North Eastern Development Finance Corporation Ltd.

Status and Prospects of IT/ITES Sector In NER

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Digital India
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EXECUTIVE SUMMARY

TITLE OF THE STUDY

REPORT ON STATUS & PROSPECTS OF IT/ITES SECTOR IN NER

Summary of Findings

In the following paragraphs, we highlight our findings on current status of infrastructure, business environments, and national e governance activity, social and other aspects related to IT/ITES. Each of this parameter is analyzed in terms of their enabling or positive features and also their negative attributes towards building an IT/ITES based business activity.

1. Availability of Skilled Manpower / Higher Education

Positives –

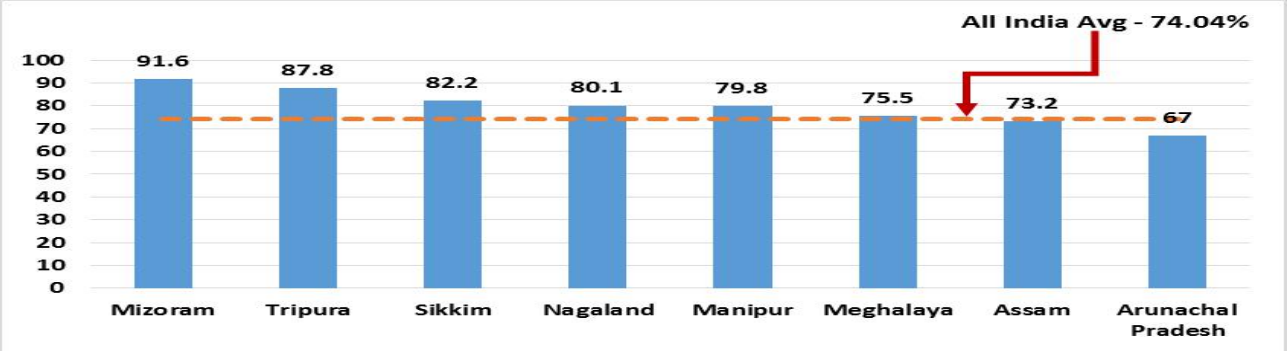
a) Higher literacy level compared to Indian average,

b) English speaking younger workforce

c) Employment of sizable number of NER students all over India in BPO (Voice) jobs.

d) Large number of national institutions present in NER - IIM/IIT/NIT , IIIT , NIFT, RGIIM etc.

Literacy Level



Student enrolment

Sl No.	Name of Institutes	Quota	Total
1	IIT	Nil	5166
2	IIM	Nil	119
3	NIT Agartala	50%	867
	NIT Silchar	50%	2786
	NIT Arunachal Pradesh	50%	163
	NIT Manipur	50%	160
	NIT Meghalaya	50%	252
	NIT Mizoram	50%	150
	NIT Nagaland	50%	210
	NIT Sikkim	50%	300
4	Total IIIT (Assam, Manipur & Tripura)	Nil	180
Grand Total			10353

Negatives

a) Quality of higher education remains a major concern

b) Comparatively lesser Science / Technical institutes,

c) Students prefer PSU jobs,

d) Major IT companies' reluctance for 'mass scale' recruitment in NER due to poor response/ availability.

2. Air Connectivity

Positives

a) Large no of airports in NER – 12

b) Guwahati, Tripura, Manipur & RUZHAPHEMA (GF) connected.

c) Immediate up gradation plans for Assam, Tripura & Nagaland (RUZHAPHEMA (GF))

d) 3 green field airports also planned.

	States	Operational	Non Operational	Green Field	Remarks
1	Assam	6	2	0	3 (IAF) + 3 (AAI)
2	Arunachal Pradesh	0	5	1	ITANAGAR (GF)
3	Manipur	1	0	0	
4	Meghalaya	1	1	0	
5	Mizoram	1	1	0	
6	Nagaland	1	0	1	RUZHAPHEMA (GF)
7	Sikkim	1	0	1	PAKYONG (GF) / BAGDOGRA
8	Tripura	1	3	0	
	Total	12	12	3	

Airport - Operational & Green field

Negatives

Currently air connectivity issue prevalent for Arunachal Pradesh, Meghalaya & Sikkim.

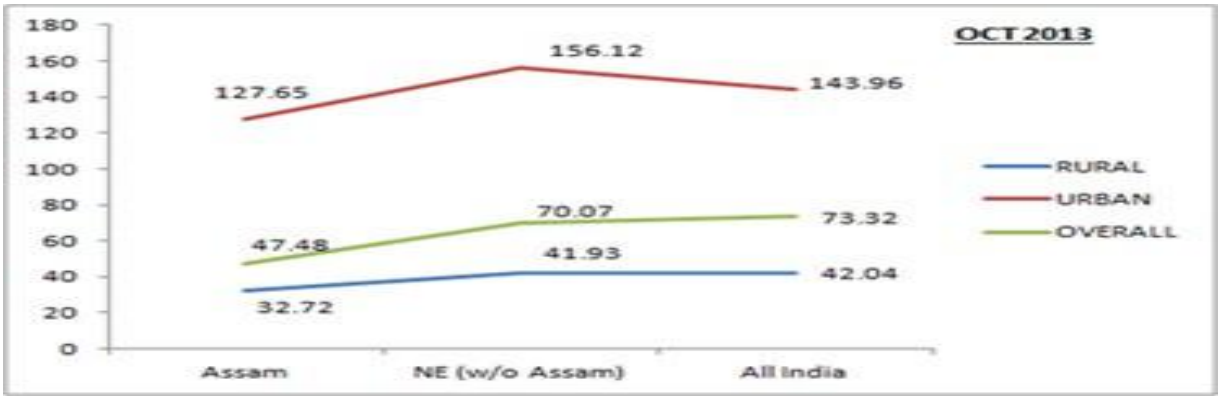
3. Broad Band Connectivity

Positives

a) Focused, planned and sustained Investment from Central government

b) International port (IP) transit service from Bangladesh aimed for higher bandwidth / speed and redundancy.

c) Connectivity (particularly leased lines) reasonable in capital cities.



Tele-Density

Negatives

a) BSNL's poor performance seen as a bane for connectivity

b) Blocks & Villages' level poor connectivity

c) Remote & hilly terrain – need for different technology.

4. Road – Healthcare – Hospitality

Positives

a) Impact of continuous investment in Assam observed. Guwahati has the distinction of beingincluded in the first batch list of 'smart city'.

b) Hotels / Malls / Hospital – OK for Assam, Sikkim, Meghalaya & adequate in Tripura

Negatives

a) Road connectivity poor - Arunachal Pradesh – scattered & isolated.

b) Infrastructure in other states not fully adequate.

5. IT Park / STPI

Positives

a) All 6 states excepting Nagaland & Arunachal Pradesh have STPI. For balance two states MOU'shave been signed for setting up STPI's.

b) IT Park – Manipur (20,000 sq ft & Tripura (35,000 sq ft) in place.

c) Plan for large IT Parks for Assam & Meghalaya is on fast track.

Negatives

a) Delay of Assam IT Park is seen as a major setback.

b) Lukewarm response from promoters for IT Parks (Assam & Meghalaya)

c) All STPI's are small with lower occupancy level.

d) Need for technically oriented professionals for providing incubation facility in STPI's.

6. Manpower / Real Estate Cost

Positives

a) Younger population – average age lower than Indian average. Meghalaya, Nagaland &Arunachal Pradesh population below 35 years highest in India.

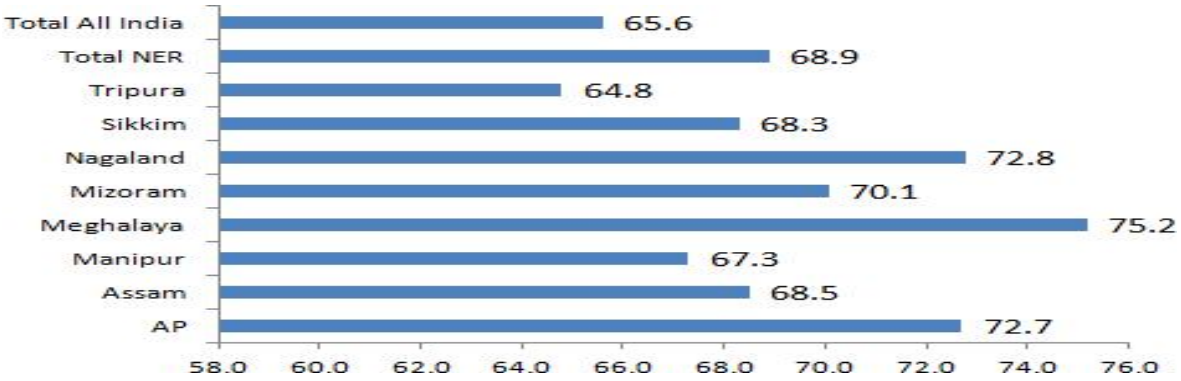
b) Manpower cost lower by 50% and real estate by 40% compared to Tier I cities,

c) Intra NER movement of students for improved availability and flexibility.

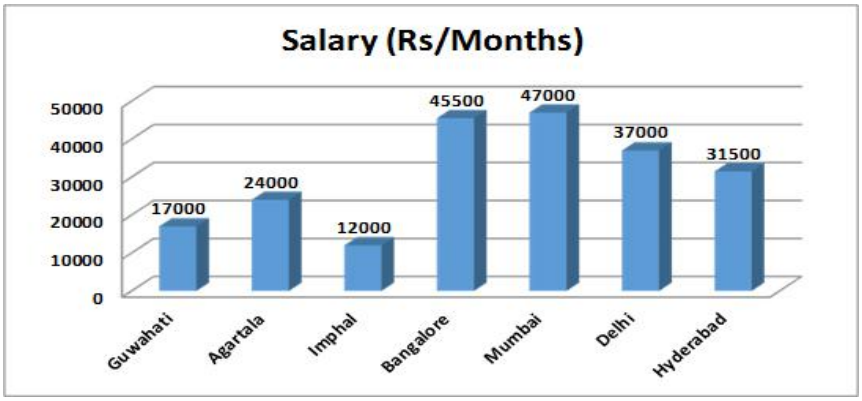
Negatives

a) Land availability poor.

b) Well-developed built up area for IT/ITeS industry not readily available.



Age Profile of States (Source – Economic Survey)



Salary comparison

7. Power Status

Positives

a) Huge hydro potential (> 50,000 MW),

b) Plans drawn up for 24x7 power by 2019.

c) 750 MW Bongaigoan NTPC project when commissioned will ease Assam's position.

d) Tripura – self sufficient

Negatives

a. Overall shortfall – 5.4 % (India-4.2%),

b. Constraints of transmission/ sub transmission and distribution & financial constraints.

c. High T&D losses – 32% (National avg -22%) & low plant load factor.

d. Lower electrification of Assam (37.1%)

Actual power supply position in terms of Energy Requirement vis-à-vis Energy Availability of various States/ Systems during the year 2013-14				
Region / State / System	Requirement	Availability	Surplus(+) / Deficit(-)	
	(MU)	(MU)	(MU)	(%)
Sikkim	413	413	0	0.0
Arunachal Pradesh	552	517	-35	-6.3
Assam	7,544	7,062	-482	-6.4
Manipur	579	548	-31	-5.4
Meghalaya	1,794	1,604	-190	-10.6
Mizoram	446	430	-16	-3.6
Nagaland	577	561	-16	-2.8
Tripura	1,195	1,144	-51	-4.3
All India	1,002,257	959,829	-42,428	-4.2

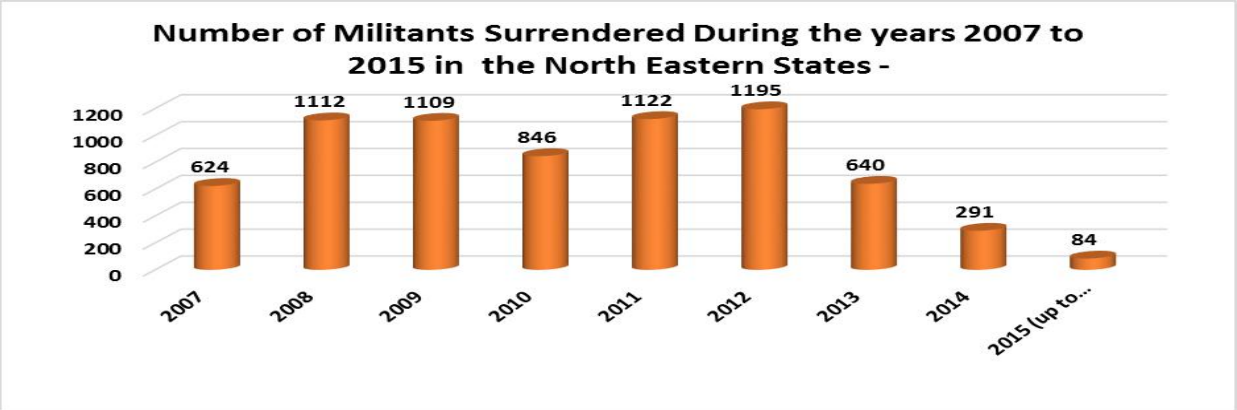
Actual Power Supply: 2013-14

8. Stability / Internal Security

Positives

a) Instability is on the wane in all states like Assam, Meghalaya & Nagaland.

b) Sikkim, Mizoram & Tripura almost unaffected.

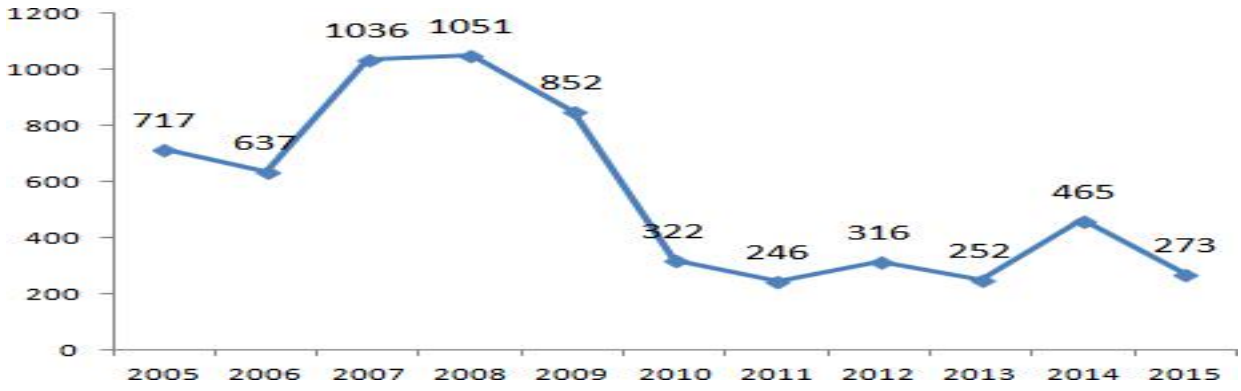


Negatives

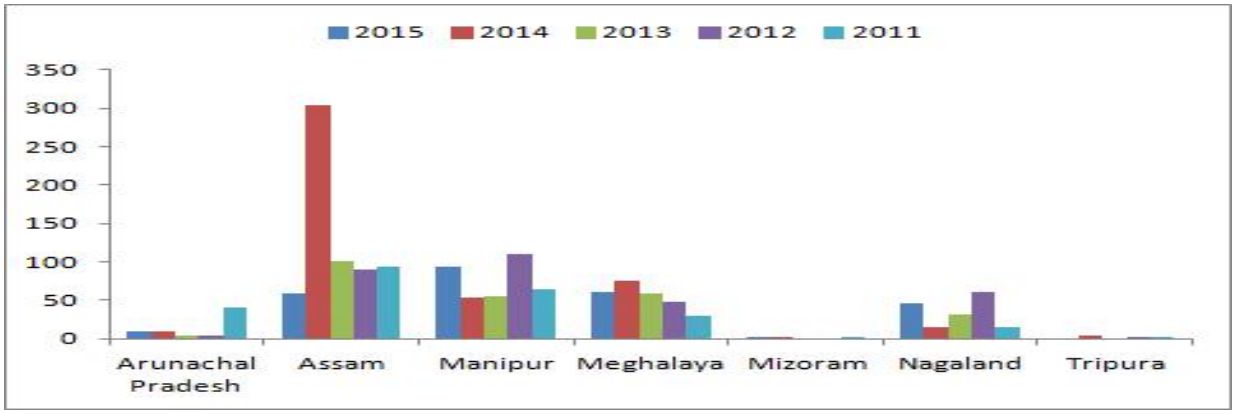
Fear of extortion and lack of stability is a major threat for IT/ITeS business.

Perception of outsiders is still unchanged

Prolonged state of instability, need for ILP, RAP & PAP.



Fatalities in Terrorist Violence



State Wise Trend of Fatalities

9. Business Environment / Industrial ActivityPositives

a) Improvement observed in Assam and Sikkim (Pharmaceutical industry).

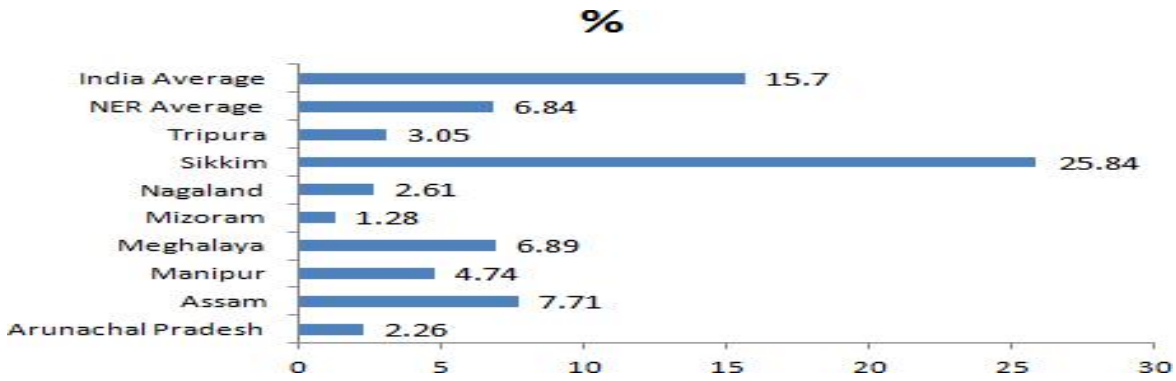
b) Potential for business with ASEAN countries

Negatives

a) Limited industrial activity directly reduces IT/ITeS domestic business potential.

b) 70 to 75% dependence on agriculture and other local industry

c) High under / unemployment



Share of Manufacturing in GSDP (2011-12)

10. Private Investment

Positives

a) PPP being tried for IT Parks for both Assam & Meghalaya

b) Private investments in schools & colleges are quite widespread.

c) Large north east Diaspora in Australia, US, Europe & SE Asia.

Negatives

a) Lack of networking & synergy among Public & Private organization

b) Trading business is predominant

c) Effort to engage with NER Diaspora limited (for IT/ITeS business development).

11. Governance / Ease of Doing BusinessPositives

a) Efficient & transparent governance – Tripura, Sikkim, Mizoram and Manipur (Sikkim awardedthe best all round state among small states)

b) State governments' keenness for development apparent now.

Negatives

a) Most of the states' track record of project implementation is poor and there is widespreadperception of corruption.

b) All states are at the bottom of World Bank study report ranking on implementation of businessreforms.

Rank	STATES	Score	Rank	STATES	Score
1	Gujarat	71.1	22	Assam	14.8
2	Andhra Pradesh	70.1	26	Tripura	9.3
3	Jharkhand	63	27	Sikkim	7.2
4	Chhattisgarh	62.4	28	Mizoram	6.4
5	Madhya Pradesh	62	30	Meghalaya	4.4
6	Rajasthan	61	31	Nagaland	3.4
7	Odisha	52.1	32	Arunachal Pradesh	1.23

12. Branding / Business Image

Positives

a) Presence of Oil & Gas based industry

b) World class tea production

c) Post introduction of NEIIPP 2007 (now discontinued) few industries started in Assam & Sikkim.

Weakness

a) Poor industrial / manufacturing base

b) Lack of entrepreneurship.

13. NER States (Location /Size)

Positives

a) Strategic location and Central Government's 'Look East' policy

b) Smaller sized states given proper governance has potential for faster growth and development.

c) Rich in natural, ethnic, cultural heritage with linguistic diversity

Negatives

a) Combined population is 45.8 million, which is less than Odisha.

b) NER as an economic entity yet to be established

c) Minimum uniformity in approach among states – need for an integrated approach like IT/ITeSpolicy and common brand building.

14. Land Availability / Natural Calamity

Positives

Investments focus observed towards debottlenecking of natural calamity

Negatives

a) Pressure on land - acquisition difficult to negotiate

b) Prone to floods (Assam) & landslides (Mizoram, Nagaland, Sikkim).

15. Climate / Natural Beauty

Positives

a) Regarded as attractive tourist spots

b) Hilly states' (Meghalaya, Sikkim, Arunachal Pradesh, Mizoram) excellent climate/ abundance ofnatural beauty

c) Possibility of utilizing this aspect for attracting IT professionals.

Negatives

Full potential of development of Wildlife, Cultural & Eco tourism yet to be fully exploited ('Paradise Unexplored').

16. Social Impact

Positives

a) Culturally rich states (Assam, Manipur and others) which act as a binding force.

b) Visible gradual movement towards main stream economic growth.

Negatives

a) Massive brain drain due to low level of industrialization (conservative estimate - 5 lakhsstudents leave NER every year).

b) Higher unemployment – Assam :46%, India average : 22%

c) Sense of despondency & fatalism – inability to look inwards and take corrective measures

17. IT Budget

Positives

a) 10% of Deity annual budget earmarked for NER Avg. Rs. 275 Cr Per Annum.

b) Additional budget allocation

- For OFC / Tower: Rs. 5336 Cr

- BSNL / BSCCL pact: Connectivity from Bangladesh Capital investment – Rs.19 Cr

Revenue expenditure – Rs. 7.7 Cr Per Annum

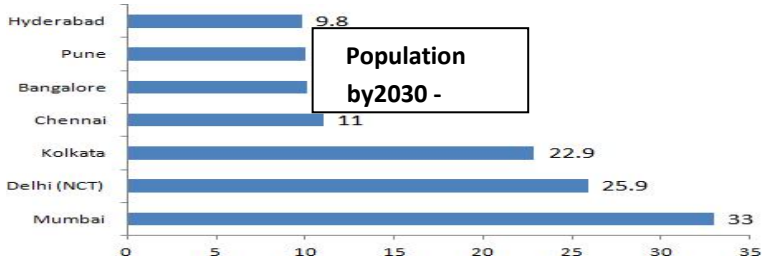
Negatives

a) Isolated / hilly terrain needs different technology and additional investment

b) States' budgets low.

18. Emerging Trend – Move Towards Tier II & III Cities

Currently IT/ITeS business in India is heavily concentrated in 6 metros. These cities are likely to grow



phenomenally as indicated below -

It is projected that unless massive effort is made, some of these cities will face worsening decay and gridlock. Additionally rapidly growing manpower and real estate cost is directly affecting IT/ITeS industry. Higher attrition level (20 to 25%) also has an adverse impact.

It is predicted by NASSCOM that large number of tier II and III cities will henceforth be added to IT/ITeSmap of India.

19. Vision 2020

NER's Vision 2020 document clearly spells out the possibility of IT/ITeS in NER with a long term prospect for extending into ASEAN countries as well.

20. Interaction with Stakeholders

(Details in Chapter 2)

With an effort to make the study inclusive, all stakeholders were interacted across states and disciplines - IT professionals, students, business promoters, government officials etc. Their feedbacks were captured in some cases using structured questionnaires and for other through 'qualitative interview'. This was a key contributor to our study providing

a) Primary data
b) Views, insights of seniors based on years of experience
c) Validation of assumptions
d) Useful suggestions

21. Local Entrepreneurs

Few local entrepreneurs engaged in IT/ITeS were met with the objective of understanding their business model,

size of operation and issues faced particularly on connectivity. Highlights of study are as under –

a) Their sustenance show ray of hope for IT/ITeS business in NE.
b) Role of migrant NER nationals (oversees / other states) in developing business.
c) Manpower availability, broadband connectivity etc are not regarded as constraints.
d) Willingness of migrant locals to come back for IT/ITeS jobs.

22. Successful Case Studies

(Details in Chapter 4)

Detailed analysis and study of successful two Indian States (Bangalore and Hyderabad) and three countries (China, South Korea and Philippines) related to IT/ITeS & ESDM industry was carried out. Key success factors can be summarized as under -.

a) Long term vision and aspiration to be world leader (South Korea / China)
b) Governments' sustained investment on infrastructure and higher education (Bangalore,Hyderabad)
c) Industry academia cooperation.
d) Cost effective model (Philippines)
e) Stiff competition among broadband operators to keep cost under control (South Korea).

23. IT Policy & Incentive Scheme (Refer Annexure I)

Current IT Policies as well as fiscal benefits and other incentives of all eight states of NER were studied. Similar study was carried out for all successful states to compile all relevant parameters. The summary of our study can be captured in the following paragraphs.

a) NER States' incentive schemes contain common features (excepting Arunachal & Nagaland).
b) Manipur's scheme is the latest and incorporates features of developed states.
c) All developed states' have some unique / innovative approach.

An integrated IT Policy and incentive scheme was developed for NER.

24. e Readiness Index

(Details in Chapter 10)

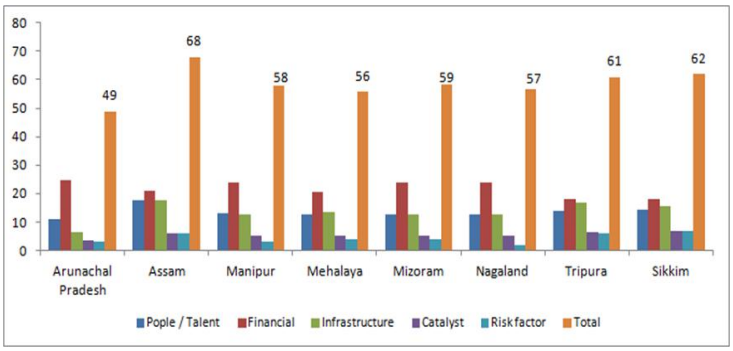
In order to have a quantitative approach of assessment of state of preparedness of a location for IT/ITeS business, this index was used. A framework was developed for this purpose with 5 factorswhich were allotted various weightages.

a) People / Talent (25%) – Availability of skilled manpower
b) Financial (30%) – Manpower & infrastructural cost.
c) Infrastructure (25%) – Covering physical infrastructure (Air, Road, Healthcare, Entertainment, Primary School) and Broadband connectivity

d) Catalysts (10%) – Government support, incentive

e) Risk Factor(10%) – Social & political stability

All 8 states were evaluated using this framework to find their readiness. This also indicates the 'GAPS'which have to be focussed and action taken to improve.



25. Case Study - IT PARK

(Details in Chapter 12)

IT Park plays an important role in accelerating growth and progress of IT/ITeS in any state. Case study involving 6 IT Parks – 2 in India, others in China, South Korea, Singapore & Malaysia) were looked into. The findings highlighted essential success factors of an IT Park –

a) World class physical and virtual infrastructure

b) Need of 'anchor occupants'

c) Supportive and proactive government

d) Vibrant and proactive private park management team

e) PPP model for investment

f) Linkage with 'centre of excellence'

26. National e Governance Program

(Details in Chapter 5)

The status of implementation of various aspects of NeGP of all 8 states were collated in areas of

a) Core e Infrastructure

b) Capacity building

c) Mission mode projects

Our study indicates that while some states' progress has been satisfactory, others have a lot to catchup.

A number of bigger IT companies are involved in implementation of NeGP with local partners. Webelieve there is enough direct business opportunity for local entrepreneurs in this area.