Information Technology Led Growth in Bihar – A Road Map

A REPORT OF THE SPECIAL TASK FORCE ON BIHAR

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SPECIAL TASK FORCE ON BIHAR

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ACKNOWLEDGEMENTS

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A Report of the Special Task Force on Bihar

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A. Executive Summary

India's sustained leadership as the preferred sourcing destination for IT-BPO services has delivered significant gains to the nation. This has led to tremendous pay-offs in terms of wealth creation and generation of high-skilled employment. Today, the sector is estimated to contribute over US$ 40 billion in exports and directly employ nearly 2 million people. In addition to direct economic impact, the growth of this sector has also indirectly contributed to economic and employment growth in other parts of the economy in the form of increased demand for commercial and residential real estate, urban development beyond existing centres, and has played a significant role in driving demand for other commercial services such as retail, hospitality and transportation, etc.

So far, this rapid growth and the associated developmental impacts have been largely concentrated in a handful of IT-BPO hubs, with only five states (Andhra Pradesh, Karnataka, Maharashtra, the National Capital Region and Tamil Nadu) accounting for about 97% the total exports last year (FY2006-07). Several other remaining States of the country including Bihar have remained isolated from the on-going IT revolution globally as well as in India. However, the past two years have witnessed a steadily growing trend of firms expanding their delivery units into cities outside these established centres. Key factors driving this move include the improving infrastructure in Tier II and III cities, increasing cost pressures, and active efforts by state governments.

With less than 20 percent of the US$ 380 billion market potential addressed so far, there is significant headroom for growth. Against this backdrop of large untapped demand potential, and the national objectives of achieving more balanced and inclusive growth, there clearly lies significant opportunity for other states of the country to participate in this growth.

This opportunity assumes special relevance for a state like Bihar, which has been largely left out of the industrialization and economic progress that many parts of India have witnessed over the past few decades.

No doubt, the new government of Bihar has already taken several initiatives to help promote IT sector. There is a strong thrust on policy and institutional direction and the aim is to bring quality governance at various operating/functional levels.

However, to move further for IT revolution in Bihar and stake its claim on a part of this opportunity, the state administration in Bihar needs to address four key challenges. The first two relate to the overall business environment and socio-political situation, which has hindered the growth of organized economic activities in the state. Key imperatives include:

(i) Effecting a significant improvement in the local socio-political / business environment (and its perception)

(ii) Building world-class basic, business and social infrastructure to support economic activity

The latter two challenges require actions specifically aimed at attracting knowledge services business activity to the state. These include:

(i)   Providing a favourable policy and regulatory environment that incentivizes investment in the IT-BPO sector of the state; and

(ii)   Developing a focussed program to facilitate the supply of talent suitable for employment in the IT-BPO sector

The remedial actions recommended in this IT Road Map for Bihar are aimed at strengthening the basic foundation for Bihar's development. They will, no doubt, need to be supplemented with several others (to address other challenges that evolve / arise in the developmental process) – to enable the state of Bihar to achieve its full potential. Nonetheless, there are strong reasons supporting the immediate initiation of these actions, before other higher order challenges may be addressed.

First, unless the prevailing perceptions about the business and socio-political environment in Bihar are countered – with convincing on-the-ground action, it is unrealistic to expect an increase in investment interest.

Secondly, the improved business environment needs to be complemented by significant investment in building basic, business and social infrastructure – at least in key cities and/or proposed economic centres.

Thirdly, attracting the IT-BPO industry to invest in Bihar will not only need the state to demonstrate significant break-through on the above mentioned aspects of environment and infrastructure, but also compete with other destinations (in India as well as overseas). Given the choices available to firms today, the state administration needs to complement its basic proposition with a comprehensive package of incentives and support services to attract business activities and enlarged investments.

Fourthly, given Bihar's relatively weaker position on the human capital index (and the importance of this factor for the IT-BPO sector), the state will need to institutionalize a sustainable program for significantly enhancing and upgrading the talent pool in the region. In addition to increasing the scale and intensity of IT oriented courses offered in the state, it would be worthwhile for the government to pursue the proposed concept for the Nalanda International University. If successfully executed, this could serve as a key differentiator for Bihar – establishing it as the 'seat of learning' and a model for international academic collaboration in India, for other regions to adopt.

Finally, it is pertinent to note that 'doing nothing' has significant opportunity costs associated with it – and is not an option. If we choose to do nothing, we stand to loose a good opportunity to propel the state of Bihar onto a higher growth orbit, on the fast track to becoming a developed state. This opportunity will not last forever as other locations (other states in India as well as other countries across the world) are working hard to prepare themselves to garner a share of the pie.

The good news is that we already have precedences of several states (some in a more disadvantaged position than Bihar) which decided to aggressively pursue some of the recommendations that are made in this report and have achieved tremendous results.

It must be recognized that Bihar possesses certain basic comparative advantages in terms of vast pool of talents, high enthusiasm for learning and cheap cost of IT operations.

There are certain State experiences in the IT sector which Bihar could imbibe. These are:

a.   When Karnataka decided to project Bangalore as "the Silicon Valley of India" there was very little on the ground. There were only two companies that were somewhat known – Infosys and Wipro but, in the early '90s (when Karnataka started its push) both companies had revenues of less than USD 1 mn ! But the government was determined, it convinced IBM, which was re entering India at that time, to locate itself in Bangalore rather than Delhi (where IBM had almost finalised its presence) and this started the trend of multinationals moving to Bangalore and converting the hype of India's "Silicon Valley" to reality.

b.   When Andhra Pradesh decided to take a leaf out of Karnataka's book and launched Hyderabad as "Cyberabad", there was only one company of any substance in Hyderabad – Satyam, which was even smaller than Infosys and Wipro. But the government was determined and relentlessly pursued Microsoft and convinced it to set up operations in Hyderabad instead of Bangalore. Oracle followed. The government was equally persuasive with domestic players. It roped in Larsen & Toubro to build fantastic infrastructure and the rest is history.

c.   Chandigarh was never considered a likely venue by IT / BPO companies as it was largely seen as an agriculture oriented location with insufficient talent of the kind required for IT. However, the Punjab government was determined and built the right infrastructure, using public – private partnerships when required and today most major companies have operations there. Punjab's success is very, very recent.

d.   West Bengal had seen an exodus of all IT companies during the Naxal trouble. It was completely off the radar of the industry. However, 5 or 6 years ago, the government decided to aggressively pursue the industry. It made investments in infrastructure and actively engaged all major companies in discussions not only by inviting them to Kolkatta but also visiting them in Delhi, Mumbai, Bangalore, etc. In a relatively short span of time,

they have achieved their objective and more and more companies have set up base there.

e.   Orissa perhaps saw this very early. Even though the state suffered from the "backward" tag, it persisted with wooing companies with promises and infrastructure and today virtually all major companies have a presence in Bhubaneshwar. A NASSCOM study on the difference this has made in Orissa is part of this report.

Bihar, therefore, needs to take a critical look at these experiences on IT promotion and take prompt and decisive action. Bihar has not only to be aggressive in the IT venture but will have to be persuasive to bring IT industry to Bihar. This is due to such factors that several other locations are also beginning to see success. These are Cochin, Trivandrum, Coimbatore, Mysore, Bhopal, Nagpur, Jaipur, etc.

B. RECOMMENDATIONS

1. Effecting Significant Improvements in the Local Socio-Political / Business environment (and its perception)

Transforming the socio-political environment in and perceptions about the state of Bihar will require concerted efforts by various stakeholders. These would include the state administration, legal and enforcement machinery, industry, and citizens. Increasing the adherence to procedure and facilitating greater transparency in the system will be a key step towards this goal.

The concerned government Department has already identified technology infrastructure needed to introduce some of these changes, which are included in its draft IT policy. Additionally, the state should also plan for investments required to create last-mile infrastructure to facilitate widespread adoption and usage by providing free internet access to its citizens especially in public areas and schools, colleges and universities, to encourage wider usage.

Investments in technology infrastructure need to be complemented with the deployment of relevant applications. In addition to the applications detailed in the draft IT policy, the state should consider establishing an IT Initiative Fund for e-Governance for developing /

customizing replicable and reusable models of e-Governance (e.g. the Mission Mode projects under the NEGP), IT innovations in administration re-engineering, IT supported resource optimization, decision support systems, MIS, intranets and other applicable enabling technologies. This should be extended to an e-citizen interface through the digitization of public domain information (like official gazette notifications, acts, rules, regulations, circulars, policies and programme documents) and making them available for electronic access on Web. The government should also set up Public Information and Facilitation Counters (PIFCs) in Government offices so that public domain information is available to citizens with ease. Further, the government should also plan for electronic delivery of its services – which could be made available on a transaction fee basis to make the process self sustaining in the long run.

To facilitate effective utilization of these investments, the government should implement an IT Literacy Plan (ITLP) for its employees to achieve 100% IT literacy in the government. IT literacy will have a minimum level of defined proficiency which will include word processing, e-mail, data entry and access etc. Appropriate training may need to be extended to the citizens as well – to facilitate usage. Suitable incentives/disincentives should be designed to achieve desired level of proficiency by a targeted date. Over time, the efforts to increase IT literacy should be extended to the citizens of the state.

2. Building World-Class Basic, Business and social Infrastructure to Support Economic Activities

Adequate availability of infrastructure is another essential requisite for facilitating business activity. Overcoming this deficit in Bihar requires significant investments in basic business as well as social infrastructure.

From the perspective of the IT-BPO industry, the core elements of infrastructure required to sustain business activity include a robust telecommunications back-bone, world-class office space supported by regular / uninterrupted supply of basic utilities (power, water, etc.), and airline connectivity. Clearly, the state government will have to accord top priority to the development of these elements – to attract any IT-BPO business. However, given the role of human capital in this business, other related elements of social infrastructure (e.g. residential real estate, retail, hospitality) are also just as

important. The high degree of mobility of human capital makes it the toughest to attract and retain – **complete** personnel. As a result, the living environment of the professionals in this industry needs to be just as world-class as their work environment. This needs to be kept in mind while deploying infrastructure development projects in the region.

Further, it is essential that the various elements of basic, business and social infrastructure are pieced together in an integrated manner, aimed at developing townships that are sustainable as relatively independent units in the long run.

3. Providing a favourable Policy and Regulatory Environment that Incentivizes Investment in the IT-BPO Sector of the State

In addition to the centrally prescribed incentives for the IT-BPO exports sector, the state government needs to offer a compelling package of incentives to attract business activities to the region. This should include:

(i) Providing Single Desk Clearance for obtaining approval of various Government departments. This may be facilitated by establishing an On-line Clearance & Support Network (OCSN) linking all the related Departments/Organizations.

(ii) Providing preferential treatment for allotment of land to the IT industries on an ongoing basis in all industrial areas developed by state agencies.

(iii) Providing continuous and uninterrupted power supply for IT industries, exempting the IT sector from scheduled power cuts, and encouraging captive power generation in IT Parks/IT locations.

(iv) Exempting captive power generation sets installed by the IT industry from payment of electricity duty.

(v) Permitting setting up of IT Software units/IT Parks in urban areas and conversion change of existing industry to IT/IT Parks.

(vi) Exempting the IT industry/IT Parks from Change of Land Use (CLU) charges for 5 years, and permiting sale/ lease/sublease in constructed buildings and open spaces for optimum utilisation of infrastructure.

(vii)   Relaxing Floor Area Regulation (FAR) up to 100% for IT units and all IT Parks.

(viii) Providing a rebate on registration and transfer of property charges and exempting sale/ lease of built-up space to the IT Industry from stamp duty.

(ix)   Giving sales tax concession to new units and for expansion/diversification

(x)   Exempting the IT industry from payment of sales tax on software and peripherals.

(xi)   Permitting self-certification/exemption for the IT Industry as far as possible regarding requirements of the Factories Act, Employment Exchange (Notification of Vacancies) Act, Payment of Wages Act, Minimum Wages Act, Contract Labour (Regulation and Abolition) Act , Workmen Compensation Act, Shops and Establishments Act ; and Employees State Insurance Act.

(xii)   The State should declare awards of excellence for outstanding performance in exports/domestic segment/employment generation.

(xiii) Granting IT-BPO Services the status of priority sector for lending assistance from State Level Financial Institutions.

(xiv)   Strengthening telecom and communication infrastructure by the State/DOT by establishing reliable, adequate and efficient telecom and communication infrastructure including Internet Nodes.

(xv)   Providing Customized package of special incentives for key projects having an investment of Rs. 10 crores and above. A High Powered Committee under the chairmanship of Chief Minister could be constituted to decide the package in individual cases.

Many of these measures have been incorporated into the draft IT policy. The state government should consider incorporating all the remaining provisions and establish a mechanism for its periodic review and update.

4. **Developing a Focussed Program to Facilitate the Supply of Talent Suitable for Employment in the IT-BPO sector**

The state government needs to lay greater emphasis on IT literacy and vocational training – to ensure that a sufficient pool of employable people is available to meet industry needs in the short-medium term. This may be achieved by introducing basic courses in IT literacy in the existing education system so designed as to provide ready employment opportunities in low end IT enabled services, and by introducing special modules on IT in engineering and non-engineering degree and diploma courses, for equipping the graduates with specialized skills for IT-BPO careers.

This alone is unlikely to be a sustainable solution. Given the shortage of suitable candidates, currently faced by industry, there is a dire need to significantly enhance the quantity and quality of technically trained graduates to meet the growing market demand. Although its migrants account for a fair share of the workforce (especially the public sector and administrative services), today Bihar as a state is needs to establish itself as a well-known destination for exceptional intellect or marquee universities. The state government should bid to correct this imbalance with the aid of a special grant / allowance from the centre to invest in strengthening the academic infrastructure in the region.

In addition to the above, the state of Bihar is also uniquely positioned to leverage the human capital development platform as a significant differentiator – by re-instating Nalanda as the global 'seat of learning'. If supported by the required approvals from the centre, Nalanda University could be re-developed as a focussed education zone – permitting foreign funding, run on market-driven economic models, possibly with active participation by renowned international universities and world-class curriculum and faculty.

PREAMBLE

World experience reveals that there has always been some kind of revolution behind the development process of a nation. The 21st century's development has IT revolution behind it which is unique. Its main focus is on capacity building, changed management and governance principles, and widespread diffusion of developmental benefits with least cost. This helps in sustaining the development process. Bihar, in its endeavour to catch up and compete in the process, will have to accelerate the IT revolution. Bihar has the capacity to do it and must do it with determination and sincerity.

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BACKGROUND

A. IT Related Experiences

India's success in the export of Information Technology Software and Services (IT-BPO) over the past decade remains unparalleled. Available information reveals that annual export revenues earned by this sector have grown from INR 11,200 crore (approximately US$ 2.7 billion) in 1998-99 to an estimated INR 164,000 crore (US$ 40.3 billion) in 2007-08 and are forecast to cross INR 220,000 crore (US$ 60 billion) by 2009-10. Today, India is regarded as the premier destination for the global sourcing of IT and IT-Enabled Services (IT-BPO). India now accounts for 65 percent of the global market in offshore IT and 43 percent of the BPO market. Of the total 117 companies certified at Level-5 of the SEI-CMM, 80 (65 percent) are Indian. A majority of the Fortune 500 and Global 2000 corporations are sourcing IT-BPO from India.

Figure-1

Indian IT-BPO (Software and Services) sector revenues over 2000-2010E

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Source: NASSCOM

2.   The growth of the sector has led to un-precented pay-offs in terms of wealth creation and generation of high-skilled employment. Market capitalization values of leading Indian IT companies now compete with those of global competitors (even though the latter have higher revenues), and the Indian IT-BPO sector directly employs nearly 2 million people. In addition to the direct economic impacts, growth of this sector has also indirectly contributed towards faster economic and employment growth in other parts of the Indian economy such as the increased demand for commercial and residential real estate, catalyzing urban development, and playing a significant role in driving demand for other commercial services such as retail, hospitality, transportation, recreation, etc.

3.   So far, this rapid growth and the associated developmental impacts have been largely concentrated in a handful of IT-BPO hubs. Five states accounted for about 97% of the Indian IT-BPO services exports in 2006-07. A large number of Indian States remained isolated from this new venture.

Figure - 2

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4.   However, the past two years have witnessed a growing trend of firms expanding their delivery units into other Tier II cities and beyond in the country. This would have far reaching implications for the economic growth process in the states which have to catch up the developmental momentum. Three main factors that are driving this move are as follows:

(a) Improving infrastructure in Tier II and III cities: Real estate including commercial, retail and hospitality space is coming up rapidly in these cities. The ensuing real estate and retail boom in the country is not restricted to the major metros – but is also witnessing rapid growth in the next tier of cities and towns. Several private real estate developers have announced large commercial and residential development projects across the country. This is being complemented by the governments' focus on developing civil aviation and boosting connectivity across the country.

(b) Increasing cost pressures: The cost of operations in Tier II and Tier III cities is typically at least 15-20% lower that thay in metro centres due to lower labour and rental costs. Given the cost pressure on IT and BPO companies, most companies are either already expanding or planning operations in Tier II and Tier III cities. Another advantage these cities offer is lower rates of attrition.

(c) Active encouragement by state governments: Having witnessed the significant economic and developmental benefits enjoyed by the early movers, several other state governments are keen to develop cities / regions in their respective states as IT-BPO hubs. Some enterprising state governments, such as Orissa, Tamil Nadu, Chandigarh and West Bengal, have made commendable progress during last 2-3 years. Others are trying to catch up.

5.   Consequently, the spill-over benefits of the growth of the IT-BPO sector are becoming visible in these emerging centres as well.[1] With less than 20 percent of the US$ 380 billion market potential addressed so far – there is a significant headroom for growth. Further, with the global offshoring market continuing to grow rapidly, as the proven benefits of offshoring (also termed global sourcing or global delivery) induce more and more companies to adopt these practices and providers develop the capabilities to offer more sophisticated products and services – the size of the overall pie is also expanding. Thus, opportunities for other states are tremendous.

6.   By now, there should be no doubt about the fact that India is fundamentally advantaged and uniquely positioned to sustain its global leadership position, grow its offshore IT-BPO industries at an annual rate of 24-25 percent, sustain over 10 million jobs (directly and indirectly), and generate export revenues of about US$ 60 – 80 billion by 2010. This growth in exports can be further accelerated through deep and enduring innovation by industry participants. Such extensive innovation could generate an additional US$ 50 – 60 billion in export revenue over the next five to ten years.

7.   Against this backdrop of large untapped demand potential, and the national objectives of achieving more balanced and inclusive growth, there clearly lies significant opportunity for other regions of the country to participate in this growth. This could be one of the major means to narrow widening regional disparity in terms of wealth and employment creation.

8.   Further, this opportunity assumes special relevance for a state like Bihar, which has been largely left out of the industrialization and economic progress that many parts of India have witnessed over the past few decades. To that end, this paper outlines the policy and strategic actions required to foster IT-enabled growth in the state of Bihar, enabling it to play a more participatory role in India's economic development.

B. Bihar's Plans and Programms in the Sector

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[1] Please refer to Annexure I for a profile of the IT sector in Orissa, as an example of one of these emerging centers.

9.   The government of Bihar has already taken several initiatives for the development of the IT Sector. The details are provided in Annexure-2. The Plan of the government is to develop: (i) World Class IT infrastructure – to provide connectivity from the State Headquarters down to districts and blocks; (ii) e-Governance for implementing government's agenda for 'Good Governance"; and (iii) Citizens Services – for providing various development services to the common people at a minimum cost and also near their households/villages. This would also tend to provide government's prompt response to citizens' electronic requests for services and information; (iv) conducive environment for development of IT related industries; (vi) for solution of "Regulatory Issues'; and (vii) formulation of plan of action for effective evaluation and monitoring of implementation of various development activities.

10.   The government of Bihar is very conscious of the fact that IT promotion in the State would not take strong root unless the issues of basic business environment, quality infrastructure, and image of the State are squarely addressed. This calls for not only urgent quality improvement in the business environment but also high visibility of changing scenario besides building world-class basic business and social infrastructure to support variety of economic activities. The government of Bihar seems committed to undertake this challenging task and initiate a variety of new policy and institutional interventions.

C. Key Issues to be Addressed

11.   The state of Bihar has been largely left out of the benefits of economic liberalization and the associated industrial development witnessed in India since the early 1990s. Consequently, today the region suffers not only from a deficit of tangible factors needed to support economic growth and development (e.g. infrastructure and industrial activity), but is also lacking in many of the intangible factors that comprise a conducive business environment (e.g. socio-political stability, opportunities for gainful employment, and increasing levels of urbanization).

12.   While the focus of this paper is on the policy and strategy actions needed to foster IT-enabled growth in the region, specific policies aimed at promoting the growth of the IT-BPO sector will not have the desired impact unless the issues in the basic business environment, infrastructure and image of the state are addressed. Hence, while

the recommended policies to promote IT-BPO business activity in the state have been discussed in greater specificity, the broader policy actions needed in other related areas have also been outlined.

13.   Four key challenges need to be addressed for Bihar's sustained growth process. The first two relate to the overall business environment and socio-political situation, which has hindered the growth of organized economic activity in the state.

The latter two challenges require actions specifically aimed at attracting knowledge services business activity to the state. Key imperatives include:

(i) Significant improvement in the local socio-political / business environment (and its perception)

(ii) Building world-class basic, business and social infrastructure to support economic activity

(iii) Providing a favourable policy and regulatory environment

(iv) Focussing on human development and developing a program to facilitate the supply of talent suitable for employment in the IT-BPO sector not only for Bihar but for India as a whole, keeping in mind the vast pool of talents in the State.

TRANSFORMING BIHAR'S BUSINESS / SOCIO-POLITICAL ENVIRONMENT

14.   The relatively poor track record of the state in terms of socio-political stability and law enforcement has contributed to a strong perception of it having an unfriendly / unsafe business environment. The present government has laid special emphasis on improving the state's overall performance and image on this front. There is a considerable improvement in the law and order situation in the State. Several major policy changes are in place and there is a difference in the working environment. However, the legacy of past 20 years cannot be overcome in a short span of time. For reinstating business confidence in the region, the state administration will need further momentum and to demonstrate a sustained commitment to the cause through on-the-ground action combined with measurable results.

15.   Transforming the socio-political environment and perceptions about the state of Bihar will require concerted efforts by various stakeholders. These would include the state administration, legal and enforcement machinery, industry, and citizens. Increasing the adherence to procedure and facilitating greater transparency in the system will be a key step towards this goal.

16.   Application of IT can help the state administration by the removal of redundancies, resource optimisation and rationalisation of rules and procedures. This will help increase transparency in the overall working environment and in enhancing efficiency and productivity. This will require significant investment in building the required technology infrastructure, deploying relevant applications, and facilitating their widespread adoption and usage across the state.

17.   The concerned Government department has already identified technology infrastructure needed to introduce some of these changes. Key elements relating to technology infrastructure provisioning included in the draft IT policy for Bihar include; (i) building a State-Wide-Area-Network (SWAN) to provide vertical connectivity and complementing that with horizontal connectivity across departments and other state

administrative units, (ii) establishing a State-Data-Center (SDC) to serve as the central repository and provide secure data storage; (iii) support online delivery of services; (iv) host a citizen information/services portal, state intranet portal; and (v) enable disaster recovery, remote management and service integration. All these, as planned, will be integrated with a Secretariat-Local-Area-Network (SecLAN) to connect all Government offices in and around the State Secretariat to enhance communication within the offices. This will impact information sharing, file movement, and help drive greater efficiency, effective co-ordination and reduce time cycle. Linkages between SecLAN, SDC and BSWAN would provide e-mail, voice, data and video communication facility to the Chief Minister, Other Ministers, Chief Secretary and concerned officials. Other elements of the proposed IT related infrastructure in the state will include a network of Common Services Centres (CSCs) across all 8,463 panchayats of the state as outlets for various services; panchayat level connectivity, connecting rural areas under the National Broadband Plan and full departmental computerisation. All these will have far reaching impact on effective development planning, policy direction, and monitoring and evaluation of overall implementation quality.

18.   Additionally, the state should also plan for investments required to create last-mile infrastructure to facilitate widespread adoption and usage. For example, it could consider providing free internet access to its citizens especially in public areas and schools, colleges and universities, to encourage various IT usages.

19.   Investments in technology infrastructure need to be complemented with the deployment of relevant applications. As the first step, transaction automation and creation of information databanks should be made mandatory for all departments, boards and corporations of the State to facilitate accountability in developmental management and administration.

20.   According to its draft IT policy, the state administration is already considering the rollout of several state mission-mode-projects (MMPs) and integrated MMPs under the NeGP, and has also initiated other projects[2] with its own funding. The policy lays out the broad actions needed to create a basic structure of the functional team and provide it

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[2] E.g. ICT@School, Jail Computerisation, e-Muster, and Co-operative Bank Computerisation, please refer to the Annexure-2 for details

with the necessary support. The Government is also seeking the assistance of the DIT to drive process re-engineering, introduce common standards and build the required competencies and capacities across key stakeholders to implement these initiatives. Other initiatives planned by the state administration include the deployment of a GIS, introducing a range of citizen services (information portal, e-delivery of services, etc.)[3] All these are praiseworthy initiatives.

21.   However, in addition to the measures detailed in the draft IT policy, the state should consider establishing an IT initiative fund for e-Governance for developing / customizing replicable and reusable models of e-Governance (e.g. the mission mode projects under the NEGP), IT innovations in administration re-engineering, IT supported resource optimization, decision support systems, MIS, intranets and other applicable enabling technologies. This should be extended to an e-citizen interface through the digitization of public domain information (like official gazette notifications, acts, rules, regulations, circulars, policies and programme documents) and making them available for electronic access on Web.

22.   The government should also set up Public Information and Facilitation Counters (PIFCs) in Government offices so that public domain information is available to citizens with ease. Further, the government should also plan for electronic delivery of its services – which could be made available on a transaction fee basis to make the process self sustaining in the long run.

23.   To facilitate effective utilization of these investments, the government should implement an IT Literacy Plan (ITLP) for its employees to achieve 100% IT literacy in the government. IT literacy will have a minimum level of defined proficiency which will include word processing, e-mail, data entry and access etc. Appropriate training may need to be extended to the citizens as well – to facilitate usage. Suitable incentive/disincentives should be designed to achieve desired level of proficiency by a targeted date. Over time, the efforts to increase IT literacy should be extended to the citizens of the state.

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[3] Please refer to the Draft IT Policy in the Annexure-2 for details

24.   It is expected that the successful execution of these efforts will not only play a key role in delivering tangible results in the form of improved efficiency and productivity, but also help build a positive image for the state administration. For that, the success of these efforts will need to be effectively communicated to external observers, who will play a key role in influencing the general opinion about the business readiness quotient of the state.

25.   In addition to the formal channels of communication, promoting state tourism by leveraging Bihar's rich history of culture and tradition could also help on this aspect.[4] Not only would this catalyze some business activity through the direct and multiplier effects of industry development, but it could also help effectively communicate the transformation of the socio-political environment in the state. The image of the State, thus would look different – leading to positive outlook for Bihar.

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[4] This includes art and craft (e.g. Madhubani paintings, appliqué work, bamboo products, jute products), fairs (e.g. the Harihar Kshetra / Sonepur cattle fair is one of the biggest cattle fairs in Asia; Shrawani fair of Sultanganj is also very popular) and festivals (Chhath, Jeutia, Teej, Godhan, Buddha Purnima, Shrawani Purnima, Madhu Shravani of Mithila,Pitripaksha etc.)

## BUILDING INTEGRATED BASIC BUSINESS AND SOCIAL INFRASTRUCTURE

26.   Adequate availability of infrastructure is another essential requisite for facilitating business activity. Overcoming this deficit in Bihar requires significant investments in basic, business as well as social infrastructure. In this connection, the Bihar State Infrastructure Development Enabling Act. 2006 is a positive measure undertaken by the state administration to provide for the rapid development of physical and social infrastructure in the state and attract private sector participation in the designing, financing, construction, operation and maintenance of infrastructure projects in the state and provide a comprehensive legislation for reducing administrative and procedural delays, identifying generic project risks.

27.   However, this alone may not be sufficient to catalyze the necessary private sector investment in the state. Typically, in the early stages of development of any urban economic centre, basic infrastructure is developed primarily by the government. Once in place, it stimulates private investment in business infrastructure. In the case of Bihar, the state administration needs to, at least initially, play the lead role in building some elements of business infrastructure as well – as there is still a lot of reluctance amongst corporates to invest in the region. Bihar can adopt the experience of other States (Tamil Nadu, Andhra Pradesh, Karnataka and Maharashtra) to launch key infrastructure development plans for providing investors' motivation towards Bihar.

28.   From the perspective of the IT-BPO industry, the core elements of infrastructure required to sustain business activity include a robust telecommunications back-bone, world-class office space supported by regular / uninterrupted supply of basic utilities (power, water, etc.) and airline connectivity. Connectivity, there is a big gap in these areas.

Figure - 3

Key Elements of Basic and Business Infrastructure Needed by the IT-BPO Sector
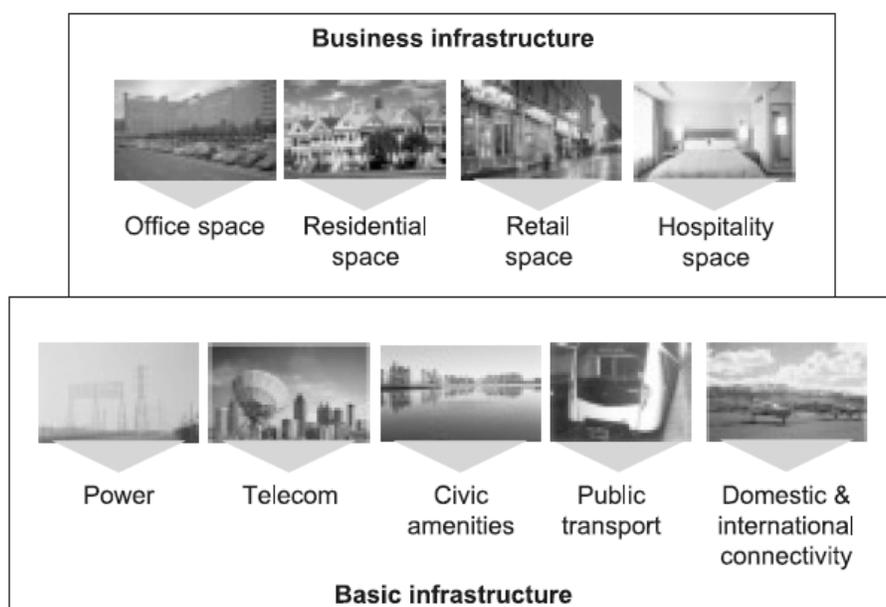
Source: NASSCOM –McKinsey Report 2005

29.   Clearly, the state government will have to accord top priority to the development of these elements – to attract any IT-BPO business. However, given the role of human capital in this business, other related elements of social infrastructure (e.g. residential real estate, retail, hospitality) are also just as important. The high degree of mobility of human capital makes it the toughest to attract and retain it. As a result, the living environment of the professionals in this industry needs to be just as world-class as their work environment. This needs to be kept in mind while deploying infrastructure development projects in the region.

30.   Further, it is essential that the various elements of basic, business and social infrastructure are pieced together in an integrated manner, aimed at developing townships that are sustainable as relatively independent units in the long run.

Figure - 4

Key Elements of a Well-planned, Integrated Township

Housing
- Privately developed housing complexes with open spaces, playgrounds and parking
- Provision for lower income housing though private-public partnerships with state subsidies for land cost and property tax exemptions

Government seat of power
- Government to be initial anchor tenant by moving secretariat, diplomatic enclave and key administrative offices

High-rise business district
- Benchmark business district with landmark buildings
- Land at concessional rates for anchor developers; key anchor tenants in focus industries, e.g., BPO to be attracted jointly by developers and government

Public open spaces
- Parks, gardens and large public parking spaces

Well planned, integrated development

Retail cum entertainment hubs
- Downtown pedestrian-only main street with malls, large department stores and cafes
- 5- and 7-star hotels, multi-cuisine restaurants

Educational centre
- Institute of Service Management
- International schools for primary education (e,g, American School) along with internationally affiliated universities

Healthcare district
- Privatised hospitals with infrastructure for clinical trials

Source: NASSCOM –McKinsey Report 2005

STRATEGY FOR THE DEVELOPMENT OF IT RELATED INDUSTRIES

31.   In addition to the centrally prescribed incentives for the IT-BPO exports sector, the state government needs to offer a compelling package of incentives to attract business activity to the region. This could include:

(i) Providing Single Desk Clearance for approval of various Government Departments and Establishing On-line Clearance & Support Network (OCSN) linking all the related Departments/organizations.

(ii) Preferential allotment of land for IT industry: Providing preferential treatment for allotment of land to the IT industries on an ongoing basis in all industrial areas developed by state agencies.

(iii) Ensuring continuous - uninterrupted power supply for IT industry: Providing continuous and uninterrupted power supply for IT industries and exempt the sector from scheduled power cuts. Encourage captive power generation in IT Parks/IT locations.

(iv) Facilities on Generator Sets: Exempting captive power generation sets installed by the IT industry from payment of electricity duty.

(v) Liberal change of existing industry to IT: Permitting the setting up of IT Software units/IT Parks in urban areas and change of existing industry to IT/IT Parks.

(vi) Change of land use: Exempting the IT industry/IT Parks from Change of Land Use (CLU) charges for 5 years. Permiting sale/ lease/sublease in constructed buildings and open spaces for optimum utilisation of infrastructure.

(vii) Floor Area Regulation (FAR): Relaxation in FAR to be permitted up to 100% for IT units and in all IT Parks.

(viii)   Registration and Stamp Duty: Providing a rebate on registration and transfer of property charges and exempting sale/ lease of built-up space to the IT Industry from stamp duty.

(ix)   Sales Tax Concession: Giving sales Tax Concession to new units and for expansion/diversification.

(x)   Sales Tax Exemption: Exempting the IT industry from payment of sales tax on software and peripherals.

(xi)   Self-certification/exemption from various Acts: Permitting self-certification/exemption for the IT Industry as far as possible regarding requirement of the Factories Act, Employment Exchange (Notification of Vacancies Act), Payment of Wages Act, Minimum Wages Act, Contract Labour (Regulation and Abolition) Act , Workmen Compensation Act , Shops and Establishments Act ; and Employees State Insurance Act.

(xii)   Awards of excellence: The State should declare awards of excellence for outstanding performance in exports/domestic segment/employment generation.

(xiii)   Viewing the IT as priority sector for lending: The State should declare IT-BPO Services as priority sector for lending assistance from State Level Financial Institutions.

(xiv)   Strengthening telecom and communication infrastructure: The State should with the DOT establish reliable, adequate and efficient telecom and communication infrastructure including Internet Nodes.

(xv)   Special Incentives for Mega Projects: Customized package of special incentives should be permitted for key projects having an investment of Rs. 10 crores and above. A High Powered Committee under the chairmanship of Chief Minister could be constituted to decide the package in individual cases.

32.   Many of these measures have been incorporated into the draft IT policy.[5] The state administration should consider incorporating all the remaining provisions and establish a mechanism for periodic review and update.

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[5] Please refer to the Draft IT Policy in the Annexure-2 for details

LAYING SPECIAL THRUST ON HUMAN CAPITAL DEVELOPMENT

33.   Trained human resource is a key requirement of the IT-BPO industry – and is integral to attracting investment in the region. The literacy profile of the state of Bihar is well below the national average – which makes human capital development priority for the state government.

34.   While the state government is already focussed on raising the average literacy levels, it is imperative that greater emphasis is laid on IT literacy and vocational training – to ensure that a sufficient pool of employable people is available to meet industry needs in the short-medium term. This may be achieved by introducing basic courses in IT literacy in the existing education system so designed as to provide ready employment opportunities in low end IT enabled services, and introducing special modules on IT in engineering and non-engineering degree and diploma courses, for equipping the graduates with specialized skills for IT-BPO careers.

35.   Further, this alone is unlikely to be a sustainable solution. Given the shortage of suitable candidates, currently faced by industry, there is a dire need to significantly enhance the quantity and quality of technically trained graduates to meet the growing market demand. Although its migrants account for a fair share of the workforce (especially the public sector and administrative services), today Bihar as a state needs to establish itself as a well-known destination for exceptional intellect and marquee universities. The state government should bid to correct this imbalance with the aid of a special grant / allowance from the centre to invest in enlarging and strengthening the academic infrastructure in the region. This would be the key to the technological diffusion in the State – the hallmark of any development process in the initial stages. It must be borne in mind that IT brings multiplier effects in the development regime.

36.   In addition to the above, the state of Bihar is also uniquely positioned to leverage the human capital development platform as a significant differentiator – by re-instating Nalanda as the global 'seat of learning'. If supported by the required approvals from the

centre, Nalanda University could be re-developed as a focussed education zone – permitting foreign funding, run on market-driven economic models, possibly with active participation by renowned international universities and world-class curriculum and faculty.

Figure - 5

Key Elements of a Focussed Education Zone

Source: NASSCOM –McKinsey Report 2005

37.   The proposed concept (christened as the Nalanda International University) has recently received significant attention with reports of a consortium led by Singapore and including China, India, Japan and other nations planning to raise $500 million to build a new university and another $500 million to develop necessary infrastructure there. Further, it is also reported that Dr A.P.J. Abdul Kalam has accepted the offer to join the revived Nalanda International University. This would have positive implications for changing the developmental environment in the State. Given the high degree of interest in the concept and the reported support from various quarters, this could enable Bihar to make a significant departure from the status quo and emerge as the hub for knowledge and learning in the region.

CONCLUSION

38.   Recent initiatives on development of policy and institutional plans for IT sector are in right direction and the implementation process needs to be accelerated.

39.   No doubt, the outlook envisioned for Bihar is ambitious and will not be achieved overnight. Further, the recommended actions will, no doubt, need to be supplemented with several others (to address other challenges that evolve / arise in the developmental process) – to enable the state of Bihar to achieve its full potential. Nonetheless, there are strong and urgent reasons supporting the immediate initiation and wholehearted of these actions.

40.   Various steps in this direction are urgently needed:

First, unless the prevailing perceptions about the business and socio-political environment in Bihar are countered – with convincing on-the-ground action, it is unrealistic to expect an increase in investment interest.

Secondly, the improved business environment needs to be complemented by significant investment in building basic, business and social infrastructure – at least in key cities / proposed economic centres, to facilitate development.

Thirdly, attracting the IT-BPO industry to invest in Bihar will not only need the state to demonstrate significant break-through on the above mentioned aspects of environment and infrastructure, but also compete with other destinations (in India as well as overseas). Given the choices available to firms today, the state administration needs to complement its basic proposition with a comprehensive package of incentives to attract business activity.

Fourthly, given Bihar's relatively weaker position on the human capital index (and the importance of this factor for the IT-BPO sector), the state will need to institutionalize a sustainable program for significantly enhancing and upgrading the talent pool in the region. In addition to increasing the scale and intensity of IT oriented courses offered in

the state, it would be worthwhile for the administration to pursue the proposed concept for the Nalanda International University. If successfully executed, this could serve as a key differentiator for Bihar – establishing it as the 'seat of learning' and a model for international academic collaboration in India, for other regions to adopt.

Finally, it is pertinent to note that 'doing nothing' has significant opportunity costs associated with it – and is not an option. If we choose to do nothing, we stand to loose a good opportunity to propel the state of Bihar onto a higher growth orbit, on the fast track to becoming a developed state. This opportunity will not last forever as other locations (other states in India as well as other countries across the world) are working hard to prepare themselves to garner a share of the pie.

41.   The major advantages for Bihar in the current emerging scenario in the IT sector is that Bihar possesses vast talent pool, the population is young, and there is an enthusiasm to explore opportunities and excel. India and the world are going to have shortage in skills in coming years against the momentum in economic growth process. The cost of developing the right mix of skills for technology development and usage is increasing fast. The cost in Bihar is low and thus it adds major advantage for IT development and expansion in Bihar. The state of Bihar must act and act fast with determination to achieve and excel.

SOFTWARE EXPORTS

IT-BPO SCENARIO IN BHUBANESWAR (ORISSA) - KEY FACTS

- Total software exports from Orissa reached nearly Rs. 800 Crore in 2006-07.
- The Cumulative Annual Growth Rate (CAGR) of software exports from the state over the period 1997-98 to 2006-07 is nearly 176%.
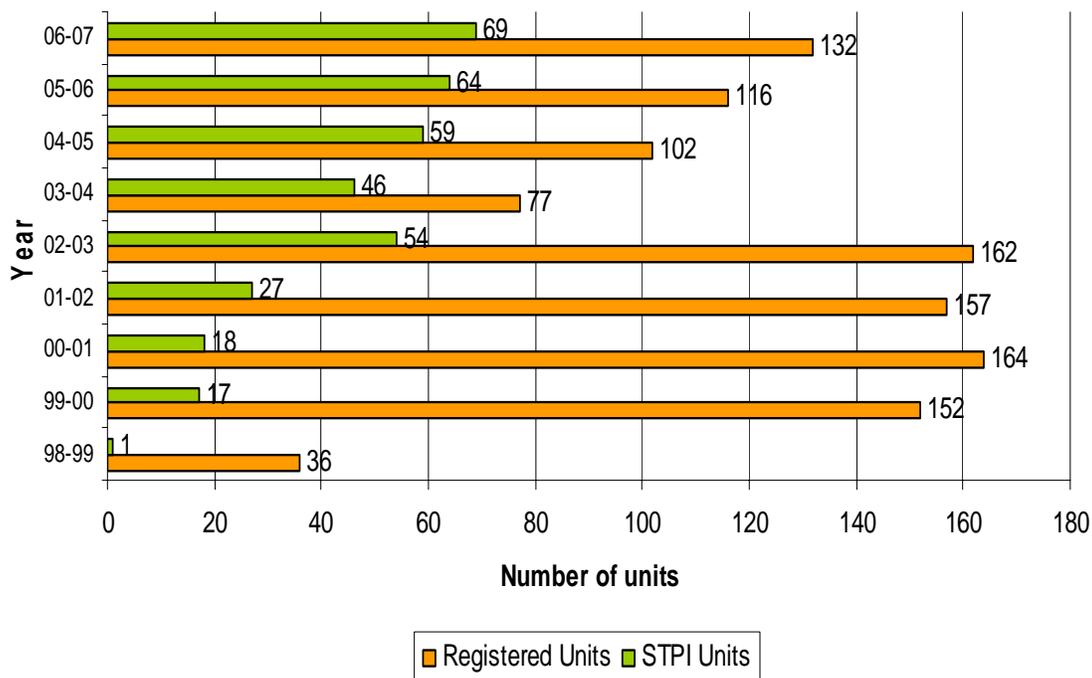
Exhibit 1: Software Exports from Orissa
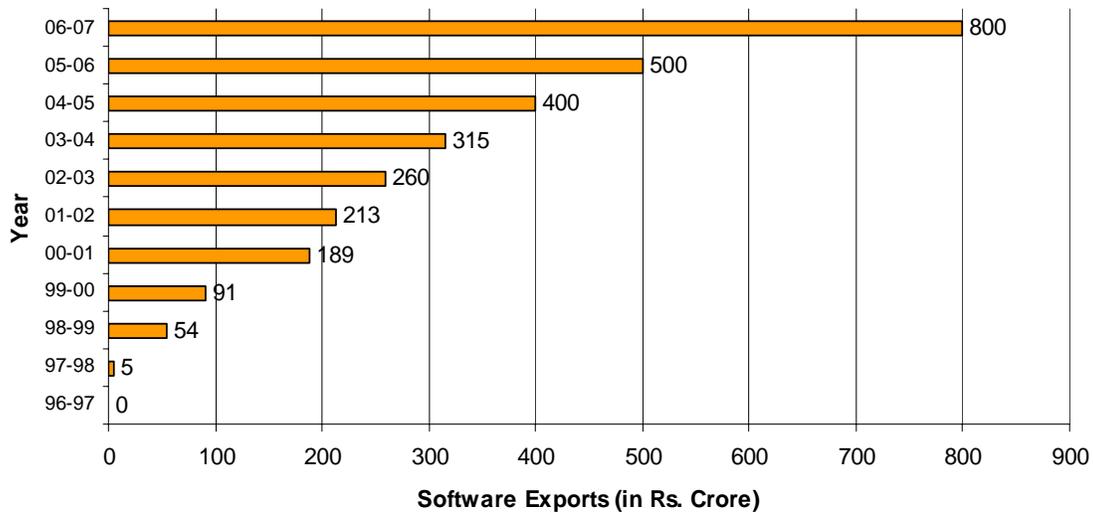
(Source: STPI Bhubaneswar)

REGISTERED AND EXPORTING UNITS

- The number of units registered with the STPI as well exporting units in Bhubaneswar has steadily risen since 2003-2004.
- The number of registered units has witnessed a CAGR of 118% over the period 1998-99 to 2006-07.
- The number of exporting units registered a CAGR of 170% over the period1998-99 to 2006-07.

Exhibit 2: Registered and Exporting Units in Orissa

Chart: Number of units by Year (1998-99 to 06-07), showing Registered Units (orange) and STPI Units (green):

Year	Registered Units	STPI Units
06-07	132	69
05-06	116	64
04-05	102	59
03-04	77	46
02-03	162	54
01-02	157	27
00-01	164	18
99-00	152	17
98-99	36	1

X-axis: Number of units (0 to 180)

Legend: ■ Registered Units ■ STPI Units
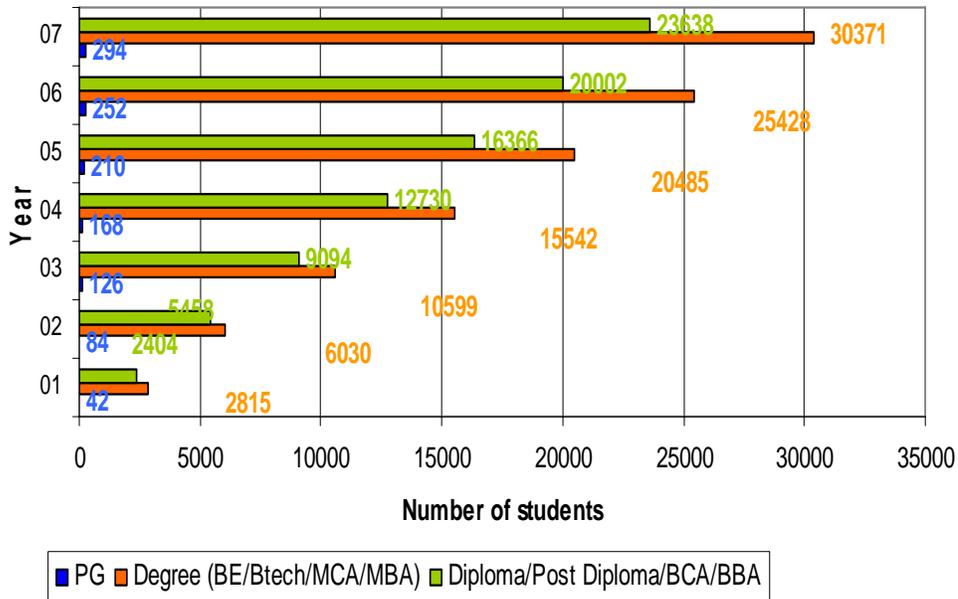
(Source: STPI Bhubaneswar)

EDUCATION

- The number of engineering colleges in the state has risen significantly from around ten, five years back to around forty five at present. *(Source: Orissa Computer Application Centre)*
- Several new Government and private educational institutions are being set up in Bhubaneswar:
    - Indian Institute of Information Technology (IIIT)
    - Campus of Indian Institute of Technology (IIT) Kharagpur to be set up in Bhubaneswar
    - National Institute of Science Education and Research (NISER)
    - Vedanta group and Sri Sri Ravisankara Vidya Mandir Trust are setting up technical colleges

(Source: Orissa Computer Application Centre)

- Supply of IT related manpower (at Post Graduate, Degree (B.E/B. Tech/MCA/MBA) and Diploma/Post Diploma/BCA/BBA levels) has risen significantly.
    - Total supply for IT related manpower was 54,303 in 2007, with the maximum (56%) supply of Degree level students

Exhibit 3: Supply of IT Manpower

(Source: Prospective Manpower planning for the state of Orissa –DTE&T Orissa, STPI Bhubaneswar)

EMPLOYMENT

- The number of IT companies in Bhubaneswar has risen significantly in the past decade. In 1997, Infosys and Satyam were among the few companies which had a presence in the state *(Source: STPI, Bhubaneswar)*. However, now several large, medium and small sized companies have established operations and are offering significant employment opportunities. Key Companies
    - o Infosys- Around 3000 employees at present
    - o Satyam- Around 500 employees at present, around 1000 to be recruited in 2008
    - o TCS- Around 180 employees, plans of growing by 30% in coming year
    - o Wipro- Around 30 employees at present, plans of growing to 1000 in coming year
    - o Genpact- Setting up a 6000 seater BPO facility
    - o IBM- Started a city office
    - o MindTree- Set to start operations
    - o Aricent- Set to start operations
    - o Contiloe Films- Set to start operations
    - o Perfectus- Set to start operations
    - o More than 300 SME or medium sized companies
    - o More than 200 small companies (100-110 registered with STPI, Bhubaneswar)

- Demand for IT professionals (at Post Graduate, Degree (B.E/B. Tech/MCA/MBA) and Diploma/Post Diploma/BCA/BBA levels) has grown significantly.
    - o Total demand for IT related manpower was 1, 17,000 in 2007, with the maximum (77%) demand for Degree level students.
    - o The Cumulative Annual Growth Rate (CAGR) of demand for IT manpower over 2001 to 2007 is around 206%.

Exhibit 4: Demand for IT Manpower
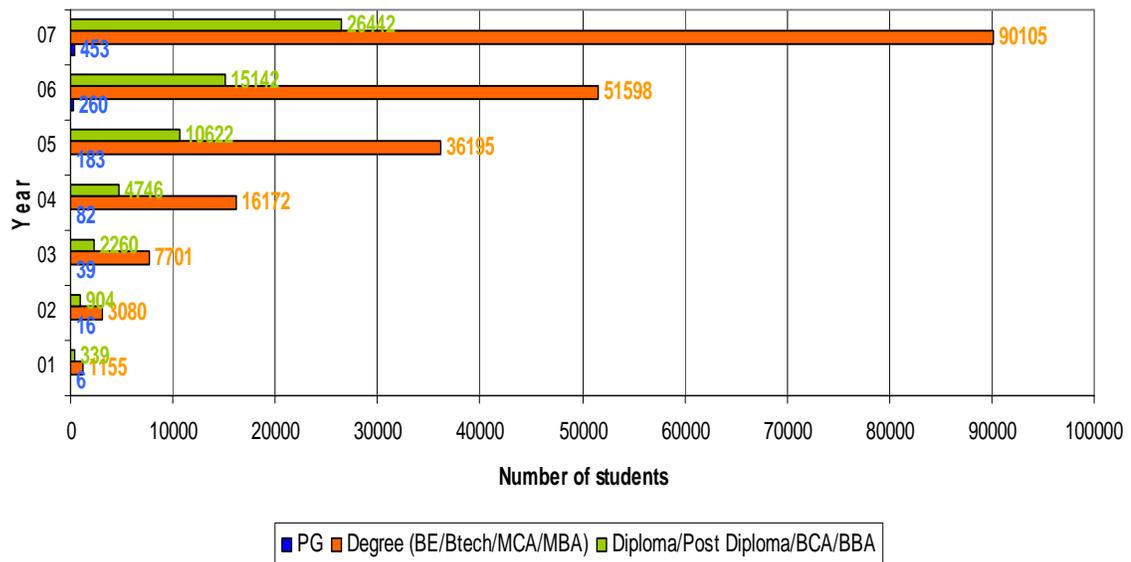
(Source: Prospective Manpower planning for the state of Orissa –DTE&T Orissa, STPI Bhubaneswar)

- Supply of IT manpower had been higher than demand until 2004, leading to a significant proportion of unemployed qualified manpower.
- From 2005 onwards, demand has outstripped supply and there was a shortfall of 62,697 professionals in 2007. Of this gap, around 95% was contributed by shortfall of Degree level manpower.

Exhibit 5: Supply Demand Gap for IT Manpower
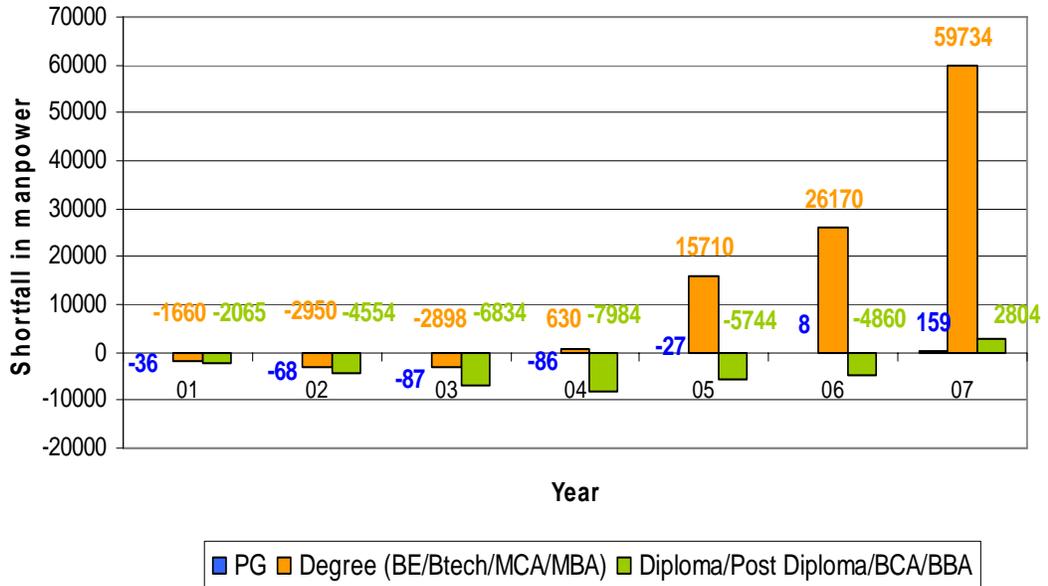
(Source: Prospective Manpower planning for the state of Orissa –DTE&T Orissa, STPI Bhubaneswar)

- The Government and industry are making attempts to bridge this gap by means of setting up new institutions, improving quality of education, encouraging industry-academia collaborations etc.

INFRASTRUCTURE

- The Government of Orissa is making investments for improvement of the infrastructure of Bhubaneswar to make it more conducive for companies setting up operations. Some of the proposed investments include:
    o Rs. 250 Crore for upgradation of Bhubaneswar airport
    o Over Rs. 25000 Crore on road development over 5 years
    o Rs. 600 Crore on railways over next 5 years
    (Source: The Hindu Business Line)

INFORMATION TECHNOLOGY POLICY 2008(BIHAR)

I. IT VISION OF BIHAR

Our vision is that by the end of 2012, Bihar becomes one of the top five e-Governed, IT-enabled, e-Literate States in the Country and is regarded as a preferred destination for IT businesses and is a major supplier of skilled IT manpower.

II. STRATEGY

The aforesaid goal would be realised by building core IT infrastructure in the State, ushering in e-Governance, providing extensive citizen-centric services, promoting   and IT education, incentivising IT businesses to set up units in the state, regulating IT services and putting in place institutionalised arrangements for implementation and monitoring of IT activities in the state.

III. OBJECTIVES

The State Government has set upon itself the following objectives to implement the strategy outlined above:

1. **IT Infrastructure:** To create world class IT infrastructure and connectivity for e-Governance in the state linking its offices from the State HQs down to districts and blocks; to ensure connectivity for panchayati raj institutions; to facilitate setting up of broadband digital networks and encourage National Long Distance Operators (NLDOs) to build robust fibre optic network in the State.

2. **e-Governance**: To use e-Governance to implement Government's agenda of Good Governence; to improve the internal processes of the government through deployment of Information Technology, administrative reforms, re-engineering and modernization with a view to providing an efficient, responsive, transparent and cost effective Government; to take all necessary steps to gain the maximum advantage under the National e-Governance Plan and the resources available therein for ushering in e-Governance in the State.

3. **Citizen Services:** To use IT to bring various services to the people at minimum cost on 'anywhere, anytime' basis; to bridge the digital divide between urban and rural areas by implementing the scheme of Common Services Centres (CSC) to provide G2C and B2C services to the citizens at their doorstep; to undertake computerisation of government offices to enable them to respond to citizen's electronic requests for services and information.

4. **e-Literacy and IT Education**: To promote measures for in government offices as well as among the masses; to ensure IT education in schools and colleges; to set up dedicated institutions for IT education in public and private sector;.

5. **IT Industry**: To create a favourable climate in the State for investments in the IT, ITES & knowledge-based industries with a view to generating employment, earning income

through exports and encouraging e-Commerce, thereby significantly increasing the contribution of the IT sector to the State GDP.

6. **Regulatory Issues:** To devise appropriate legal and regulatory framework for efficient administration of IT and ITES; to prevent misuse of ICT and protect intellectual property rights, patents & trademarks.

7. **Implementation and Monitoring:** To build appropriate administrative framework for implementation and monitoring of IT activities in the State.

IV. ROADMAP

1. BUILDING CORE IT INFRSTRUCTURE IN THE STATE

a. **BSWAN**: Bihar State Wide Area Network (BSWAN) under NeGP core infrastructure initiative aims at providing 2 Mbps (initially) vertical connectivity across the State upto Block level right from the State Headquarter. The SHQ PoP would be located in Patna in conjunction with the State Data Center. At SHQ and all the DHQ PoPs STM1 facility would be provided so as to scale up and meet the future bandwidth requirements. The provision of leased line through fibre media right upto the PoP level would ensure better uptime and also provide for easy network management. The Department of IT (DIT), GoB has taken adequate steps to meet the additional bandwidth requirement of the State Departments.

b. **Horizontal Connectivity**: DIT is also taking steps to connect all the departmental offices across Bihar to the nearest BSWAN PoP through Horizontal Connectivity. This would ensure that the network would facilitate a truly networked government with all administrative units linked with each other for information interchange as well as for providing the required information and services to the common man.

c. **State Data Center (SDC)**: The other core infrastructure project under NeGP is State Data Center (SDC.) The GoB has already taken initiatives regarding site availability and other pre-installation work such as availability of source power, legal clearance etc. as per the GoI guidelines and is in a position to immediately take up this task. The SDC would provide many functionalities like serving as the Central Repository of the State, Secure Data Storage, Online Delivery of Services, Citizen Information/Services Portal, State Intranet Portal, Disaster Recovery, Remote Management and Service Integration.

d. **SecLAN**: DIT has initiated Secretariat Local Area Network (SecLAN) project to connect all Government offices in and around the State Secretariat though Gigabit fibre connectivity backbone. This would help in easy communication within the offices, information sharing, file movement and would result in better efficiency, effective co-ordination and reduced time cycle. Linkages between SecLAN, SDC and BSWAN would provide e-mail, voice, data and video communication facility to the Chief Minister, Other Ministers, Chief Secretary and officials.

e. **CSC**: GoB has already taken action to create a network of Common Services Centres (CSCs), christened 'Vasudha', in all 8,463 panchayats of the State as outlets for various services. Vasudha Kendras would be designed as ICT-enabled Kiosks having a PC along with basic support equipment like Printer, Scanner, UPS, with Wireless Connectivity as the backbone and additional equipment for edutainment, telemedicine, entertainment etc.

f. **Panchayat Level Connectivity**: The Department of IT, GoB has planned in its 11th Five Year Plan to provide Panchayat Level Connectivity across all Panchayats in the State. This would be a crucial element to facilitate panchayat level governance and delivery of services in remote corners of the State.

g. **Broadband Internet Connectivity**: The State Government would pursue with BSNL, GoI and USOF an aggressive plan to connect rural areas under the National Broadband Plan which envisages in its Phase-I to connect those locations through ADSL where BSNL has its Exchange in and around the block. In Phase II, Wireless Towers would be used by BSNL to cover the rural areas. In Phase III, Pre-Wi-MAX/Wi-Max scenario would be leveraged to cover the rural areas. Department of IT, GoB will join the bandwagon to ensure that every citizen of the State gets Broadband connectivity at his door-step. The State is fully aware of the power of internet penetration in India and would ensure that the rural masses are benefited by the same.

h. **Departmental Computerisation**: DIT is taking initiatives to computerize the state departments across the State. This would help the departments to join the mainstream of providing services to the citizens across the State and would also help in process improvement within the departments and its employees.

2. e-GOVERNANCE

a. **e-Governance Framework** :

The conceptual framework of the State e-Governance architecture is provided below. The State Government intends to provide connectivity, access and services from Secretariat to the village level. The Bihar State Wide Area Network would be commonly used by various departments and institutions while delivering services to the common citizens.

{ EMBED PowerPoint.Slide.8 **}**

The State Data Center would be used as common, sharable, secured, centralised hosting infrastructure for all the State MMPs/other applications and CSCs will be used as web-based front end delivery centres for the citizens of the State.

b. **Use Of IT In Government Processes**

The National e-Governance Plan (NeGP) envisages funding of several State Mission Mode projects (MMPs) as well as Integrated MMPs. The State would take steps to make full use of these.

i. **State MMPs**: NeGP provides for 11 State MMPs relating to Agriculture, Commercial Taxes, e-District, Employment Exchange, Land Records, Municipalities, Gram Panchayat, Police, Property Registration, Transport and Treasuries . In addition, the State can take up 5 more MMPs. The government would put implementation of these MMPs on a fast track. DIT shall assist the Departments involved in implementation of these MMPs for AS-IS study, requirement analysis, DPR preparation, bid process management and monitoring during implementation. The State is taking major steps in building applications so that the core infrastructure such as BSWAN, DATA CENTER etc. are effectively and optimally used and governmental services are served to the citizens. In line

with this, the State has already progressed in various MMPs such as Commercial Taxes, Land Records, Transport, eHealth, eDistricts, eCops, Property Registration etc.

ii. **Integrated MMPs**: There are 7 Integrated MMPs – CSC; e-Biz; e-Courts; **{** HYPERLINK "http://www.mit.gov.in/default.aspx?id=846" **}** ; **{** HYPERLINK "http://www.mit.gov.in/default.aspx?id=847" **};** **{** HYPERLINK "http://www.mit.gov.in/default.aspx?id=850" **} {** HYPERLINK "http://India Portal (www.india.gov.in). " **}**The department of IT, GoB has already initiated action towards deployment of applications such as eProcurement, CSC, etc.

iii. **Other Services** : A number of other initiatives have been taken by the State with its own funding. Some of these are --
1) ICT@School
2) Jail Computerisation
3) e-Muster
4) Co-operative Bank Computerisation

iv. **Government Process Reengineering**: At present the e-Governance efforts are primarily based on computerising age-old processes. Simply digitizing the existing government processes merely adds an additional layer of expense, complexity, delay and confusion. DIT intends to provide support to the departments to reengineer and modernize/redesign the government processes keeping the citizen at the centre, providing hassle-free enablement of citizens, businesses, producers and consumers thereby replacing the old disjoint processes. This redesigning of government processes will drastically reduce the numbers and duration of successive steps required to obtain services. It will also provide traceable records; enable enforcement of individual performance, accountability, efficiency, productivity as well as transparency of policies and processes.

v. **Common Standards**: Until now, different State Departments have been doing their own thing to selectively computerize their processes and provide e-Governance. Many of these programmes are vendor driven and not scalable. DIT would take steps to develop and implement standards uniformly across the State. It would be ensured that these standards are not hardware-centric and vendor dependent. These standards, templates and data formats would be designed carefully by teams of experts drawn from government, IT companies, academia, R & D institutions and users/stakeholders who understand latest trends, technology, software, user interfaces and interoperability requirements.

vi. **Capacity Building & Change Management**: Considering the nature and scale of e-Governance initiatives planned, the role of the State Government in managing these initiatives would be critical. It is also well recognized that for State to play its role effectively, significant capacities need to be built. Hence, Capacity Building has been identified as the prominent precursor for the implementation of the e-Governance Plan. DIT will ensure that the outcome of the Capacity Building programme justifies the following:
- Ensuring provision of necessary training across various levels to the identified stakeholders.
- Improving the chances of success of eGovernment initiatives

- Creation of institutional capacities across the State for implementing the e-Governance plan at the State level by constituting the State e-Governance Mission Teams.

c. **Budgetary And Other Support**

In order to achieve the overall objectives, following policy initiatives would be taken:

i. Each Department shall prepare a Three-Year IT Plan. This plan should address the extent of computerization of its core activities, need for hardware and software resources, manpower requirement and training of employees.

ii. 3% of the total Plan outlay will be earmarked for IT sector. Appropriate minor head for accounting investments in the IT Sector would be created for each department. The expenditure control under this head will be with the Administrative Secretary.

iii. Every Government Department shall nominate a nodal officer responsible for implementation of e-Governance initiatives. Each Department shall prepare a road map for ensuring service delivery to citizens covering training, Process Reengineering and computerization. The nodal officer shall be responsible for implementation of the road map. Nodal officer's Annual Confidential Report (ACR) would specially indicate the achievements in the implementation of the e-Governance roadmap.

iv. In the times to come, speed and accuracy of communication would be a strategic factor in determining the success and effectiveness of any organization. Therefore, the Government shall make it compulsory for all Departments and PSUs to use the State Wide Network (BSWAN) for inter and intra departmental data, voice and video communication.

v. An integrated IT center shall be created at each of the 38 districts in the State by the year 2010. This center will provide multifarious facilities to district administration and citizens. Wherever possible, implementation and operation of the district based IT centers would be outsourced to private sector. A logical extension of this hub would be further downward linkages to Block and Panchayat levels.

vi. The Government shall establish IT training centers, aimed at the existing Government employees, at each district headquarters by the year 2009-10. These training centers shall be the integral part of the district based IT centers.

vii. At each district, data warehouses having local content shall be created. These centers shall provide government information to citizens through Vasudha Kendras on cost plus basis so that it is financially viable for the private entrepreneur. DIT would determine the end user costs and also carry out regular benchmarking of the facilities.

viii. Government shall introduce IT at all points of contact between the Government and the citizen by the end of the year 2009-10. All forms requiring submission of information, while applying for any service or clearance from the Government, would be made available for electronic access and submission. Each public dealing department shall list out the contact points and the level of information

interchange between it and citizens. The State Portal and the Vasudha Kendras would enable the citizens to carry out this kind of information interchange with the Government.

ix. Computerization projects of Revenue earning departments and agencies having high level of public contact shall be fully operationalized latest by the year 2009-10.

x. Computer proficiency of a specified level would be stipulated as essential qualification for all appointments in Government. In case of new entrants to the Government service, computer training of the level of at least 'O' level certification shall be made a mandatory component of the induction level training. In case of serving employees, confirmation of services shall be done only after having passed the basic computer test. This shall be applicable to all employees except group 'D' employees.

xi. As recommended in the 'National IT Action Plan', the Government shall establish framework contracts with the leading and reputed IT services vendors so as to avail a wide range of IT consultancy, specialist services and IT products at lower cost and with a shortened procurement cycle. To minimize the technological obsolescence factor and to avoid the large upfront expenditure, procurement of computer hardware would largely be done through leasing.

xii. Considering the value of the Internet as a communication medium, Government Departments shall create their web sites under the umbrella of the Bihar State Portal. All Government circulars, notifications, tenders, etc. shall be published on the web site on regular basis. All examinations & recruitment notifications, selection results shall be published on the web site.

xiii. In order to monitor that IT resources are being used at the optimal levels, structured IT audit shall be carried out by team comprising officers of DIT, GoB and the concerned department.

xiv. State level awards shall be given to Government Departments/ PSUs for outstanding usage of IT.

d. **Geographical Information System (GIS)**

In emerging technology paradigm, Geographical Information System (GIS) has emerged as powerful tool which has potential to organize complex spatial environment with tabular relationships. The emphasis is on developing digital spatial database, using the data sets derived from precise navigation and imaging satellites, aircrafts, digitization of maps and transactional databases.

The enormous demand for the storage, analysis and display of complex and voluminous data has led, in recent years, to the use of Geographic Information Systems for effective data handling and also for analyzing and geographically transferring the information around the world. DIT would encourage the use of software which is designed to provide a complete state-of-the-art desktop GIS solution for retrieval, projection, transformation and analysis of both spatial and non-spatial data, so that the user is able to manipulate and manage coordinate (locational) and attribute (thematic) data and produce thematic maps as well as tabular reports.

3. CITIZEN SERVICES

a. Bihar Portal

Bihar Portal will be implemented as a State Mission Mode Project under the National e-Governance Plan. The objective behind the Portal is to provide a single window access to the information and services being provided by Govt. of Bihar to the citizens and other stakeholders. It would be a comprehensive, accurate, reliable and one stop source of information about Bihar and its various facets. It would also have links to other State Government Portals/websites as well as to the National Portal. In addition to information services, the portal would also provide interactive and payment services to citizens. The content of the Portal would be regularly updated and made available to the citizens.

b. Electronic Delivery of Services through leverage of IT

Various citizen-centric services would be delivered electronically and would be made available to the people of Bihar in an efficient, transparent and reliable mode. These would be in the nature of 'web-enabled anywhere-anytime services'.

c. eDistrict

The eDistrict Scheme would focus on delivery of majority of citizen centric services that are administered by the District Administration. It would target certain high volume services at the district, sub-division and block levels and undertake backend computerization to enable the delivery of these services through Common Services Centres. The implementation strategy of eDistrict would suitably take into account the IT infrastructure currently being created such as BSWAN, SDC, CSCs and State Gateways. eDistrict would be a set up at the district level, wherein data and information would be collected, stored, retrieved, used and exchanged in an efficient manner at all levels..

d. CSCs

Govt. of Bihar is setting up Common Services Centres in all 8,463 panchayats across the State. Christened 'Vasudha', the CSCs would provide easy access of G2C and G2B services for the rural masses at village levels. Citizen would have a local interface to interact with government departments through village level entrepreneurs well supported by Service Centre Agencies.

e. RTI

IT shall be used to fully implement the mandate of the RTI Act. Various kinds of information pertaining to the functioning and decisions of the Government would be made available in the public domain using the state portal and web-sites of various state authorities.

Bihar was the first state to set up a call centre for electronic filing of RTI applications seeking information from Govt Authorities.

f. Telemedicine

The use of **{** HYPERLINK "http://en.wikipedia.org/wiki/Telecommunication" \o "Telecommunication" **}** and **{** HYPERLINK "http://en.wikipedia.org/wiki/Information_technology" \o "Information technology" **}** for the delivery of clinical care would be leveraged for the benefit of the citizens. GoB will encourage Telemedicine which is a rapidly developing application of **{** HYPERLINK "http://en.wikipedia.org/wiki/Clinical_medicine" \o "Clinical medicine" **}** where medical information is transferred via telephone, the Internet or other networks for the purpose of consulting, and sometimes remote medical procedures or examinations. GoB would also encourage real time telemedicine that could be as simple as a telephone call or as complex as **{** HYPERLINK "http://en.wikipedia.org/wiki/Robotic_surgery" \o "Robotic surgery" **}**. It requires the presence of both parties at the same time and a communications link between them that allows a real-time interaction to take place. **{** HYPERLINK "http://en.wikipedia.org/wiki/Video-conferencing" \o "Video-conferencing" **}** equipment is one of the most common forms of technologies used in synchronous telemedicine that would be leveraged to reach citizens at their doorsteps and far-flung areas. There are also peripheral devices which can be attached to computers or the video-conferencing equipment which can aid in an interactive examination. For instance, a tele-**{** HYPERLINK "http://en.wikipedia.org/wiki/Otoscope" \o "Otoscope" **}** allows a remote physician to 'see' inside a patient's ear; a tele-stethoscope allows the consulting remote physician to hear the patient's heartbeat. Medical specialties conducive to this kind of consultation include **{** HYPERLINK "http://en.wikipedia.org/wiki/Psychiatry" \o "Psychiatry" **}**, **{** HYPERLINK "http://en.wikipedia.org/wiki/Family_practice" \o "Family practice" **}**, **{** HYPERLINK "http://en.wikipedia.org/wiki/Internal_medicine" \o "Internal medicine" **}**, **{** HYPERLINK "http://en.wikipedia.org/wiki/Physical_medicine_and_rehabilitation" \o "Physical medicine and rehabilitation" **}**, **{** HYPERLINK "http://en.wikipedia.org/wiki/Cardiology" \o "Cardiology" **}**, **{** HYPERLINK "http://en.wikipedia.org/wiki/Pediatrics" \o "Pediatrics" **}**, **{** HYPERLINK "http://en.wikipedia.org/wiki/Obstetrics" \o "Obstetrics" **}** and **{** HYPERLINK "http://en.wikipedia.org/wiki/Gynecology" \o "Gynecology" **}** and **{** HYPERLINK "http://en.wikipedia.org/wiki/Neurology" \o "Neurology" **}**.

g. Distance Learning

ICT would be used as a major tool to promote distance learning educations and training programmes across the State. Citizens would get their higher educations, vocational training courses, management courses and other job oriented training courses through ICT based approach. Under distance learning programme focus will be given on the **{** HYPERLINK "http://en.wikipedia.org/wiki/Pedagogy" \o "Pedagogy" **}**/**{** HYPERLINK "http://en.wikipedia.org/wiki/Andragogy" \o "Andragogy" **}**, technology, and instructional systems design that aim to deliver education to students who are not physically "on site". Rather than attending courses in person, teachers and students may communicate at times of their own choosing by exchanging printed or electronic media, or through technology that allows them to communicate in real time. Distance education courses that require a physical on-site presence for any reason including the taking of examinations is considered to be a hybrid or blended course or program.

h. Tourism

Bihar has the remnants of the Capital Cities of mighty Magadh Empire, and several places of tourist interest such as Pataliputra and Rajgrih; monuments of ancient seats of learning such as Vikramshila and Nalanda Universities; World's highest Buddhist Stupa at Kesaria; the World Heritage Mahabodhi temple of Bodh-Gaya; wild life of Valmikinagar and Bhimbandh; water-falls of Kakolat and Sasaram; Religious centers of

Gaya, Rajgir, Rohtas, Saran, and Gopalganj; pre-historic cave-paintings and Rock-shelters of Kaimur and many more.

IT based applications will be developed for: hotel information, transport services, & guest management, financial services (e- banking), sales and catering, property management and maintenance. As the tourism business grows other areas such as HR and rocurement etc. will be covered by use of IT.

i. Wi-fi City

The city of Patna shall be transformed into a Wi-Fi City in PPP mode.

4. e-LITERACY & IT EDUCATION

a. e-Literacy

While providing IT services and IT enabled services would require highly skilled IT professionals, even the use such services by people at large presupposes certain level of IT knowledge on their part. In the emerging e-permeated society "eLiteracy" would become not only a key factor in enabling participation in education, employment and other aspects of social and economic life, but also a means of gaining understanding of the world. In time, several digital tools would become available to support the achievement of goals and performance of tasks, big and small, in an individual's life-situation which, however, only the eLiterate would be able to use.

To facilitate effective utilization of the investments made in IT and IT enabled services, the State Government would implement an IT Literacy Plan (ITLP) at the following levels.

i. **In Government** : Government shall target 100% IT literacy amongst its employees. IT literacy would entail a minimum level of defined proficiency which would include word processing, e-mail, data entry and internet access, etc. Suitable training programmes shall be organised for the employees and appropriate incentives/ disincentives shall be designed to achieve desired level of proficiency by a targeted date. In the Annual Confidential Reports of government employees, a column shall be introduced regarding contribution to 'IT utilization' in the department/organization.

ii. **In Schools & Colleges** : All students in schools and colleges shall be given a basic IT training. Computer labs shall be established under PPP model for this purpose. Finishing Schools shall be established in colleges to e-enable the graduating students with a view to enhancing their employability.

iii. **For Citizens**: Govt. of Bihar is keen to promote eLiteracy amongst masses. Citizen eLiteracy programmes shall be drawn up and implemented towards this end. Vasudha Kendras as well as other private agencies would be encouraged to take up computer literacy and computer aided education programmes for the masses.

b. IT Education

The spectacular growth of software industry in recent years has generated a huge demand for highly skilled Information Technology manpower resulting in projections of a long-term global demand-supply gap for such manpower. Human resource constitutes the single most important resource in the Information Technology industry. The State Government is quite aware that the goal of creating an IT driven and knowledge-based society in the State cannot be achieved without building core competencies in human resource development with substantial inputs of information technology knowledge.

i. IT in School and College Curriculum

1) Courses on IT would be introduced in all branches of study starting from Higher Secondary Level. Specific courses would be launched to provide project management and software skills.

2) An IT course module shall be made compulsory for all degree courses. A uniform IT module syllabus shall be prepared by the Department of IT in consultation with the Human Resource Department Department, Universities and other agencies.

3) The State Government shall provide financial assistance to Universities and colleges to start degree and diploma courses in IT. Financial assistance shall also be extended to aided colleges towards creating necessary computing resources and to start IT related courses.

4) The State Government shall establish IT Centres in all ITIs/Polytechnics under the PPP model. These IT centres will run short-term (6 months) certificate courses.

5) The State Government shall promote the deployment of a State wide educational network to cover all colleges and institutions of higher learning, which will facilitate the creation of subject specific e-learning communities centering on designated institutions as resource Centres for various subjects. The State Government would collaborate with the Knowledge Commission in this endeavour.

ii. Building Reputed Institutions

1) An Indian Institute of Information Technology (IIIT) shall be set up in the State with the assistance of the private sector for producing highly skilled IT professionals. The State Government shall provide requisite resources, including land and other necessary infrastructure, for establishing the Institute in line with the scheme of GOI. With the rich pool of technology, research and faculty resources at IIIT, the institute can spearhead the process of networking universities, colleges and research centres within the State and the country. It can also serve as a resource centre for up gradation of curriculum and training of teachers of various colleges and institutions across the State.

2) IT Academies would be set up in the State to produce skilled IT work force in large numbers for the IT industry as well as for use in the e-Governance initiatives of the Government.

3) Private agencies would be encouraged to set up institutions of excellence on IT subjects within the State.

4) The State Government shall set up a Knowledge City in the State. IIIT, IT Academy, Private IT institutions as well as other institutions of higher learning would be located in the City. It would also accommodate IT (Hardware/ Software) Parks and IT and ITES service providers and provide space for office and residential accommodation.

iii. IT Education for Teachers

1) The State Government shall take up intensive computer training of at least 10% of teachers in Higher Secondary Schools and progressively train at least 2-5 teachers in all other schools. IT centres in ITIs/ Polytechnics shall be used to impart training to teachers.

2) To provide incentives to the teachers, the State Government intends to provide two advance increments to all teachers who qualify the proficiency tests in computer education.

3) State would like all teachers in all schools to have an e-mail address by year-end 2009.

5. IT BUSINESS AND INDUSTRY

India's success in the export of Information Technology (IT) Software and Related Services over the past decade is well known. India now accounts for 65 percent of the global market in offshore IT and 46 percent of the ITES market. A majority of the Fortune 500 and Global 2000 corporations are sourcing IT-ITES from India. The growth of the sector has led to tremendous pay-offs in terms of wealth creation and generation of high quality employment as well as by increased demand for commercial and residential real estate, catalysed urban development, and played a significant role in driving demand for other commercial services such as retail, hospitality and transportation, etc. However, this rapid growth and the associated developmental impacts have mostly been confined to a handful of IT-BPO hubs located in a few states. Bihar has largely been bypassed by these exciting developments.

It is the intention of the State Government to foster IT-enabled growth in Bihar, so that the people of Bihar are able to enjoy the benefits of economic prosperity that come with it and the State is able to play a more participatory role in India's economic development. With a view to making Bihar a preferred destination for IT business and industry, the State Government has decided to offer a special package of incentives to attract them to the State. The policy initiatives in this regard have been structured in the following manner:
- Approval and Facilitation Measures
- Fiscal Measures
- Subsidies and Incentives
- Procedural Reliefs & Concessions
- Promotional Measures
- Supporting Infrastructure

a. **Approval and Facilitation Measures**

   i. The State Investment Promotion Board serves as the Single Window Agency for providing approvals and clearances for setting up new units in the State. Proposals for establishing new IT units shall be considered and approved by this Board.

   ii. To further strengthen the Single Window System, an escort service would be started to assist the entrepreneur in pre and post SIPB approval activities including help in preparing bankable project reports, sourcing technology, arranging land, electricity, water and facilitating the entrepreneurs to avail of IT incentives, etc. An On-line Clearance & Support Network (OCSN) linking all the related Departments/ organizations shall be created for facilitation of entrepreneurs.

b. **Fiscal Measures**

   i. 100% exemption from Stamp Duty and Registration Fee shall be provided to all IT/ ITES units being established in public IT Parks, Knowledge Cities and industrial areas/ sheds. For units outside the public IT Parks, Knowledge Cities and industrial areas/ sheds, 50% exemption from Stamp Duty and Registration Fee shall be granted but units in private IT Parks would be eligible for such exemption @ 75%. This facility would be available only for the first time.

   ii. All IT / ITES industries shall be exempted from payment of VAT for a period of seven years from the date of their first billing. Beyond this period, VAT on all IT/ ITES products shall be charged at the minimum floor rate of 4%.

   iii. IT/ITES units shall be exempted from the payment of electricity duty and luxury tax for a period of 7 years.

   iv. Commercial buildings of IT/ ITES units shall be charged land and building tax at residential rates.

   v. Capital goods and raw materials for IT/ ITES units shall be exempted from Entry Tax.

c. **Subsidies and Incentives**

   i. IT/ITES units shall be allowed preferential allotment of land on an ongoing basis in all IT Parks/ Industrial Areas/Sheds/ Knowledge Cities developed by State agencies.

   ii. All efforts would be made to ensure continuous and uninterrupted power supply for IT industries and the sector would be exempted from scheduled power cuts.

   iii. IT/ITES units shall be supplied electricity at industrial rates. 25% of electricity charges paid by them during the first 3 years shall be reimbursed to them by the State Government on an annual basis.

   iv. IT/ ITES units shall be permitted to set up captive power plants / diesel generating sets and 50% of the cost of plant and machinery used for this purpose shall be reimbursed by the State Government after the unit comes into production/

operation. 100% exemption from Electricity duty shall be granted on generation and own consumption of electricity from such captive power plants/ DG Sets.

v. IT/ITES units falling in small/ tiny category shall be reimbursed 50% of the cost of land allotted to them in IT Park, Industrial Area/Shed or Knowledge City while IT/ITES units in Medium/ Large/ Mega category shall be reimbursed 25% of the cost of land allotted to them in IT Park, Industrial Area/Shed or Knowledge City. The reimbursement shall be made after the unit has come into production/ operation.

vi. 50% of the cost of preparation of project report subject to a maximum of Rs 75,000/= shall be reimbursed to an IT/ITES unit set up in the State. This reimbursement shall be made after commencement of production/ operations.

vii. Units going for expansion, diversification or modernization by increasing investment by more than 25% and increasing the capacity by more than 25% will be allowed incentives at par with new units

viii. In order to encourage , IT/ ITES companies to be competitive in the global market place, they would be reimbursed 50% of the expenditure incurred by them, subject to a ceiling of Rs 5 lakhs, to obtain ISO/ISO 9000 certification or SEI/CMM Level 5 or COPC – 2000 or eSCM Level 3.

ix. Existing industry shall be allowed to convert to IT unit/ IT park.

x. Awards of excellence: Awards of excellence shall be instituted for outstanding performance of IT/ITES units in exports/domestic segment/employment generation.

xi. For buildings constructed for IT/ ITES companies, the FAR applicable shall be up to double of what is applicable for commercial buildings. For buildings in IT Park/ Industrial Area/Shed/ Knowledge City, FAR shall be allowed as per building bye laws applicable there.

xii. Software units shall be allowed to be set up in residential areas.

xiii. State Government will support TiE, NASSCOM, STPI, or any such organization in the creation of a Library for making available material on trends in technology, market intelligence, research reports and analysis etc. by contributing Rs.10 lakhs per annum.

xiv. To encourage establishment of IT companies in Bihar, a subsidy up to Rs. 25 Lacs at the rate of Rs. 10,000 per employee would be given to the first five IT/ITES companies investing in the State and directly employing more than 50 employees in IT or 100 employees in ITES sector. Such employment shall be for a period of at least two years for persons domiciled in Bihar.

xv. Projects creating direct employment of more than 500 people in the case of IT industry or 1000 people in ITES industry shall be entitled to a special package of cash incentive of Rs. 10,000 per employee per annum for first 3 years.

xvi. All IT/ ITES companies including services and training institutions will be entitled to "Industry" status. Such units shall be eligible for all concessions and incentives applicable to industries. For the purpose of this clause, accredited IT Training/ IT Education Institutes will be treated on the same footing as IT/ ITES companies and allowed all incentives and concessions applicable to IT/ ITES companies.

d. **Procedural Reliefs & Concessions**

i. IT/ITES units would be declared as Public Utility Services under the provision of the Industrial Disputes Act, 1947. They would be allowed to work in three shifts (24x7) as continuous processing units. These units would be exempted from the provision of granting a weekly holiday. Also, females employees would be allowed employment in shifts between 8pm and 7am.

ii. IT/ITES units being constituents of the Knowledge industry would be exempted from a variety of clearances and routine inspections of the controlling and regulatory authorities of the State Government such as Labour Commissioner, Director of Employment, State Pollution Control Board, Inspectorate of Factories & Boilers, etc.

iii. IT/ITES units shall be eligible for self certification to the Labour, ESI and EPF Authorities under the Provisions of the following Central and State Government Acts:
1) The Factories Act, 1948,
2) Contract Labour (Regulation & Abolition) Act, 1970,
3) Employees' State Insurance Act, 1948,
4) Employment Exchanges (Compulsory Notification of Vacancies) Act, 1959,
5) Industrial Employment (Standing Orders) Act, 1946,
6) Maternity Benefit Act, 1961,
7) Minimum Wages Act, 1948 ,
8) Payment of Wages Act, 1936 ,
9) Equal Remunerations Act, 1976,
10) Employees Provident Fund & Miscellaneous Provision Act, 1952
11) Workmen Compensation Act

iv. Permission to use agricultural land for non agricultural purpose will not be required in case the entire piece of land and building constructed thereon is used exclusively for setting up IT/ITES units subject to approval by the SIPB.

v. IT/ITES units shall be exempted from the purview of the Pollution Control Act.

vi. IT/ITES units shall be exempted from seeking clearance of the Electrical Inspector for approving Contract Demand of Load and appliances to be fitted in an IT unit.

e. **Promotional Measures**

i. The State will setup an International Convention Center at a picturesque location close to a Central Business District in the city of Patna.

ii. The State will also host an annual international conclave of esteem to showcase the State's expertise in IT with focus on human capital

iii. State would organize / promote regular conferences in the state, of various stakeholders in the IT sector, in collaboration with IT associations.

iv. The State Government would disseminate information on the initiatives taken by the Government in e-Governance, e-Literacy and IT education as well as the steps aimed at improving the business environment for IT-ITES sector to the public through print and electronic media. This would help to build the image of Bihar as a State with a modern, progressive, citizen-centric and business friendly government.

f. **Improving Business and Social Infrastructure**

While the focus of this policy is on actions needed to foster IT-enabled growth in the region, specific policies aimed at promoting the growth of the IT-ITES sector will not have the desired impact unless the issues in basic business environment, infrastructure and image of the state are addressed. This calls for a significant improvement in the business environment and its perception and building world-class basic, business and social infrastructure to support economic activity.

Use of IT in transacting government business as explained under the e-Governance section of this paper would lead to adherence to procedures, facilitate greater transparency in the system and increase efficiency. This, together with the measures outlined above for providing an e-interface to the citizen through digitisation of information, making them available through the Web and electronic delivery of services, is expected to go a long way in creating a business friendly environment in the state.

Adequate availability of infrastructure is another essential requisite for facilitating business activity. Overcoming this deficit in Bihar requires significant investments in basic, business as well as social infrastructure. From the perspective of the IT-ITES industry, the core elements of infrastructure required to sustain business activity include a robust telecommunications back-bone, world-class office space supported by regular / uninterrupted supply of basic utilities (power, water, etc.) and airline connectivity. Other related elements of social infrastructure (e.g. residential real estate, retail, hospitality) are also just as important. The high degree of mobility of human capital makes it the toughest to attract and retain – as a result, the living environment of the professionals in this industry needs to be just as world-class as their work environment. The key initiatives planned in this regard are:

i. **Airline Connectivity**: State would encourage domestic airlines to enhance connectivity of Patna and Gaya with major national and selected international destinations. Investment would be made for upgrading the facilities at these airports. Air Taxi service between major towns of the state by private operators would be encouraged.

ii. **Road Connectivity**: State Govt has undertaken a huge road development programme that would provide movement between tne major towns of the state. Access roads will be built from Airports and other points of commute such as Railway Stations to the designated IT parks, which minimize travel time. Value added services and international standard amenities such as logistics, hotel and restaurant, petrol pumps, retail, emergency services, etc. to support and enhance road networks would be developed.

iii. **Power Supply**: New power projects would be promoted both in public and private sector to meet additional demand forecasts of the IT industry. IT units who would like to set up captive power plants would be encouraged and incentivised.

iv. **Reliable Communication Links**: The State Government would encourage presence of multiple telecom service providers offering high-speed telecommunication links with several levels of built in redundancy for all IT Parks.Permission to set up base stations and telecommunication network equipment in earmarked areas would also be given on priority. Single window interface would be established for securing Right of way for laying optic fibres and erecting towers.

v. **Residential Real Estate**: Private developers would be encouraged and facilitated to build quality housing complexes with open spaces, playground and parking.

vi. **Retail and Entertainment Hubs**: Setting up of large departmental stores and malls, 5 and 7 star hotels, cafes, muti-cuisine restaurants, modern cinema halls and mutiplexes would be encouraged.

6. **Regulatory Issues**

   a. The State would examine and adopt the National Policy on Data Security, Privacy and Data Protection and other legal frameworks including cyber laws.

   b. The overall objective would be to provide a transparent, simple and enforceable set of laws, which shall facilitate e-business and all other IT enabled activities.

   c. The overall objective would be to provide a transparent, simple and enforceable set of laws, which shall facilitate e-business and all other IT enabled activities.

   d. The Government is keen on protecting Intellectual Property Rights and Copyrights of IT Products and would encourage use of only legal or authorised products. Awareness programs will be developed for general public. The Government shall provide orientation programmes to its law enforcement agencies to understand the intricacies of the laws under the relevant Acts to curb unauthorised copying of copyrighted works.

   e. Measures would be taken to increase awareness of anti-piracy in various departments and initiate move towards setting up of compliance infrastructure.

   f. Government shall setup a high-powered IT Security Task Force, with BSEDC as the nodal agency for establishing IT security framework within the State. BSEDC will be tasked to prepare the security requirement and roadmap for the entire State.

7. **Implementation & Monitoring**

   a. **Bihar Information Technology Authority (BITA)**: BITA shall be constituted as the apex body to oversee the comprehensive development of IT sector in the State. The Authority will be chaired by the Chief Minister.

   b. **Department of Information Technology (DIT)**: The State Government has created the Department of Information Technology with effect from 1.4.2007 to act the the nodal agency for implementation of the IT policy and computerization within the State.

Other Departments of the Government shall consult DIT on all issues pertaining to IT. The DIT will render all necessary assistance to them for implementation of the e-Governance programme.

c. **District e-Governance Society (DeGS)**: DeGS shall be constituted in each District under the chairmanship of the District Magistrate with representation of various departments including NIC to formulate, monitor and implement IT schemes/ programmes at the district level.

d. **Bihar State Electronics Development Corporation Ltd.** (**BSEDC)**: BSEDC is a Govt. of Bihar Undertaking notified as the State Procurement Agency for IT goods and services. In addition to the procurement role, it would act as the agency for providing standardized frameworks, architecture and templates for all computerization activities and e-Governance implementation. It would form JVs with private agencies with a view to facilitating e-Governance implementation and rendering IT services. It would undertake IT need assessment of various Government Departments and organisations, prepare DPRs, assist Departments and organisations in identifying operators/ agencies for implementing e-Governance projects, monitor project implementation and undertake evaluation studies.

e. **Monitoring & Evaluation**: A High Level Committee shall be constituted for implementation monitoring of IT projects. All departments shall be required to submit comprehensive report on the execution of IT projects to this Committee on regular basis. Bihar e-Governance Services and Technology Ltd. (BeST) would be the consultant supporting this Committee.

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MAP OF BIHAR

NEPAL

Uttar Pradesh

Paschim Champaran

Purbi Champaran

Gopalganj

Sheohar

Sitamarhi

Madhubani

Supaul

Araria

Kishanganj

Siwan

Muzaffarpur

Darbhanga

Saharsa

Madhepura

Purnia

Saran

Vaishali

Samastipur

Katihar

Buxar

Bhojpur

Patna

Begusarai

Khagaria

Bhagalpur

Munger

Bhabhua

Rohtas

Jahanabad

Nalanda

Sheikhpura

Lakhisarai

Banka

West Bengal

Aurangabad

Gaya

Nawada

Jamui

Jharkhand