



Transforming the skill landscape



# Skills Gap Study of the **North-East**



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## **About National Skill Development Corporation**

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National Skill Development Corporation (NSDC) is a pioneering Public Private Partnership (PPP), set up under the aegis of the Ministry of Finance, in July 2008, with a mandate to skill 150 million by 2022.

NSDC's mission is as follows:

- Upgrade skills to international standards through significant industry involvement and develop necessary frameworks for standards, curriculum and quality assurance.
- Enhance, support and coordinate private sector initiatives for skill development through appropriate PPP models; strive for significant operational and financial involvement from the private sector.
- Focus on underprivileged sections of society and backward regions of the country thereby enabling a move out of poverty; similarly, focus significantly on the unorganised or informal sector workforce.
- Play the role of a 'market-maker' by bringing financing or viability gap funding, particularly in sectors where market mechanisms are ineffective or missing.
- Prioritise initiatives that can have multiplier or catalytic effect as opposed to one-off impact.

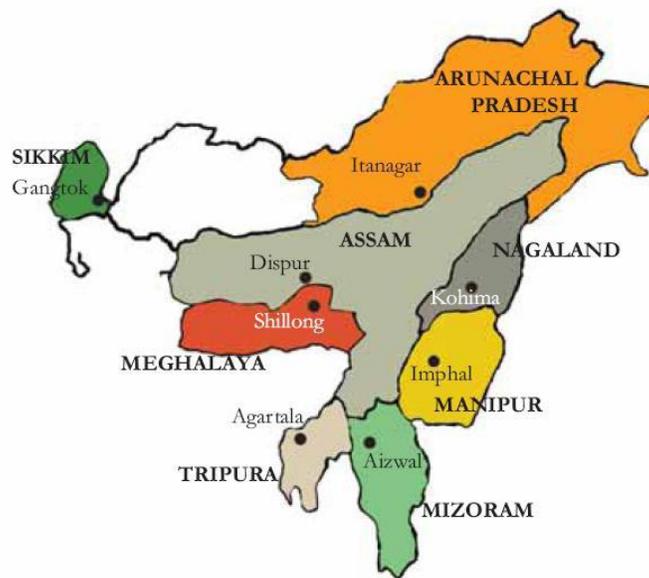
Globally, NSDC is a unique PPP in the area of skill development. NSDC's key differentiators are as follows:

- Funds as well as provides strategic support to the skill development activities of stakeholders and potential partners.
- Monitors implementation over entire life of the project.
- Enables skill development in high growth and unorganised sectors.
- Facilitates creation of 'Train the Trainer', centres
- Accountable for raising skills to international standards through sector specific industry involvement and setting systems and frameworks for standards, curriculum and quality assurance.
- Set up Sector Skill Councils
- Commissions periodic reports including skill gap surveys
- Support of industry associations, hence access to the best industry data enabling creation of industry specific curriculum, employability, etc.
- Facilitates creation of Labour Market Information Systems (LMIS)

## Foreword

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The North Eastern States comprise Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura.



The eight States located in India's North-East cover an area of 2,62,179 sq. km. constituting 7.9 per cent of the country's total geographical area, and 46million people or about 4 per cent of the total population of the country (Census 2011).

Most North Eastern States have remained one of the under developed and untapped regions of the country. Some of the reasons are as follows:

- Remoteness and isolation because of being mostly landlocked
- Lack of access to markets
- Limited connectivity to the rest of India
- Limited infrastructure
- Challenges in land acquisition
- Widespread use of traditional cultivation methods that are inefficient
- Lack of facilities such as cold storage for warehousing fruits and transporting to market
- Inadequate infrastructure that could help transport goods from the region
- Difficulty in accessing bank credit for enterprises
- Lack of confidence in seeking credit by small and tiny sector enterprises

- Poor awareness of markets, changing demand patterns, raw material sourcing, technology, branding and quality standards
- High and widespread dependence on Governments' programmes for market access, subsidy and training
- Educated seeking, mostly, Government jobs or relocating out of the region
- Stigma against labour oriented jobs
- Dependence on, mainly, local market for selling products from small and tiny sector
- Inadequate telecommunications connectivity

Despite these disadvantages, there are success stories of entrepreneurs who have started on small scale, overcome the difficulties and have grown in the last 15-20 years to make a name for themselves in the region. Though small now, their number is likely to grow as more people travel outside the region, attain education, training and skills, investing is made attractive by the States, markets linkages are developed, substantial buyers are attracted to the products from the region and, trained and skilled persons can be gainfully employed within the region.

It is in this context that the North Eastern Council (NEC) and the Ministry of Development of North Eastern Region (DoNER) have prepared Vision 2020 for the North Eastern Region.

The Vision 2020 envisages the following targets by 2020:

- Overall GSDP growth at a CAGR of 11.64 per cent between 2007-09 and 2019-20.
- Overall per capita income growth of 12.95 per cent between 2007-09 and 2019-20.

To support this vision, the Ministry of Development of North Eastern Region has formulated a Strategic Plan 2010-16 focusing on three broad dimensions:

**(A) Rapid socio-economic development:**

- Facilitating preparation of Strategic Plans for key sectors such as Agriculture, Road, Civil Aviation, Railways, Inland Water Transport, Power, Tele-Communication & IT, HRD, Health and Handloom & Handicrafts and implementation of the Plans so prepared by the line-Ministries and North Eastern States.

- Facilitating formulation of Projects, Schemes and Programmes by major Central Ministries in consonance with the requirement of the North-Eastern Region.
- Increasing the effectiveness of developmental expenditure in the North-East Region through higher levels of transparency, systemic improvements and independent monitoring mechanism.
- Creating an in-house database on important socio-economic indicators in the Region and its periodic assessment.
- Facilitating preparation of Regional Plan by the NEC.
- Providing critical support to the NEC for identification of appropriate regional projects and their implementation.
- Facilitating funding by External Agencies in critical Sectors in the North Eastern States.
- Undertaking pilot or demonstration projects in the North-East Region in certain sectors to provide fillip to these sectors.

**(B) Building capacities and competencies in critical sectors in the North Eastern States**

- Preparation of a Plan of Action for building capacities and competencies in critical sectors in the North Eastern States.
- Identifying institutes and organizations for imparting training and building capacities in the North Eastern Region.
- Setting up of Training Institutes in the Region in important fields through line Ministries, NEC or States.
- Augmenting the capacity of the existing training institutes in the North Eastern States.
- Use of IT as a tool to upgrade skills.

**(C) Promote the strengths of the Region**

- Preparation of a 'Plan of Action' for projecting and promoting key strengths of the Region.
- Promoting student and cultural exchanges among the States of the Region on one hand and between the Region and the rest of the country.
- Organizing business summits, exhibitions and cultural festivals to promote the Region.
- Undertaking well-conceived promotional campaigns in the print and electronic media for projecting a positive image of the Region.
- Arranging festivals and cultural exchanges between the Region and the neighbouring countries.
- Highlighting the achievements and success stories from the Region in mainstream media.

- Instituting an Award Scheme to honour and showcase the achievements of talented people of the Region.

While this requires substantial investment, implementation of Action Agenda outlined in the Vision and Strategic Plan, it also requires imparting of skills at all levels.

The North Eastern States, clubbed together, have some common attributes. But they also have significant variations related to culture, language, values, work preferences and ethics, and overall environment related to Government, infrastructure, terrain, proximity to or availability of markets and services. Hence, the skilling interventions may vary across states and districts despite, similarities of activities.

Given the above background, ICRA Management Consulting Services Limited (IMaCS) has been mandated by the NSDC to assist in identifying development and employment potential of districts of North Eastern States.

Covering an area of 10,492 sq km, Tripura is a landlocked State in the Northeast of India. It is among the smallest states in India. Tripura shares 856 km of international border with Bangladesh, accounting for about 84 per cent of its total border. To the east and north are Mizoram and Assam.



Tripura has predominantly subtropical and the temperate climatic zones. The State is marked by distinct geographical features. The terrain consists of several parallel hills and ridges running from the northwest

to the southeast direction, with alternating narrow valleys. The main rivers flowing through Tripura are Gumti, Manu, Khowai, Feni, Doloi, Muhuri and Haora. The River Feni separates Tripura from Bangladesh.

Tripura has four administrative districts: North Tripura, West Tripura, South Tripura and Dhalai. Agartala in West Tripura is the state capital and the largest city. The other key towns of the State are Kailashahar, Udaipur, Khumulwng, Kamalpur, Ambassa, Khowai and Sabroom.

As per the Census 2011, Tripura has a population of 36.7 lakh. The State has the second-highest population density among the North Eastern states, next only to Assam. According to Census 2001, about 81 per cent of the State's population lives in rural areas. Bengali and Kokborok/Tripuri are the official languages of Tripura.

***This report has been structured in three parts:***

**Part I** includes Foreword, Acknowledgements, Approach and Methodology, and Study Limitations.

**Part II** concentrates on the diagnostic analysis of Tripura, human resources requirement, skill gaps assessed for Tripura.

**Part III** presents a detailed set of recommendation for Tripura.

## **Acknowledgements**

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Carrying out a large scale survey is always a challenge. However, this task was made easy for the team by the support that they received from various stakeholders. The team acknowledges, with grateful thanks, useful information, references and support provided by NSDC and Ministry of Development of North Eastern Region.

IMaCS team has travelled extensively through the districts of the eight North Eastern States to conduct the surveys for this study. The team has interacted with a cross-section of stakeholders. This survey exercise would not have been possible without the support of key stakeholders in Tripura, some of whom we have listed below.

- Dr. S. K. Panda, Chief Secretary, Tripura
- Mr. L. K. Gupta, Principal Secretary, Industries
- Mr. V. G. Jenner, General Manager, Tripura Industrial Development Corporation (TIDC)
- Ms. S. Debnath, TIDC
- Mr. Arun Bhattacharyya, Director, District Horticulture Department, Dhalai
- Mr. Kedar Panda, Tripura Bamboo Mission

In addition, there are many persons or organisations who have contributed greatly towards the successful completion of this study. The team conveys sincere thanks to all of them for their generous support and contribution.

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## **PART – I: Introduction**

## 1. Report Objectives

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National Skill Development Corporation (NSDC) has mandated ICRA Management Consulting Services Limited (IMaCS) to assess the development and employment generation potential of eight North Eastern states of India. As per the Terms of Reference, the report objectives are as follows:

- i. Review the socio-economic profile of the North Eastern Region
- ii. Identify developmental opportunities keeping in mind factor endowments and stakeholder perspectives
- iii. Identify specific developmental initiatives/projects which also have impact on employment generation
- iv. Assess skills required to aid in such employment generation

## 2. Approach and Methodology

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The study has been conducted in three phases:

### **Phase – 1: Diagnostic Phase**

The objective of this phase was to understand the socio-economic profile of the North Eastern Region. The focus was on analyzing the economic and social position of the Region based on evolution of the level and type of economic activity and social development in each State. The factor advantages, constraints facing the Region either due to Regional factors or common among the states, and the challenges going forward have been analysed. We have thus identified the factor endowments of the State and the potential it holds. At the end of this stage, we have presented a snapshot of the State on economic and social aspects and a SWOT analysis of the State.

### **Phase – 2: Synthesis Phase**

This was carried-out in two modules:

Module 1: Assessment of Development Potential

Module 2: Assessment of Employment Potential and Gaps

#### **Module 1: Assessment of Development Potential:**

The objective of this phase was to identify development opportunities across formal and informal sectors which provide livelihood opportunities for employment. We have also kept in mind the opportunities for employment/livelihood generation identified as per the Vision 2020. This leads to the framework for identification of formal and informal sector employment/skilling opportunities

For this exercise, we have interacted with a cross-section of stakeholders of the Government/Industry to understand the following:

- What are the key developmental areas to focus?
- What needs to be done to leverage key strengths and factor endowments?
- How can bottlenecks to development be cleared?
- What various stakeholders need to do for development?

Based on the factor endowments and primary surveys conducted, we have identified potential and high growth opportunities for North Eastern States.

### **Module 2: Assessment of Employment Potential**

For the developmental opportunities identified, we have assessed the following:

- Employment potential in the Region and on account of these identified developmental opportunities
- Skills required to be developed among the North Eastern Region workforce to tap into the same.

This phase has been executed by: Profiling skills required sustaining traditional skills and tapping into factor endowments, especially in the informal sector (wherever scalable) and Interacting with industry (small, medium and large) and groups engaged in formal and informal sectors.

### **Phase – 3: Recommendations**

Our interventions focus on various measures/potential ideas/projects required to be pursued for Development and Employment Generation. These interventions focus on the following:

- What is the enabling environment to be created to further development and employment generation?
- What are the interventions to enhance employment generation/job creation?
- What are the potential opportunities that can be tapped thereof and structured for private sector investment and NSDC interventions?

The report derives content for analyses from both, primary survey and secondary sources.

- The surveys were undertaken by visiting several districts of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura and meeting key stakeholders identified with the help of State/District Government Departments of Labour, Planning or Industries and using internal research and databases.

- Significant secondary research was also carried out in order to validate the findings of primary survey.

### **3. Study Limitations**

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While care has been taken to ensure correctness of information, the report outcomes for entire North East are affected by the following circumstances:

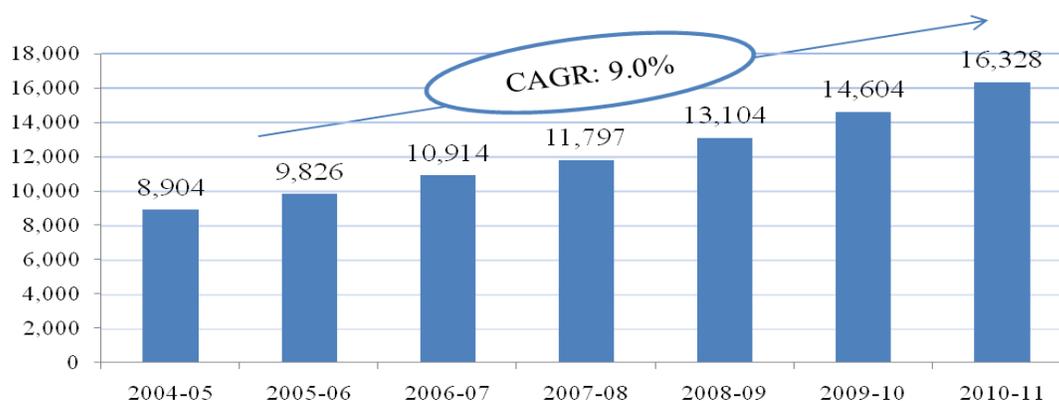
- While the field survey has been conducted keeping in mind maximum coverage, the survey has been constrained by factors such as – weather: a major part of the survey was conducted in the rainy season with landslides and flooding; availability of transportation; proper road connectivity; availability of persons to interview at select locations and offices; lack of documented and latest information; and inaccessible distances from within the State.
- While some districts had updated statistics, for others approximations have been made because of dated or non-existent data, particularly, for industries and institutions that have come up in recent years.
- Approximations include use of past growth rates for projections, regional average, national average, productivity growth, benchmarks with other States and others.

**PART – II (a): Diagnostic Analysis of Tripura**

## 4.1 Macro Economic Overview

The GSDP of Tripura is about Rs 16,328 crore, at constant prices. In the last six years to 2010-11 Tripura's GSDP has grown at a CAGR of 9 per cent, from Rs 8,904 crore in 2004-05.

FIGURE 1: GSDP GROWTH OF MEGHALAYA  
(Rs Crore)



Source: Central Statistical Organisation; IMaCS Analysis

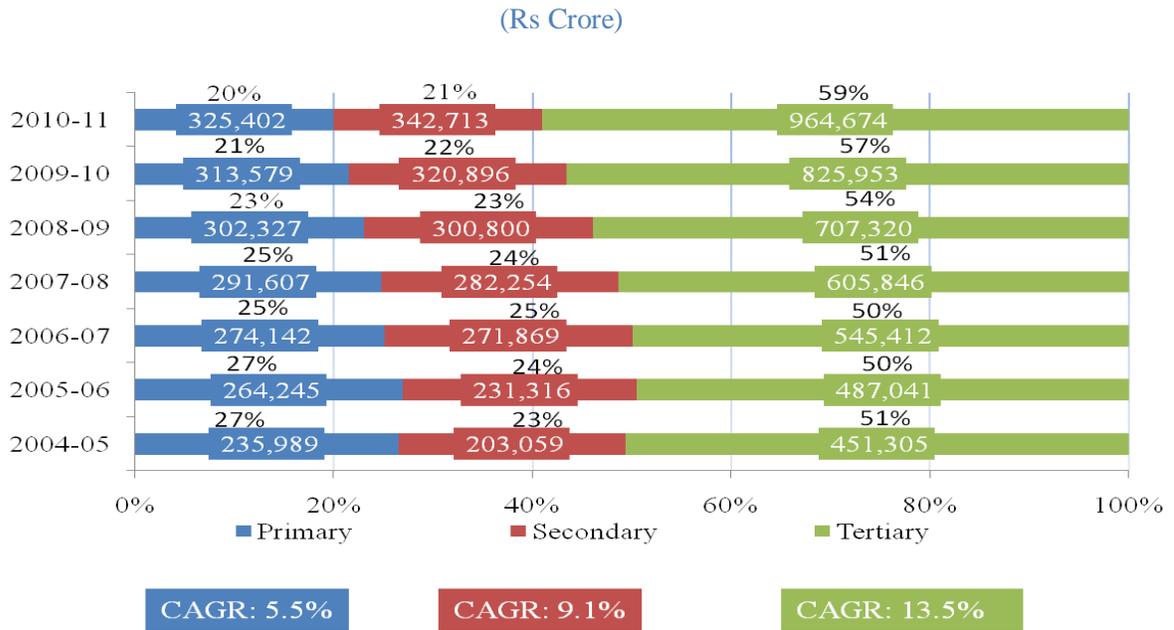
Tripura's economy has doubled from 2004-05 to 2010-11. The growth rate was similar to overall India's; although at 0.34 per cent of all states' GSDP.

TABLE 1: TRIPURA'S GSDP VS REGIONAL AND NATIONAL AGGREGATE

Country / Region/ State	GSDP Rs. Lakh, 2009-2010	GSDP Growth Rate 2004-2010
India	429,139,359	8.6%
North East Region	11,923,969	6.3%
Tripura	1,460,428	9.0%

Overall, the secondary sector share has grown over the years, while the primary sector share has decreased between 2004-05 and 2010-11. The services sector, particularly, hotels, trade and restaurants, public administration and storage are the key drivers of tertiary share growth. In the coming years, other services such as education and healthcare are expected to play a key role in this sector.

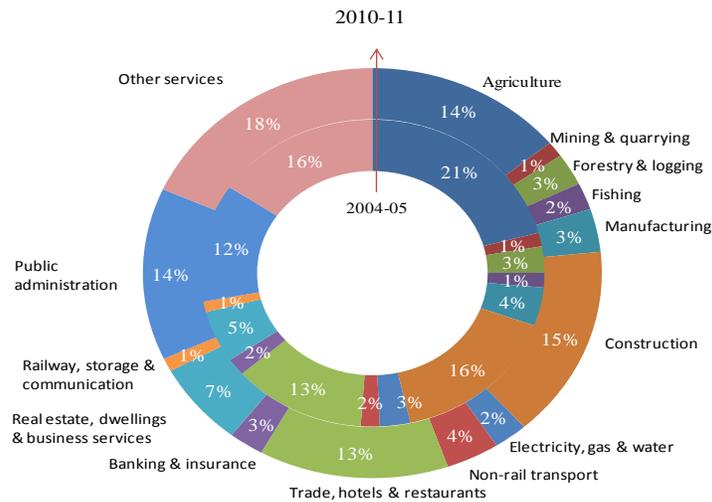
FIGURE 2: GSDP DISTRIBUTION – PRIMARY, SECONDARY & TERTIARY SECTORS



Source: Central Statistical Organisation; IMaCS Analysis

In the primary sector, agriculture is the key contributor. However, overall share declined during 2004-11.

FIGURE 3: CHANGE IN GSDP SHARES ACROSS ECONOMIC ACTIVITIES

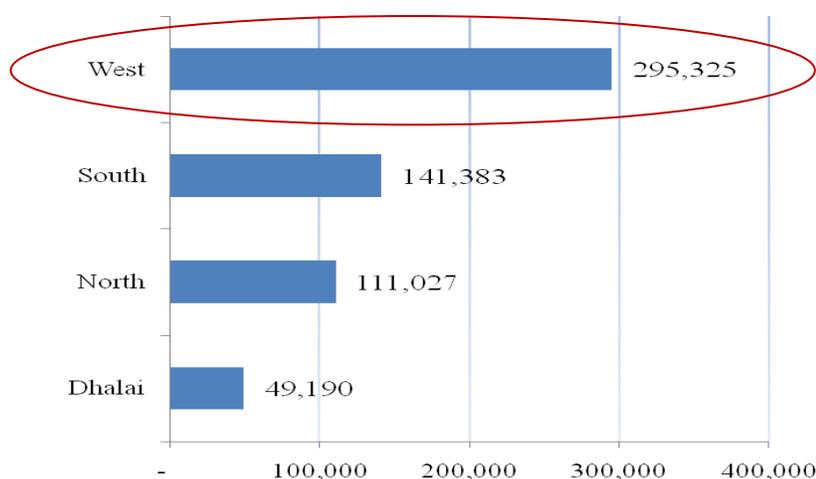


Source: Central Statistical Organisation; IMaCS Analysis

In the secondary sector, construction is the largest contributor. Manufacturing and construction are growing at 8-10 per cent CAGR. In the tertiary sector, there was growth in shares of almost all sectors. Key contributors included public administration, trade and hospitality, real estate and business services, and non-rail transport.

Among Tripura's four districts, West Tripura, which has the state capital Agartala – contributed around 50 per cent to the GSDP.

FIGURE 4: GROSS DISTRICT DOMESTIC PRODUCT,  
(Rs Lakh, 2007-08)



Source: Tripura Human Development Report 2007; IMaCS Analysis; Directorate of Economics and Statistics, Tripura

The per capita income of Tripura of Rs 45,368 is comparable to regional average of Rs 48,317.

TABLE 2: PER CAPITA INCOME - TRIPURA VS REGIONAL AND NATIONAL AVERAGE

(Rs)	
Country / Region/ State	Per capita income, Rs, 2009-10
India	61,998
North East Region	48,317
Tripura (2010-11)	45,368

## Industrial Activity Overview

As of March 2010, Tripura had 242 industrial units, consisting of 94 per cent micro units and remaining small units. At 52 per cent, a majority of these units were concentrated in West Tripura district, followed by 14 per cent units in North Tripura district. All the industrial units together employed 2,509 persons and had a total investment of Rs 11.77 crore. Large investment along with employment was concentrated in the West Tripura district.

FIGURE 5: DISTRICT-WISE INDUSTRIAL UNITS IN TRIPURA

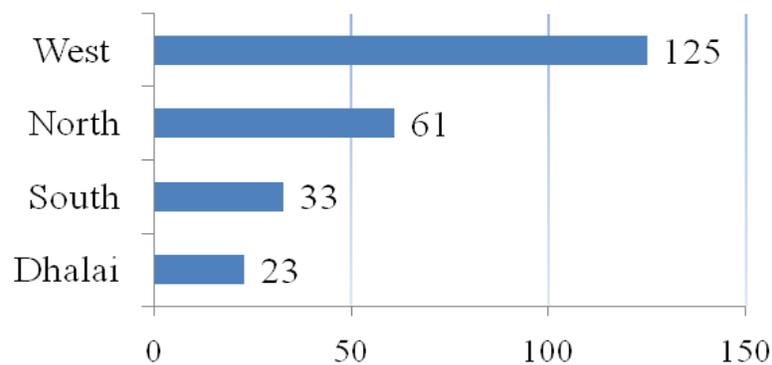
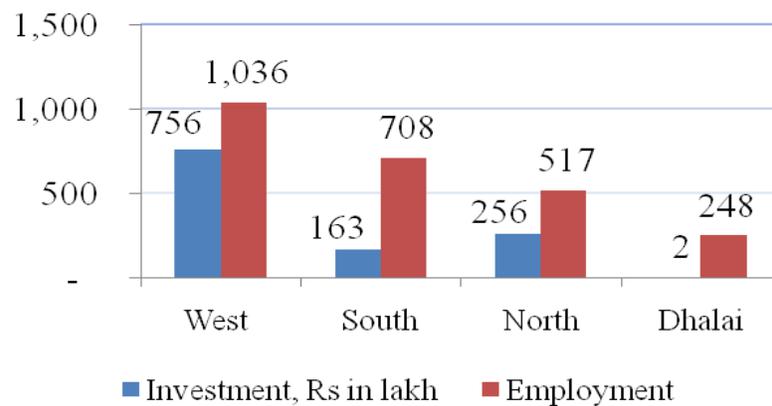


FIGURE 6: INVESTMENT AND EMPLOYMENT IN INDUSTRIAL UNITS



Sources: Tripura Economic Review, 2009-10; IMaCS Analysis

As of March 2010, Tripura had 1,648 registered factories, which employed 57,873 persons. Between 2002 and 2010, the number of factories increased at a CAGR of 1.2 per cent, while employment increased

at a CAGR of 7.8 per cent. About 57 per cent of were concentrated in West Tripura district, while just 5 per cent were in Dhalai district. West Tripura district also had maximum employment at 45 per cent, while Dhalai had lowest employment at 11 per cent.

FIGURE 7: NUMBER OF FACTORIES IN TRIPURA

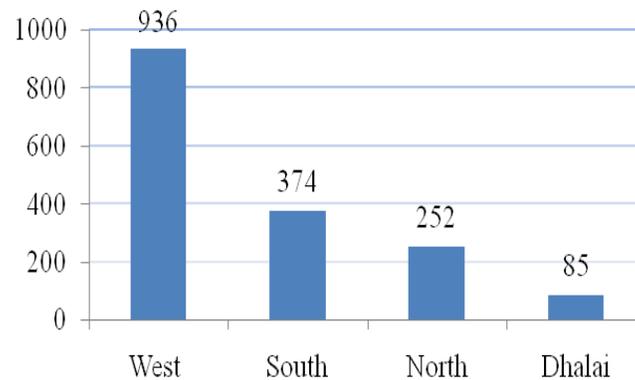
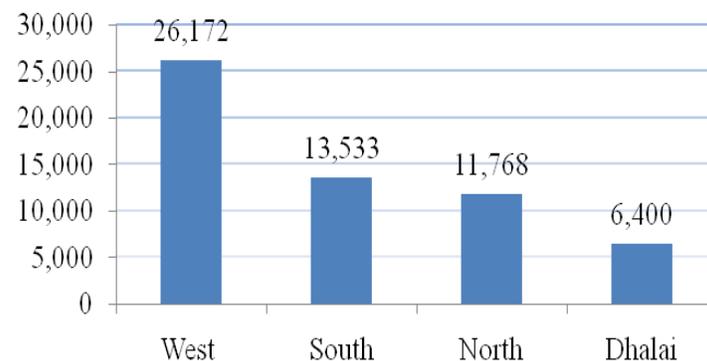


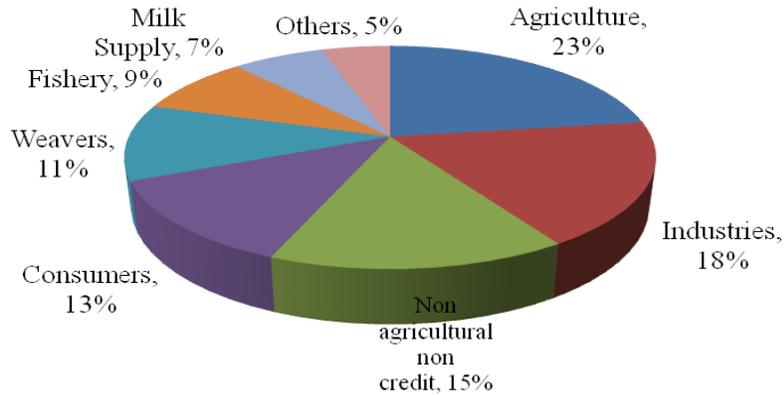
FIGURE 8: AVERAGE NUMBER OF WORKERS



Sources: Economic Review, 2009-10; IMaCS Analysis

In 2009-2010, Tripura had 1,674 co-operative societies. About 56 per cent societies were in West Tripura district. Most of the societies were engaged in agricultural activities, followed by industrial activities and non agricultural non-credit activities. As of March 2010, the societies employed 6.47 lakh members and total working capital of Rs 910.44 crore.

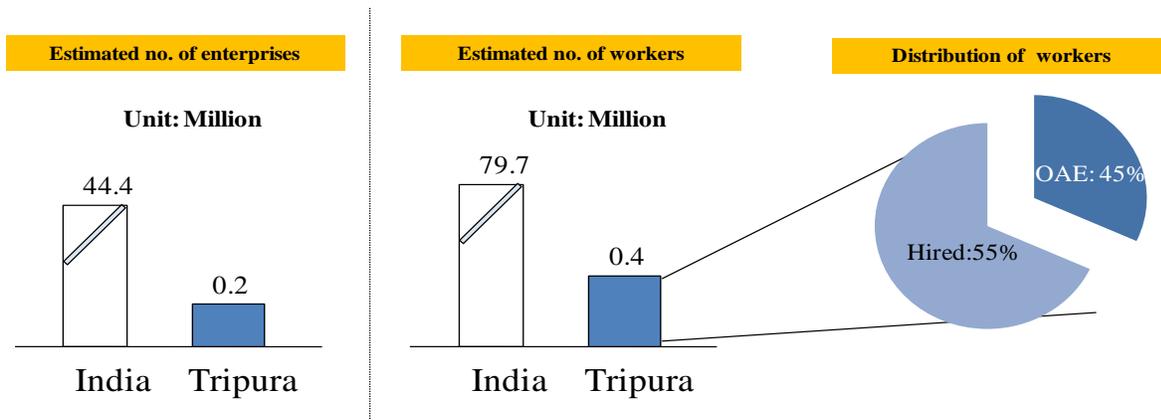
FIGURE 9: TYPES OF CO-OPERATIVES IN TRIPURA



Sources: Tripura Economic Review, 2009-10; IMaCS Analysis

Tripura has about 200,000 own account enterprises and establishments. They provide employment to 400,000 people. Of this majority, are involved in activities related to retail trade and manufacturing.

FIGURE 10: SNAPSHOT OF OAE'S AND ESTABLISHMENTS IN TRIPURA



Source: 5th Economic Census, 2005

OAE: Own Account Enterprises

Retail trade and manufacturing account for 63 per cent of non-agricultural establishments and 47 per cent of employment in Tripura's OAE's and establishments.

TABLE 3: DISTRIBUTION OF EMPLOYMENT IN TRIPURA

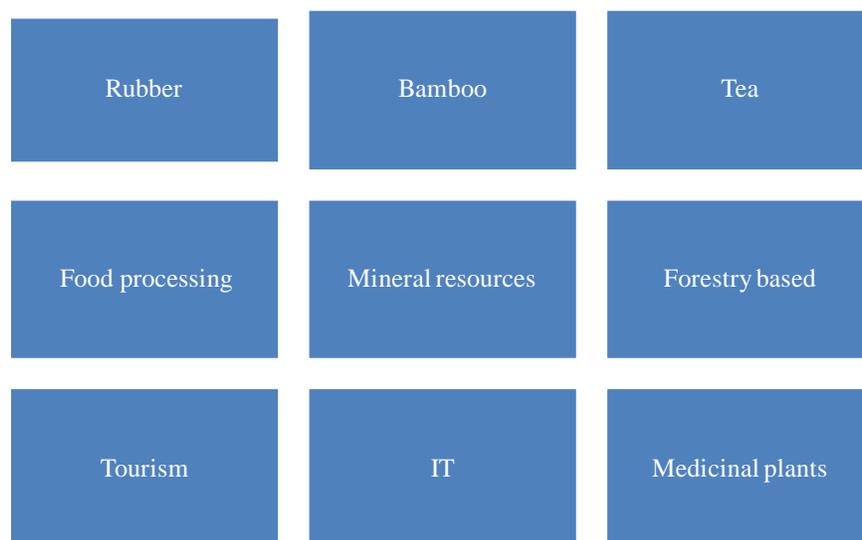
Activity	Establishments (No.)			Employment		
	OAE	Estt. With hired workers	Total	OAE	Estt. With hired workers	Total
Mining & quarrying	55	121	176	110	870	980
Manufacturing	24,982	7,741	32,723	40,737	27,648	68,385
Electricity, gas & water supply	94	978	1,072	106	3,155	3,261
Construction	1,057	389	1,446	1,170	1,378	2,548
Sale, Maint & repair	1,246	1,022	2,268	1,503	3,270	4,773
Wholesale trade	1,108	832	1,940	1,419	2,734	4,153
Retail trade	68,565	12,042	80,607	77,326	26,395	103,721
Hotels & restaurants	6,881	1,976	8,857	8,525	5,492	14,017
Transport, storage	11,900	2,013	13,913	12,357	5,436	17,793
Post and telecommunication	991	771	1,762	1,107	2,434	3,541
Financial intermediation	301	308	609	316	2,635	2,951
Real estate, renting & buss. Serv.	2,056	909	2,965	2,397	2,849	5,246
Pub. Adm., defense and social security	120	3,853	3,973	366	53,108	53,474
Education	4,248	8,743	12,991	4,772	48,174	52,946
Health & social work	1,043	1,296	2,339	1,141	7,252	8,393
Other community, social and personal services	7,910	3,401	11,311	12,287	9,215	21,502
Others	1	-	1	2	-	2
<b>Total non agricultural activities</b>	<b>132,558</b>	<b>46,395</b>	<b>178,953</b>	<b>165,641</b>	<b>202,045</b>	<b>367,686</b>

OAE – Own Account Enterprises; Estt. - Establishments

Sources: Fifth Economic Census, 2005; IMACS Analysis

Thrust areas have been identified under Tripura's Industrial Investment Promotion Policy, 2007. These sectors/areas are rubber, bamboo, tea, food processing, forestry based, tourism and mineral resources. The State also has separate policies for development of IT and medicinal plants.

FIGURE 11: THRUST AREAS – STATE INDUSTRIAL INVESTMENT PROMOTION POLICY, 2007



## 4.2 Demography and Employment Overview

At 350, Tripura’s population density is much higher than the density in most other North Eastern states. Rural population is 81 per cent. Literacy rate is 88 per cent (Census 2011). Dhalai has the largest share of rural and tribal population. Male to female ratio is even across all districts.

TABLE 4: TRIPURA’S DISTRICT DEMOGRAPHIC PROFILE

District	Area share	Population density (per sq. km)*	Rural to total population	Population*	Population share*	Male to female* population	Percentage of tribal population	Inhabited villages	Literacy rate*
West	29%	569	73%	1,724,619	47%	1.04	25%	275	89%
South	30%	279	93%	875,144	24%	1.04	38%	269	85%
North	20%	330	89%	693,281	19%	1.03	25%	166	88%
Dhalai	21%	171	94%	377,988	10%	1.06	54%	148	87%
<b>Tripura</b>	<b>100%</b>	<b>350</b>	<b>81%</b>	<b>3,671,032</b>	<b>100%</b>	<b>1.04</b>	<b>31%</b>	<b>858</b>	<b>88%</b>

Sources: \*Census 2011; Census 2001; IMaCS Analysis

Overall, 59 per cent of population are in the working-age group. About 49 per cent of working age population is in West Tripura, followed by South district at (24 per cent), North district at (8 per cent) and Dhalai (9 per cent).

TABLE 5: AGE-WISE DISTRIBUTION OF POPULATION

Age group/ District	0-14	15-59	60+	Others*	Total	0-14	15-59	60+	Others*
West	491,380	924,952	114,389	2,261	1,532,982	32.1%	60.3%	7.5%	0.1%
South	264,352	445,891	56,011	1,186	767,440	34.4%	58.1%	7.3%	0.2%
North	206,583	341,559	41,751	1,020	590,913	35.0%	57.8%	7.1%	0.2%
Dhalai	113,237	173,895	20,398	338	307,868	36.8%	56.5%	6.6%	0.1%
<b>Tripura</b>	<b>1,075,552</b>	<b>1,886,297</b>	<b>232,549</b>	<b>4,805</b>	<b>3,199,203</b>	<b>33.6%</b>	<b>59.0%</b>	<b>7.3%</b>	<b>0.2%</b>

\*Others :non-respondents

Source: Census 2001

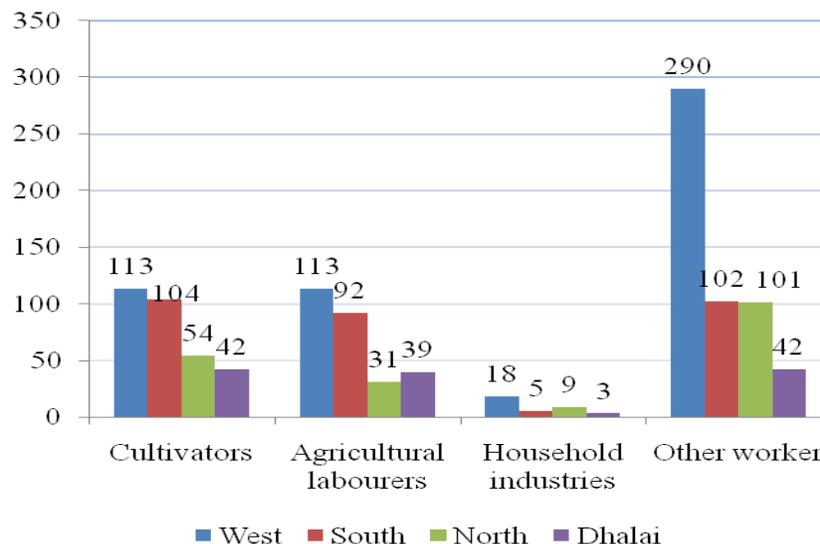
Tripura's total working population increased from 31.1 per cent in 1991 to 36.2 per cent in 2001. About 79 per cent of the workers are main workers, while the remaining 21 per cent are marginal workers.

TABLE 6: DISTRICT WISE WORKER PROFILE

District	Main worker, in '000	Marginal worker, in '000	Non-worker, in '000	Working population as a % of total population
West	437	97	999	34.9%
South	226	77	464	39.6%
North	156	38	396	33.0%
Dhalai	93	34	181	41.2%
<b>Tripura</b>	<b>912</b>	<b>247</b>	<b>2,040</b>	<b>36.2%</b>

About 51 per cent of the workers are engaged in the agriculture sector. West Tripura district has the largest percentage of other workers, indicating those engaged in trade and other non agricultural activities. This is also attributed to the fact that West Tripura is most urbanised.

FIGURE 12: DISTRICT-WISE EMPLOYMENT PROFILE OF TRIPURA



Sources: Fifth Economic Census 2005; IMAcS Analysis

### 4.3 Infrastructure Overview

Tripura has a total road network of 16,931 km. Only 29 per cent are all-weather (black topped) roads. National Highway (NH-44) is State's lifeline, connecting Agartala with Guwahati. Agartala is now connected by metre-gauge railway line from Lumding in Assam to Agartala via Manu in Tripura. It is now being extended up to Sabroom, the southern-most part of Tripura, for access to Chittagong port. Agartala is well connected by air to Kolkata, Delhi, Mumbai, Guwahati and other North Eastern cities. Agartala airport is the second busiest in the region, after Guwahati. Air India, Jet Airways, Kingfisher, Deccan, Paramount and Indigo are operating flights to Agartala. Helicopter services, operated by Pawan Hans are also available to connect remote areas. Recently, passenger bus service between Agartala and Dhaka has also been started.

TABLE 7: ROAD INFRASTRUCTURE IN TRIPURA

PWD roads	Length (km) 2009-2010
Total road length	16,931
National highway	448
State Highway	689

PWD roads	Length (km) 2009-2010
Major district road	90
Other district road	1,218
Village road	13,760
IBB road, BRO	726

IBB – India Bangladesh Border Road BRO – Border Roads Organisation  
Sources: Directorate of Economics and Statistics, Tripura; IMaCS Analysis

As of June 2011, Tripura had access to 265.1 MW. While 64 per cent was state-owned, the remaining 36 per cent was from Central Sector. Fuel-wise, maximum contribution was from gas, at 69 per cent, followed by hydro power, at 24 per cent. The State achieved village electrification of over 95 per cent.

**TABLE 8: INSTALLED CAPACITY IN TRIPURA**

(MW, As of June 30, 2011)

Sector	Gas	Diesel	Hydro	RES	Total
State	148.5	4.9	-	16.0	169.4
Central	33.3	-	62.4	-	95.7
<b>Total</b>	<b>181.8</b>	<b>4.9</b>	<b>62.4</b>	<b>16.0</b>	<b>265.1</b>

RES-renewable energy sources

Sources: Directorate of Economics and Statistics, Tripura; Central Electricity Authority

The telecommunications network in the state has improved with 89 exchanges and about 80,000 phone connections. In addition to BSNL, key operators there are Airtel, Vodafone, Idea, Aircel and Reliance.

**TABLE 9: TELECOM INFRASTRUCTURE IN TRIPURA**

Key telecom indicators, 2009-10	
BSNL telephone exchanges	89
BSNL telephone connections	79,519
WLL Exchanges	42
WLL connections	35,403
Cellular connection of BSNL	253,303
Internet connections BSNL	79,519
Post offices	716
STD booths	4,953

Sources: Directorate of Economics and Statistic, Tripura; IMaCS Analysis

### **Education infrastructure**

As of 2009-10, Tripura had 4,356 schools. Of these, 2,280 were primary, 1,250 were middle, 509 were high and 317 were higher secondary schools. About 37 per cent of the schools were located in the West Tripura district. Total student enrolments were 811,359. There were 35,956 teachers. Overall teacher-pupil ratio was 23. The ratio was highest for primary schools at 56 and lowest for higher secondary schools at 4.

FIGURE 13: NUMBER OF SCHOOLS

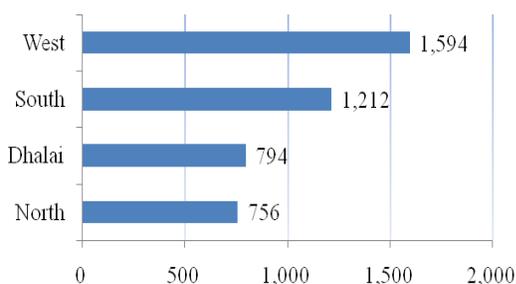
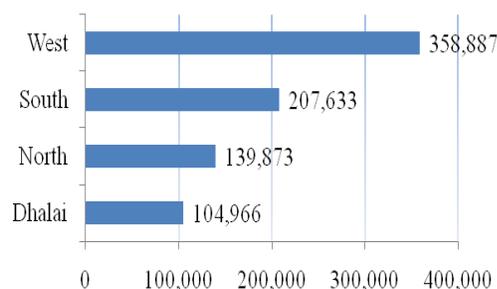


FIGURE 14: NUMBER OF ENROLMENTS



### **Health infrastructure**

As of March 2010, Tripura has 20 hospitals, 90 primary health centres, 748 sub-centres, 840 doctors, 1,398 nurses and 3,514 hospital beds. There are two Medical Colleges, one in the Government sector and another one in private sector. These colleges have super specialty divisions and modern radiology division. A Para Medical College is also coming up. There are some private nursing homes also in the State and there is potential for more private investment in this sector. Most of the serious and special treatment cases are referred to hospitals outside the State.

TABLE 10: HEALTH INFRASTRUCTURE

Health infrastructure	
Hospitals:	20
PHCs:	90
Sub-centres:	748
Doctors:	840
Nurses:	1,398

TABLE 11: HEALTH INDICATORS

Indicators	India	Tripura
Crude Birth rate	22.5	14.8
Crude Death Rate	7.3	5.1
Infant Mortality Rate	50	31

Sources: Tripura at a Glance 2010-11, Directorate of Economics and Statistics; Economic Review of Tripura 2009-10; ImaCS Analysis

#### 4.4 Key Findings from the Diagnostic Analysis

##### Macro-economic:

Tripura's GSDP has doubled between 2004-05 and 2010-11. It compares well with India's growth of 9 per cent. At Rs 16,330 crores, size is just 0.3 per cent of combined GSDP of all states and 12 per cent of North Eastern region. Tertiary sector has grown at 13.5 per cent, faster than other two sectors. It has 59 per cent share in GSDP. Share of agriculture and manufacturing has decreased with increase in banking, real estate & dwellings, public administration, non-rail transport, fishing and other services. Manufacturing and construction growth was at 8-10 per cent CAGR over six years to 2010-11. At 50 per cent, West Tripura district, with capital city of Agartala - is the largest contributor to DDP of all districts. At Rs 48,370, per capita income of Tripura compares well with North Eastern region's per capita income, although lower than India average of Rs 61,000.

##### Demography and employment:

Tripura has a total population of about 36 lakhs with a high population density of 350 persons per sq. km and 81 per cent rural population with 88 per cent literacy rate. Dhalai district has 54 per cent tribal population, the highest among all districts. About 59 per cent of Tripura's population falls in working age group (15-59) and 10.7 lakh in 0-14 age group. Social indicators compare well with India average. Higher education is inadequate for employability. Tripura has a strong cooperative society environment. Manufacturing, retail, public administration employ about 3 lakh persons and agriculture about 7 lakh.

**Factor advantages and disadvantages:**

Factor advantages include good air connectivity, developing rail connectivity, bus service between Agartala and Dhaka, access being created up to Chittagong port in Bangladesh, natural gas resources, 99 per cent rural electrification, and varied climatic conditions suitable for a variety of cash and medicinal crops.

Disadvantages include long border with Bangladesh, small state with high population density and lesser scope for large scale industrial development, high transportation costs and lack of market for products.

**Government Policy:**

Tripura Government has a focussed development approach with particular areas identified: rubber, bamboo, tea, food processing, mineral resources, forestry based industry, IT, medicinal plants and tourism. The state Government has launched “Skill Development Mission” in September 2010 to focus on vocational and technical training for migration and key sectors identified for development.

## 4.5 SWOT Analysis of Tripura

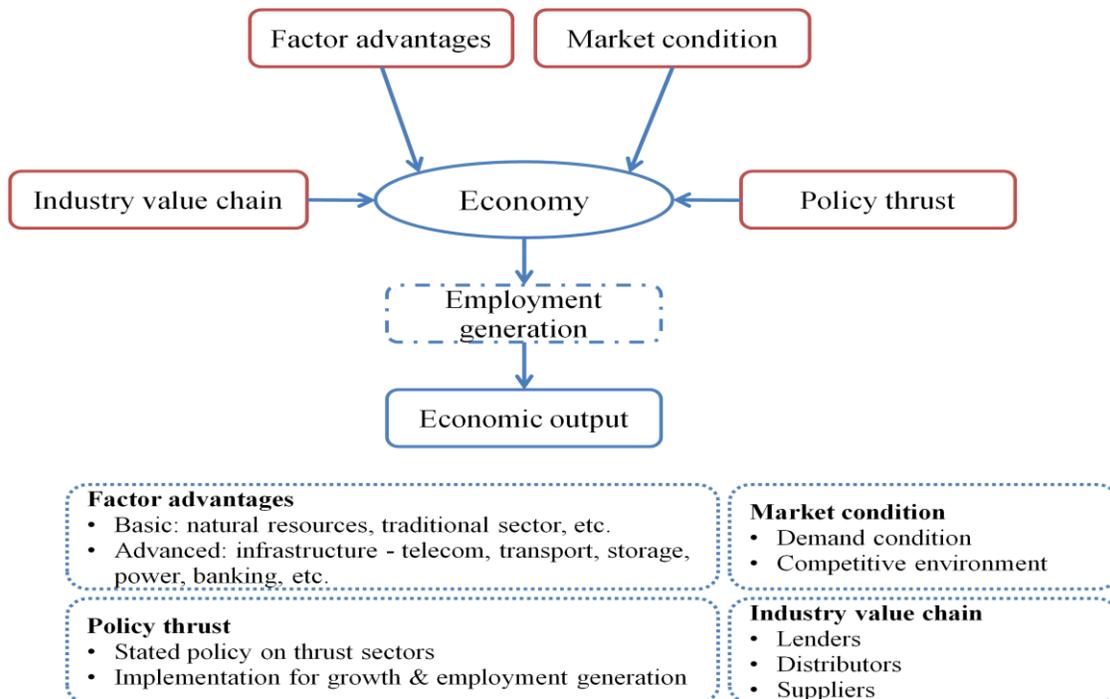


**PART – II (b): Identification of growth sectors**

## 5.1 Criteria for selecting growth sectors

- Resident skills that will continue to be a source of employment generation in next 10 years – skill development required for enhancing competitiveness.
- Sectors with policy support from Central and State Government for expansion, training and marketing.
- Product is unique to the region or occurs abundantly because of factor advantages, but has just started to be exploited as an economic activity.
- Infrastructure investment required to support industrial and economic growth; investment which has started or is planned.
- Common service trades such as electricians, plumbers and repair mechanics – those which require service quality enhancement.

## 5.2 Framework for identifying growth engines



The above framework has been used to identify potential sectors where economic activities will create employment between 2011 and 2021. The growth engines for a state's economy are driven by the factor advantages within the state, market conditions, industry value chain available and Government policy support. These factors lead to growth in economic output which in turn determines the annual incremental employment opportunities within the state.

### 5.3 Identified sectors for livelihood opportunities

Based on the framework mentioned above, sectors have been identified for skilling and upgrading skills. These sectors are expected to provide employment opportunities in the coming 10 years. Sectors for domestic demand have been identified based on factor endowments, policy thrust, market potential, historical presence, availability of trained manpower, availability and quality of training centre, time taken to train and employment opportunities.

TABLE 12: DOMESTIC DEMAND SECTORS FOR EMPLOYMENT IN TRIPURA

Sector	Market Linkage	Historical Presence	Infrastructure Adequacy	Time taken to train*	Employment opportunities**
Handicrafts and handlooms	×	√	×	Medium	High
Food Processing	×	×	√	Low	Medium
Hotels	√	×	×	Medium	Medium
IT/ITES	×	×	×	High	Low
Horticulture (medicinal plants)	×	√	√	High	High
Construction	-	√	×	Low to Medium	High
Border Trade	-	√	×	Medium	Medium
Rubber	√	×	√	Medium	High
Other services: Healthcare, teachers	-	×	×	Low	Low to Medium

\*Low: Up to one year; Medium: One to two years; High: More than two years. \*\* Low: Incremental employment potential of 0 to 1,500 persons; Medium: 1500 to 3,000 persons; High: More than 3,000 persons  
Source: IMaCS Analysis

## 5.4 Identified sectors for migration

Sectors for migration have been identified based on natural aptitude, youth aspiration, market potential, availability of trained manpower and time taken to train. They include hospitality and wellness, IT/ITeS, fashion design, airport operations, healthcare, education and international trade.

TABLE 13: POTENTIAL FOR EMPLOYMENT AFTER SKILLING

Sector	Basic factor advantages	Potential for jobs after skilling	Advanced factor advantages required	Industry value chain required
Handicrafts and handlooms	Traditional sector with well developed skills and large employment base	Within Tripura	Transport, telecom, IT	Lenders, distributors, suppliers
Food Processing	Growing horticulture sector	Within Tripura	Cold chain, transport, telecom, packaging	Distributors
Hospitality and wellness	Tourism potential	Within & outside Tripura	Transport, telecom	Suppliers
IT/ITES	Educational institutions	Outside Tripura	IT, telecom	Lenders
Horticulture (medicinal plants)	Soil & climate	Within Tripura	Transport, IT, telecom	Lenders, distributors, suppliers
Construction	Infrastructure projects	Within Tripura	-	-
Border Trade	International border – Bangladesh	Within & outside Tripura	Transport, telecom, IT	-
Rubber	Soil and climate	Within Tripura	Transport, telecom, IT	-
Other services: Healthcare, teachers, fashion, airport	Institutions	Within & outside Tripura	Transport, telecom, IT	-

Source: IMaCS Analysis

## 5.5 Type of skilling required in identified sectors

Skilling requirements have been classified into speciality skills, new skills and skill up-gradation for each of the sectors identified.

TABLE 14: TYPE OF SKILLING REQUIRED IN IDENTIFIED SECTORS

Sectors	Specialty skills	New skills	Skill up-gradation
<b>Informal sector</b>			
Handloom		✓	✓
Handicrafts		✓	✓
Horticulture		✓	✓
<b>Formal sector</b>			
Food processing	✓		
Hotels		✓	
IT/ITES	✓		✓
Healthcare			✓
Construction	✓		
Rubber	✓	✓	✓
Border trade		✓	
Education			✓

*Specialty skills: technical or specific knowledge base essential*

*New skills: training centres largely non-existent*

*Skill-up-gradation: outdated techniques and knowledge base*

*Source: IMACS Analysis*

**PART – II (c): District level Analysis of Tripura**

## 6.1. Dhalai

Dhalai gained district-hood in 1995. It lies in the centre of Tripura and is bounded by Bangladesh on north and south, the West district and South district on the west and southwest and the North district on the northeast. It is predominantly hilly district with significant forest cover.

### 6.1.1 Economy

The GDDP of Dhalai was Rs 49,190 lakh, as of 2007-08. The per capita DDP was Rs 15,971. In 2006, the Ministry of Panchayati Raj, Government of India, named Dhalai as one of the country's 250 most backward districts (out of a total of 640). It is the only district in Tripura receiving funds from the Backward Regions Grant Fund Programme (BRGF).

### 6.1.2 Demography

Dhalai occupies an area of 2,523 sq km. Ambassa is the district headquarter. According to the Census 2011, Dhalai has a population of 377,988 and literacy rate of 87 per cent. Over 50 per cent of population is tribal.

### 6.1.3 Infrastructure

Dhalai is connected to other parts of the State through NH-44 and railway line. Some of the interior villages are largely unconnected. As per Census 2001, Dhalai has 148 villages. The power supply for domestic use has penetrated to 47 villages. The district lacks colleges.

TABLE 15: AMENITIES AND INFRASTRUCTURE - DHALAI

Facilities	Number of villages
Drinking water facilities	148
Safe drinking water	147
Electricity - supply	108
Electricity - domestic	47
Electricity - agriculture	8

Source: IMaCS Analysis, Census 2001

TABLE 16: EDUCATIONAL INFRASTRUCTURE - DHALAI

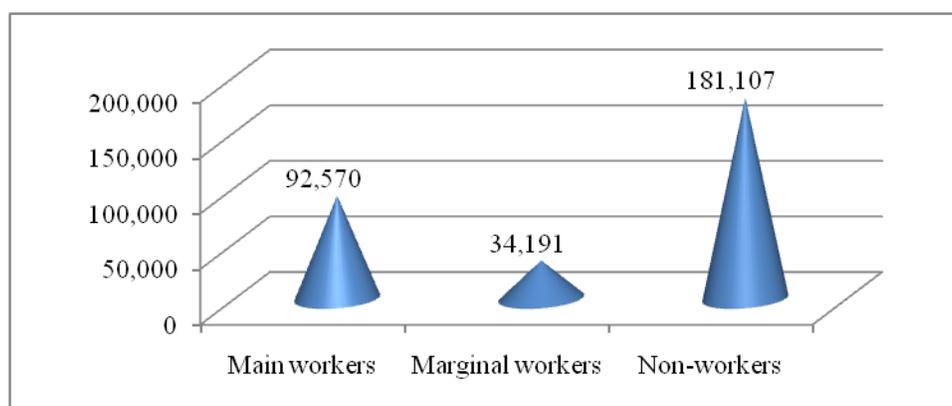
Education Institutions (No.)	
Primary school	138
Middle schools	69
Secondary/Sr Secondary schools	52
College	-

Source: IMaCS Analysis, Census 2001

### 6.1.4 Employment Pattern

Dhalai has 181,107 non workers, 92,570 main workers and 34,191 marginal workers. Agriculture including horticulture is the key occupation of majority of workers.

FIGURE 15: EMPLOYMENT PATTERN OF DHALAI



Source: IMaCS Analysis, Census 2001

### 6.1.5 Potential sectors in district

Based on the factor advantages, following sectors have been identified in the district for skilling or upgrading skills:

#### Horticulture:

- Conducive climate and increasing Government focus providing impetus to horticulture growth in the district. Multi-cropping is being promoted with papaya, lemon, coconut, mango, pineapple and amla.
- Pineapple plantation is being done both on private and Government land.

## 6.2 North Tripura

North Tripura was a princely state until 1949, after which it became a part of India. It became a district in 1970. Dhalai district was carved out of it in 1995. The North district is bound by Assam in the northeast and Mizoram to east, Bangladesh to north and south and Dhalai district in the west and south west.

### 6.2.1 Economy

The GDDP of North Tripura is Rs 111,027 lakh, as of 2007-08. The per capita DDP was Rs 18,758. Tea and tea processing is a major economic sector of the district. Horticulture and handloom and handicrafts sectors also generate employment.

### 6.2.2 Demography

North Tripura has an area of 2,821 sq km. The district headquarters is Kailasahar. The city of Kailasahar was the capital of the ancient Tripuri kingdom. According to the Census 2011, it has a population of 693,281 and literacy rate of 88 per cent.

### 6.2.3 Infrastructure

The district is connected to Agartala by road and railways. North Tripura has 166 villages. The power supply for domestic use has penetrated to 156 villages. For the purpose for agriculture 29 villages are electrified. Safe drinking water is available in 157 villages.

TABLE 17: AMENITIES AND INFRASTRUCTURE – NORTH TRIPURA

Facilities	Number of villages
Drinking water facilities	166
Safe drinking water	157
Electricity - supply	156
Electricity - domestic	85
Electricity - agriculture	29

Source: IMaCS Analysis, Census 2001

TABLE 18: EDUCATIONAL INFRASTRUCTURE – NORTH TRIPURA

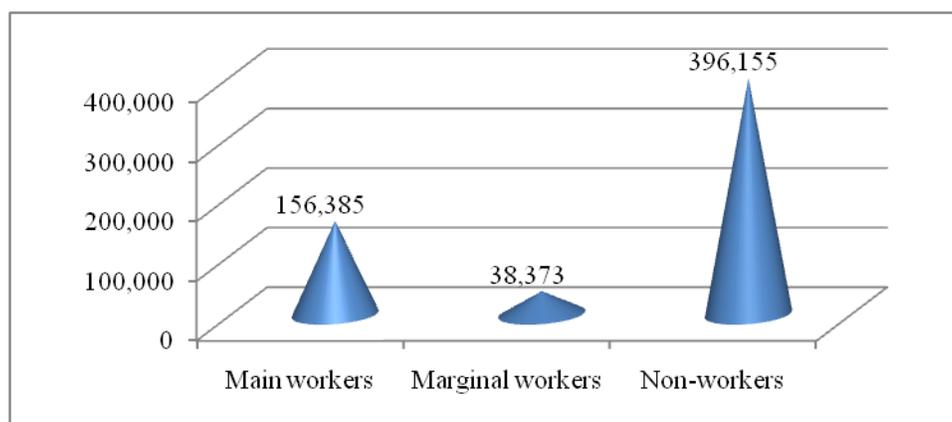
Education Institutions (No.)	
Primary school	164
Middle schools	108
Secondary/Sr Secondary schools	82
College	1

Source: IMaCS Analysis, Census 2001

### 6.2.4 Employment Pattern

North Tripura has 156,385 main workers, 38,373 marginal workers and 396,155 non workers. Agriculture including horticulture and tea processing is among the prominent occupation in the district.

FIGURE 16: EMPLOYMENT PATTERN OF NORTH TRIPURA



Source: IMaCS Analysis, Census 2001

### 6.2.5 Potential sectors in district

Based on the factor advantages, following sectors have been identified in the district for skilling or upgrading skills:

#### Horticulture:

- Conducive climate and increasing Government focus providing impetus to horticulture growth in the district. Multi-cropping is being promoted.
- Potential for developing medicinal plants based industry. Rubber plantations are also growing.

### **Handloom and handicraft:**

- Tribal weaving tradition exists. Sericulture industry is coming up. Upgrading of skills and use of modern techniques is necessary for increasing productivity.
- State Government is supporting the sector by providing marketing linkages. Private participation necessary for commercial development of sector.

### **Natural gas:**

- ONGC has announced plans to set up a urea plant based on natural gas availability in the district.

## **6.3 South Tripura**

South Tripura became a district in 1970, when the whole state was divided into three districts. The district headquarters of Udaipur is known as ‘Lake City’ and is a known tourist destination in Tripura. The district is bounded by Bangladesh in the east, south and west, and with West Tripura in the north and Dhalai in the northeast.

### **6.3.1 Economy**

The GDDP of South Tripura is Rs 141,383 lakh, as of 2007-08. The per capita DDP was Rs 18,498. Rubber and horticulture are the major economic activities of the district.

### **6.3.2 Demography**

South Tripura has an area of 2,152 sq km. The district headquarters is Udaipur, which is also known for its temples. According to the Census 2011, the district’s population is 875,144 and literacy rate 85 per cent. Sabroom is the southern most city of the State.

### **6.3.3 Infrastructure**

The district is connected to Agartala via NH-44. A railway line is being laid to connect Agartala with Sabroom. South Tripura has 269 villages. The power supply for domestic use has penetrated to 129 villages. Udaipur enjoys proximity to Agartala.

TABLE 19: AMENITIES AND INFRASTRUCTURE – SOUTH TRIPURA

Facilities	Number of villages
Drinking water facilities	269
Safe drinking water	269
Electricity - supply	246
Electricity - domestic	129
Electricity - agriculture	34

Source: IMaCS Analysis, Census 2001

As per Census 2001, the district has 264 primary schools, 190 middle schools, 167 secondary schools and three colleges.

TABLE 20: EDUCATIONAL INFRASTRUCTURE – SOUTH TRIPURA

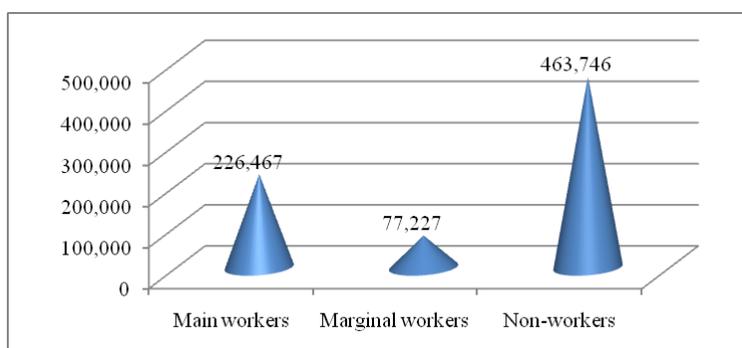
Education Institutions (No.)	
Primary school	264
Middle schools	190
Secondary/Sr Secondary schools	167
College	3

Source: IMaCS Analysis, Census 2001

### 6.3.4 Employment Pattern

South Tripura has 226,467 main workers, 77,227 marginal workers and 463,746 non workers. A majority of workers are engaged in rubber plantation, tea and horticulture.

FIGURE 17: EMPLOYMENT PATTERN OF SOUTH TRIPURA



Source: IMaCS Analysis, Census 2001

### 6.3.5 Potential sectors in district

Based on the factor advantages, following sectors have been identified in the district for skilling or upgrading skills:

#### **Horticulture:**

- Conducive climate and increasing Government focus providing impetus to horticulture growth in the district. Multi-cropping is being promoted.
- Cashew nuts, spices and fruits are being grown in the district. Medicinal plants have potential.

#### **Rubber plantation:**

- There is a fast conversion of agricultural and other land into rubber plantation.
- Proximity to Agartala and Bangladesh border could result in future growth of rubber trade. Demand exceeds supply.

#### **International trade:**

- The district shares a long border with Bangladesh.
- Rail connectivity of Sabroom along with Bangladesh giving access to the Chittagong port as a port of call hold potential for international trade from the district.

#### **Natural gas:**

- The district falls in the Assam Arakan fold belt of natural gas reserves. ONGC has over 16 wells in the district, producing gas.
- More exploration work is being taken up by ONGC. GAIL India and Tripura Natural Gas Corporation are responsible for laying gas transmission and distribution lines.

## 6.4 West Tripura

West Tripura has the state capital of Agartala. It is also the most populous district in Tripura, as per Census 2011. This district is the economic and connectivity hub of the state. It shares borders with Bangladesh to its north and west, South district in the south and Dhalai in the east.

### 6.4.1 Economy

The GDDP of West Tripura is Rs 295,325 lakh, as of 2007-08. The per capita DDP was Rs 19,254. West Tripura alone contributes about 50 per cent to the combined DDP of all districts. It is the commercial, industrial and political hub of the State.

### 6.4.2 Demography

West Tripura has an area of 2,997 sq km. According to the Census 2011, it has a population of 1,724,619 and literacy rate of 89 per cent.

### 6.4.3 Infrastructure

West Tripura is connected to Assam via road and rail. Agartala has the second busiest airport in the region after Guwahati. West Tripura has 274 villages. The power supply for domestic use has penetrated to 174 villages. West Tripura enjoys the best infrastructure because of being the capital Agartala being the district headquarters. The district has access to compressed natural gas for vehicles and piped natural gas.

TABLE 21: AMENITIES AND INFRASTRUCTURE – WEST TRIPURA

Facilities	Number of villages
Drinking water facilities	274
Safe drinking water	271
Electricity - supply	248
Electricity - domestic	174
Electricity - agriculture	59

Source: IMaCS Analysis, Census 2001

As per Census 2001, West Tripura has 275 primary schools, 221 middle schools, 217 secondary schools and two colleges.

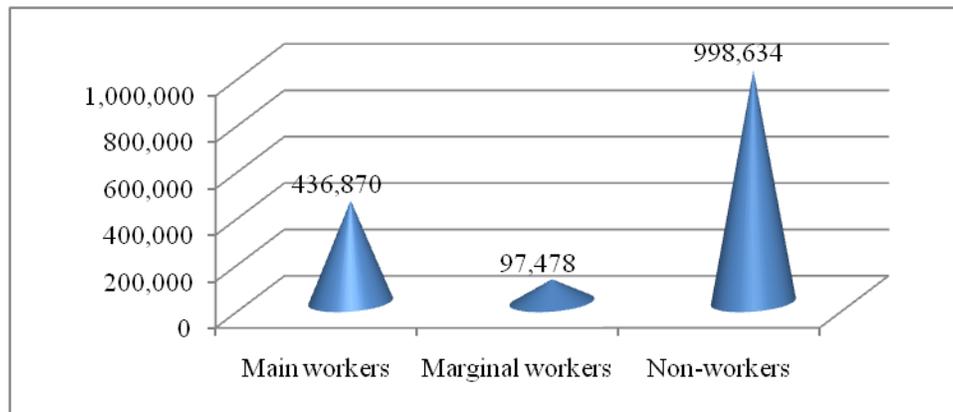
TABLE 22: EDUCATIONAL INFRASTRUCTURE – WEST TRIPURA

Education Institutions (No.)	
Primary school	275
Middle schools	221
Secondary/Sr Secondary schools	217
College	2

#### 6.4.4 Employment Pattern

As per Census 2001, West Tripura has 436,870 main workers, 97,478 marginal workers and 998,634 non workers. People in West Tripura are employed in manufacturing, handloom and handicrafts, tea and rubber.

FIGURE 18: EMPLOYMENT PATTERN OF WEST TRIPURA



Source: IMACS Analysis, Census 2001

#### 6.4.5 Potential sectors in district

Based on the factor advantages, following sectors have been identified in the district for skilling or upgrading skills:

##### **Rubber plantation:**

- There is a fast conversion of agricultural and other land into rubber plantation.
- Proximity to industrial area with rubber processing unit and Bangladesh border could result in future growth of rubber trade. Demand exceeds supply.

##### **International trade:**

- The district shares a long border with Bangladesh. Modern land customs station has come up at Akhaura border.
- Rail connectivity of Sabroom along with Bangladesh giving access to the Chittagong port as a port of call hold potential for international trade from the district.

**Natural gas:**

- The district falls in the Assam Arakan fold belt of natural gas reserves. ONGC has over 16 wells in the district, producing gas.
- More exploration work is being taken up by ONGC. GAIL India and Tripura Natural Gas Corporation are responsible for laying gas transmission and distribution lines.

**Handloom and handicraft:**

- Tribal weaving tradition exists. Sericulture (mulberry) sector is coming up. Upgrading of skills and use of modern techniques is necessary for increasing productivity.
- State Government is supporting the sector by providing marketing linkages. Private participation necessary for commercial development of sector.

**IT/ITeS:**

- The Government is keen to develop IT industry in the State. With technical institutions in place, IT training would be useful in the areas of software development for animation, gaming, entertainment and music.

**Healthcare:**

- There is a shortage of medical professionals in the State.
- Doctors, nurses, paramedical staff are in demand.

**Hospitality:**

- Agartala is a major destination for business travelers. With greater rail connectivity and bus services from Bangladesh, tourism has picked up from neighbouring states and Bangladesh.
- West Tripura is the gateway to all tourist destinations in the State such as religious and wild life centres.

**PART – II (d): Skill Gap Analysis**

## **7.1 Horticulture and Food Processing**

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Tripura's climatic conditions are favourable for cultivation of various kinds of horticultural crops including fruits, vegetables, spices, nuts and flowers. The Government has been taking steps for promotion of this sector. Key steps include:

- Formulation of 10 years perspective plan for 2002-12 for integrated development of horticulture in the State. The plan focuses on identification of horticultural crops, provision of improved technology, post harvest management and value addition, storage and marketing, crop specific training and exploration of new fields.
- Focus on floriculture. Flowers like marigold, gladiolus, tube rose, cheri gold and some exotic flowers like gerbera, orchids and anthurium are being encouraged.
- Thrust through Technology Mission on Horticulture. In Tripura, the Mission is being implemented by Tripura Small Farmers Agriculture Business Consortium (TSFAC).

Another agency responsible for development of horticulture is Tripura Horticulture Corporation Limited (THCL), which was set up in 1987. It has created cashewnut, pineapple, banana and orange orchards at different places of Tripura.

Some of the key agricultural crops of Tripura include pineapple, jackfruit, banana and coconut.

TABLE 23: HORTICULTURAL PRODUCE IN TRIPURA

Crops	Area, in '000 hectare	Production, in lakh MT	Productivity, MT / hectare	Major production district
Mango	4.25	0.13	3.10	South
Pineapple	6.47	1.17	18.15	North
Orange	3.16	0.22	7.03	North
Jackfruit	7.63	2.51	32.95	South & West
Banana	7.48	1.05	14.11	West
Litchi	2.76	0.17	6.14	South
Lime / Lemon	2.10	0.11	5.56	West
Papaya	1.33	0.18	13.83	-
Sapota	0.11	0.01	10.26	-
Guava	0.35	0.01	4.83	South
Others	0.92	0.13	14.88	-
<b>Total fruits</b>	<b>36.56</b>	<b>5.69</b>	<b>15.68</b>	-
Coconut	5.78	0.11	1.97	West
Arecanut	4.44	0.08	1.94	North
Cashewnut	4.38	0.02	0.53	South
Total nuts	14.60	0.21	1.53	-
Ginger	1.50	0.07	5.26	-
Turmeric	0.84	0.05	7.09	-
Chilli	2.27	0.03	1.34	-
Black pepper	0.25	0.00	0.41	-
<b>Total spices</b>	<b>4.86</b>	<b>0.15</b>	<b>3.49</b>	-

Source: Economic Review of Tripura 2009-10; IMAcS Analysis

The state is also focusing on developing food processing infrastructure.

#### **Fruit Juice Concentration Plant (FJCP)**

- FJCP was commissioned in Nalkata, Tripura in 1988 by NERAMAC. Nalkata is a rich pineapple growing area in Tripura. FJCP absorbed almost the full production of pineapples in Tripura and Barak Valley of Assam.

- It is capable of processing 5,600 MT of fruits like pineapple, jackfruit, litchi, orange and bamboo shoot. The company is close to shutting down now because of viability concerns and poor management.

### **Cashew Processing Unit (CPU)**

- CPU was commissioned in 1994 in Agartala, Tripura by NERAMAC.
- It is capable of processing 500 kg of raw cashew per day. South District is the major supplier of cashewnuts. There are a few private processors with 150-160 MT capacity per year.

### **Pineapple Processing Plant**

- Tripura Small Industries Corporation (TSIC) has a small pineapple processing plant capable of processing about 500 MT of pineapple into canned pineapple slice, jams, jelly, etc.
- NERAMAC is the key buyer of pineapples, but has curtailed buying because the unit has become unviable. Some private juice units have closed down.
- Dabur had procured pineapples for two seasons, but has found the prices to be unviable for processing at a plant in Assam.

### **Food Park**

- A Food Park has been set up at Bodhjungle (near Agartala) in order to provide the infrastructural facilities required for food processing industries

## 7.1(a) Skill mapping and gap analysis: Food Processing

Entity	Key role	Skill gaps
<b>Plantation grower</b>	Producing fruits and vegetables	<ul style="list-style-type: none"> <li>• Knowledge of soil, weather, scientific cultivation methods, irrigation techniques</li> <li>• Cropping for income throughout the year</li> <li>• Certifications and produce quality labelling</li> <li>• Pre-cooling and warehousing techniques</li> <li>• Market knowledge</li> <li>• Optimum transportation knowledge</li> <li>• Contract farming</li> </ul>
<b>Farm extension workers</b>	Plantation maintenance and production	<ul style="list-style-type: none"> <li>• Knowledge of soil, weather, scientific cultivation methods, plant protection, and irrigation techniques</li> <li>• Acceptance of new skills and techniques</li> <li>• Awareness of quality standards for competitiveness</li> </ul>
<b>Food processing entrepreneur</b>	Producing and selling processed foods	<ul style="list-style-type: none"> <li>• Food technology and processing methods</li> <li>• Preservation, packaging and storage</li> <li>• Alternative products</li> <li>• Market distribution, trade and pricing</li> <li>• Brand and value awareness creation</li> <li>• Assertive communication and negotiation skills</li> </ul>
<b>Warehousing and Cold-chain operators and managers</b>	Preserving quality of food in storage and transit	<ul style="list-style-type: none"> <li>• Types of warehousing for each product and at transit points</li> <li>• Essentials of cold chain infrastructure maintenance for produce from farm to buyer</li> <li>• Types of refrigeration/cold storage at different stages</li> <li>• Quality standards</li> </ul>
<b>Transporter or aggregator</b>	Reaching food from farm to processor or buyer	<ul style="list-style-type: none"> <li>• Awareness of new forms of food transport</li> <li>• Quality standards for foods</li> <li>• Modes of transport for different markets</li> </ul>

Sources: IMACS Survey and Analysis

## 7.1(b) Skill mapping and gap analysis: Food and Processing Industry

Entity	Expected competency
<b>Plantation grower and farm worker</b>	<ul style="list-style-type: none"> <li>• Scientific methods for soil testing, seeds, planting (including high density planting), spacing, nutrition, irrigation methods for different seasons, nutrition, weeding, mulching, use of approved chemicals, plant protection and disease management techniques, post-harvest grading, storage (including pre-cooling) and packing</li> <li>• Multi-crop and multi-farm work (under MNREGA) for income through the year; Contract farming requirements</li> <li>• Certifications and produce quality labelling for branding and exports</li> <li>• Market pricing and demand supply assessment for year's crop</li> <li>• Knowledge of refrigerated transportation, product mixing, temperature and humidity control at farm warehouse for maintaining product quality.</li> <li>• Computer skills</li> </ul>
<b>Food processing entrepreneur</b>	<ul style="list-style-type: none"> <li>• Food technology and processing technology</li> <li>• Use of machinery and cold chain management knowledge</li> <li>• Preservation, packaging and storage techniques for quality assurance</li> <li>• Alternative products such as fruit-based cosmetics, fibre from pineapple</li> <li>• Market development, import/export markets/requirements and pricing skills</li> <li>• Brand and value awareness creation</li> <li>• Assertive communication and negotiation skills</li> </ul>
<b>Warehousing and Cold-chain operators and managers</b>	<ul style="list-style-type: none"> <li>• Storage at farm level, transport, cold storage near processing plant or at railway/airport</li> <li>• Refrigeration and control of temperature, humidity, air flow, etc.</li> <li>• Separation of products to avoid inter-product smells</li> <li>• Appreciation of quality standards required at consumer's end</li> <li>• Waste reduction and management</li> <li>• Margins and pricing knowledge</li> </ul>

Entity	Expected competency
<b>Transporter or aggregator</b>	<ul style="list-style-type: none"><li>• Refrigeration, and control of stacking, temperature, humidity, air flow, etc.</li><li>• Separation of products to avoid inter-product smells</li><li>• Appreciation of quality standards required at consumer's end</li><li>• Margins and pricing knowledge</li><li>• Waste reduction and management</li></ul>

Sources: IMACS Survey and Analysis

## 7.2 Construction

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Potential and existing construction activity in Tripura pertains to development of railway line, roads and gas-based projects. For further development of the industrial infrastructure, the State is also setting up Industries Growth Corridor along National Highway 44. This will include five industrial hubs. During 2010-11, Ministry of Development of North Eastern Region sanctioned funds under Non Lapsable Pool of Resources (NLCPR) worth Rs 89.83 crore for projects in Tripura. At 19 per cent, majority of the funds were sanctioned for the electricity sector, mainly for transmission projects. About half of the funds were for electricity, bridges and motor stand. During the year, it also released funds worth Rs 61.12 crore. Under the Northeast Frontier Railways, works are ongoing to extend railway line from Agartala to border town Sabroom by 2014 and to connect south Tripura's district town Udaipur by March 2012.

Tripura has exploitable reserves of natural gas. The gas is available in non-associate form, with high methane content of up to 97 per cent. Natural gas has been stuck in the Baramura Hills and in Rokhia. The current production potential is 4.5 mmscmd which is used for power projects and transport. The Oil and Natural Gas Corporation (ONGC) is the main gas producing company in Tripura. Availability of natural gas provides scope for prospective investors to set up units for producing power, piped gas, chemicals and fertilizer based industries in the State. GAIL and Tripura Natural Gas Corporation (TNGC) are the distributors of natural gas and piped gas, respectively.

FIGURE 19: PRODUCTION OF NATURAL GAS

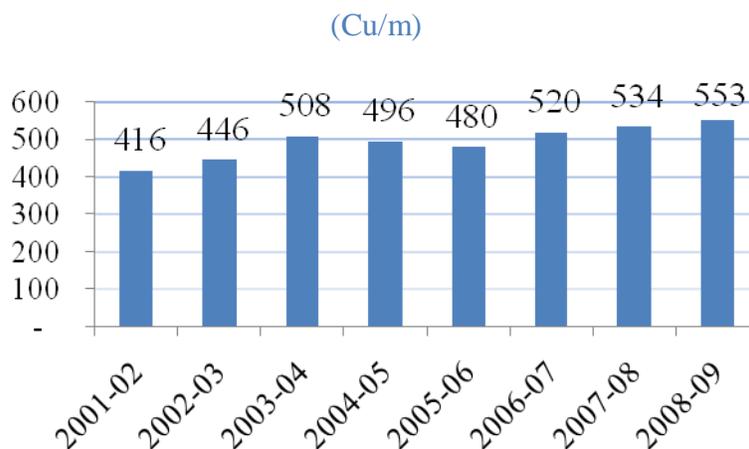
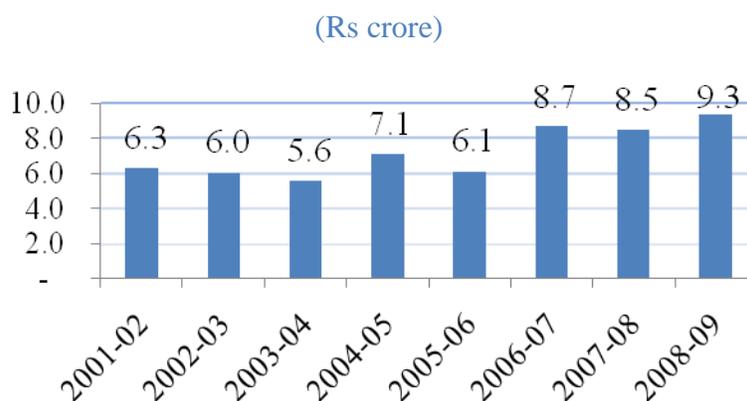


FIGURE 20: REVENUE FROM NATURAL GAS



Mmscmd - Million Metric Standard Cubic Meter Per Day

Source: Tripura At a Glance 2010-11; Tripura Economic Review 2009-10; IMaCS Survey

## 7.2(a) Skill mapping and gap analysis: Construction

Entity	Skill gap	Expected competency
<b>Construction labourer</b>	Basic skills lacking	<ul style="list-style-type: none"> <li>• Masonry and civil works</li> <li>• Carpentry</li> <li>• Machine operation</li> <li>• Electric works</li> <li>• Welding</li> <li>• Street furniture, fixtures and signage</li> <li>• Knowledge of road erosion, sediment control, drainage, jointing, sloping, materials and optimum mixes, excavation, rock management, grading, compacting, road maintenance, pavements, joint sealing, barriers and safety, etc.</li> </ul>

Sources: IMaCS Survey and Analysis

## 7.3 Rubber

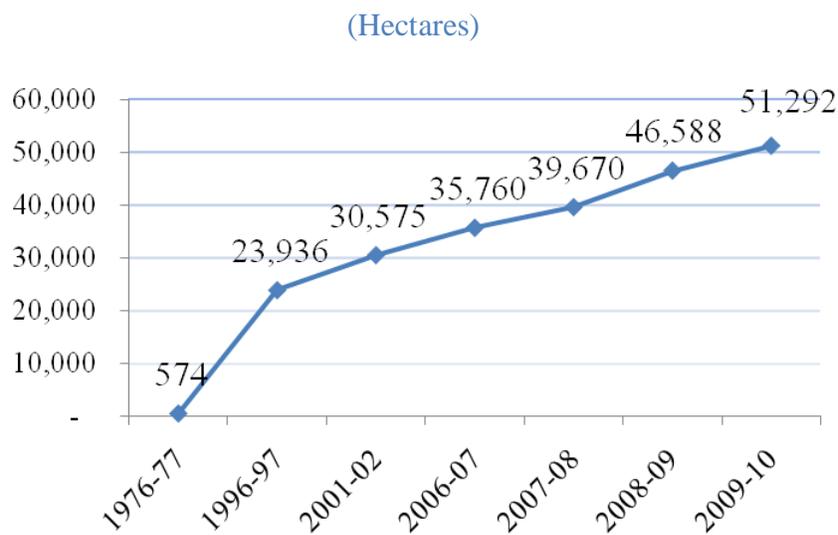
Tripura is the second largest rubber growing state in India, after Kerala. It has been estimated that approximately 1 lakh hectare of land in Tripura is suitable for rubber plantation. Tripura Forest Development & Plantation Corporation (TFDPC) is the major producer of rubber in the state, followed by Tripura Rehabilitation Plantation Corporation (TRPC). To encourage rubber plantation in the state, the State Government set up Tripura Rubber Mission with the objective to bringing 85,094 hectares land under rubber cultivation in the next 20 years. DS Group is the key buyer of rubber for processing.

TABLE 24: RUBBER AREA AND PRODUCTION

<b>Rubber area and production in Tripura, 2009-10</b>	
Area under rubber plantation - State Agencies	11,622 ha
Area under rubber plantation - Rubber Board	39,669 ha
<b>Total area under rubber in Tripura</b>	<b>51,292 ha</b>
<b>Total rubber production</b>	<b>26,191 MT</b>

Source: Economic Review of Tripura 2009-10; IMaCS Analysis

FIGURE 21: AREA UNDER RUBBER PLANTATION



Source: Economic Review of Tripura 2009-10; IMAcS Analysis

### 7.3(a) Skill mapping and gap analysis: Rubber

Entity	Skill gap	Expected competency
<b>Rubber grower</b>	Tapping	<ul style="list-style-type: none"> <li>Knowledge of when to start tapping rubber after the plantation matures</li> <li>Tapping techniques so that the plant regenerates and does not die after one tapping.</li> </ul>
<b>Products manufacturing engineer</b>	Technical training	<ul style="list-style-type: none"> <li>Techniques and machine operations for chemical processing rubber extrusions, threads and other products.</li> </ul>

Sources: IMAcS Survey and Analysis

### 7.4Tea

Tripura is the fifth-largest tea growing state in the country after Assam, West Bengal, Tamil Nadu and Kerala. Given the state's agro-climatic condition, there is considerable scope to increase the productivity and area under tea plantation. Tea produced in Tripura mostly sells in Guwahati / Kolkata auction. The

tea currently produced in Tripura is recognized for its good blending qualities. Some plantations in the State are going for organic production of tea and green tea manufacturing. Tripura Tea Development Corporation Limited (TTDCL) is responsible for development of tea industry in the state. It is also the nodal agency for growth of small farmers for tea plantation in the state. There is also a Central Tea Processing factory at Durgabari under the management of TTDCL.

**TABLE 25: TEA INDUSTRY OF TRIPURA**

<b>Tea in Tripura, 2009-10</b>	
No. of tea gardens	55
No. of small tea growers	4,366
Area under plantation, ha	6,000
Tea production, million kg	9
No. of tea processing units	21
Employment in tea estates	12,157

Source: Economic Review of Tripura 2009-10; Department of Industries & Commerce, Tripura; IMaCS Analysis

#### 7.4(a) Skill mapping and gap analysis: Tea

Entity	Role	Expected competencies	Skill gaps
<b>Tea growers and processing</b>	Plantation, plucking and leaf handling	<ul style="list-style-type: none"> <li>Understanding of the process of taking cuttings from the mother bush, growing them in plastic bags for about 18 months, treating them properly, before the leaves go for plantation</li> <li>Understanding of planting in blocks and slicing of plants to bush size</li> <li>Knowledge of different systems of plucking</li> <li>Knowledge of drying, fermenting, grading and packaging techniques</li> </ul>	Tea is a well developed industry in Tripura with good market linkages; Branding and awareness is required.

Sources: IMaCS Survey and Analysis

## 7.5 Hospitality

In the last few years, the State Government has started taking steps towards development of tourism. In 2008-09, the State Government set up a new Tripura Tourism Development Corporation for professional development of tourism in the state. In 2009-10, about 325,694 tourists visited Tripura. While 99 per cent of these were domestic, only 1 per cent was foreign tourists. The number of tourist arrivals has increased at a CAGR of 7.6 per cent in the last five years. Promotion of tourism has been affected by inadequate infrastructure in the state.

FIGURE 22: NO. OF DOMESTIC TOURIST ARRIVAL

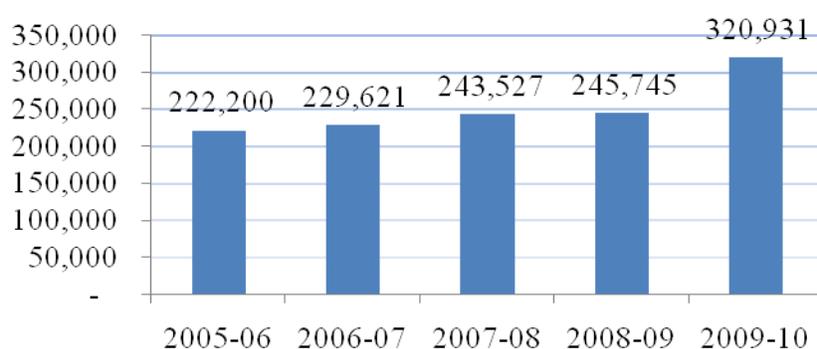


FIGURE 23: NO. OF FOREIGN TOURIST ARRIVAL

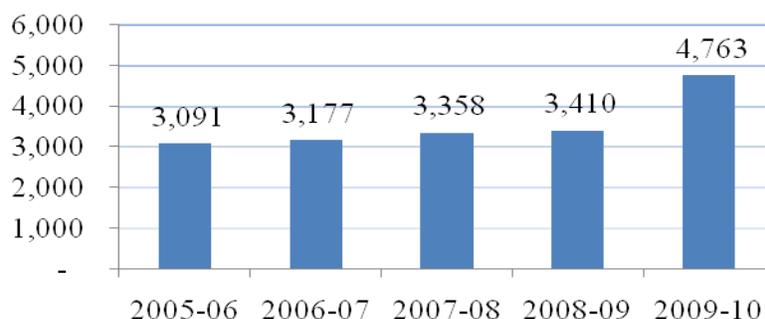


TABLE 26: KEY TOURIST ATTRACTIONS OF TRIPURA

Tripura's tourist attractions		
Indigenous tribal groups	Music and dance	Ujjayanta Palace
Archaeological remains	Buddha temple – Benuban Vihar	Wildlife sanctuaries
Bio-diversity	Handicrafts	Religious places
Water parks	Eco-tourism	Tribal tourism

Source: Economic Review of Tripura 2009-10; Department of Industries & Commerce, Tripura; IMAcS Analysis

## 7.5(a) Skill mapping and gap analysis: Hospitality

Activity	Entity	Skill gaps and expected competencies
<b>Hospitality: hotels and restaurants</b>	Catering, housekeeping and management	<ul style="list-style-type: none"> <li>• Chefs and restaurant managers</li> <li>• Hotel management skills</li> <li>• Quality assurance awareness</li> <li>• Knowledge of disaster management</li> <li>• Multi-lingual and culturally sensitive</li> <li>• Ability to follow set standards</li> <li>• Ease of transaction management (debit/credit card, etc.)</li> <li>• Computer skills</li> <li>• Professionalism and etiquette</li> </ul>
<b>Tourism</b>	Tour operators, logistics operators and activity trainers	<ul style="list-style-type: none"> <li>• Package tour offering and management</li> <li>• Travel, ticketing and transport arrangement</li> <li>• Vehicle upkeep</li> <li>• Understanding IATA guidelines</li> <li>• Advertising and branding along with other channel partners at airports, key market places, online and on television</li> <li>• Event management – outdoor and indoor</li> <li>• Training related to musicians, fitness, adventure sports, forest trails, running arts and crafts centre for tourists, etc.</li> <li>• Security and well being of tourists</li> <li>• Customer relationship skills</li> <li>• Computer and multiple language skills</li> </ul>

Sources: IMaCS Survey and Analysis

## 7.6 Handloom and Handicraft (Bamboo)

Tripura is known for its traditional design and arts in handloom textile. These are mainly of tribal and Manipuri communities. The State Government has been working for the development of this sector mainly through cluster and co-operative societies approach. Sericulture is an emerging enterprise. The rural women have come forward to take up sericulture as a support income of their families.

**TABLE 27: SERICULTURE IN TRIPURA**

<b>Sericulture sector - Tripura, 2008-09</b>	
Production of raw silk (MT)	5
Production of mulberry cocoon (MT)	51
Area under mulberry cultivation, ha	780

**TABLE 28: HANDLOOM IN TRIPURA**

<b>Handloom sector - Tripura, 2008-09</b>	
Textiles produced, million sq. m.	49
Employment, man days	175,500
Weavers, Nos.	136,334

Source: Tripura At a Glance 2010-11; Tripura Economic Review 2009-10; ImaCS Survey

Tripura's handicrafts are mainly based on cane and bamboo products. Presently, there are 20 handicraft clusters in the State, spread over all the four districts. Besides, some regrouped village area has also brought under the activities of handicraft sector. The artisans are skilled and produce a wide range of more than 200 products. Over 149,000 artisans are engaged in this industry. However, it remains largely organised. The Tripura Government has opened a marketing avenue for handicraft products in *Purbasha*. It is a Government undertaking Sales Emporium where handloom and handicraft products can be bought. The annual turnover is Rs 27 crores and employs 64 lakh people.

FIGURE 24: SNAPSHOT OF TRIPURA’S BAMBOO SECTOR

Tripura’s Bamboo Sector	Tripura Bamboo Mission
<ul style="list-style-type: none"> <li>▪ Tripura is home to 21 species of bamboo out of 130 species available in India.</li> <li>▪ The state has 938 sq. km. of bamboo forests.</li> <li>▪ It is the second largest grower of bamboo in the North East. The rural people, especially the tribal live in bamboo made huts and use bamboo in all activities of their daily life.</li> <li>▪ Over 60 per cent of the requirement of the entire country for bamboo sticks for Agarbatti-making is met from the State.</li> <li>▪ A Bamboo Park is being set up, on outskirts of capital city Agartala, to facilitate setting up of bamboo-based industries.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Tripura Bamboo Mission (TBM) was launched in 2007, under PPP framework, for integrated development of Bamboo Sector.</li> <li>▪ The role played by TBM has resulted in the turnover of bamboo sector in the State increasing three-fold in three years.</li> <li>▪ TBM aims to optimize the end-to-end value chain spanning from plantation and resource generation to marketing of value added finished products.</li> <li>▪ The mission’s focus is on: handicrafts, furniture, blinds, mats, incense sticks and industrial application of bamboo. The project is being implemented by IL&amp;FS CDI based on a PPP Framework.</li> </ul>

PPP – Public Private Partnership; IL&FS - Infrastructure Leasing & Financial Services  
 Source: Tripura Bamboo Mission; IMaCS Survey

### 7.6(a) Skill mapping and gap analysis: Handicrafts and Handlooms

Entity	Expected competency
<p><b>Master craftswoman/ craftsman</b></p>	<ul style="list-style-type: none"> <li>• Knowledge of markets for raw material procurement</li> <li>• Knowledge of competitive products in market</li> <li>• Ability to create designs and patterns in keeping with changing market trends</li> <li>• Adopting computer aided design methods</li> <li>• Adopting modern tools and electricity driven machines for non-weaving processes to improve productivity</li> <li>• Imparting training that is market oriented and develops interest in innovation</li> <li>• Use of varies samples and visual aids in market-oriented training</li> </ul>

Entity	Expected competency
<b>Crafts person</b>	<ul style="list-style-type: none"> <li>• Knowledge of quality standards (formal or informal) followed in market, especially, related to environment (e.g., pest treatment materials for natural products)</li> <li>• Ability to judge products requirements according to market competition</li> <li>• Adoption of techniques to reduce wastage</li> <li>• Keenness to innovate in design and use of new tools and techniques to scale up business and overcome periods on under-utilisation</li> </ul>
<b>Aggregator or agent</b>	<ul style="list-style-type: none"> <li>• Micro-finance skills</li> <li>• Gathering market knowledge and collecting competitive samples</li> <li>• Learning new process techniques, trade trends and market standards</li> <li>• Assertive communication and negotiation skills</li> </ul>

Sources: IMaCS Survey and Analysis

## 7.7 IT and ITeS

The Tripura Government has identified IT / ITES sector as one of the potential growth sectors of the State. Tripura is considered as the second best IT destination in the North East after Guwahati; in an independent study conducted by NEDFi. To encourage the industry in the State, the State Government had announced an IT policy in 2000. A new IT policy is now in the pipeline to replace the earlier policy. Special Incentives for IT industries were also announced in the new Tripura Incentive Scheme, 2007. The State Government is taking initiatives to promote IT education in schools, colleges and e-Governance. A Software Technology Park (STP) is also being set up at Agartala in order to provide necessary infrastructure facilities for setting up of IT industries in the State. The availability of IT trained manpower in the State has significantly improved over the years, due to availability of IT education provided schools and colleges, such as National Institute of Technology (NIT), one Engineering College, Polytechnic colleges and Industrial Training Institutes (ITI).

## 7.7(a) Skill mapping and gap analysis: IT and ITeS

Entity	Skill gap	Expected competency
<b>IT entrepreneur</b>	<ul style="list-style-type: none"> <li>Competitiveness outside Tripura</li> <li>Employee retention</li> <li>Dependence on Government contracts</li> </ul>	<ul style="list-style-type: none"> <li>Ability to establish tie-ups, business contacts outside state</li> <li>Ability to develop long-term job security through provident fund, pension, etc.</li> <li>Ability to develop new business areas based on local competencies in, say, arts</li> </ul>
<b>Call centre employee</b>	<ul style="list-style-type: none"> <li>Inadequate level of language skills</li> <li>Personality development, confidence and telesales skills</li> </ul>	<ul style="list-style-type: none"> <li>Improved spoken and written English</li> <li>Multi-lingual communication</li> <li>Assertiveness and sales skills</li> <li>Personality development</li> </ul>
<b>IT education and trainer</b>	<ul style="list-style-type: none"> <li>Focus on traditional courses</li> <li>Institutions lack industry-linked faculty</li> </ul>	<ul style="list-style-type: none"> <li>Web technology for animation, mathematics and programming for gaming, 'midi' for music, etc.</li> <li>Introduction of new technology</li> </ul>

Sources: IMACS Survey and Analysis

## 7.8 Border Trade

Tripura shares 84 percent of its border with the neighbouring country Bangladesh. This opens up significant prospects for border trade and international trade through Chittagong port, if the Bangladesh Government provides access to it as a “port of call”. In fact, official trade between Tripura and Bangladesh started in 1994. However, unofficial / informal trade has been going on for long. According to the study conducted by the Indian Institute of Foreign Trade (IIFT) in 1997, the estimated informal trade was about Rs.100 crores, while official trade was only Rs 10 crore per annum.

To formalise trade between Tripura and Bangladesh, the Government has set up two notified land custom stations in Tripura - Agartala Land Customs Station and Srimantapur Land Customs Station. Both the stations are operational and deal with passengers and cargo traffic. Imports include construction material and fish, exports include cloth and occasional consignments of rubber. Currently, the Government is also considering locations where border trade or border *haats* could be started. To improve the connectivity

between the two countries, a railway line has been proposed between Akhaura in Bangladesh and Agartala in Tripura. There is also a proposal to set up waterway route through Gumti river (adjacent to Srimantapur LCS) to Haldia in West Bengal via Bangladesh.

### 7.8(a) Skill mapping and gap analysis: Border Trade

Entity	Skill gap	Expected competency
<b>Traders</b>	<ul style="list-style-type: none"> <li>• Banking norms</li> <li>• Taxes and duties</li> <li>• Trade and transactions</li> </ul>	<ul style="list-style-type: none"> <li>• Letter of credit with bank</li> <li>• Knowledge of taxation and duties on traded goods for both sides</li> <li>• Exchange rate implications</li> <li>• Import-export procedures</li> <li>• Import-export documentation</li> <li>• Categorisation of traded goods and declarations, etc.</li> <li>• Precedence clause – whether imports/exports from India precede in exchange mechanism</li> <li>• Foreign Trade Agreements knowledge</li> </ul>

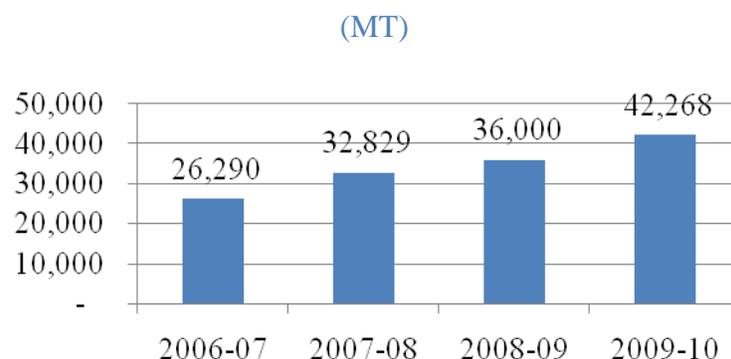
Sources: IMACS Survey and Analysis

### 7.9 Fisheries

Fish is a staple food for 95 per cent of Tripura's population. The Government is focussing on fisheries programme to undertake rural development aiming to generate employment along with socio-economic environment. The Government is establishing training centres to motivate farmers at Gram Panchayat level. Up to 2008-09, seven such centres were already set up.

To strengthen post harvest facilities in the State, a project of Rs. 90 lakhs has been sanctioned from the Government of India. It includes installation of an ice plant, opening up of modern fish selling stall, 85-retail fish vending kiosks and seven visi-coolers.

FIGURE 25: FISH PRODUCTION GROWTH



Source: Economic Review of Tripura 2009-10; Tripura At a Glance 2010-11; IMaCS Analysis

### 7.9(a) Skill mapping and gap analysis: Fisheries

Entity	Skill gap	Expected competency
<b>Entrepreneur (processing)</b>	<ul style="list-style-type: none"> <li>• Fish processing technology</li> <li>• Ice factory linkage</li> <li>• Knowledge of maintaining freshness</li> <li>• Preserving, canning/packaging and labelling</li> <li>• Sales and marketing</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to establish fish processing unit with technology and new processing techniques</li> <li>• Ability to develop market inside and outside state (tastes, trade, etc.)</li> <li>• Storage and transport capabilities</li> </ul>
<b>Fish farmer</b>	<ul style="list-style-type: none"> <li>• Inadequate knowledge of modern methods</li> </ul>	<ul style="list-style-type: none"> <li>• Pondage knowledge</li> <li>• Use of modern fish farming techniques: breeding, feeding, disease protection, etc.</li> <li>• Rearing of appropriate fish-mix for greater yield</li> <li>• Preserving and storage techniques</li> </ul>

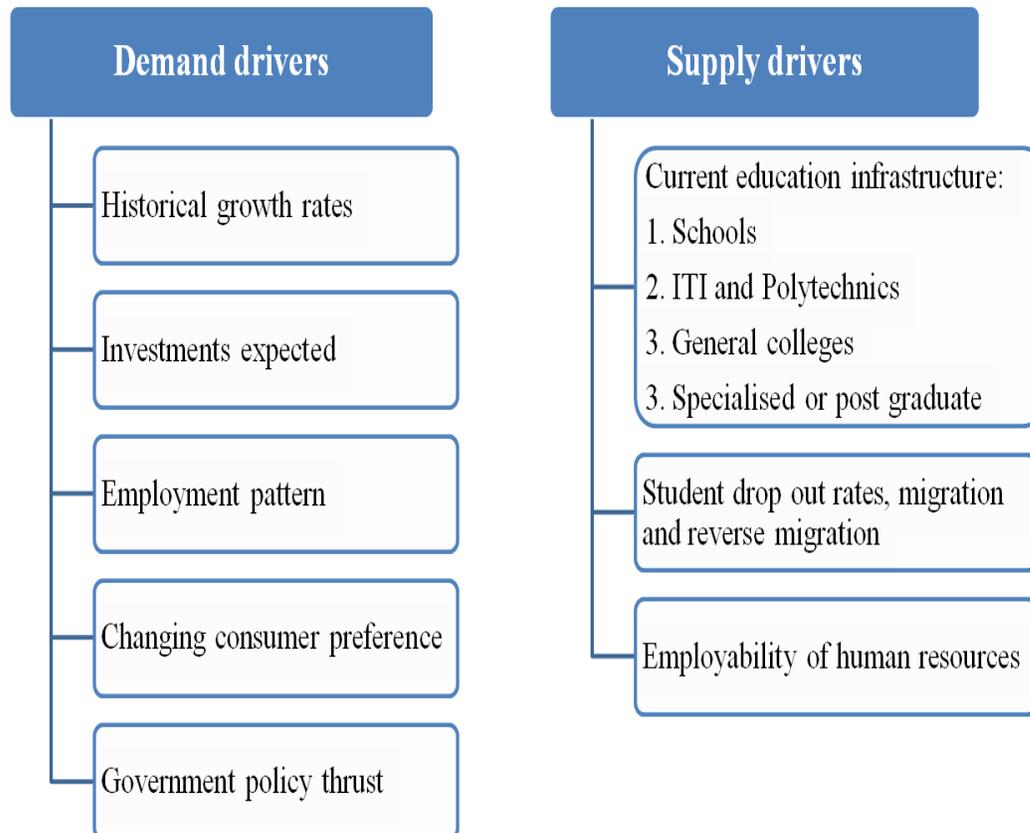
Sources: IMaCS Survey and Analysis

**PART – II (e): Forecasting of Human Resource Requirement**

## 8.1 Human resource forecasting model

IMaCS has developed a model for estimating human resources requirement for the state based on growth of potential industries at district level.

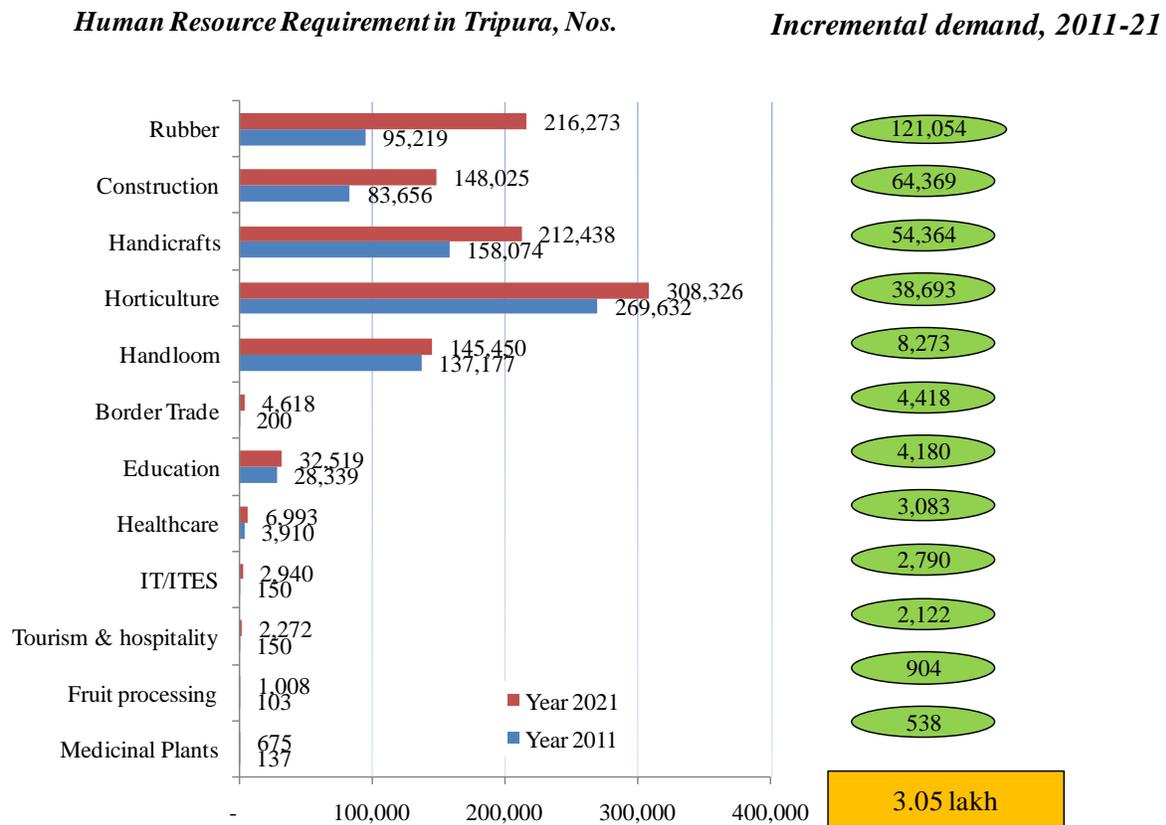
FIGURE 26: HUMAN RESOURCES FORECASTING MODEL



## 8.2 Incremental demand in Tripura

Based on the above forecasting model, incremental human resource requirement in Tripura is estimated to be around 3.05 lakh persons between 2011 and 2021. Another 18 per cent demand may come from replacement of persons employed at the age of 50-60 years who would retire during this phase, although it is unlikely that all of this would constitute replacement demand since public administration may not rehire. Major demand industries for human resources will be handicrafts, horticulture and construction. Some industries such as IT/ITES and hospitality are expected to grow significantly over the next decade, thus fuelling the demand for human resources in the State.

FIGURE 27: HUMAN RESOURCE REQUIREMENT IN TRIPURA



Source: IMaCS Analysis

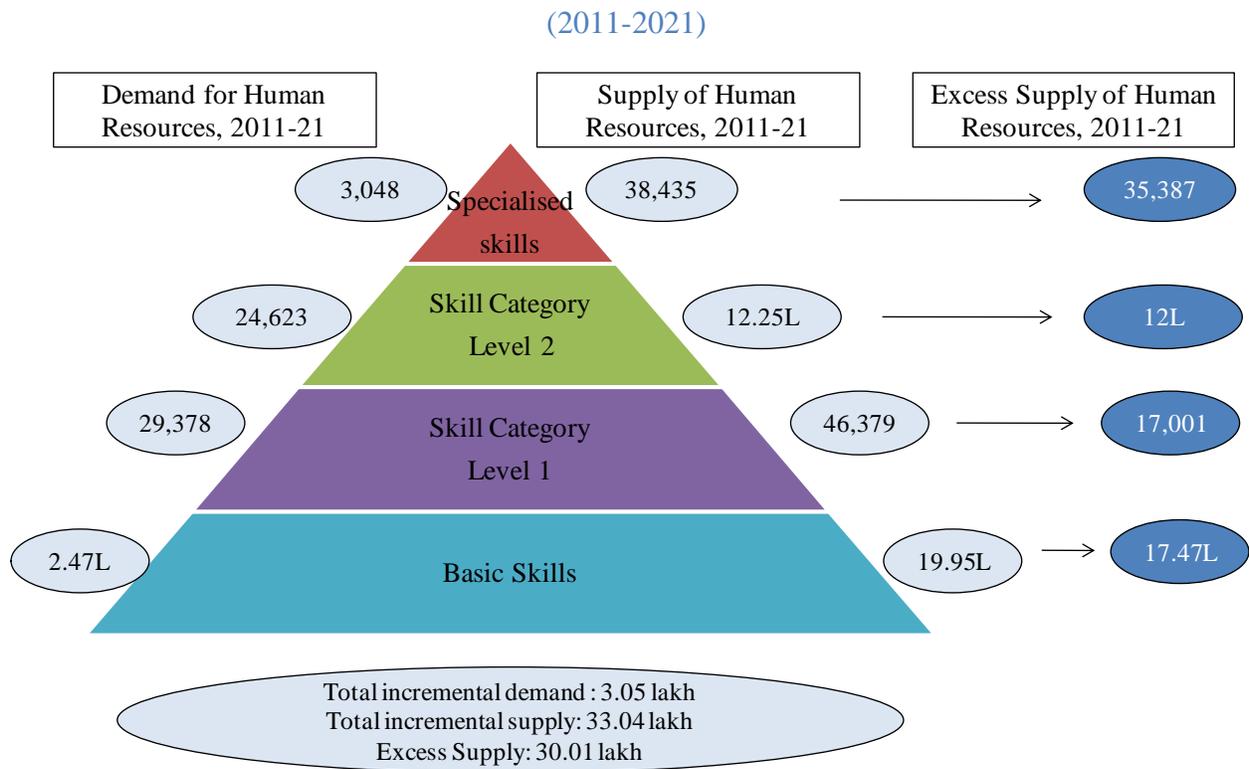
Total incremental supply between 2011 and 2021 is estimated to be 33.04 lakh. Domestic demand is estimated to be 3.05 lakh which indicates that domestic growth in the State will not be able to absorb the supply of human resources. This translates into excess human resources supply of about 30 lakh in the

State. In the absence of local employment opportunities, this excess supply of human resources has to be skilled for migration so that they look for job opportunities outside the state.

According to the IMaCS skill pyramid, the total incremental supply and demand are distributed at various levels of skill pyramid. These skill levels and the corresponding skill profiles are defined as follows:

- **Specialised skills** – Highly qualified and specialized personnel
- **Skill Category Level 2** – Engineers, Arts and Science and other professionals with some experience
- **Skill Category Level 1** – Vocationally trained
- **Basic Skills** – Minimal qualification or 5<sup>th</sup>-8<sup>th</sup> class pass

FIGURE 28: HUMAN RESOURCES DEMAND-SUPPLY SCENARIO IN TRIPURA



*Specialised skills: Highly qualified and specialised personnel; Skill Category 2: Engineers, Arts, and Science and other professionals with experience; Skill Category Level 1: Vocationally trained; Basic skills: Minimal qualification or class 5<sup>th</sup> – 8<sup>th</sup> pass outs*

Source: IMaCS Analysis

The total demand at the basic skills level is 2.47 lakh which constitutes bulk of the demand in the next 10 years. Most of the human resources required at this level will be in handloom, handicrafts, construction and manufacturing enterprises. As compared to domestic demand of 2.47 lakh, the total supply at this level is estimated to be 19.95 lakh indicating an excess supply of about 17.4 lakh resources.

At skill category level 1, the total supply is estimated to be 46,379 as compared to demand of about 29,378 resources indicating excess supply of about 17,000 resources. These resources need to be skilled so that they can benefit from job opportunities emerging from outside the state. Similarly, at skill category level 2 there is excess supply of 12 lakh resources which needs to be skilled for migration. Considering such huge numbers, policy interventions at the State Government level are also required to set-up infrastructure for skilling and generating employment opportunities for the youth. At the top of the pyramid, for the specialised skill level, the excess supply is estimated at 35,390. Human resources at this level include master weavers, food technologist, PhDs, Designers, etc.

### 8.3 District-wise human resource requirement in Tripura – 2011-21

District-wise human resource has been projected in Tripura up to the year 2021. Apart from the traditional sectors such as handloom and handicraft, other upcoming sectors that are expected to provide employment opportunities for skilled persons are in the areas of horticulture and food processing, healthcare, education, construction, rubber and medicinal plants.

TABLE 29: HUMAN RESOURCE REQUIREMENT IN TRIPURA - 2011 to 2021

District / sector	Human Resource Requirement between 2011 and 2021												
	Hand loom	Handi-craft	Horti-culture	Fruit process ing	Hotel	IT/ ITES	Health care	Educa tion	Construc tion	Rubber	Border Trade	Medici nal Plants	State
West Tripura	5,935	32,619	12,764	-	2,122	2,790	1,347	1,982	30,844	54,581	4,418	196	149,597
Dhalai	1,097	-	4,979	-	-	-	380	499	6,194	6,835	-	165	20,150
South Tripura	825	16,309	12,660	-	-	-	806	1,098	15,441	40,058	-	59	87,256
North Tripura	416	5,436	8,291	904	-	-	550	601	11,889	19,581	-	118	47,787
<b>Tripura</b>	<b>8,273</b>	<b>54,364</b>	<b>38,693</b>	<b>904</b>	<b>2,122</b>	<b>2,790</b>	<b>3,083</b>	<b>4,180</b>	<b>64,369</b>	<b>121,054</b>	<b>4,418</b>	<b>538</b>	<b>304,789</b>

Source: IMACS Survey and Analysis

## 8.4 Stakeholder feedback

The various stakeholders met across Tripura have given the IMaCS team qualitative responses regarding the current status in Tripura, which are summarized below.

TABLE 30: TRIPURA STAKEHOLDER FEEDBACK

Stakeholder	Key findings
<i>Industry specific feedback</i>	
<b>Handloom and Handicrafts</b>	<ul style="list-style-type: none"> <li>Working in cluster approach</li> <li>Training provided locally</li> <li>Younger generation not interested in working in traditional sectors as the perception is that there are no opportunities</li> </ul>
<b>Horticulture and fruit processing</b>	<ul style="list-style-type: none"> <li>Lack of cold storage facilities</li> <li>Interest in investors to explore fruit and horticulture products; high cost of production and transportation – a deterrent</li> </ul>
<b>IT / ITES</b>	<ul style="list-style-type: none"> <li>Lack of human resources with computer efficiency for IT / ITES</li> <li>Developing IT infrastructure</li> <li>Dependence on Government contracts – very few local entrepreneurs</li> <li>Important to have design and development centre in Guwahati</li> </ul>
<b>Construction</b>	<ul style="list-style-type: none"> <li>Construction activity undergoing in areas like roads, bridges, hydro power, building construction</li> <li>Locals need to be trained in machine operations and basic civil works</li> </ul>
<b>Healthcare</b>	<ul style="list-style-type: none"> <li>There is shortage of good quality personnel in healthcare</li> <li>Nurses, physicians and specialists in demand</li> <li>A few pan-India healthcare operators have started operations in Agartala</li> </ul>
<b>Industry feedback (overall)</b>	<ul style="list-style-type: none"> <li>Infrastructure creation is ongoing, but market creation necessary for infrastructure to be made use of</li> <li>Land-locked location with 84 per cent Bangladesh border and small size of State a deterrent to big industrial units</li> </ul>
<b>Government feedback</b>	<ul style="list-style-type: none"> <li>Need to focus on a few focussed areas for economic development of</li> </ul>

Stakeholder	Key findings
	<p>the State</p> <ul style="list-style-type: none"> <li>Factor endowments and limitations need to be kept in mind for the purpose of planning</li> <li>Skill development a focus area for State Government</li> </ul>
<b>Educational Institutions feedback</b>	<ul style="list-style-type: none"> <li>Lack of training staff</li> <li>Poor facilities in older trainings centres and ITIs</li> <li>New institutions such as NIT focussed on skilling for migration</li> </ul>
<b>Students / Unemployed youth feedback</b>	<ul style="list-style-type: none"> <li>Open to explore opportunities outside the State, as local opportunities are scarce</li> <li>Preference for Government jobs</li> <li>Lack of industrial exposure and apprenticeship avenues after ITI or polytechnic training</li> <li>Rubber providing growth potential, however, limited to plantations</li> <li>Poor interest in entrepreneurial activities, permanent jobs preferred</li> </ul>

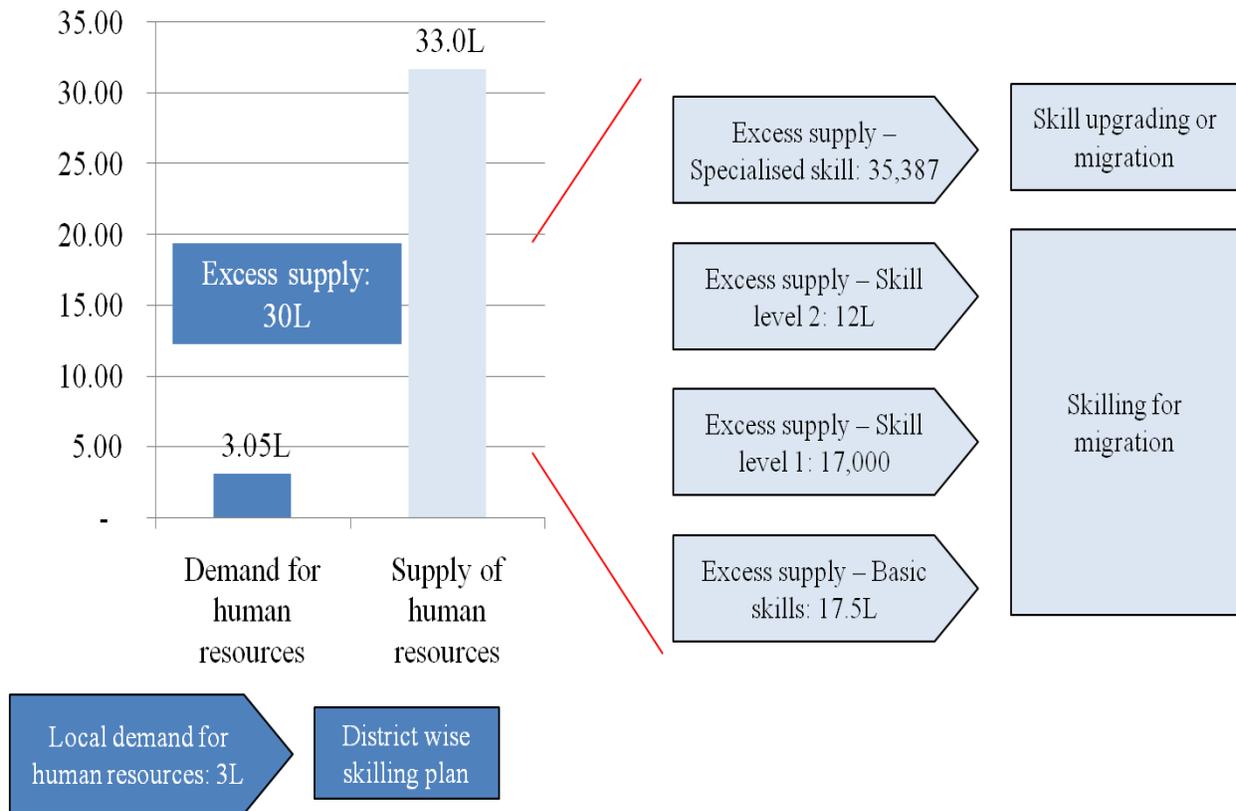
Source: IMaCS Survey and Analysis

### **PART – III: Recommendations**

## 9.1 Interventions for human resource Demand-Supply gap management

Human resource demand-supply has been analysed at different levels of the skill pyramid. Based on expected excess demand or excess supply at each level, interventions have been recommended for skill matching for local demand, upgrading or introducing new training facilities or providing skills that may be useful in seeking employment outside the State, i.e., in other states or overseas.

FIGURE 29: DEMAND-SUPPLY SCENARIO FOR HUMAN RESOURCES IN TRIPURA (2011-2021)



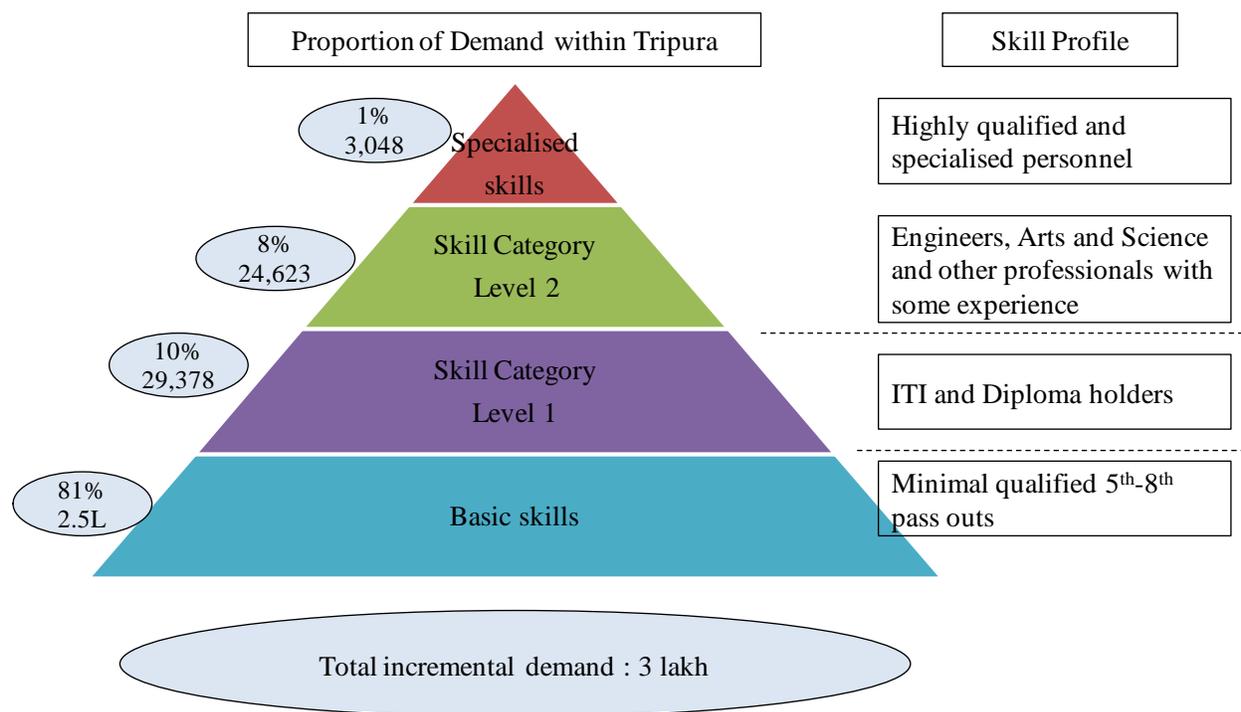
Source: ImaCS Analysis

## 9.2 Areas for skilling within state – 2011-21

This section covers the sectors which will generate domestic demand and skilling of people at various levels to cater to the industry demand. Most of the industry demand is concentrated at the bottom of the

pyramid, i.e., manpower with basic skills which needs to be addressed through capacity creation. At the skill level 2, skill upgradation would be required for the college educated.

FIGURE 30: DEMAND SCENARIO - SKILL PYRAMID



Specialised skills include: master weavers, food technologist, PhDs, Designers, etc.  
Source: IMaCS Analysis

The sectors identified have the description based on which skilling has to be provided to match local demand.

TABLE 31: AREAS FOR SKILLING WITHIN STATE BETWEEN 2011 AND 2021

Human resource pool required for demand sectors identified within Meghalaya				3 lakh
Sector	Basic skills: 2.5 L	Skill Category Level-I: 29,378	Skill Category Level-II: 24,623	Specialised Skill: 3,048
Handloom	Weaving	Weaving	Entrepreneurship	Designing
Handicraft	Shaping the bamboo	Shaping the bamboo	Entrepreneurship	Designing

Sector	Basic skills: 2.5 L	Skill Category Level-I: 29,378	Skill Category Level-II: 24,623	Specialised Skill: 3,048
<b>Horticulture</b>	Growing	Farm extension services	Entrepreneurship	Marketing
<b>Food Processing</b>	Shop floor work	Distribution, packaging	SHG lead Entrepreneurship	Food technology, Management
<b>Hospitality</b>	Housekeeping	Front office services	Management, Entrepreneurship	Tourism package development
<b>IT / ITES</b>	Data entry	Call centre: customer service, helpline	IT entrepreneurship, training	IT system specialization
<b>Healthcare</b>	Hygiene services	Paramedical services	Nurses and Doctors	Specialists
<b>Education</b>	-	-	Teaching	Research, Training
<b>Border Trade</b>	Help in loading	Logistic provision	FTA Specialization	Training
<b>Construction</b>	Civil works	Welding, Machine operation, Electric Work, Masonry	Contracting	Project management
<b>Medicinal plants</b>	growing	Plantation management	Entrepreneurship	Research
<b>Rubber</b>	Growing, tapering	Latex making	Entrepreneurship	Engineering

Source: IMaCS Analysis

In addition, up to 780,000 per sons would be available for skill upgradation from the livelihood and sectors of agriculture, animal husbandry and fisheries sectors.

TABLE 32: LIVELIHOOD ACTIVITIES - FOR UPGRADING SKILLS

Activity	Description	Skill level	Employment
Agriculture (Cultivation)	51% of the population is dependent on agriculture for livelihood. Major food crops are rice and maize.	Mostly, unscientific methods of cultivation used.	700,000
Fishery	Fishery has been practiced in the State for a very long time largely through the traditional methods. The State is yet to attain self-sufficiency in fishes despite its potential.	Outdated fish farming techniques used. Modern techniques slowly becoming popular.	7,700

### 9.3 Skilling for migration

About 3 lakh persons per year are expected to be requiring training for various employment avenues available outside the State. It is expected that while local demand may not be available to accommodate all of the excess human resource supply in the near future, eventually, those migrating outside for work would return to the State as more entrepreneurial activity generates employment opportunities in the next 10 years and beyond.

TABLE 33: AREAS OF SKILLING FOR MIGRATION TO OTHER STATES OR OVERSEAS

Excess human resource pool available for employment outside state

3.0 lakh per year

Basic skills:	Skill Category Level-I:	Skill Category Level-II:	Specialised skills:
Health care	Basic accounting	Banking and accounting	Management training
Retail outlet services	Retail services	Hotel and retail services	Entrepreneurial skills
Culinary services	Office assistant services	Secretarial services	Project management skills
Service staff in healthcare and hospitality	Export/import trading	IT	
Language training	Nursing and paramedical services	Teaching	
Ground services in airports	Insurance sales	Sales and marketing management	
Courier service	Sales	Food technology	
	Event management	Fashion designing	
	Call centre	Media and entertainment	
	Repairing	Computer operation	
	Computer skills		

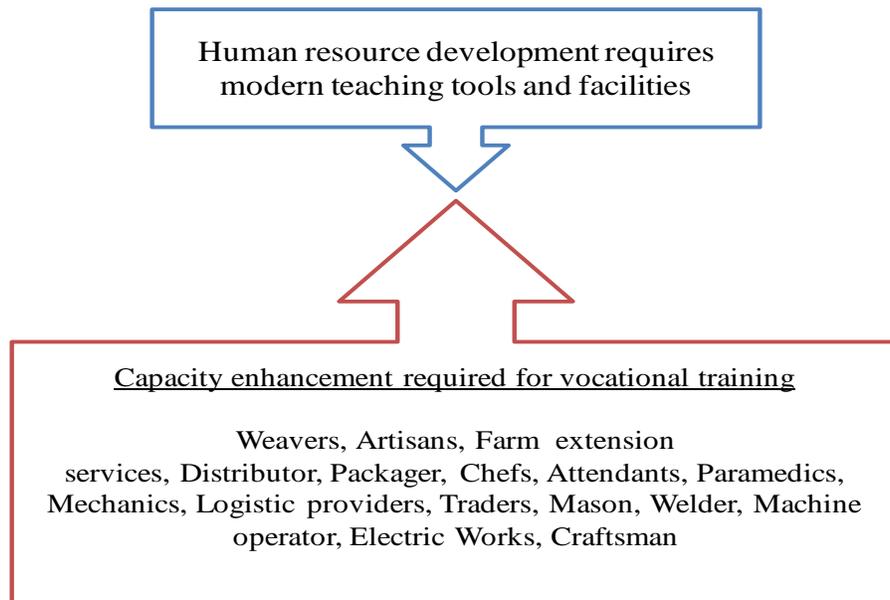
Source: IMaCS Analysis

## 9.4 Capacity creation within State

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The human resource needs to be skilled across the sectors which present employment opportunities and the capacity needs to be created or improved to achieve the same.

FIGURE 31: INTERVENTION FOR CAPACITY CREATION



Source: IMaCS Analysis

## 9.5 District-level Skilling Opportunities

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### 9.5.1 Dhalai

#### Horticulture:

- Knowledge of soil, weather, scientific cultivation methods, irrigation techniques
- Multi-cropping for income throughout the year
- Certifications and produce quality labelling
- Pre-cooling and warehousing techniques
- Market knowledge

- Optimum transportation knowledge
- Contract farming

TABLE 34: SECTOR-WISE, SKILL LEVEL-WISE DEMAND - DHALAI

**Incremental human resource requirement – 2011-2021**

Sectors	Handloom	Handicrafts	Horticulture	Fruit processing	Tourism & hospitality	IT/ITES	Healthcare	Education	Construction	Rubber	Border Trade	Medicinal Plants
Basic skills	746	-	4,427	-	-	-	229	-	5,295	6,077	-	147
Skill Category Level 1	110	-	236	-	-	-	64	494	319	324	-	8
Skill Category Level 2	230	-	267	-	-	-	83	-	518	366	-	9
Specialised skills	11	-	50	-	-	-	4	5	62	68	-	2

**Incremental human resource requirement: Phase I – 2011-16**

Sectors	Handloom	Handicrafts	Horticulture	Fruit processing	Tourism & hospitality	IT/ITES	Healthcare	Education	Construction	Rubber	Border Trade	Medicinal Plants
Basic skills	-	-	2,139	-	-	-	115	-	2,272	3,139	-	46
Skill Category Level 1	-	-	114	-	-	-	32	247	137	167	-	2
Skill Category Level 2	-	-	129	-	-	-	41	-	222	189	-	3
Specialised skills	-	-	24	-	-	-	2	2	27	35	-	1

**Incremental human resource requirement: Phase II – 2017-21**

Sectors	Handloom	Handicrafts	Horticulture	Fruit processing	Tourism & hospitality	IT/ITES	Healthcare	Education	Construction	Rubber	Border Trade	Medicinal Plants
Basic skills	746	-	2,288	-	-	-	115	-	3,023	2,938	-	101
Skill Category Level 1	110	-	122	-	-	-	32	247	182	156	-	5
Skill Category Level 2	230	-	138	-	-	-	41	-	296	177	-	6
Specialised skills	11	-	26	-	-	-	2	2	35	33	-	1

Source: ImaCS Analysis

## 9.5.2 North Tripura

### Medicinal plants

- Increasing productivity through proper use of tools and raw material collection techniques
- Gauging competition from other states and countries
- Creation of products in keeping with changing market trends
- Imparting training that is market oriented and develops interest in research and processing technology
- Use of various samples and visual aids in market-oriented training

### Handloom and Handicrafts

- Quality standards and certifications
- Assessment of competitive environment and sample collection
- Wastage reduction
- Innovation in design through use of new tools and techniques to scale up business and overcome periods of under-utilisation
- Micro-finance raising skills
- Assertive communication, language and negotiation skills
- Introduction of packaging materials and techniques

TABLE 35: SECTOR-WISE, SKILL LEVEL-WISE DEMAND – NORTH TRIPURA

**Incremental human resource requirement – 2011-2021**

Sectors	Handloom	Handicrafts	Horticulture	Fruit processing	Tourism & hospitality	IT/ITES	Healthcare	Education	Construction	Rubber	Border Trade	Medicinal Plants
Basic skills	283	3,697	7,372	615	-	-	332	-	10,163	17,409	-	105
Skill Category Level 1	42	544	393	90	-	-	93	595	613	927	-	6
Skill Category Level 2	87	1,142	444	190	-	-	120	-	995	1,048	-	6
Specialised skills	4	54	83	9	-	-	5	6	119	196	-	1

**Incremental human resource requirement: Phase I – 2011-16**

Sectors	Handloom	Handicrafts	Horticulture	Fruit processing	Tourism & hospitality	IT/ITES	Healthcare	Education	Construction	Rubber	Border Trade	Medicinal Plants
Basic skills	-	1,712	3,562	149	-	-	166	-	4,361	8,993	-	33
Skill Category Level 1	-	252	190	22	-	-	46	297	263	479	-	2
Skill Category Level 2	-	529	215	46	-	-	60	-	427	542	-	2
Specialised skills	-	25	40	2	-	-	3	3	51	101	-	0

**Incremental human resource requirement: Phase II – 2017-21**

Sectors	Handloom	Handicrafts	Horticulture	Fruit processing	Tourism & hospitality	IT/ITES	Healthcare	Education	Construction	Rubber	Border Trade	Medicinal Plants
Basic skills	283	1,985	3,809	466	-	-	166	-	5,801	8,416	-	72
Skill Category Level 1	42	292	203	68	-	-	46	297	350	448	-	4
Skill Category Level 2	87	613	229	144	-	-	60	-	568	507	-	4
Specialised skills	4	29	43	7	-	-	3	3	68	95	-	1

Source: IMaCS Analysis

### 9.5.3 South Tripura

#### Rubber:

- Tapping techniques
- Processing into latex
- Chemical and Mechanical processes for finished products such as threads, tyres, tubes.

#### Horticulture:

- Knowledge of soil, weather, scientific cultivation methods, irrigation techniques
- Multi-cropping for income throughout the year
- Certifications and produce quality labelling
- Pre-cooling and warehousing techniques
- Market knowledge
- Optimum transportation knowledge
- Contract farming

TABLE 36: SECTOR-WISE, SKILL LEVEL-WISE DEMAND – SOUTH TRIPURA

#### Incremental human resource requirement – 2011-2021

Sectors	Handloom	Handicrafts	Horticulture	Fruit processing	Tourism & hospitality	IT/ITES	Healthcare	Education	Construction	Rubber	Border Trade	Medicinal Plants
Basic skills	561	11,090	11,256	-	-	-	486	-	13,199	35,616	-	52
Skill Category Level 1	82	1,631	600	-	-	-	136	1,087	796	1,897	-	3
Skill Category Level 2	173	3,425	678	-	-	-	176	-	1,292	2,145	-	3
Specialised skills	8	163	127	-	-	-	8	11	154	401	-	1

### Incremental human resource requirement: Phase I – 2011-16

Sectors	Handloom	Handicrafts	Horticulture	Fruit processing	Tourism & hospitality	IT/ITES	Healthcare	Education	Construction	Rubber	Border Trade	Medicinal Plants
Basic skills	-	5,136	5,439	-	-	-	243	-	5,664	18,398	-	16
Skill Category Level 1	-	755	290	-	-	-	68	544	342	980	-	1
Skill Category Level 2	-	1,586	328	-	-	-	88	-	554	1,108	-	1
Specialised skills	-	76	61	-	-	-	4	5	66	207	-	0

### Incremental human resource requirement: Phase II – 2017-21

Sectors	Handloom	Handicrafts	Horticulture	Fruit processing	Tourism & hospitality	IT/ITES	Healthcare	Education	Construction	Rubber	Border Trade	Medicinal Plants
Basic skills	561	5,954	5,817	-	-	-	243	-	7,535	17,218	-	36
Skill Category Level 1	82	876	310	-	-	-	68	544	454	917	-	2
Skill Category Level 2	173	1,839	350	-	-	-	88	-	738	1,037	-	2
Specialised skills	8	88	65	-	-	-	4	5	88	194	-	0

Source: IMACS Analysis

## 9.5.4 West Tripura

### Healthcare Professionals:

- Nurses training for day care, emergencies and critically ill patients
- Paramedics training: ward boys, nursing orderly, pharmacist, medical record officer, mobile healthcare service, ambulance attendants, emergency outside hospitals, etc.

### Border Trade:

- Letter of credit with bank
- Knowledge of taxation and duties on traded goods for both sides
- Exchange rate implications
- Import-export procedures
- Import-export documentation

- Categorisation of traded goods and declarations, etc.
- Precedence clause – whether imports/exports from India precede in exchange mechanism
- Foreign Trade Agreements

**Hotels:**

- Chefs and restaurant managers
- Hotel management skills
- Quality assurance awareness
- Crisis management
- Multi-lingual and culturally sensitive
- Ability to follow set standards
- Transactions management (debit/credit card, etc.)
- Computer skills
- Professionalism and etiquette

**IT, Call Center Training:**

- Marketing and business generation
- Developing new business areas based on local competencies such as arts, sports
- Improved spoken and written English
- Multi-lingual communication
- Assertiveness and sales skills
- Web technology for animation, mathematics and programming for gaming, ‘midi’ for music, etc.

TABLE 37: SECTOR-WISE, SKILL LEVEL-WISE DEMAND – WEST TRIPURA

**Incremental human resource requirement – 2011-2021**

Sectors	Handloom	Handicrafts	Horticulture	Fruit processing	Tourism & hospitality	IT/ITES	Healthcare	Education	Construction	Rubber	Border Trade	Medicinal Plants
Basic skills	4,035	22,181	11,348	-	1,945	1,237	813	-	26,365	48,528	1,959	175
Skill Category Level 1	593	3,262	605	-	18	1,038	228	1,962	1,590	2,585	1,644	9
Skill Category Level 2	1,246	6,850	683	-	137	487	294	-	2,581	2,922	771	11
Specialised skills	59	326	128	-	21	28	13	20	308	546	44	2

**Incremental human resource requirement: Phase I – 2011-16**

Sectors	Handloom	Handicrafts	Horticulture	Fruit processing	Tourism & hospitality	IT/ITES	Healthcare	Education	Construction	Rubber	Border Trade	Medicinal Plants
Basic skills	-	10,272	5,484	-	1,171	639	406	-	11,314	25,068	392	54
Skill Category Level 1	-	1,511	292	-	11	536	114	981	682	1,335	329	3
Skill Category Level 2	-	3,172	330	-	83	251	147	-	1,108	1,509	154	3
Specialised skills	-	151	62	-	13	14	7	10	132	282	9	1

**Incremental human resource requirement: Phase II – 2017-21**

Sectors	Handloom	Handicrafts	Horticulture	Fruit processing	Tourism & hospitality	IT/ITES	Healthcare	Education	Construction	Rubber	Border Trade	Medicinal Plants
Basic skills	4,035	11,908	5,864	-	774	599	406	-	15,050	23,460	1,567	120
Skill Category Level 1	593	1,751	312	-	7	502	114	981	908	1,250	1,315	6
Skill Category Level 2	1,246	3,678	353	-	55	236	147	-	1,473	1,413	617	7
Specialised skills	59	175	66	-	8	13	7	10	176	264	35	1

Source: IMAcS Analysis

## 9.6 Key interventions for Tripura

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- Tripura's people have greater propensity to migrate than persons from other states in the region. This is likely to help create skilling and training centres in the State for the purpose of providing skills for jobs available in other states or overseas. It would initially be necessary too, to provide skill for migration given the significant excess supply of human resources expected in the next 10 years to 2021.
- Between 2011 and 2021, around 3 lakh persons per year are expected to be available for migration. Key opportunities include hospitality, IT / ITES, retail, music, ground staff at airports, healthcare and education.
- For local demand of skills, combining skill training with entrepreneurial skills would be necessary, depending on the level of training.
- Incremental human resources requirement of additional 3.05 lakh by 2021
- Areas of capacity creation for vocational training include: weaving, artisans, farm-extension services, products distribution, packaging, chefs, call centre-customer services, paramedical and nursing, border-trader, masonry, welding, machine operations, logistics services including cold chains, electric works persons, craftsman, computer operations and repairs and food technology.
- Combining skill training with entrepreneurial skills would be essential, and the amount of training imparted in this area would depend on the level of training imparted.
- Specialist skill development institutes for music, medicinal and exotic forest plants, food technology would help use the traditional skills of local youth.
- Between 2011 and 2021, around 3 lakh persons per year will be available skilling for migration. Key opportunities include retail, hospitality, IT, fashion design, nursing, cooks (overseas), factory and office work, call-centre operator, etc.
- Capacity building needs to be supplemented with upgrading of teaching tools and availability of teachers. Up to date vocational institutes are required.

**Annexure**

## 1. Methodology used for Demand projections

The following methodology has been adopted for making demand side projections of human resources:

- Identification of key economic activities in each district.
- Estimation of current employment numbers in each district, based on information available from Government publications and IMaCS primary survey.
- Forecasting of future employment requirements, using different assumptions (explained in the slide on assumptions) for each industry.
- Different assumptions have been used because of differences in nature, demand and growth potential, factor endowments, commercialisation status, policy thrust, past growth trends, past and expected investments, employment pattern and opportunities for migration of all economic activities.
- Forecasts have been done for all existing and potential industries identified by us. District wise distribution of employment in 2021 is assumed to remain same as it was in 2011.

## 2. List of Abbreviations

<b>List of Abbreviations</b>	
<b>BRO</b>	Border Roads Organisation
<b>BSNL</b>	Bharat Sanchar Nigam Limited
<b>CAGR</b>	Compound Annual Growth Rate
<b>DDP</b>	District Domestic Product
<b>DoNER</b>	Ministry of Development of North Eastern Region
<b>GDP</b>	Gross Domestic Product
<b>GI</b>	Geographical Indication
<b>GSDP</b>	Gross State Domestic Product
<b>HEP</b>	Hydro-electric Power
<b>HRD</b>	Human Resource Development
<b>IID</b>	Integrated Infrastructure Development
<b>IT</b>	Information Technology
<b>ITI</b>	Industrial Training Institute
<b>LMIS</b>	Labour Market Information Systems
<b>mn</b>	Million
<b>MU</b>	Million Units
<b>NABARD</b>	National Bank of Agriculture and Rural Development
<b>NEC</b>	North Eastern Council
<b>NEDFi</b>	North Eastern Development Finance Corporation Limited
<b>NER</b>	North Eastern Region
<b>NES</b>	North Eastern States
<b>NGO</b>	Non-Governmental Organisation
<b>No.</b>	Number
<b>NSDC</b>	National Skill Development Corporation
<b>O&amp;M</b>	Operation and Maintenance
<b>PPP</b>	Public Private Partnership
<b>PWD</b>	Public Works Department
<b>SHG</b>	Self Help Group

### 3. List of Stakeholders Met

Person Met	Designation	Office	Organisation Type	District
Dr. S.K Panda	Chief Secretary	Secretariat	State Government	State (Agartala)
Mr. L.K Gupta	Principal Secretary	Secretariat	State Government	State (Agartala)
Mr. B.K Roy	Commissioner	Secretariat	State Government	State (Agartala)
Mr. Sriram Taranikanti	Commissioner	Secretariat	State Government	State (Agartala)
Mr. B Sinha	Principal Secretary	Secretariat	State Government	State (Agartala)
Mr. V. G Jenner	Director	Tripura Industrial Development Corporation (TIDC) + Head Tripura Bamboo Mission	State Government	West Tripura (Agartala)
Mr. S.K. Das		TIDC	State Government	West Tripura (Agartala)
Mr. Anirban Dutta	Manager	Industries and Commerce Department	State Government	State Government
Mr. Kedar K Panda	Manager	Tripura Bamboo Mission	PPP	State-wide
Mr. Debashish Das	Principal	ITI, Indranagar	Technical training	West Tripura (Agartala)
Mr. Ashwini Rupini	Principal	ITI, Udaipur	Technical training	West Tripura (Agartala)
Ms. Pinki (IL&FS)	Executive	Bamboo Mission	PPP	State-wide
		Kalika Handicrafts Society, Mohanpur	TIDC-IL&FS, SHG	West Tripura
Mr. Subroto Sarkar	Craftsman		TIDC-IL&FS, SHG	West Tripura (Kalibazar)
	Crafts women	Common Facilities Centre	TIDC-IL&FS, SHG	West Tripura (Krushnanagar)
Mrs. S Debnath	Director	TIDC	State	West Tripura
Mr. Pintu Saha	CEO, proprietor	Senrysa Technologies	IT company	West Tripura (Agartala)
Mr. Anurag Mathur	Director	Regional Institute of e-learning and Information Technology	DOAECC Society	West Tripura (Agartala)
Mr. Subhash Das	Managing Director	Tripura Tea Development Corporation	State Government	West Tripura (Agartala)
Mr. D Debramma	Assistant Director	Handloom and Handicrafts	State Government	West Tripura (Agartala)
Mr. T K Chakma	Director	Handloom and Handicrafts	State Government	West Tripura (Agartala)

Person Met	Designation	Office	Organisation Type	District
Mr. Rajib Choudhary	Cluster Development	Sankhala Weaver's SHG	SHG	West Tripura (Agartala)
Mr. Rathin Chatterjee	Accountant	Music College	Tripura University	West Tripura (Agartala)
Dr. D. C. Das	Principal	Tripura Medical College	Medical college and hospital	West Tripura (Agartala)
Ms. M Debbarma	Principal	Maharaja Bir Bikram College	General College	West Tripura (Agartala)
Mr. D Anil Kumar	Director	Rubber Board	Central Government	West Tripura (Agartala)
Mr. R. K Jain	Proprietor	Brite Rubber	Private	West Tripura (Agartala)
Mr. Prasenjit Purkayastha	Chief Manager	Tripura Natural Gas Company	State Government	West Tripura (Agartala)
Mr. Pradip Dutta, Prashant Deb	Field In-charge, Factory in-charge	Durgabari Tea Company	Society	West Tripura (Agartala)
Mr. B.K. Singh, Mr. K. C Jenna	Manager (HR), Jt. General Manager	Abhisar Buildwell Pvt. Ltd., Dharmpal Satyapal (DS) Group	Private	West Tripura (Agartala)
Mr. N Chanda	Inspector Customs	Land Customs Station (Tripura-Bangladesh border)	Central Government	West Tripura (Agartala)
Mr. Tapan Nath	Tapper and executive	Regional Rubber Training Centre, Baghma	Central Government	Udaipur
Mr. Arun Bhattacharya	Director	District Horticulture Department	State Government	Dhalai
		Plantation SHG	State Government -	Dhalai
		Plantation SHG	State Government -	Dhalai
Mr. Tandi	Officer In-charge	ONGC	Central Government	West Tripura (Agartala)
	Office staff	Champaknagar Sericulture Cluster	SHG	West Tripura (Agartala)
Mr. Buddhidhabarma	Doctor	Medicinal Plant Board	State Government	West Tripura (Agartala)
Mr. Darlong		Private plantation	Pineapple grower	Dhalai
Dr. Shib Narayan Sen	Director	Directorate of Horticulture & Soil Conservation	State Government	West Tripura (Agartala)

#### 4. Training Capacity for Vocational Education - Tripura

Type of institution	No. of institutions	Seating capacity	District
ITI	2	336	West Tripura
ITI	1	140	South Tripura
ITI	1	32	South Tripura
ITI	1	136	South Tripura
ITI	1	128	North Tripura
ITI	1	28	Dhalai
ITI	1	80	North Tripura
Polytechnic	2	225	West Tripura
Engineering Colleges	2	1,496	West Tripura
Medical Colleges	2	270	West Tripura
Nursing Training Institutes	1	80	West Tripura
Institute of Paramedics	1	460	West Tripura
Music college, Tripura University	1	25	West Tripura
NIIT	1	20	West Tripura

## 5. Tripura – List of Handicraft Clusters

District	Product	Description
North Tripura	Agarbatti	Bamboo based
South Tripura	Agarbatti	Bamboo based
South Tripura	Shopping bag/ fancy Items	-
South Tripura	Hand Embroidery	-
South Tripura	Printing of cloth by hand	-
Dhalai	Cane & Bamboo Craft	-
Dhalai	Sital Patti from Cane	-
Dhalai	Earthenware & Pottery	-
Dhalai	Miniature Paintings	-
Dhalai	Agarbatti	Bamboo based
Dhalai	Artistic chappal by hand	-
Dhalai	Bleach/Dye/Print-Synthetic Tex	-
Dhalai	Hand Embroidery	-
Dhalai	Nakshi Kantha	-
Dhalai	Printing of cloth by hand	-
Dhalai	Woolen Garments	-
Dhalai	Zari work by hand	-
Dhalai	Furniture & Fixtures	-
Dhalai	Wood Block mould pattern	-
North Tripura	Bamboo basketry	-
North Tripura	Sital Patti from Cane	-
North Tripura	Earthen & plaster statues	-
North Tripura	Hand Embroidery	-
North Tripura	Printing of cloth by hand	-
North Tripura	Woolen Garments	
North Tripura	Furniture & Fixtures	
North Tripura	Wood Block mould pattern	
North Tripura	Cane and Bamboo Craft	Mats, table lamps, bags, moorahs, fruit baskets, vases, bamboo screens, lamp stands, table mats
North Tripura	Cane and Bamboo Craft	Mats, table lamps, bags, moorahs, fruit baskets, vases, bamboo screens, lamp stands, table mats
North Tripura	Brass and Bell Metal	Pots, Sarai with or without cover, bowls, lota, bells, shields, swords, daggers
South Tripura	Cane and Bamboo Craft	Mats, table lamps, bags, moorahs, fruit baskets, vases, bamboo screens, lamp stands, table mats
South Tripura	Sital Patti from Cane	
South Tripura	Earthen ware/pottery	
South Tripura	Earthen & plaster statues	
South Tripura	Miniature Paintings	
South Tripura	Woolen Garments	

District	Product	Description
South Tripura	Furniture & Fixtures	
South Tripura	Wood Block mould pattern	
West Tripura	Cane and Bamboo Craft	Mats, table lamps, bags, moorahs, fruit baskets, vases, bamboo screens, lamp stands, table mats
West Tripura	Bamboo basketry	Various kinds of bamboo baskets
West Tripura	Sital Patti from Cane	
West Tripura	Bamboo root work	Images and faces of gods and goddesses, show pieces like mother feeding a child, social life of tribal people etc., key ring, faces of famous person, Ajanta figures, animal, birds
West Tripura	Terracotta	Pottery items
West Tripura	Earthen & plaster statues	
West Tripura	Earthenware & Pottery	
West Tripura	Agarbatti	Bamboo based
West Tripura	Leather Products Artistic Chappals by hand	
West Tripura	Shopping bag/ fancy Items	
West Tripura	Brass and Bell Metal	Pots, Sarai with or without cover, bowls, lota, bells, shields, swords, daggers
West Tripura	Bleach/Dye/Print-Syn. Textiles	

## About ICRA Management Consulting Services Limited

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### IMaCS - An introduction

ICRA Management Consulting Services Limited (IMaCS) is a multi-line management consulting firm headquartered in India. It has an established track record of 17 years in management and development consulting across various sectors and countries. IMaCS has completed more than 1,200 consulting assignments with about 600 clients and has worked in over 40 countries across the globe. IMaCS is a wholly-owned subsidiary of ICRA Limited (ICRA), one of India's leading credit rating agencies. IMaCS operated as an independent division of ICRA till March 2005<sup>1</sup>, when it was de-merged from ICRA and became a standalone company in its present form.

Through the process of carrying out several assignments over the past 17 years, IMaCS has accumulated considerable analytical and consulting expertise, backed by the following organisational capabilities:

- An extensive and organised database on several sectors.
- Knowledge of key factors of success in different projects and program.
- An ability to research emerging global trends, both in specific countries as well as in different sectors, based on primary and secondary data.
- Performance benchmarking
- Quantitative and financial modelling
- Ability to identify the various types of risks and suggest appropriate strategies to mitigate the same
- Ability to work in different geographies on its own and through affiliate partners

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<sup>1</sup> Under the name "ICRA Advisory Services"



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