

Transaction Advisory Services for Hi-Tech Parks in Bangladesh

IT/ITES Industry Roadmap Report

Draft for discussion

April 2015

Submitted by:
Ernst & Young LLP (EY)

DISCLAIMER

This IT/ITES Industry Roadmap Report (the "Report") has been prepared by Ernst & Young ("we" or "us") based on the information and data provided by BHTPA (the "Client" or "you") and other offices of Government of Bangladesh and other data obtained from secondary sources including web resources, public-domain information sources and our internal databases, for the Project – Transaction Advisory Services for Hi-Tech Parks in Bangladesh

In the preparation of this report, we have relied upon the information provided by the Client and have not independently verified any of such information. However, based upon the review of such information we have, wherever necessary, sought the explanations for the key trends and salient features in respect thereof.

In view of the importance to our work of the information and representations supplied to us by the management of the Client, we shall not be responsible for any losses, damages, costs or other consequences, if information material to our work is withheld or concealed from or misrepresented to us.

We have taken due care to validate the authenticity and correctness of sources used to obtain the information; however, neither we nor any of our respective partners, officers, employees, consultants or agents, provide any representations or warranties, expressed or implied, as to the authenticity, accuracy or completeness of the information, data or opinions that third parties or secondary sources provided to us.

The information and images (if any) provided or analyzed in the Report have been collated from various industry sources, including web resources, public-domain information sources and our internal databases. We have ensured reasonable care to validate the data presented in the Report; however, we have not conducted an audit, due diligence or an independent verification of such information. It is also to be noted that the images presented (if any) are pictorial representations of the overall concept and are in no way intended to represent any concrete imagery for the proposed development.

Neither we, nor affiliated partnerships or bodies corporate, nor the directors, shareholders, managers, partners, employees or agents of any of them, make any representation or warranty, express or implied, as to the accuracy, reasonableness or completeness of the information contained in this Report. All such parties and entities expressly disclaim any and all liability for, or based on or relating to any such information contained in, or errors in or omissions from, this Report or based on or relating to the recipient's use of this report.

References to us in the report relate to our advice, recommendations and analysis and do not indicate that we take any responsibility for the information concerned or are assembling or associating ourselves with any financial information, including prospective financial information.

This report has been prepared for your internal use, on your specific instructions, solely for the purpose of the project and must not be used or relied upon for any other purpose. This Report is strictly confidential, and no part thereof may be reproduced or used by any other party other than you, except as otherwise agreed between you and us. If you are permitted to disclose a report (or a portion thereof), you shall not alter, edit or modify it from the form we provided.

This report has not considered issues relevant to any third parties. Use of this Report by any third party for whatever purpose should not, and does not, absolve such third party from using its own due diligence in verifying the Report's contents. If any third party chooses to rely upon any of the contents of this Report they do so entirely at their own risk, and we shall have no responsibility whatsoever in relation to any such use. We accept no duty of care or liability of any kind whatsoever to any such third party, and no responsibility for damages, if any, suffered by any third party as a result of decisions made, or not made, or actions taken, or not taken, based on this document, unless expressly agreed between you, us and such third party in writing.

Notwithstanding anything contained herein to the contrary, we shall not be liable for any loss of profit, data, goodwill or revenues, or for any indirect, incidental, consequential, special or punitive damages that you or any third party may incur as a result of your use of this report.

This report supersedes any previous oral presentations or summaries we may have made in connection herewith. Neither we nor any of our affiliates worldwide are responsible for revising or updating this report because of events or transactions occurring subsequent to the date of this report. Any updates or second opinions on this Report cannot be sought by the management from external agencies (including our affiliates) without our prior written consent.

The information contained in the report is based on judgmental estimates and assumptions, about circumstances and events. Accordingly, we cannot provide any assurance that the projected results will be attained in this ever changing dynamic market environment.

Further, neither this report nor any part of it shall form the basis of, or be relied upon in connection with, any contract or commitment whatsoever. This report is being supplied to you solely for your information and is confidential.

In taking any commercial decisions relating to our services or this report, you shall have regard to the restrictions and limitations on our scope of services, liability and duty of care as set out in the Engagement Agreement and this Report. Accordingly, you remain responsible for all management decisions relating to our services and/or this Report, including the use or implementation of this Report.

This disclaimer forms an integral part of the report.

@ Ernst & Young, 2015

Contents	
1. Introduction	4
2. Constructs for supporting IT/ITES ecosystem	4
3. Hi-Tech Park Infrastructure.....	8
4. Market scenario and industry growth	11
5. Supportive Infrastructure	13
6. Policy support and government facilitation.....	14
7. Skills availability, demand and supply.....	16
8. Incubation support	20
9. Challenges faced in development of the IT/ITES sector	20
10. Recommendations	23
11. Conclusion.....	27
Annexure I: Proposed HTPA Incentives incorporating recommendations of Stakeholder's Workshop held on Feb 2, 2015	
	29
Annexure II: Criteria for Privately Operated/Non-BHTPA Software Technology Park	
	34

1. Introduction

Bangladesh Hi-Tech Park Authority (BHTPA) is implementing a project titled Support to Development of Kaliakoir Hi-Tech Park/IT parks (SDKHTP) for establishing Hi-Tech Parks/IT parks in Bangladesh. Project is being implemented under the Private Sector Development Support Project (PSDSP) with the financial assistance from The World Bank and DFID. Under the SDKHTP project, EY has been appointed for providing Transaction Advisory Services (TAS). One of the deliverables under this project is the 'IT/ITES/Hi-Tech policy & Bangladesh IT/ITES Industry roadmap report'.

This report is a built up over the Pre-Feasibility Report (PFR). In the Pre-feasibility Report, state and evolution of IT/ITES sector in select countries was mapped and learnings were drawn for Bangladesh, to understand the business case for investment in Bangladesh's IT/ITES sector and Hi-Tech Parks.

In this report, attempt has been made to map the horizon for development of IT/ITES industry at Hi-Tech Parks and put the quantifiable variables in place along the key pillars of ICT eco system.

Several models have been suggested by various studies, which identify common parameters to determine the attractiveness of different locations for IT/ITES sector and what is required to have a vibrant IT/ITES ecosystem in a country. Next section looks at different models for evolution of IT/ITES industries. This learning is then used in further sections to contextualise Bangladesh's position to make recommendations for encouraging local IT/ITES enterprises to grow and expand their operations.

2. Constructs for supporting IT/ITES ecosystem

The Government of Bangladesh has declared 'Vision 2021' with a target to transform Bangladesh into a middle income country by 2021. ICT has been considered as a thrust sector to achieve this vision. Development of IT/ITES sector thus becomes more important for development of the country.

Factors which support the development of IT/ITES sector have been identified by various reports, which governments and other institutions may make use of with an aim to support the development of IT/ITES sector and participate in the global opportunities that this sector offers.

Among these studies, there is broad agreement that several key factors determine locational competitiveness: such as availability of employable skills (including IT skills), competitive costs, quality of public infrastructure relevant to the IT services and ITES industries, and an overall environment that is conducive to this business. Table below provides a list of factors in respective studies¹.

Table: Frameworks for Assessment of Locations for IT Services and ITES	
AT Kearney's Global Services Location Index	Gartner's 10 criteria
People and skills • Availability • Remote service sector experience and quality ratings	eInfrastructure • Power, telecommunications, transport Labor pool

¹ http://siteresources.worldbank.org/extinformationandcommunicationandtechnologies/Resources/282822-1208273252769/The_Global_Opportunity_in_IT-Based_Services.pdf

<ul style="list-style-type: none"> • Labor force availability • Education and language • Attrition risk <p>Financial attractiveness</p> <ul style="list-style-type: none"> • Compensation costs • Infrastructure costs • Tax and regulatory costs <p>Business environment</p> <ul style="list-style-type: none"> • Country environment • Infrastructure • Cultural exposure • Security of intellectual property 	<ul style="list-style-type: none"> • Quality, quantity, scalability & work conditions <p>Educational system</p> <ul style="list-style-type: none"> • Quality, number of institutions, new grads in IT <p>Cost</p> <ul style="list-style-type: none"> • Labor, real estate, infrastructure & telecom <p>Political and Economic Environment</p> <ul style="list-style-type: none"> • Stability of government, corruption, geopolitical risks, Financial stability <p>Language</p> <p>Government support</p> <ul style="list-style-type: none"> • Promotional, institutional & education <p>Cultural compatibility</p> <ul style="list-style-type: none"> • Cultural attributes, adaptability, proximity, ease of travel <p>Global and Legal Maturity</p> <p>Data and IP Security and Privacy</p>
<p>Hewitt's International Benchmarking Model</p>	<p>McKinsey's Locational Readiness Index</p>
<p>Infrastructure</p> <ul style="list-style-type: none"> • Real estate • Telecom • Power <p>Connectivity</p> <p>Talent</p> <ul style="list-style-type: none"> • Availability • Quality • Cost • General demographics <p>Environment</p> <ul style="list-style-type: none"> • Macroeconomic • Business environment • Geopolitical environment • Clusters • Incumbent IT/ITES industry 	<p>Quality of infrastructure</p> <ul style="list-style-type: none"> • Telecom and network, real estate, transportation & power <p>Talent</p> <ul style="list-style-type: none"> • Availability, suitability, willingness, accessibility & trainability <p>Cost</p> <ul style="list-style-type: none"> • Labor, infrastructure & tax <p>Market Maturity</p> <ul style="list-style-type: none"> • IT/ITES employees as % of total service sector employment • IT/ITES as % of services GDP • Presence of industry association <p>Risk profile</p> <ul style="list-style-type: none"> • Regulatory risks, country investment risks, data protection <p>Other incentives</p> <p>Environment</p> <ul style="list-style-type: none"> • Government support • Business and living environment • Accessibility • Living environment

Above listings suggest that ICT ecosystem is a complex and interdependent series of technical, social and business relationships. The system functions when multiple underlying factors align to reinforce one another.

In another study, based on assessment of IT Parks in developing and developed countries, 'International Good Practice for Establishment of sustainable IT Parks', a World Bank report², identifies CLIP framework to note critical business success factors for setting up IT Parks. CLIP stands for Capital, Linkage, Infrastructure and People. These factors are outlined below.

- **Capital:** Capital for development of infrastructure may be provided either by the government, private sector or both, but success of an IT Park in attracting IT companies to occupy space/ facilities within the park is largely dependent on the reputation and credibility of the anchor tenant. This provides operational flexibilities and ease of decision making as compared to the rules and regulations that government entities must adhere to, if they are managing the parks. Incubation centers, angel investment, venture capital and private equity have been identified as key enablers for SMEs to flock around the anchor units.
- **Linkages:** Close working relationships with academic institutions like universities, colleges and R&D institutes, are essential for IT parks. Such linkages are usually not as critical in IT & BPO Services where innovation requirements are usually based on service delivery around existing software and hardware products and most market leaders possess the requisite competencies in-house. Availability of quality manpower resources is a key to success and hence dictates the performance of the IT Park and many of the IT parks have been set up in close proximity with prominent academic institutions. Most of the parks that have not underperformed have by and large focused on products and services in which their countries of operation have a competitive edge.
- **Infrastructure:** Physical infrastructure like roads, urban infrastructure, social amenities for recreation and sports, proximity to airports, virtual infrastructure in terms of state-of-the-art data, and voice connectivity is important for success of IT Parks. Lack of these facilities may not serve as competitive differentiators but they are absolutely essential prerequisites as it is one of the primary reasons for the underperformance of some the IT Parks.
- **People:** Availability of qualified and skilled manpower is essential to the success of any IT Park in attracting IT players as occupants.

'ICT for Economic Growth: A Dynamic Ecosystem Driving the Global Recovery' report by World Economic Forum, 2009 lists key pillars of the ICT ecosystem as:

- Infrastructure investment
- Applications and content
- Markets and competition
- Policies and regulations
- Government budgets
- Skills and education for IT

The fDi Report³ finds that, while making investment decision, investors are influenced by factors such as domestic market growth potential, proximity to markets or customer, regulations/ business climate, skilled workforce availability, infrastructure and logistics, industry cluster/ critical mass, attractiveness/ quality of life, Investment Promotion Authority (IPA) or Government support, technology or innovation availability and economical operational costs.

Same may be true for domestic investments also, additional factors may be, being able to participate in the value chain, access to technical know-how, access to finance, cost of finance, etc. fDi report also finds that in ICT and technology sectors, skilled workforce availability is the most important motive cited by companies while making fresh investments.

² International Good Practice for Establishment of sustainable IT Parks, The World Bank, Washington, June 2008

³ fDi Markets Report 2013

Overview of German development cooperation's experience⁴ in the field of IT sector promotion' takes into account the specific challenges of supporting the IT industry in developing and emerging countries. It is based on the following key principles:

- **Adaptability:** The IT industry is highly dynamic, competitive and globalised. In an industry environment which is characterised by constantly changing technology and market trends, the only sustainable competitive advantage is the ability to stay flexible, adapt to new technologies and to upgrade capabilities. Adaptability here means the ability of the approach to flexibly react to new market and technological trends and to generate new sources of competitive advantages for IT companies in developing and emerging countries.
- **Market orientation:** An effective promotion approach needs to be based on market mechanisms. Market orientation means that the approach needs to support local IT industries in bridging the gap between their capabilities and the requirements and demand structures of potential markets.
- **Sustainability:** Sustainability refers to a project approach which is based on a realistic appraisal of existing capabilities and resources in developing countries and the implementation of measures leading to competitiveness and economic growth on a long-term basis. Furthermore, sustainability implies capacity development of all relevant stakeholders.

The global IT/ITES market continues to grow and due to its large market size, constant evolution and shaping up of multiple sub-sectors, there is a huge scope for new entrants to make space.

In case of Bangladesh, industry size is small but IT/ITES companies here are working in multiple IT/ITES sub-sectors, but are scattered across Dhaka city. This suggests that with infrastructure support and other government support, these companies in different domains may grow faster. There will be sufficient middle managerial level expertise that will be available in due course of time but such growth will also need suitably trained skilled manpower. Given that the companies are working in wide range of IT/ITES sub-sectors, it is expected that there will be enough flexibility to adapt to the changing business environment.

Competitive advantage for several years to come is expected to be the cost of manpower. As more manpower will get added at the entry level, year after year, it will keep the cost low and also allow talented people to move up the ladder. Given that there is a thriving freelancer's market, there will always be additional manpower available for absorption in the organised sector at higher cost.

Local market for IT/ITES companies will either be Government institutions or organised private sector. Third option is that companies develop their own products and solutions, like e-Commerce websites or biometric solutions, etc. Availability of IT/ITES infrastructure may help the industry to consolidate and benefit from the synergies. Connect of companies here with foreign clients brings in more outsourcing work, mainly from West Europe, US and Japan. This could further grow with consolidation of IT/ITES industry. A proper address at Hi-Tech Parks will also help build client's confidence in outsourcing more work from current clients.

⁴ IT Sector Promotion in Developing and Emerging Countries Manual, GIZ
(<http://groups.itu.int/LinkClick.aspx?fileticket=HLju6vFJJ5o%3D&tabid=1862>)

Since the size of industry is very small and there is no integrating factor such as a well-developed IT park or single window facilitation or export promotion agency for IT sector, it is early to comment on the sustainability proposition. At the same time, skills availability has been identified as the most important factor regular supply of trained manpower is in process of shaping up.

Bangladesh has progressed on certain parameters as discussed above and has made its presence felt on the global scenario. It may strengthen its position given that IT infrastructure and availability of skilled manpower grow side by side. Following section and subsequent chapters explore the achievements till now, steps required to support the IT/ITES industry and likely scenario in years to come.

Since the IT/ITES sector on Bangladesh is in its very early stage of development, many of the factors contributing success of IT parks in developed markets may not be applicable for planned IT parks of Bangladesh. However, by taking care of above parameters will help Bangladesh to strengthen its position in the global IT/ITES landscape. Borrowing from the learnings from the discussion above, we may map the progress of Bangladesh's IT/ITES industry on following key elements:

1. Hi-Tech Park Infrastructure
2. Market scenario and industry growth
3. Supportive Infrastructure
4. Policy support and government facilitation
5. Skills availability, demand and supply
6. Incubation support

HTPA has the mandate to develop Hi-Tech Parks and it is assumed that most of the IT/ITES space will be added under HTPA banner and organic growth of units outside HTPA Parks may be considered as compensated by some of the units moving to HTPA Parks. Thus the growth has been estimated with reference to the space which is being added.

3. Hi-Tech Park Infrastructure

Availability of investment plays a big role in development of an IT/ Hi-Tech park. Ensuring a business proposition and experience required to achieve it also comes along. It has been also found that initial success of the park generates and drives few factors which results in scaling up of operation and diversification. A competitive IT/ITES infrastructure is an essential condition for growth of IT/ITES industry. 'International Good Practices for Establishment of Sustainable IT Parks'⁵ details it as 'infrastructure addresses' comprising of:

- Availability and relative cost of land/ space
- Quality of physical infrastructure in terms of connectivity, urban infrastructure, etc.
- Nature of social infrastructure such as recreational facilities and remoteness
- Political stability and law & order
- Intra-park, domestic and international data and voice connectivity

Report mentions that these indicators may not serve as competitive differentiators as far as IT Parks are concerned but these are absolutely essential prerequisites. In fact, weaknesses in this area have been identified as one of the primary reasons for the underperformance of the IT Parks.

⁵ International Good Practice for Establishment of Sustainable IT Parks: infoDev (2008)

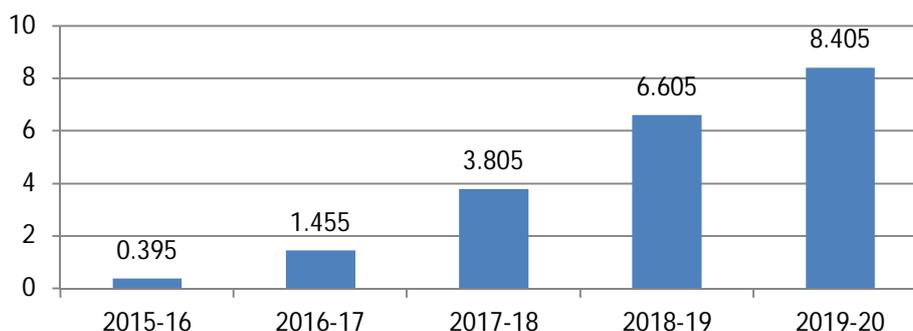
Same will apply in case of Bangladesh Hi-Tech Parks also. HTPA is currently supporting development of Hi-Tech Parks at Jessore, Kaliakoir, Sylhet, Rajshahi and Chittagong. Twelve more sites have also been identified for developing IT Parks. Apart from this, HTPA is also in process of declaring private building as Hi-Tech Parks. Phased availability of space as per HTPA estimates and information available is estimated as under.

HTPA Hi-Tech park	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Jessore STP	0.58	1.595	0	0	0	0
Janata Tower STP	0.72	0	0	0	0	0
Kaliakoir HTP	0.15*	1.0	4.0	5.0	7.0	0
Sylhet HTP	0	0	1.0	3.0	3.0	0
Rajshahi HTP	0	0	1.0	1.0	2.0	0
Chittagong HTP	0	0	0.5	2.0	4.0	0
12 IT Parks ⁺	0	6	15	15	0	0
Private STP						0
Accenture	0.5	0	0	0	0	0
Two more Private STP (Dhaka)	2.0	2.0	2.0	2.0	2.0	0
Total (Lakhs sqf)	3.95	10.595	23.5	28	18	0
Total (Million sqf)	0.395	1.06	2.35	2.8	1.8	0

*Existing building

⁺ At Jamalpur, Natore, Thakurgaon, Comilla, Maymensing, Kareniganj (Dhaka), Barisal, Rangpur, Rajshahi, Sylhet, Khulna and Chittagong
2020-21 has been kept as a reserve year for contingencies/ time overrun.

Figure: Cumulative space (Mn sqf) availability at HTPA Parks



As per government's plans, it is aiming at generating employment for one million⁷ people in IT/ITES sector by 2021. In such a scenario, total of 100 Million sqf area⁸ will be required. Thus, HTPA needs to plan developing additional 91.6 Million sqf to be available by 2021.

The need for sustained investment in the infrastructure is vital for the health of the overall

⁶ HTPA Records and estimates.

⁷ As per discussion with MD-HTPA, PD-HTPA and World Bank

⁸ Global average for space required per employee in IT/ITES units ranges from 100 to 220 sqf per employee (Office space across the world, Cushman & Wakefield Research Publication, 2013). 100 sqf has been used here as average sqf to be made available per employee.

ecosystem. While the bulk of the investment will have to come from private capital, public funding can play a supplementary role when the economics do not allow for private investment. Although, HTPA has invested in construction of Jessore STP, rest of the STPs are planned to be built in PPP mode. In case of private STPs receiving HTPA's approval, it will again be the private capital which will be invested. Thus the main effort shall be to work on improving the feasibility of IT/ITES industry, both of units as well as Hi-Tech Parks, in Bangladesh to ensure investment.

Planned investment at Kaliakoir Hi-Tech Park, where developer has been identified, is as under:

Block	Investment in FY 2015 (Mn USD)	Investment in FY 2016 (Mn USD)
Block III	1.77	1.77
Block II	6.79	16.64
Block V	4.64	11.42
Total	13.2	29.83

Three developers have been selected for block 2, 3 and 5 and contracts are expected to be signed by April 2015. Provisions for allowing Private STPs to get HTPA approval are also being deliberated as several round of discussion has already happened. Notification of provisions and application form is expected soon.

'International Construction Cost Survey 2013, Turner & Townsend' estimates that commercial space building cost in India for up to 20 floors in 2013 was 688 USD per sqm. (or $688 / 10.76 = 63.94$ USD per sqf) of area developed. It is assumed that inflation and recessionary trends and purchasing power parity may balance out each other, if we apply the same estimate for investment required for development of Hi-Tech Parks in Bangladesh. Accordingly investment required for development of parks is estimated as under:

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Total space being developed (Million sqf)	0.395	1.06	2.35	2.8	1.8	0
Estimated Capital Investment by developers	25.26	67.78	150.26	179.03	115.09	0

Though it is hypothetical as of now, if additional 91.6 Million sqf space is to be made available, and it is added from 2016-17 onwards, at given rate, investment required has been tabulated as under:

Total space developed (Million sqf)	0.395	1.06	2.35	2.8	1.8	0
Additional space required (Million sqf)	0	0	10	30	51.6	0
Total	0.395	1.06	12.35	32.8	53.4	0
Estimated Capital Investment by developers	25.26	67.78	789.67	2097.25	3414.42	0

Since employment sought is very high, space requirement and investment required by developers is also very high. Moreover, evolution of IT/ITES ecosystem may not catch up with such requirements. It is therefore recommended that the estimate of employment

sought may be revisited to align with sustained evolution of the industry.

4. Market scenario and industry growth

Bangladesh is an emerging economy with large population base. Ready Made Garments (RMG) industry, Banking and Financial services and Telecom sector has given a big push to the economy, mobilising people at various strata. This, in turn has also increased demand for other goods and services. This provides a big market for IT/ITES companies in Bangladesh, besides participating in the global market.

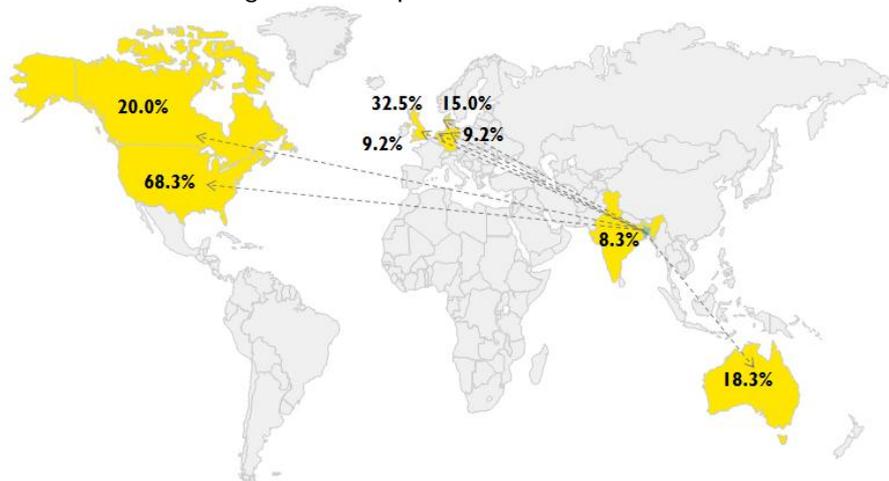
IT Industry at a glance ⁹ (2012-13)	
Number of companies	800
Total Revenue including exports	400 M USD
Exports	101 M USD
Number of Employees	70,000
Est. Industry Growth	40% ¹⁰

IT/ ITES business services in Bangladesh is a vibrant sector supported by an enthusiastic culture. Government is committed to providing a pro-business climate for all investors. IT companies from Bangladesh are now thriving in the country supplying to local and international markets worldwide.

Bangladesh has a strong domestic demand for its ICT services. It has laid down a solid base through catering to local needs over the last few decades. Local market still is a major contributor with 63 per cent¹¹ of BASIS registered companies focussed on this market. This market is growing at 20-30 per cent a year. This has honed the skills of ICT professionals who are capable of meeting global demand increasing the ICT enabled services export of the country. In recent times, Bangladesh has become one of the prominent outsourcing destinations in the world. The telecom boost in the country presents another opportunity for the IT companies as support service to the telecom companies. Through its rapid growth, IT/ITES industry is poised to play an increasingly prominent role in Bangladesh's economy. This industry serves both domestic and international markets.

Though the current size of Bangladesh IT/ITES industry is still small with reference to the overall economy and the population, over the last few years the industry has grown at a very fast pace and is expected to sustain the growth with addition of

Figure 1.1: Export destinations¹²



⁹ Bangladesh Software and IT Service Industry, Recent Trends & Dynamics, BASIS (probably 2012 -13 data)

¹⁰ <http://www.boi.gov.bd/index.php/potential-sector/ict-and-business-services>

¹¹ Bangladesh Software and IT Service Industry, Recent Trends & Dynamics, BASIS (probably 2012 -13 data)

¹² Bangladesh Software and IT Service Industry, Recent Trends & Dynamics, BASIS (probably 2012 -13 data)

skilled manpower an IT/ITES infrastructure. Bangladesh Board of Investment (BoI) estimates that during the last five years (possibly 2011 data), the average yearly growth rate of software & ITES industry has been over 40%. The growth has been driven by both good export trends in recent years as well as the growing IT automation demand in domestic market. Local demand has been led by large automation projects by telecom, banking sector and export oriented garments/ textile industry. It also mentions that more than 35,000 professionals work as freelancers, mostly for foreign market.

From a global perspective, Bangladesh's IT industry is in infancy or in early stages of evolution. Global companies are serving big IT projects. Software also comes bundled or aligned with the machines imported and through international contracts and its customization/ maintenance is handled by Bangladeshi companies. There are some success stories. Bangladesh has good potential for BPO services, particularly in graphics and back office work. It has a strong connect with west European countries. Its connect with Japan, Netherlands, US and other nations also adds to the overall feel for investors. Outsourcing, particularly with US, Japan and West European countries is also substantial, apart from government generated demand for IT services in Bangladesh.

Exports are growing at a fast pace and are largely driven by low operating/ outsourcing cost, growing network and capabilities of companies in Bangladesh. As per BASIS report¹⁴, Bangladesh exported 101 Mn USD worth of software in FY 2012-13.

Fiscal year	Export (Mn USD)	Growth %
2006-07	26.08	-3.44%
2007-08	24.09	-4.83%
2008-09	32.91	32.59%
2009-10	35.36	7.44%
2010-11	45.31	28.14%
2011-12	70.81	56.28%
2012-13	101.63	43.53%

Table below estimates the industry size in coming years. For the purpose of estimation, it is assumed that the industry will sustain its own growth rate of 40% and new space added will be able to sustain this high growth rate on a low base. Further, given the industry size of 400 M USD contributed by 70,000 employees, per employee contribution to revenue is 5714 USD per annum. This is with the understanding that reference data is dated 2012-13. It is also estimated that 25% of total industry size is contributed by exports.

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-2020	2020-21
Annual Estimated Revenue (projection at 40% ¹⁵ growth)	400 ¹⁶	560	784	1098	1537	2151	3012	4217	5904
Estimated people employed in Million (projection at 40% ¹⁷ growth)	0.07 ¹⁸	0.10	0.14	0.19	0.27	0.38	0.53	0.74	1.0

Though this estimation comes close to estimate of generating employment for 1 million people by 2021, many assumptions will have to come true to achieve this. Further, considering that investment by IT/ITES units in Hi-Tech Parks/ STPs is 3000 USD per

¹³ Bangladesh Software and IT Service Industry, Recent Trends & Dynamics, BASIS (probably 2012 -13 data)

¹⁴ Bangladesh Software and IT Service Industry, Recent Trends & Dynamics, BASIS (probably 2012 -13 data)

¹⁵ +<http://www.boi.gov.bd/index.php/potential-sector/ict-and-business-services>

¹⁶ Bangladesh Software and IT Service Industry, Recent Trends & Dynamics, BASIS (probably 2012 -13 data)

¹⁷ +<http://www.boi.gov.bd/index.php/potential-sector/ict-and-business-services>

¹⁸ Bangladesh Software and IT Service Industry, Recent Trends & Dynamics, BASIS (probably 2012 -13 data)

employee¹⁹, investment by IT units is estimated as under:

Projected Investment by IT/ITES Units (Mn USD)									
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Investment by IT/ ITES Units	--	--	--	576	807	1129	1581	2214	3000

5. Supportive Infrastructure

Development is related at improving the welfare of a society through appropriate social, political and economic conditions. The expected outcomes are quantitative and qualitative improvements in human capital (e.g. income and education levels) as well as physical capital such as infrastructures (utilities, transport, telecommunications). Irrespective of the relative importance of physical versus human capital, development cannot occur without both as infrastructure cannot remain effective without proper operations and maintenance while economic activities cannot take place without an infrastructure base. Along with IT/ITES infrastructure, supportive infrastructure like connecting roads, education and recreational facilities, etc. are also important to support IT/ITES infrastructure.

Bangladesh has international information highway through cross-border optical fibre network with India to get connected with the rest of the world. This alternate route provides redundant transmission network in connecting with international backbone in a more cost efficient way. It has been connected with India through two International Terrestrial Cable (ITC) points at Benapole and Chuadangah.

Internet Penetration in Bangladesh ²⁰				
	2010	2011	2012	2013
Fixed broadband Internet subscribers (per 100 people)	0.27	0.31	0.39	0.97
Internet users (per 100 people)	3.7	5.0	5.8	6.5

Though Kaliakoir HTP is being developed with all supportive infrastructure, connecting physical communication also needs to be taken care of. Transportation is an important component of the economy and a common tool used for development. This is even more so in a global economy where economic opportunities are increasingly related to the mobility of people, goods and information. A relation between the quantity and quality of transport infrastructure and the level of economic development is apparent. High density transport infrastructure and highly connected networks are commonly associated with high levels of development. When transport systems are efficient, they provide economic and social opportunities and benefits that result in positive multipliers effects such as better accessibility to markets, employment and additional investments. When transport systems are deficient in terms of capacity or reliability, they can have an economic cost such as reduced or missed opportunities and lower quality of life.

Good travel connectivity for people including expatriates and international clients is important for IT parks. Thus the location of the park should be in an area that connects it with rest of the facilities and permits it to leverage the existing urban and social infrastructure. IT/ITES is

¹⁹ Estimated as 1000 USD for Computer/ Laptop, 1000 USD for furnished and services space and 1000 USD as working capital including software, royalties, business development, etc.

²⁰ <http://data.worldbank.org/indicator/IT.NET.USER.P2>

primarily human resource base service industry and in order to attract and retain talented people in the park, it needs to offer all social amenities and facilities. Proximity to educational institutes and industry helps in industry academia linkages.

Jessore Software Technology Park (JSTP) has been planned as an integrated 15-storey Multi-Tenant Building with supporting infrastructures such as Dormitory Building, Amphitheatre cum Canteen, etc., for business operations of IT/ITeS units. But the fact is that it is far from Dhaka with limited connectivity. Jessore itself lacks appropriate modern city infrastructure and hospitality centres and access to the location of the park is through a narrow congested road which restricts its attractiveness.

Kaliakoir Hi-Tech Park (KHTP) is one of the flagship project of Government of People's Republic of Bangladesh for promotion of Hi-Tech/ IT/ Software industry in Bangladesh and is supposed to be having commercial and residential facilities including schools, hospitals, banks, post offices, shopping malls. It shall act as a self-sustainable township. Kaliakoir Hi-Tech Park is approximately 40 km North of Dhaka city, in Gazipur district. The project site is well connected to Dhaka through road and a railway line. Hazrat Shahjalal International Airport of Dhaka is located at a distance of 25 km from the site. Because of its proximity to Dhaka, city infrastructure and amenities of Dhaka are available for Kaliakoir. Widening of road may reduce commuting time and stopover of trains in approachable distance will also increase KHTP's feasibility manifold.

Sylhet Hi-Tech Park's proposed project site is about 25 km from the on the eastern side of Sylhet on Bholaganj Road. Distance of the proposed site from Osmania International airport, Sylhet is approximately 20 km. Sylhet is well connected to Dhaka by road, rail and air. Osmania airport of Sylhet operates international flights. However, air connectivity with other cities of Bangladesh apart from Dhaka is not available in Sylhet. The project site is located in a remote area, away from habitation, approximately 25 km away from the Sylhet city. There is no human establishment in the vicinity of the project site. In absence of such establishment, entire ecosystem needs to be created inside the park. Road connecting the site to Sylhet is also to be rebuilt.

Rajshahi Hi-Tech Park is located in proximity to the DC Office and the District Judge Court of Rajshahi. The site is approximately 13 km from the Rajshahi airport and 7 km from the railway station. City also lacks sufficient residential and recreational facilities.

As per discussion above, there are challenges regarding supportive infrastructure which are required to be addressed. Further, the economic impact of broadband manifests itself in many ways, the investment itself, facilitating direct jobs in IT and indirect jobs, besides household surplus. Though, in Bangladesh, the remotest corner of the country is connected to the modern technology and inventions, it is still in the process of looking for continuous achievements in Telecom & ICT sector and unfolding initiatives in key sector like e-Governance, e-Business, Mobile Financial Service, M-Health, etc. that are the pondered areas for the country.

6. Policy support and government facilitation

Although proactive policies may not be a sufficient condition for building successful IT services and ITES industries in an individual country, success cases have involved active government support, not necessarily focused on the needs of the IT services or ITES industries.

A fundamental question faced by governments is whether to focus on industry-specific policy, such as the development of the IT services and ITES industries, in addition to working to improve the broader business environment. Challenge to industry-specific policy initiative refers to the dismal record of governments in supporting specific sectors, and emphasize that the task is best left to markets. Proponents²¹ of targeted industry support point out that:

- (1) Countries that have succeeded have generally seen their governments making deliberate interventions to catalyse growth of the sector;
- (2) Many of the policy enablers needed by the IT services and ITES industries involve, 'non-regret' interventions that also benefit the rest of the economy; and
- (3) A broader approach to policy, aimed at the overall business environment and not at the IT services and ITES industries specifically, is likely to miss key interventions and be out of sync with the dynamic needs of these industries.

Governments should, in their view, focus on macroeconomic stability, ensure property rights and contract enforcement, and improve the general environment for doing business. Regulations should be stable and predictable, and promote competition and investment. Excessive regulation can have the unintended effect of discouraging innovation around the development and deployment of next-generation networks and applications. Particular areas for innovative policy frameworks include the areas of security, privacy and quality of service.

Strategic use of the government procurement can accelerate the commercial viability of ICT services, promote entrepreneurship in the sector and create an opportunity for promising business models—particularly those embracing the principle of open trade—to flourish. Additionally, governments should focus on ensuring renewed research and development amongst private industry, academia and civil society organizations. To summarise, Government should take proactive steps towards:

- IT Promotion and creation of domestic demand
- Skill enhancement- Institutional & Educational support e.g. training support, professional courses, handshaking with Universities, R&D centres and IT companies.
- Providing suitable Business and living environment like IT parks, Incubation centres, IT city etc.
- Provide industries a comfortable and easy accessibility to Government.

HTPA Act 2010 and its HTPA (Amendment) Act 2014

Bangladesh Hi-Tech Park Authority Act, 2010 was passed by the parliament to make provisions for the establishment of his tech parks in different places within the country for setting up and development of hi-tech industries in Bangladesh and for the establishment of the Bangladesh Hi-Tech Park Authority for proper management, operation and development thereof. The Authority has powers to acquire, hold and dispose of property, both movable and immovable. The general direction and administration of the affairs and functions of the Authority shall vest in an Executive Committee which may exercise such powers and discharge such functions of the Authority. Board of Governors is headed by the Prime Minister as Chairman.

²¹ http://siteresources.worldbank.org/extinformationandcommunicationandtechnologies/Resources/282822-1208273252769/The_Global_Opportunity_in_IT-Based_Services.pdf

HTPA Act 2010 provides the legal coverage for attracting and leveraging private investment in the development of Hi-Tech Parks on a Public-Private Partnership (PPP) basis.

HTPA has also drafted rules for implementing the provisions of the Act. When approved, incentives such as , 10 Year tax holiday, exemption of income tax for expatriate professionals, 10 years accelerated depreciation, etc., proposed for companies in HTPA's Hi-Tech Parks will bring Bangladesh's IT investment policy at par with many other countries.

HTPA (Amendment) Act 2014 has also been approved. This widens the definition of Hi-Tech Park. It also gives more autonomy to HTPA as it now has to only inform the National Board of Revenue (NBR) on giving special tax benefits to Hi-Tech industries in the parks, instead of seeking consent from NBR.

A workshop on Preferential Package (incentives, allowance and facilitation) that HTPA may provide at Hi-Tech Parks was organised at Dhaka on 2 February, 2015. Objective of this workshop with stakeholders in government and industry was to discuss on incentives, other allowance and facilitation that BHTPA is proposing for developers of Hi-Tech Parks, Property Management Companies (PMC) of Hi-Tech Parks and IT/ITES/Hi-Tech companies occupying the space getting developed, to avail as investor. Apart from BHTPA and Ministry of Information & communication Technology (ICT) Division, there was participation from National Board of Revenue, Bangladesh Bank, PPP Office, Ministry of Foreign Affairs, Ministry of Planning, Ministry of Home Affairs, Ministry of Commerce, BEZA, FBCCI and BEPZA. Representatives from IT/ITES industry and infrastructure industry also participated and deliberated on the incentives that HTPA may provide.

Outcome of the workshops were discussed with National Board of Revenue on 9 February 2015 and are in process of deliberation to get notified. These incentives cover Tax Incentives, VAT/ Sales/ Service Tax related exemptions, customs related Incentives, other financial incentives, allowances/ facilitation and other support to be provided by HTPA at IT Parks. Outcome of the workshop is placed as annexure to this document.

Apart from this draft of guidelines for allowing private buildings to be declared as STP was provided to HTPA and criteria for allowing 'Privately Operated/Non-BHTPA Software Technology Park' as arrived at in discussions held on 17 February 2015 at the Office of ICT Division is placed as an Annexure.

Developing IT infrastructure is priority, and there is an inherent demand for investment and expansion by units. To cater to this demand, immediate intervention is required. Creation of Private STPs may provide an interim solution. These private STPs with competitive rentals, supported by government intervention, can help capitalise growth of the sector, before Hi-Tech Parks reach to a stage of offering developed space for IT/ITES units to operate from.

7. Skills availability, demand and supply

By 2020 the world would require to create more than 500 million new jobs to provide career opportunities for the currently unemployed as well as young people who will be joining the

workforce²². The European Commission recently announced that by 2015, there will be an estimated shortfall of up to 900,000 ICT professionals across Europe.

Countries with large and growing employable labor forces thus, may have a competitive advantage in capturing a share of the global IT services and ITES markets. For a number of niche segments, however, the basis for differentiation may be focussed on factors other than scalability. In R&D, for example, skills quality appears to be a much more important differentiating factor.

Industry experts and current trends suggest that countries with severe constraints in infrastructure, a small employable labor force, and no clear competitive advantage enabling differentiation in high-end markets may not be immediately attractive to investors and companies looking to establish IT services and ITES operations. Such countries may, however, recognize and plan for the longer-term potential that the industry represents assuming these constraints can be addressed over time.

Deliberate investment in human resource and infrastructure development, in a manner that is geared towards meeting the skill requirements of the IT services and ITES industries globally, is likely to be a sound policy for least developed countries.

In a context where companies around the world are learning to operate in different geographies, it can be expected that locations equipped with employable skills, decent infrastructure, and a stable and conducive business environment will be able to take advantage of the opportunities presented by the IT services and ITES industries. It is important to note that a relatively small investment and a small number of jobs in the IT services and ITES industries can have a considerable impact on the economy of a country.

Taking India as an example, while the IT services and ITES industries currently employ less than 1 percent of the labor force in India, the sector is responsible for one-quarter of the country's exports²³ or 7-8% of the country's GDP. Although India may be viewed as a unique case, it is possible that the IT services and ITES sectors may contribute just as much to other, smaller economies also.

Bangladesh has a young population, with nearly 74% of the population²⁴ between the age group of 15-65, which, combined with increasing educational quality, creates a talented and skilled pool of young workers with the ability to read and write in English. In combination with the relatively low wages, this is an attractive asset for potential offshoring services in many different industries.

Professional education is a high priority agenda of ICT policy makers. Bangladesh has 110 public and private universities with more than 0.25 million²⁵ new students every year. ICT companies in Bangladesh may build strong relationships with various universities in the country to tap and train talent at the sources.

²² International Labour Organisation, Global Employment Trends 2012

²³ The Global Opportunity in IT-Based Services retrieved from http://siteresources.worldbank.org/EXTINFORMATIONANDCOMMUNICATIONANDTECHNOLOGIES/Resources/282822-1208273252769/The_Global_Opportunity_in_IT-Based_Services.pdf on 10 April, 2015

²⁴ http://www.prb.org/pdf12/2012-population-data-sheet_eng.pdf

²⁵ HTPA note

Finishing schools, to bridge the skill gaps between academia and industry, are also coming up, allowing ready resources availability. This is an attractive asset for offshoring services, including microwork/ freelancing.

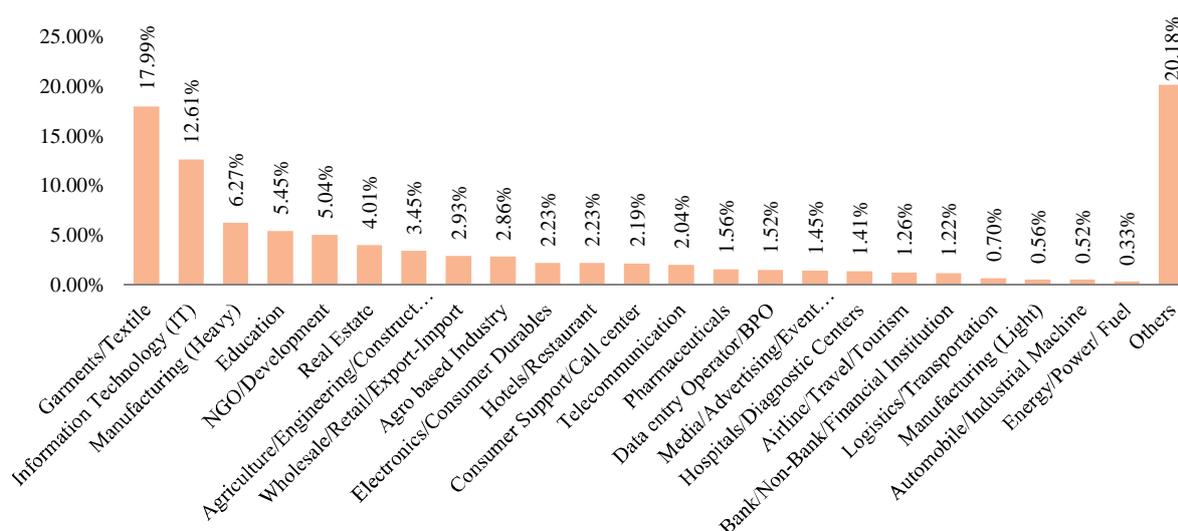
Board of investment webpage on ICT²⁶ (possibly 2011 data), estimates that about 5500 IT graduates pass out every year, which may be employed in IT services and products. Further, given²⁷ that 0.25 Million graduates and post-graduates are passing out of higher education system in Bangladesh, it may be arrived at that some of these may be skilled to be employable in specific domains of ITES sector.

Bangladesh offers a substantial manpower reserve-skilled, unskilled, educated and otherwise. There is a large number of relatively low cost labor available in the country. Many of them have a working knowledge of English and possess the basic skills required by industries. Of late, there is an increasing supply of professionals, technologists and other middle and low-level skilled workers. They receive technical training from universities, colleges, technical training centers, polytechnic institutions, etc.

An analysis of jobs posted on leading job portals, bdjobs.com and alljobsbd.com in Bangladesh, in November 2014 done by EY shows about 18% jobs posted are in RMG sector, followed by 12.61% in IT/ITES sector. If we add data entry related jobs (1.52%) and Customer support/ call centre jobs (2.19%), total will be around 16.3%.

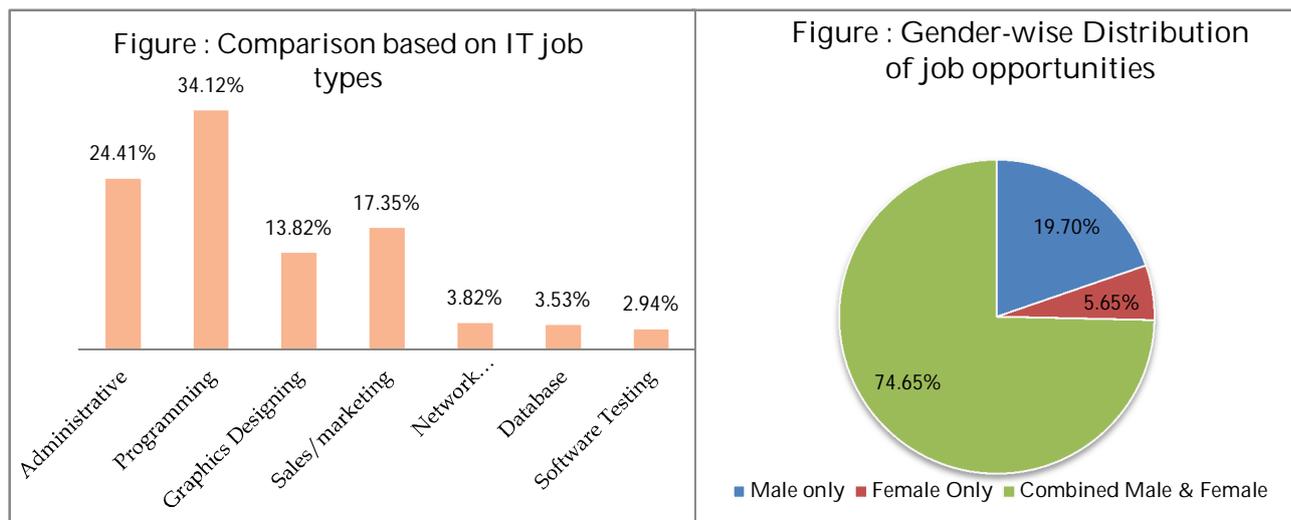
Most common qualification asked for IT/ITES jobs is B.Sc in Computer Sc. & engineering or MBA. If we take a look into the IT relates jobs only, it can clearly be observed that the major IT jobs available are in field of programming. 34% jobs of IT sector are programming related, followed by administrative work (24%) and sales & Marketing Job (17%). Further, 26.1% jobs posted were for people with less than a year's experience, 27.44% for experience of 1+ years, 26.74 for 3+ years of experience and 19.72% for more than 5 years of experience.

Figure: Industry-wise Jobs Opening (November 2014)



²⁶ <http://www.boi.gov.bd/index.php/potential-sector/ict-and-business-services>

²⁷ <http://www.ugc.gov.bd/students/>



Comparing jobs posted with gender preference, almost 6% of jobs are for female only, about 20% for males only and 74% jobs do not mention any preference.

Ministry of Posts, Telecommunications & Information Technology of Bangladesh is also implementing more programmes at Bangladesh Computer Council to train more than 30,000 people in IT skills. This includes 'Foundation Skills Training' for 20,000 students, 'ICT Training for 10,000', App Development Programme and IT entrepreneurship programme for women. This will support manpower development for IT/ ITES sector for employment at companies taking up space in IT/ITES sector. HTPA is also supporting skill development under various programmes like, Skills enhancement Programme, Employment Incentive Programme, Mid-Level Manager programme, etc. Given above factors, along with the IT and non-IT graduates passing out of the higher education system, following may be the likely scenario.

Projected/ Estimated Annual Industry Revenue (Mn USD) and employment ²⁸									
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Annual Estimated Revenue (projection at 40% growth)	400	560	784	1098	1537	2151	3012	4217	5904
Estimated people employed in Million	0.07	0.10	0.14	0.19	0.27	0.38	0.53	0.74	1.0
Additional manpower required in Million	--	0.03	0.04	0.05	0.08	0.11	0.15	0.21	0.26
Additional manpower required in numbers	--	30,000	40,000	50,000	80,000	1,10,000	1,50,000	2,10,000	2,60,000
IT graduates passing out every year (adding 10% growth on base of 5500 on year 2011)	6655	7321	8053	8858	9744	10718	11790	12969	14,266
More candidates required to be trained	--	22,679	31,947	41,142	70,256	99,282	1,38,210	1,97,031	2,45,734

²⁸ Reference cited in earlier sections

8. Incubation support

An incubation centre provides a support structure and an adequate framework in their initial years of operation for enterprise creation by bringing together specialized resources aimed at assisting companies before they setup an independent unit. An incubator offers an ideal environment for start-ups and technopreneurs to transform their ideas into viable business ventures. Entrepreneurs and small businesses receive proper backup and guidance to be able to concretely market their business concepts, operate effectively and keep up with the pace of change, remaining competitive at the same time. Failures encountered during the initial phase of operation of a venture are thus minimized and the ability to reach the entire potential for expansion is enhanced.

First ICT incubator in Bangladesh was started its activities on 1st November, 2002 at BDBL Bhaban, Karwan Bazar, Dhaka with a floor space of 68,563 sft in seven different floors. BASIS is the managing agency for the overall management of the incubator. At present 48 companies have been accommodated in this incubator and employment opportunities were created for about 1700 IT professionals. But these companies did not get a chance to relocate due to lack of proper IT/ITES infrastructure.

Apart from this facility, there is no incubation space for IT/ITES companies and given the very nature of the IT/ITES industry and taking into account that there is a significant participation of freelancers in the open global market space, there is established need for 'incubation-mentoring-venture capital-commercialization' ecosystem to be supported.

As the variables are too many and not controllable, it may not be prudent to predict the numbers, a description of requisites is outlined below:

- Policy support in terms of a seed fund, rebates, preferences, etc.
- Supportive infrastructure at HTP/ STP
- Formal system to connect with Universities and academia
- Participation of Venture capital funds
- System for seeking advisory and mentoring
- IP creation and commercialisation

9. Challenges faced in development of the IT/ITES sector

The IT industry in Bangladesh is an untapped mine brimming with possibilities and Bangladesh has now become one of the most potential outsourcing destinations in the world.

Over the last few years, Bangladesh has made major strides in laying the groundwork for a diverse and successful outsourcing market. Bangladesh is making its presence in the global forum. Gartner, a global research agency, ranked Bangladesh as one of the top 30 outsourcing destinations of world²⁹. The nation has a large number of young people with an increasing number of IT graduates and the service costs are lower compared to those of India and the Philippines, which can take the IT industries forward.

²⁹ <http://www.gartner.com/newsroom/id/1500514>

In order to ensure an effective and sustainable promotion of the IT/ITES industry in business, an understanding of the challenges facing the IT/ITES industry is indispensable. Alleviating these challenges will lay foundation for working further on promoting the industry. These challenges can be attributed to three major factors³⁰:

- Specific structural problems of developing and emerging countries
- Obstacles to internationalisation and exports, and
- Specifics of the IT industry

Specific structural problems of developing and emerging countries

Contrary to industrialised countries, developing and emerging countries face specific structural problems which challenge an effective IT sector development. These problems include:

- ICT infrastructure deficiencies: Despite massive investments into ICT infrastructure, the development of the local IT industry is often hampered by problems with power supply, connectivity and bandwidth.
- Institutional capacities & support structures: Unlike most industrialised countries, developing countries often possess neither the necessary economic planning and support structures (e.g. ICT agencies, R&D institutes) nor the capabilities to develop and implement IT sector promotion activities fully and effectively.
- Company capabilities: IT companies in developing countries often lack the necessary managerial as well as technical skills to improve their competitiveness. This is mostly due to lack of access to adequate learning and training offers. The problem is exacerbated by the absence of suitable process models and quality management standards.
- Lack of Cooperation: Coordination and cooperation between relevant stakeholders, such as ministries, universities, chambers and companies, is traditionally weak in most developing countries. Organisational structures and representative bodies like associations or clusters, which support interaction and coordination, often do not exist. This impedes the design and implementation of effective sector development measures.
- Brain drain: The IT industry is skill-intensive and qualified IT experts are highly sought after in industrialised nations. As a consequence, many developing countries lose their much-needed IT experts to Western countries paying higher salaries.
- Image problems: Due to their economic and political problems, many developing countries have a negative image which often adversely affects their reputation among potential export clients. Western clients could express doubts as to the quality and reliability of IT firms from developing countries. These problems are often exacerbated by the widespread use of pirated software and copyright infringements in many developing and emerging countries.
- Lack of branding: As the Indian success illustrates country image and branding play an important role in the IT market and particularly in the offshoring market. Many developing countries lack a suitable branding or image which is associated with excellence in software development and IT services. This makes their marketing and positioning in international markets difficult.
- Domestic demand: Domestic markets for software and IT services are often very limited with respect to market size and maturity. This constrains the growth potential for local IT industries and limits the effectiveness of import substitution strategies in

³⁰ IT Sector Promotion in Developing and Emerging Countries Manual, GIZ
(<http://groups.itu.int/LinkClick.aspx?fileticket=HLju6vFJJ5o%3D&tabid=1862>)

IT sector development.

Obstacles to internationalisation and exports

Internationalisation and exports induce growth and support technology transfer. In general, exporting and internationalisation raise a serious challenge for companies, as they substantially increase the level of complexity with regards to management, information and know-how. As has been said 'Moving from a national to an international business environment represents a quantum leap in complexity', IT sector development faces the following challenges:

- Lack of export experience: Most IT companies in developing and emerging countries lack experience with exports which reduces their chances to successfully penetrate foreign markets.
- Marketing barriers: Marketing barriers for software exporters from developing countries are twofold. Firstly, lack of export marketing skills presents a serious obstacle for potential exporters. Secondly, the marketing of software and software services in foreign markets comes at a cost which many SMEs from developing and emerging countries cannot afford.
- Cultural and language barriers: Lack of knowledge on business practices and cultural aspects as well as lack of sufficient foreign language capabilities could constitute a serious obstacle to exporting. This is particularly relevant for exporting offshoring services.
- Lack of market intelligence: Precise knowledge on market structures, customer requirements, cultural issues and competitors is a prerequisite for successful exporting. This requires a systematic exploration and internalisation of relevant market information by companies as well as by relevant export support organisations. In most developing countries, neither companies nor support institutions conduct market research to generate the necessary market information.
- Lack of international linkage: In many developing and emerging countries, IT companies and support institutions such as agencies or universities are not linked to international cooperation and research networks. Yet, such international linkages are required for technology transfer and exchange of knowledge to occur in a highly globalised IT industry.

Specifics of the IT industry

The IT industry is characterised by very specific features. Some of these features present significant obstacles to IT sector growth:

- Standards: Technical as well as quality standards form a substantial obstacle for IT companies from developing countries since these standards require substantial investments. Particularly in the software segment, these standards (unless they are "open standards") represent entry barriers and support the establishment of virtual monopolies.
- Competitive pressure: The IT industry is highly globalised, leading to intense competition. Competition on export markets is further intensified by network effects and a general trend towards offshoring. Besides, several segments of the global software market are dominated by big multinational corporations (e.g. Microsoft, Oracle), a fact that can largely be attributed to network effects.
- Skills development: Being a knowledge-intensive industry, qualification and training are of paramount importance for IT sector development. However, education systems in many developing and emerging countries are often inefficient in terms of quantitative and qualitative output of IT graduates. In addition, specialised training services for

further qualification of local IT experts are often not available.

- Short innovation cycles: The IT industry is characterised by short innovation cycles requiring companies to invest constantly in enhancing their capabilities through technical trainings and skills development. This represents a formidable challenge for companies from developing and emerging countries.

10. Recommendations

Bangladesh's IT/ITES industry has good potential to grow at a fast pace, lack of infrastructure and availability of skills is limiting the growth of industry. While Bangladesh's position in terms of development of IT/ITES infrastructure, capital required for development, capital required for IT/ITES units, availability of manpower and employment generation is mapped in an earlier section, most of the challenges mentioned in the previous section are applicable in case of Bangladesh. HTPA will have to make appropriate provisions for promotion of IT/ITES sector. Recommendations regarding the same are outlined below.

Hi-Tech Park Infrastructure

- Ensure that development of IT/ITES infrastructure planned at Jessore, Kaliakoir and 12 STPs is achieved and is operated suitably to make a business case for IT/ITES units to operate from HTPs/ STPs
- Take action to ensure that Data Centre facility is setup at Jessore
- Seek improvement in road and rail connectivity to Kaliakoir HTP, Jessore STP and other HTPs/ STPs
- Explore possibility of setting up more HTPs at prominent educational cities like Rajshahi, Chittagong and Khulna, Sylhet, etc.
- Make provision for recognising Private STPs, provide support and monitor that these STPs are able to function properly
- Uninterrupted supply of electricity is a must to ensure the smooth flow of operations. HTPA may consider establishing electric sub-stations with multiple feeders, to guarantee continuous electricity supply. Multiple electric connections with full back up system. Government assurance required for ensuring 'High quality infrastructure', Lower space rent/ subsidy.
- Reliable and low cost Internet connectivity from multiple lines, including one through the Pacific may be ensured. ITES companies will require, practically, no single point of failure.
- 24x7 Technical support is required for all kind of services at STPs/ HTPAs.

Market scenario and industry growth

- Support establishing two-way Industry-academia linkages. This could be in form of industry case studies for teaching, young faculty internships, student internships, consulting work by senior faculty, updating curriculum as per requirements for the industry, live projects, guest industry lecture, workshops for industry, collaborative work, etc.
- Bangladesh Government is implementing several large-scale IT projects. If HTPA is able to get local sourcing norms strengthen, it will support growth of IT/ITES companies in Bangladesh. The following measures³¹ may be taken for encouraging local IT/ITES enterprises to grow and expand their operations to become mid/large size companies::

³¹ UN report- Promoting local IT sector development through public procurement

1. Establishing the basics
 - Making sure that public procurement is aligned with IT sector promotion strategies
 - Ensuring there is a critical mass of IT-related procurement
 - Understanding the current state of the local IT services industry
 2. Strengthening the institutional framework.
 - Coordinating across the public sector and the industry
 - Designating a lead agency to spearhead public procurement for local IT sector development
 3. Promoting good procurement practice.
 - Establishing transparent and open tender procedures
 - Deploying e-procurement systems
 4. Limiting market entry to foreign bidders.
 - Providing preferential marks for local experience, local language and local presence
 5. Mitigating information asymmetries.
 - Making concessions on bid and performance guarantee requirements
 - Accepting proof of quality other than previous work
 6. Promoting software design that facilitates local firms' Participations
 - Prescribing open standards and interoperability frameworks
 - Adopting the modular design of IT systems in the public sector
 - Promoting Free and Open Source Software (FOSS)
 7. Providing awareness and capacity development for local firms and public sector officials.
- Social, Mobile, Analytics and Cloud (SMAC) is expected to be the main driving force in IT/ITES sector globally, in coming future, along with managing and analysing Big Data, as well as increasingly stringent compliance mandates. It is understood that companies in Bangladesh have limited capabilities such technologies. HTPA may create more awareness and organise workshops such and other emerging technologies.
 - A pool of agencies for Software development, IT product suppliers, AMCs, Project Management agencies etc. may be empanelled. This may create a systematic environment of procurement and may lead to effective price discovery mechanism for Government procurement.
 - HTPA may also support a platform for companies in a value chain to collaborate and deliver big projects. This may also allow foreign companies looking at Bangladesh market or to source from Bangladesh market.
 - Bangladesh has a growing Readymade Garments industry, Banking and Financial services and Telecom sector. Services sector also offers lot of opportunities. HTPA may create awareness and interventions to stir domestic demand for IT services in Dhaka and other cities through workshops on benefits of usage of IT in business and its benefits.
 - Promote standardization and quality control in products, services and after sales service in domestic market as well as for exports
 - HTPA may also create awareness on 'Knowledge Management' as a tool to scale up the value chain
 - Bangladesh is exporting IT/ITES products and services to many countries and growth rate is also high. Promoting and showcasing capabilities at international forums will help build suitable image of the sector among global stakeholders. Sustained efforts regarding global compliances, testing and quality will help strengthen positive word

of mouth.

- HTPA may also consider implementing a regular campaign for building trust among employers and employees, apart from a moderation mechanism, in case of any grievance.
- In order to scale-up, companies also need to customize their HR policies to augment a long-term commitment of the work force. HTPA may propose different models for companies to employ people, help them grow and retain people. Model guidelines may also be made available for companies of various sizes on HR practices of selection, induction, progression and exit of employees based on good practices and customising those in context of Bangladesh. Companies may then be informed on usage of these modules and formats, instead of each company reinventing such propositions. This will also help them grow in terms of number of employees, low attrition, employee efficiency and profitability.
- Engagement of stakeholders in freelancing industry will help in consolidating the gains in procurement and delivery of Microwork by understanding the gaps and support required for furtherance of Microwork in the industry. This engagement may also deliver training modules in project management, soft skills, quality related issues, practicing freelancing, collaborative work, Business communication skills in English, etc. This will also help some of the candidates to have organizing skills and move up from freelancing or boutique companies to middle level and big companies. At the same time, demystification of entrepreneurship in IT is also required to streamline activities of freelancers.

Supportive Infrastructure

- Take actions for improving connectivity to its project sites
- Connect with local governments to improve city infrastructure, recreational, medical and educational facilities for project site cities

Policy support and government facilitation

- HTPA is in process of getting approval for proposed 'Preferential Package' for developers and IT/ITES units located in Hi-Tech Parks and STPs. When approved, this will help in evolution of the industry in Bangladesh. Contents of the package have not been reproduced here. These are placed as an Annexure-I.
- Single window clearance is much talked about topic but has failed with some of the governments. HTPA will have to get buy in from all concerned stakeholders. Also required will be effective planning and monitoring of the its facilitation, labour laws, deemed export, incentives, etc.
- HTPA may support IT/ITES units in exporting IT/ITES products and services.
- Identifying and mobilising stakeholders within the government will help in putting investors' perspective to them so that they are more responsive when domestic or foreign investors approach them for various issues related to taxation, visa related issued, power availability, internet, local administration related issues at park sites, skill development, etc. A coordination committee may be formed with developers and industry representatives as observers.
- Proper valuation of IP rights of IT/ ITES products is a challenge. A mechanism is required for valuation of an IT/ITES company, based on the products, R&D and order book, etc. Awareness may then be built among financial institutions about use of the tool. Fund management activity and IPOs may also be able to attract more traction from abroad, in terms of attracting capital for growth.
- There may be a mechanism for companies to be able to get loans on confirmed orders also. Banking may help IT industry by providing LC on work orders from reliable

companies.

- Money transfer for business transactions needs to be simplified to help IT/ITES companies source software/ tools required for business and have to be sourced from proprietary foreign vendors.
- Outward remittance for purchase of software and datacentre services has been relaxed by Bangladesh government but forex payment procedures need to be streamlined. Government may also legalise pay pal and/or have a payment gateway.
- Government support is required on recovery of client payments from the outsourcing countries.
- A new service code for the software and ITES may be introduced so that the IT/ITES companies can use this code for enlistment/VAT registration. This will help in proper identification of activities of the industry and thus in decision making. Same will also help in getting right data on exports.
- For addressing employment-related vulnerability and for pursuance of full employment, home-grown solutions for technology, products, services and managerial skills are to be encouraged through policies and strategies.
- Provisions for Research and Development (R&D), both in the academia as well as the industry also need to be put in place on a priority basis, to harness the potentialities of the talented and hard-working young population of the country.

Skills availability, demand and supply

- Youth of Bangladesh is very hard working. With minimum investment and training, a lay labour can be converted into a semi-skilled and skilled worker. There is also a natural affinity to a certain degree of innovativeness, creativity and adaptability to new technologies and environment. As such, the labour-intensive dense population of the country is a huge pool of resource for industries. Keeping these in mind the, the ICT-based education needs to be prioritized at the school level and develop the amenable ICT infrastructure at rural areas. Skills availability is very critical for the IT/ITES sector. Passing out graduates should get trained as per industry requirements. Industry today increasingly wants to recruit work-ready employees. The course contents, particularly in academic education, are needed to be related to the workplace. This needs to be addressed to link up industry demand with education design. Mechanisms should be put in place to allow and encourage businesses to get more involved in the design and delivery of professional education.
- Concerning the ICT industry, the highly skilled labour force comes at a significantly competitive price in Bangladesh and labour costs are low among the similar business destination countries.
- Businesses need workers who excel in quality service provision, innovation and leadership, because the international environment for trade, business and investment across the world has become vigorously competitive in face of current trends of market economy and globalisation. Special intervention should also be made around English language speaking skills, soft skills, project management and sustaining a project post implementation
- Since IT/ITES industry is globally integrated and involves sufficient amount of exports and employee mobility, international accepted qualifications and certifications should be promoted for candidates to acquire during their course of study or professional practice.
- Employed people may also be required to be retrained to scale up the value chain. As the sector is skill intensive, training people and collaboration will help the units to also scale up and provide services in the higher value chain of the IT/ITES domain

- served.
- Universities need to deliver employable graduates. Internship/ Industry visits may be emphasised . This will help students to get real time industry perspective.
 - Faculty members may also be exposed to industry on regular basis. Case study building programmes on projects may be incentivised for the company to create sanitised examples for use in academic activities.
 - Faculty members teaching in Universities, Colleges and IT Training institutes may also work with industry to match up with the industry's expectations from students passing out.
 - Partnering with concerned government and private sector stakeholders, as well as internationally recognized bodies to develop and formulate ICT competency standards may be supported. Competency guidelines and standards should be used and applied in education and training. These may also be used to impart training to manpower working with government as well as private sector through the design, formulation and administration of competency-based certification exams.
 - Functional consultants like CA, Doctors, etc., are also required to be adequately trained for IT functions to support IT/ITES companies to venture into these functional domains.
 - National IT Skills Repository (like one maintained by NASSCOM) may also help in properly mapping the availability, progression and need for IT skills, post regular college period and also contribution of IT skills and on the job training.

Incubation

- Apart from regular IT/ITES space for consumption of units as per their requirement, a furnished area may also be developed at HTPs/ STPs for SMEs and start-ups to take on rent. This will help them in getting rid of capital expenses on furniture and furnishing as well as help freelancers to consolidate their activities at a professional address.
- Centres of Excellence (CoE) at Universities may be set up to support industry in its R&D requirements, source of knowledge on the topic and also support start-ups ecosystem. Proximity of parks to CoE may be help in promoting Hi-Tech Parks being developed.
- HTPA may support an industry led initiative through a soft loan which may then support new ideas through a competitive evaluation process.
- It is important that all components of incubation, from access to capital, access to infrastructure, mentoring, promotional support and commercialisation needs to be there.
- At least two such SPVs may be supported for them to compete with each other also. It is also possible to support more incubators located at Kaliakoir, Chittagong, Sylhet, Rajshahi and other educational hubs.

11. Conclusion

In the current scenario, where competing states/nations are making significant progress in attracting investors, it is imperative for Bangladesh to implement a robust investment promotion and facilitation strategy to ensure that potential and existing investors, both domestic and foreign, evaluate Bangladesh and Hi-Tech Parks as a favourable investment destination. HTPA may also interact with other industry associations globally and investment promotion agencies to develop mutually beneficial relationships and get updates about the investment scenario.

Bangladesh's industry has enough latent potential which may be realised with political stability, IT/ITES infrastructure and availability of suitably trained manpower. Industry also needs government support on certain regulatory issues. As per HTPA's mandate, it may act as a catalyst in development of the sector in Bangladesh and help it evolve as an outsourcing destination.

Favourable demographic, political stability and macro-economic trends and a relatively liberal investment climate may attract investors from outside. Manpower in Bangladesh has potential to be positioned as hardworking and easy to train. There are case studies where companies from Bangladesh have made their presence felt at the global stage. Continuous visibility at international forums is required for branding Bangladesh. Branding Bangladesh's IT/ ITeS industry in key procuring markets such as US, Japan and Europe is also a must. Commercial wings of Bangladesh's embassies may also a big role by providing a facility of sales office for companies in Bangladesh, in association with the Industry Associations. HTPA may arrange offices in key countries, like, West European countries (particularly Netherlands, Denmark, UK), US and Japan for Bangladesh's companies to work from.

HTPA may also initiate a HTPA Mark for companies located in the park or in other parts of Bangladesh, based on certain guidelines. This may be promoted as a mark of quality, fair labour and fair trade practices to clients globally.

Involvement of respective stakeholder on action points regarding Hi-Tech Park Infrastructure, Market scenario and industry growth, Supportive Infrastructure, Policy support and government facilitation, Skills availability, demand and supply and Incubation support, as outlined above is important to align with the requirement of the industry and build consensus. It will thus be prudent to form a committee drawing members from various stakeholder groups to assist HTPA in implementation of the above recommendations.

Annexure I: Proposed HTPA Incentives incorporating recommendations of Stakeholder's Workshop held on Feb 2, 2015

Tax Incentives
On income from domestic operations and exports, 100% Corporate Income Tax exemption for 10 years from the date of commencement of operations, 50% Corporate Income Tax exemption for next 5 years, 20% Corporate Income Tax exemption for next 5 years. First phase of 10 years will be 12 years from commencement of operations or three-fourth of the contract period whichever is greater for projects targeted for rural or/and underprivileged population.
100% exemption from dividend withholding tax for up to 10 years from the date of commencement of operations.
Full tax exemption to be provided on preferred share dividend up to 20 years.
Accelerated depreciation of 100% <ul style="list-style-type: none"> - on computers , peripherals, software for 3 years - On machineries 10 years
Investment of accumulated reserves/ dividend in Hi-Tech Parks will be treated as fresh investment and Income Tax paid on dividend will be returned to the company.
Full Depreciation will be permitted over the life of the PPP contract/ concession period
Full income tax exemption on interest income of foreign and domestic institutional lenders.
50% Tax exemption provide on royalties, technical fees and facilities for other repatriation.
Exemption of Income Tax for Expatriates/ Non-Resident Bangladeshi professionals for up to 3 years with more than 8 years of industry experience, working for units where percentage of expatriates employed are not more than 5%. For one post, the opportunity will be given only once.
* Any investment by an individual/ organization/ corporate in a Hi-Tech/ Software park will be treated as eligible investment for income tax rebate.

VAT/ Sales/ Service Tax related
Full exemption of VAT for 10 years from the date of first billing on raw material, plant, equipment, spare parts, bills/ fee of design and construction company. For professional, financial and legal services, exemption will be for 5 years from the date of first billing.

Sales Tax/ Service Tax reimbursement/ adjusted/ exempted on purchases from domestic tariff area (except petroleum products)
VAT on electricity usage will be exempted for a period of 10 years from the date of commencement of operations of the Hi-Tech Park.
Service Tax and VAT will be exempted for all services provided by the developer/ PMC to the units for a period of 10 years from date of commencement of operations.

Customs related Incentives
Park will allow Duty free imports of software and hardware for operational use up to a maximum of BDT 10 Crores per unit. Equipment can also be imported on loan basis/ lease without any Custom Duty.
For availing Duty free import of up to two vehicles (of up to 3000 cc) for operational use. HTPA may allow duty free import of vehicles depending on the number of employees
Equipment being brought for repair will also not attract import duty.
For companies dealing in tangible product, sale in the domestic tariff area DTA up to 50% of the FOB value of exports is permissible for products which are not produced in country. For higher percentage of sales take permission from HTPA. Services companies are allowed to provide services up to 100%.
Custom Duty exempted for 10 years from the date of commencement of commercial operations.
Hi-Tech Park will be treated as a custom bonded area with full exemption of custom duties, import permit fees and other surcharges on raw materials, capital machineries and spare parts to be used on all PPP projects.

Other financial incentives
An investment subsidy of 10% of the value of the Capital Expenditure (other than land and building/ furnishing), shall be provided to IT/ITES/Hi-Tech units with investment of over BDT 100 Crores. In case the unit is being lead by qualified women entrepreneur, investment subsidy will be 15%.
50% capital subsidy will be provided to the developer for establishment of Sewerage Effluent Treatment Plant/ e-Waste processing plant
5% interest subsidy on prime lending rate may be availed IT/ITES/Hi-Tech units on the term loan and working capital loan subject to a maximum of BDT 3,00,000 per year for a period of 5 years, after commencement of commercial operations.
HTPA will set up a fund to provide loan at reduced rate to the developers of the Hi-Tech Parks.
Full exemption on stamp duty, transfer duty, lease deed and registration fee paid by units located in the Hi-Tech Parks and the Project Management Company (PMC)/ Developer.

Electricity, water, gas supply will be provided at reduced government rate adding service charge of 10%.
20% subsidy will be provided on internet connectivity for a period of two years from the date of starting commercial operation.
40% power subsidy for Hi-Tech Parks, which will be completely passed on to the IT/ITES/Hi-Tech Units in the park
Private developers setting Hi-Tech Parks in Hill tract area will be provided land at a reduced rate.
New units as well as those doing expansion (excluding relocation) would be eligible for one time subsidy of BDT 30,000 per direct employee employed at entry level (0-2 years of experience) within a period of two years of establishing a unit, after completion of 1 year of service by the respective employee. This may be availed within 3 years of commencement of operations.
A recruitment assistance of BDT 15 lakh to the SMEs which attain an employment of 100 employees within three years of commencement of commercial operations
Reimbursement of 75% of training fees, subject to a maximum BDT 10,000 per employee, on obtaining recognized certifications in emerging technologies, limited to BDT 3 lakh per year per unit for five years from the date of commencement of operations. This incentive will also be available on learning main language of the country that the employing company is working with.
Reimbursement of 50% of the cost of exhibition stall in notified national/ international exhibitions limited to 9 sq. m of space, once in a year, up to maximum of five times.
50% subsidy on rentals up to a maximum of BDT 5 lakhs per annum for a period of 5 years for the plug and play built up office space.
HTPA will setup an incubation fund of BDT 100 Crores for SMEs to draw from at an interest of 5% interest rate. This may be managed by more than one Bank. Venture Capital taking loan from fund will be produce recommendation from an active Industry Association through a competitive process and as per HTPA policy on Incubation (to be formulated).
New IT/ITES units setting up facilities in the Hill tract Districts will be provided reimbursement of 75% of the expenditure on account of contribution towards Employees State Insurance (ESI) and Employees Provident Fund (EPF) for a period of 5 years, limited to 25% of the Fixed Capital investment.
Reimbursement of 10% of project cost for installing facility for R&D subject to a maximum of BDT 50 lakhs per unit.

Reimbursement of 30% of the capital expenditure for common R&D facility/ Quality Testing with at least 10 units contributing and being interested in using facility up to a maximum of BDT 1 crore for 2 years per park. This is not applicable in case of less than 10 units operating in the park with strength of more than a 1000 employees.
50% of the cost of filing patents will be reimbursed, subject to a maximum of BDT 5 Lakh per unit for domestic patent awarded and BDT 10 lakhs per international patent awarded
One time reimbursement of 75% of the expenditure incurred for globally recognised certifications, subject to a maximum of BDT 5 lakhs per unit.

Allowances/ Facilitation/ Other support
+100% FDI as equity is permitted through automatic route.
+Full repatriation of dividends/ profits & capital is allowed.
+Expatriates/ Non-Resident Bangladeshi employees will be allowed to open Non-Resident foreign currency deposit account and avail other offshore banking facilities.
+Foreign Currency account for joint venture company will be allowed for units/ developers and Expatriates/ Non-Resident Bangladeshi employees.
+BDT will be freely convertible into foreign currencies in current account in order to meet international payment obligations.
Work permit for the period of project duration will be issued by HTPA
Investor will be eligible for citizenship on investment of more than USD 50,000.
Share transfer to any other entity registered in Bangladesh will be allowed.
There should be a secondary Over the Counter (OTC) market for buy-sale of IT/ITES company's share like NASDAQ of USA.
HTPA to provide single window clearance to units in the Hi-Tech Parks and issue work permit for expatriates to work at Hi-Tech Parks.
This will be facilitated through a call centre and a website, in collaboration with Board of Investment.
HTPA to enroll units in the Hi-Tech Parks and coordinate with other government agencies for units to avail HTPA specific incentives, avoidance of double taxation and other incentives/ exemptions available to businesses in Bangladesh to provide and interface between units and government.

Allowances/ Facilitation/ Other support
HTPA to facilitate on forex remittances for purchase of software required for operational business purpose.

Allowances/ Facilitation/ Other support
HTPA to also support companies to get valued for the purpose of getting loans. HTPA to devise a mechanism for the same.
There will be moratorium on Trade Union activities for a period of 20-25 years from the date of commencement of commercial operations in the Hi-Tech Parks. Though HTPA will reinforce on a model address genuine grievances of the employees and escalation to HTPA, if required.
Managerial support will be made available through Directors and Advisors and reimbursement of 50% cost of feasibility studies, business planning and upgrading production & design capabilities to IT/ITES SMEs. HTPA will develop research and consultancy pool for the purpose.
Equity support to a start-up company by subscribing up to 50% of its share capital subject to a maximum investment of BDT 10 Crores by setting up an equity fund
HTPA may consider providing land and developed infrastructure as equity also.
Additional FSI shall be provided to Private Hi-Tech Parks as per evaluation of proposal for the given area.
Concession Agreement with the developer will be the main guiding document between HTPA and the Developer.
Developer will be able to obtain insurance from foreign company/ies also, without any restriction.
Special Residential Zone for foreigners may be allowed to be set up for the purpose of Hi-Tech Parks.
Developer's Concession Agreement should be at least 60 years.
Collateral facility/ other arrangement need to be granted to raise debt

* Additional inputs from the workshop

+ Provision is already in place

Annexure II: Criteria for Privately Operated/Non-BHTPA Software Technology Park

Following is the summary of discussions held on 17 February 2015 at the Office of ICT Division:

Sl. No.	Item	Proposed criteria	Discussion points and recommendations
Land and area			
1.	Land and building premises	<ul style="list-style-type: none"> ▪ Clear & unencumbered title of the land of the building site. ▪ Undertaking to obtain Building Occupancy for at least 10 years. 	<ul style="list-style-type: none"> ▪ In case of possession by ownership, the applicant is required to have clear ownership of the land/ premise or clear lease agreement of land ▪ In case of possession by tenancy agreement, the applicant is required to have undertaking for occupancy for at least next 10 years
2.	Minimum area	<ul style="list-style-type: none"> ▪ Minimum area required for Software Technology Park is 30,000 (Thirty Thousand) sq. feet in a single premise. ▪ The area allotted for IT activities should be 75% of the allocable area 	<p>It has been recommended to keep separate criteria for greenfield development and consideration of existing buildings</p> <p>Minimum area requirement of 30,000 sq. ft. at initial stage which may be revised after few years depending on actual market situation</p>
Building specifications and facilities			
3.	Power & Power Back-up	<ul style="list-style-type: none"> ▪ Proof of onsite uninterrupted 100% power supply must be provided to support office equipment, lighting and for air-conditioning ▪ Power from Alternate Source. ▪ Additional power back-up for Emergency Lighting & Critical Facilities to be provided. 	<p>Provision for 24x7 uninterrupted supply need to be in place</p> <p>Need to comply with National Building Code 2008</p>
4.	Air Conditioning	<ul style="list-style-type: none"> ▪ Central Air-Conditioning provided OR ▪ Provision made (AC Ducts, AHU Rooms) 	<p>Adequate cooling system need to be in place</p> <p>Need to comply with National Building Code 2008</p>
5.	Concealed Cabling	<ul style="list-style-type: none"> ▪ Provision for concealed ducting for power, telecom and data cables in the Building 	<p>Adequate building specifications should be in accordance with National Building Code 2008</p>
6.	Parking	<ul style="list-style-type: none"> ▪ Adequate Parking facility - design approved by the appropriate govt. authority 	<p>Adequate entry and exit points</p> <p>In accordance with National</p>

Sl. No.	Item	Proposed criteria	Discussion points and recommendations
			Building Code 2008 and local bylaws and provisions.
7.	Telecommunication Infrastructure	<ul style="list-style-type: none"> ■ Provision for False Flooring and Structured Cabling in the Building ■ Availability of adequate telephone lines (For example – In-house Telephone Exchange (EPABS)) ■ High speed internet connection. ■ Space for installation of Dish Antenna/ Microwave Tower 	Provision for high speed fiber optic connectivity need to be in place
8.	Security & Access Control	<ul style="list-style-type: none"> ■ 24 Hrs Central Security Measures. ■ CCTV ■ Digital verification/ record system for all (employee/ visitors). ■ Provision for Access Control Systems to be installed as required by Tenant. 	In accordance with international standards for safety and security
9.	Fire Protection Measures	<ul style="list-style-type: none"> ■ Fire protection measures- as per NBC (National Building Code) 	In accordance with National Building Code 2008
10.	Greenery, Landscaping	<ul style="list-style-type: none"> ■ Existing building: Energy Efficiency & Green Building technology preferable ■ New construction: Energy Efficiency & Green Building technology shall be implemented. 	As per proposed provision
11.	Desirable Infrastructure for Large Software Technology Park Building	<ul style="list-style-type: none"> ■ Large STPs (to be defined by the BHTPA) more than 150k sq. feet area must have dormitory facilities for its' employees with all necessary civic amenities (such as medical, shopping, transport and entertainment facilities to meet the civic and commercial needs of the work force). ■ Transport facilities to be provided between the various key points in the city to the Software Technology Park at regular interval. 	<p>Provision for medical facilities to be included for all Software Technology Parks.</p> <p>Provisions for other infrastructures may be reviewed.</p>
12.	Other Amenities	<ul style="list-style-type: none"> ■ Food Court, Cafe and Restaurant. ■ Medical Facilities ■ Banking & Foreign Exchange Facilities to be made available to tenants in the form of fully functional branches & ATM facilities if not existing within half a kilometer. ■ Recreation facilities. 	<p>Security, medical facility and building management system should be in place for all Software Technology Parks.</p> <p>Other facilities may be introduced gradually over a predetermined period.</p>

Sl. No.	Item	Proposed criteria	Discussion points and recommendations
		<ul style="list-style-type: none"> ▪ Conference and Discussion Rooms (International Standard) ▪ Video Conference Facility. ▪ Must ensure 24 hours building management facilities for smooth running of business of STP. ▪ Child/Baby care facilities. ▪ Prayer room both for male and female 	
Certification			
13.	Certification	<ul style="list-style-type: none"> ▪ The operating tenants in the STP must abide by all the Act & Rules of BHTPA. Thus an authorization will be required for this. ▪ The operating tenants in the STP should have at least one membership from renowned local IT/ITES trade organization (in case of foreign companies such membership will not be mandatory) ▪ For a foreign company (served as a tenant in the STP in Bangladesh) must have all the required documents and permission from appropriate government authority/office. 	In accordance with applicable Rules and Provisions HTPA and GoB.
Eligibility of applicant			
14.	Experience	<ul style="list-style-type: none"> ▪ Shall have at least 3 years of experience in the related (IT/ITES) business. ▪ Description of the existing business ▪ If there is any MOU, then detail documents ▪ Directors/managements committees' detail information (Pass port for foreigners) 	As per proposed provisions and application format
15.	Financial solvency	<ul style="list-style-type: none"> ▪ Yearly Tax Return and Audit Report (at least for the last 3 years), ▪ Reg. No under the Bangladesh Company act, ▪ VAT/ Income Tax/ e-Tin/ National ID or Passport ▪ Turnover / Paid-up Capital ▪ Bank Solvency Certificate 	As per proposed provisions and application format
16.	Staff proposed to be employed in the business	<ul style="list-style-type: none"> ▪ Managerial ▪ Supervisory (Technical and Non-technical) 	As per proposed provisions and application format

Sl. No.	Item	Proposed criteria	Discussion points and recommendations
	development	<ul style="list-style-type: none"> ▪ Clerical ▪ Labour (Skilled, Semi-Skilled and Un-skilled) ▪ Other Categories (in any) 	Clerical to be replaced by Professional
17.	Joint Venture Company (both for local and foreign)	<ul style="list-style-type: none"> ▪ Details of financial/technical collaboration ▪ Terms and condition of the collaboration with a copy of the agreement. 	100% foreigner to foreigner or domestic to domestic association would be allowed
18.	Projected Export Income/Net foreign Exchange Earnings:	<ul style="list-style-type: none"> ▪ Projected Export Income/Net foreign Exchange Earnings: 	As per proposed provisions and application format Applicable for PMC/ Developer
19.	Details of Development Activities and business plan:	<ul style="list-style-type: none"> ▪ Detail Plan of the business ▪ Capital Structure of the STP/Company ▪ Business links 	As per proposed provisions and application format
Management and operation of the Software Technology Park			
20.	Management Committee	The STP should maintain a governing body with at least 5 (five) members comprises of Representative from the owner of the STP, at least 2 (two) representative from tenants, Representative from IT/ITES trade organization. (Residential address: present and permanent, valid phone/mobile number, email, and specimen signature off all the members of the committee and all the members shall submit their personal financial documents	Monitoring and evaluation committee to be set up with representation from HTPA
21.	Standard operating procedure (SOP):	The proposed STP shall follow an approved SOP from the BHTPA	As per proposed provisions
