park Bodhjung Nagar, RK Nagar, po, Tripura 799001	27-09-2022	Mr. Rebi P. Abraham	General Manager
Sarvasiddhi Agrotech	Industrial estate, Khayerpur, Bodhjung Nagar, Agartala, Tripura 799008	27-09-2022	Mr. Uttam Kr. Saha	Director
Pioneer Bamboo Products	V8MP+XWC, Bamboo Park Main Rd, R.K Nagar, Agartala, Tripura 799006	27-09-2022	Mr. Saikat Acharya	Manager
Syamal Agarbatti	Shed no. 18, Industrial Estate, Kumarghat, Unakoti, Tripura	28-09-2022	Mr. Syamal Debnath	Proprietor
Anup Agarbatti	Shed no. 18, Industrial Estate, Kumarghat, Unakoti, Tripura	28-09-2022	Mr. Anup Kumar Choudhury	Proprietor
M/S Sree Ganesh Frozen Fruit Pvt. Ltd	Plot No. 2287, Village Rural Tripura, Kumarghat Distt. Unakoti, Tripura	28-09-2022	Mr. Soumitra Dey	Manager
ITI Indranagar	ITI Rd Indranagar, 79 Tilla, Agartala, Tripura 799006	29-09-2022	Mr. Anumoy Deb Burman	Principal
Bamboo and Cane Development Institute	Lichubagan, Agartala, Tripura 799010	29-09-2022	Mr. Abhinav Kant	Head of the Institute
Directorate of Skill Development, Government. of Tripura	V74W+GW3, ITI Rd, Indranagar, Agartala, Tripura	29-09-2022	Mr. Sanjay Chakraborty	Director DoSD
Women ITI, Indiranagar	ITI Rd Indranagar, 79 Tilla, Agartala, Tripura 799006	30-09-2022	Mr. Debashish Burman	Principal
NSTI (W), Tripura	Old Directorate Building of Industry & Commerce Deptt. PN Complex Gurkha Basti, Agartala, Tripura 799001	30-09-2022	Mr. D.L. Sharma	Principal
CII	Tripura State Office New Industries Building, (1st floor) Pandit Nehru Complex P.O. Kunjaban Agartala-799 Tripura, India Phone: 91-381-2410067	27-07-2022	Ms. Rupa Das	Head – Tripura State Office
SOFED – Society for Entrepreneurship Development	Indranagar, ITI Road, Agartala – 799006. Tripura, District –	27-07-2022	Mr. Badal Dey	Deputy Director

¹⁴⁰ <https://dir.indiamart.com/impca/two-roll-mill.html>

¹⁴¹ <https://www.indiamart.com/proddetail/hydraulic-compression-molding-press-21733664562.html#:~:text=Hydraulic%20Compression%20Molding%20Press%20at,piece%20%7C%20Rajkot%20%7C%20ID%3A%2021733664562>

Organization	Address	Date	Representative	Designation
	West. Phone + Fax: 0381- 235 0799 (0)			
Directorate of Skill Development, Government. of Tripura	V74W+GW3, ITI Rd, Indranagar, Agartala, Tripura	27-07-2022	Ms. Sutirtha Paul	Joint Director, Directorate of Skill Development
Directorate of Skill Development, Government. of Tripura	V74W+GW3, ITI Rd, Indranagar, Agartala, Tripura	27-07-2022	Mr. Sanjoy Chakraborti.	TCS, SSG. – Director Skill Development, Government. of Tripura
Abhisar Buildwell Pvt. Ltd. (Rubber Division)	Zone-1, industrial Growth Centre, Bodhjung Nagar, Agartala Tripura	28-08-2022	Mr. K.C. Jena	Unit Head
Mutha Industries Pvt. Ltd.	Plot A, Bamboo Park Area, Bodhjung Nagar, P.o. R.K. Nagar, Tripura (West)	28-08-2022	Mr. Rabin Bose	Vice President
Pran Beverages India Pvt. Ltd.	Factory 1: Industrial Growth Centre, Bodhjung Nagar, P.O. R.K. Nagar, Agartala, Tripura (west)	28-08-2022	Mr. A Majumdar	Assistant General Manager
District Industries Centre (DIC), Gomati	Durjoynagar, Udaipur, Gomati, Tripura	28-12-2022	Mr. D Sengupta	General Manager
District Industries Centre (DIC), South Tripura	SDM Office, Sabroom, South Tripura - 799145	28-12-2022	Mr. Biplab Ray	General Manager
District Industries Centre (DIC), Kailashahar, Unakoti	DIC Kailashahar, Unakoti, Tripura	28-12-2022	Mr. Aswini Rupini	General Manager
Tripura Rural Livelihood Mission (TRLM)	Building of the Institution of Housing Board, Gorkhabasti, 79 Tilla, Agartala, Tripura(west), 799006	30-12-2022	Dr. Prasada Rao Vaddarapu	CEO
ITI, LT Valley	82, Mile, Dhalai District, Tripura	13-03-2023	Mr. Anjan Debbarma	Principal (In charge)
ITI Ambassa	Lalchari, Ambassa, Dhalai District, Tripura	13-03-2023	Mr. Hendry Rupini	Principal
ITI Santirbazar	Santirbazar, South Tripura District, Tripura	14-03-2023	Mr. Somraj Majumdar	Principal (In charge)
Joint Forest Management Committee, Bagma	Udaipur, Gomati District, Tripura	14-03-2023	Mr. Kamal Bhaumik	Sub divisional Forest Officer
Joint Forest Management Committee, Bagma	Udaipur, Gomati District, Tripura	14-03-2023	Mr. Kishore Kumar Debbarma	Forest Officer
SHG Members	Udaipur, Gomati District, Tripura	14-03-2023	Additional District Magistrate	Additional District Magistrate
Mahatma Gandhi National Fellow (MGNF)	Gomati District, Tripura	14-03-2023	Mr. Ashis Paul	MGNF Fellow
Tool Room and Training Centre	V8QQ+7C2, Bamboo Park Main Rd, Bodhjung Nagar	15-03-2023	Mr. Swapan Mitra	General Manager, Dol&C, Government. of Tripura
Tripura Rural Livelihood Mission (TRLM)	Building of the Institution of Housing Board, Gorkhabasti, 79 Tilla, Agartala, Tripura(west), 799006	16-03-2023	Dr. Prasada Rao Vaddarapu	CEO
Tripura Rural Livelihood Mission (TRLM)	Building of the Institution of Housing Board, Gorkhabasti, 79 Tilla, Agartala, Tripura(west), 799006	16-03-2023	Mr. Sankha Raj Roy	COO
Indian Institute of Entrepreneurship (IIE)	Branch Office, Agartala, Tripura	16-03-2023	Mr. Anup Dey	Sr. Executive-Project
KVIC (for PM SFURTI Scheme)	22, Office Lane, Dhaleswar, Agartala, Tripura	16-03-2023	Mr. Sri Ram Suresh	Assistant Director

Organization	Address	Date	Representative	Designation
Dept. of School Education, Government. of Tripura	22, Office Lane, Dhaleswar, Agartala, Tripura	16-03-2023	Mr. N C Sharma	Director, Secondary and Higher Education
Dept. of School Education, Government. of Tripura	22, Office Lane, Dhaleswar, Agartala, Tripura	16-03-2023	Mr. Bimbisar Bhattacharya	Director, Elementary Education
Dept. of School Education, Government. of Tripura	22, Office Lane, Dhaleswar, Agartala, Tripura	16-03-2023	Mr. Utpal Chakravarty	Joint Director, Secondary Education
Dept. of School Education, Government. of Tripura	22, Office Lane, Dhaleswar, Agartala, Tripura	16-03-2023	Mr. Manas Dey	State Coordinator, Vocational Education
Directorate of Skill Development, Government. of Tripura	V74W+GW3, ITI Rd, Indranagar, Agartala, Tripura	17-03-2023	Mr. Sanjoy Chakraborti.	TCS, SSG. – Director Skill Development, Government. of Tripura
Directorate of Industries, Government. of Tripura	Shilpa Udyog Bhavan, Khejurbagan, Agartala, Tripura	17-03-2023	Ms. Vishwasree B, IAS	Director, Industries and Commerce, Government. of Tripura
Directorate of Industries, Government. of Tripura	Shilpa Udyog Bhavan, Khejurbagan, Agartala, Tripura	17-03-2023	Mr. Anirban Datta	Additional Director, Industries and Commerce, Government. of Tripura
Directorate of Industries, Government. of Tripura	Shilpa Udyog Bhavan, Khejurbagan, Agartala, Tripura	17-03-2023	Mr. Subhash Chandra Das	Additional Director, Industries and Commerce, Government. of Tripura

Annexure 11: Comments on Report

Sl. No.	Report version	Key Comments from ADB	Incorporation of Comments
1	Draft report sent vide email dated Dec 19, 2022	<ul style="list-style-type: none"> Consult with DICs and TRLM and add in the report Add categorization of insights Add separate annexure on all assumptions Add section on basic assessment of ITIs Add separate section on industry consultation 	Comments addressed and report revised
2	Revised report sent vide email dated Dec 30, 2022	Add note on options/models for hard infrastructure for skilling with private sector participation Include examples of incentives to TPs Potential avenues to leverage funds for the state Restructure the table on proposed interventions Add TRLM as stakeholder wherever appropriate Discuss appropriately with state government. the recommendations on institutional reforms Provide a table/template for capturing the baseline data	Added in the chapter on recommendations NA. This recommendation has been deleted based on the discussion in stakeholder workshop held on 24 Feb 2023 Added in the chapter on recommendations Chapter on recommendation has been restructured and made more specific based on discussion during stakeholder workshop Added Discussed during stakeholder workshop held on 24 Feb 2023. Recommendations deleted as advised during the workshop Prepared and sent vide email dated March 11, 2023
3	Revised report sent vide email dated 31 st Mar 2023		

Sl. No.	Report version	Comments from TIDC, DoSD and other stakeholders received during stakeholder workshop held on Feb 24, 2023	Incorporation of Comments
1	Draft report sent to TIDC vide email dated Jan 18, 2023	Review the State's proposal under PMKVY4.0 submitted to MSDE and provide appropriate linkage in Skills plan with respect to three priority sectors (Rubber, Bamboo, Food Processing)	Yes
		<ul style="list-style-type: none"> Information on following schemes, in context of Tripura <ul style="list-style-type: none"> Utilization of Nirbhaya fund for skills development (if any) Scheme of Fund for Regeneration of Traditional Industries (SFURTI) for artisans, Ministry of Micro, Small & Medium Enterprises (MSME) Pradhan Mantri Formalisation of Micro Food Processing Enterprises (PMFME) Scheme in food processing Centre of excellence (CoE) scheme of MSDE Mission Shakti of Government. of Odisha to support micro-enterprises 	Yes
		Analyse the draft skill gap study of the DoSD and provide appropriate linkage in Skills plan with respect to three priority sectors	Yes
		Support TIDC with case studies on best practices such as potential private sector partnerships for operations of ITIs, and Common training facility in industrial parks	Yes. Common training facility as a recommendation has been removed.
		<ul style="list-style-type: none"> Best practices/case studies/information to be covered in the report on following aspects, and assess what can be recommended in the context of Tripura: <ul style="list-style-type: none"> Tool room and training centres in India of MSME Skill Universities in India Incentive for industry to engage with ITIs/training partners and placement linked incentives for training providers, if any Vertical pathways for candidates from ITIs to Polytechnics Recruit, train and deploy model currently being adopted by some states/agencies Pan IIT Alumni Reach for India model of improving ITI performance 	Yes
		Seek more inputs from TRLM, DoSD, SOFED, and Department of Education, on specific areas discussed during the workshop	Yes
		Visit to three ITIs (one in each sector - Rubber, Bamboo and Food processing) mapped to concerned industrial park (ITI Kumarghat for Bamboo; ITI Santirbazar for Rubber; and ITI Ambassa for Food processing) for detailed assessment and specific recommendations	Yes

