

添 付 資 料

**Questionnaire
for
the Area focused training course
Seminar on IT human resource development program for Southwest
Asian countries**

Prepared by JICA Survey Mission
(August 2001)

In order to attain the objectives of the visit in an efficient manner, we would greatly appreciate if the following information could be provided (in written materials, if available) when the JICA survey mission visits to discuss in details.

Remarks: If there is a question that is difficult to answer, you can skip it

1. Present condition of computer use, computerization in the nation.
 - Government level
 - Public organization (school, hospital, etc.)
 - Household level
 - Others
2. Brief explanation of ministries and/or public organization in charge of IT human resource development and their role.
3. Number of IT engineers and its comparison to employment opportunity in the nation
4. Specific engineer, which is mostly insufficient in your nation.
Note: IT engineers are distinguished according to their service fields as follows; 1) Infrastructure 2) System designing and creation 3) System engineer 4) Solution-integration.
5. Brief explanation of national policy on IT and on-going activities / projects.
6. Obstacles and constraint against IT human resource development and encouraging IT.

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Top Urgent

Attn: Mr. Yousuf Jahangir Sikder
Joint Secretary/STA, Ministry of S&T

**Proposed Working Paper for the meeting to be held on 28-08-2001 at the
Ministry of Science & Technology
on
Japanese Assistance in the IT Sector of Bangladesh**

IT is one of the fastest growing sector of the economy of Bangladesh. IT has been declared as the thrust sector by the Government. Realizing the importance of IT and to formulate policies for rapid development of this sector, a National IT Task Force, headed by the Honourable Prime Minister has been formed recently. A national IT Policy has been drafted and awaiting final approval of the Government.


Japan is one of the largest donors in the world. Meanwhile, to reduce the digital divide, Japan has earmarked 15 billion US Dollar for the development of IT sector in the developing countries. In a meeting on 19th August 2000, between the Prime Minister of Bangladesh and Japan in Dhaka. The Japanese Premier expressed his desire to extend financial support for the development of IT sector of Bangladesh. In reference to that, the opportunity has been opened up to take up projects in Information and Communication Technology (ICT), particularly in the field of Human Resource Development in IT with Japanese assistance. It is noteworthy that Bangladesh has shortage of trained manpower in IT and with its vast population, has very good prospects of Human Resource Development in IT.

Following the Japanese Prime Minister's visit to Bangladesh, several meetings were held with representatives of JBIC, JICA, Japanese Embassy in Bangladesh, private entrepreneurs and Bangladesh officials regarding Japanese assistance to Bangladesh. The Japanese Ambassador in Bangladesh expressed his views about the ample opportunity to get this assistance for the development of IT sector in Bangladesh. Besides, the delegates from Japan on IT expressed similar views while visiting Bangladesh. This process of development has resulted in identifying the following projects for Japanese assistance:

**01. JBIICT – Japan-Bangladesh Institute of Information and Communication
Technology**

Bangladesh, with its large population, has a good prospect to develop a large base of IT professionals of international standard for local and international markets. The proposed JBIICT will go a long way in fulfilling the need of quality Training in Information and Communication Technology (ICT) and may also

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work as a centre of excellence for conducting Research & Development in ICT, working in close collaboration with the academicians and the industry.

02. High-Tech Park


The Japanese technical and financial help is sought for the high-tech park project which have been initiated by the Ministry of Science and Technology. High-Tech park involves substantial investment in the form of capital expenditures and infrastructure development as well as attracting Foreign Direct Investment (FDI). Japanese companies should be encouraged and given preferential treatment to set up their establishments and business complexes in the park. Besides software and IT-enabled service industries, electronics and PCB related equipment and products, telecommunications, hardware assembly/component/VLSI design (possibly manufacture also), and related extended linkage industries should also get due importance in the proposed park.

03. Joint Training Programme

JBICT may serve as an excellent platform for arranging joint training programme in IT through exchange of faculty and students. In addition to this, both Bangladesh and Japan may benefit through exchange of experts and organizing joint training programme with JICA. Bangladeshi specialists may be sent to Japan to acquire higher training leading to Post-graduate Diploma, Ph.D. and Post Doctoral Research Fellowships, etc.

04. Building up a National Information Infrastructure (NII)

To reduce the Digital Divide in Bangladesh and to facilitate easy Access to Information, a series of VSAT network is proposed to be installed around different cities of the country. In the first phase, using Demand Assigned Multiple Access (DAMA) technology, Master VSATs will be installed at the Divisional Head Quarters. In the second phase, these would be connected to Slave VSATs to be installed at all Upazillas. There can be a single master VSAT. Thus the whole of Bangladesh will be brought under International communication circuit under a single National Information Infrastructure (NII).



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05. Establishment of Virtual University

Initially in any one campus of the Universities located in Dhaka, a multimedia center may be set up. This may be connected with other universities in and outside Dhaka through servers and LAN/WAN, and lectures of University teachers will be distributed to all universities to be used as teaching materials for the students. This will serve as focal point for distance learning throughout Bangladesh. This virtual university will have internet connectivity with reputed international universities and libraries.

06. Establishment of IT Learning Centre

The Bangladesh Government has initiated a project entitled "Conducting Standard Computer Training at Divisional Headquarters", in which IT Training centres are being set up in the six Divisional Headquarters of the country. It is proposed to extend this training facilities to all of the 64 Districts of the country in the form of IT Learning Centre. The objectives of the project are to establish the Network and System to provide IT Learning Contents online throughout Bangladesh and to extend the opportunity of IT education and training for the people to the under-served areas with a view to remove the digital divide within the country through advantage of the Internet. It is expected that the Government of Japan will provide fund to develop the IT infrastructure for proposed IT Learning Centre through this project. Initially, a feasibility study on the project with Japanese Assistance is proposed based on which an action plan will be formulated.



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Answers to the Questionnaire for JICA Survey Mission

1. Present condition of computer use, computerization in the nation.
- Government level
 - Public organization (school, hospital, etc.)
 - Household level
 - Others
- Ans. Ministries, Head Offices of Government enterprises / Organizations are in the process of introducing computer to meet the basic requirement. Projects are under implementation for enhancing Computer uses in the Government sector.
All private hospitals are using Computer based system for management. Computer Courses are being introduced for secondary school.
The Computer uses of household level is mostly increasing after the withdrawal of the tax, VAT duties from all ICT equipment and component.
2. Brief explanation of Ministries and/or public organization in charge of IT human resource development and their role
- Ans. The Ministry of Science & Technology and the Ministry of Education are involved in IT human resource development in Bangladesh. All public and private universities are directly regulated by University Grants Commission under the Ministry of Education. The Ministry of Science & Technology provides research and development fund for capacity building of institutions and R&D Organisations for IT education and training in Bangladesh. The Ministry of Science & Technology has provided Taka 30 million(US \$ 1 = Taka 56.50) each in 2000-2001 financial year to five universities to produce 900 IT professional in three years.
3. Number of IT engineers and its comparison to employment opportunity in the nation
- Ans. Current distribution of IT professionals according to specialization is given as follows:
There are two major groups, (1) 28.57% work just as Computer Operator and (2) 23.81% as Computer Programmer. Besides this, software Engineers and Network Engineers enumerate to 5%. The Programmer group should be the major component here.
Expectation of students to work as IT professionals in different specialization are as follows:
There are 48.10% students to work as Programmer, which may fulfil the future demand.
4. Specific engineer, which is mostly insufficient in your nation.
Note: IT engineers are distinguished according to their service fields as follows; 1) Infrastructure, 2) System Designing and Creation, 3) System Engineer, 4) Solution Integration.
- Ans. It is alarming to see the inclination towards migration of IT Specialists from Bangladesh. 81.1% IT professionals are planning to migrate from Bangladesh. 85.2% students have plan to move to a foreign country. On average within 1.5 years, 65% of the willing teachers wanted to migrate to foreign Countries.

In all the four categories as mentioned in the question, Bangladesh has insufficient member of engineers.

5. Brief explanation of national policy on IT and on-going activities/projects.

Ans. The Government of Bangladesh declared IT as thrust sector. Accordingly, the Government placed high priority in every sector of the economy. In order to succeed in harnessing the potential of IT, the Government identified prospects and problems as to explore strengths, weakness of the country and steps to be taken in this regard. The most notable of these initiatives was the study on problems and prospects of Software Export from Bangladesh conducted by the JRC Committee, headed by Prof. Dr. Jamilur Reza Chowdhury of BUET, in 1997. The Report of this Committee outlined 45 recommendations to act upon. The Government implemented a significant number of those recommendations. As per the recommendations, the Government took a bold step in withdrawing all the taxes and VATs from the import of computers and accessories. The impact has been tremendous. The sale of PCs accelerated and IT has spread at a highly satisfactory rate. The other important steps taken by the Government were the deregulation of VSAT administration, establishment of venture capital for IT entrepreneurs and so on.

With all these positive steps, the Government wanted to guide the IT activities towards the achievement of the broad objective of socio-economic development. That is why, the Government initiated the process of formulation of National IT Policy which has already been placed in the Cabinet. The draft policy placed the highest importance in two key areas, namely the human resources development and IT infrastructure. To build up capacity in the IT sector, the country has no other way but to foster development in those areas. The national IT Policy encompasses many other areas like IT Industry, Research and Development, e-Commerce, e-Governance, Health Care, Environment, Tourism etc, which are all supported by those two main areas. Besides the IT Policy identifies the Institutional arrangements and Funds & Resources required for such capacity building in IT. The Policy is yet to be finalized and published by the Government. Once it is done, the Government will take appropriate measures as per the recommendations (The English version of the draft IT Policy is available in the web-site <http://www.bccbd.org>)

Some of the on-going Projects:

- (i) Connecting all Offices of district Commissioners through e-mail.
- (ii) Installation of submarine cable between Singapore & Bangladesh.
- (iii) Installation of nationwide fiber optic network
- (iv) Establishment of Standard IT Training Centres at Divisional Head Quarter levels.

6. Obstacles and constant against IT human resource development and encouraging IT

Ans. The major Obstacles and constraint against IT human resources development in Bangladesh are the non-availability of trained IT instructor supports and the shortage of infrastructure facilities.

**Questionnaire for the Area focussed training course
Seminar on IT human resource development program
for Southwest Asian Countries**

Respondent: Institute of Information and Communication Technology (IICT)
Bangladesh University of Engineering and Technology (BUET)

1. Present Condition of Computer Use, Computerization in the nation

Government level

In almost all government offices, now-a-days computers are being used. But their use is limited to mainly word-processing and statistical analysis. It is essential to introduce e-Governance in order to increase the efficiency in government machinery.

- Public Organization (school, hospital, etc.)

In schools, there are limited numbers of computers. This is because of the fact that not many schools have computer courses. The main reason behind the non-introduction of computer courses is the shortage of trained manpower. Similarly the public hospitals seldom use computers, but the most of the private hospitals in the cities use computers in their business and Management Information System (MIS). Semi-Government organizations like Power authorities, Telephone and Telegraph Board, Railways etc. use computers in their business.

- Household level

Percentage-wise a very little percentage of people in Bangladesh can afford computer for their personal use. But the percentage is increasing day by day as the price of the same is coming down. Most importantly the awareness, in general, about the benefit that a computer can bring is increasing rapidly.

2. Brief explanation of ministries and/or public organization in charge of IT human resource development and their role

The ministry that is responsible for IT human resource development is the Ministry of Science and Technology. More specifically, one of its' organization namely Bangladesh Computer Council (BCC) plays the vital role in making policy and implementation of IT human resource development program. Unfortunately BCC has failed in carrying out its duty in this sector. The failure is not only because of very weak leadership but also due to bureaucracy of its parent ministry. In fact there should be a separate Ministry of IT if really IT human resource development program has to be get going.

The universities are the main source of producing IT human resources. But they produce graduates who have to undergo a lengthy four years program. Moreover, because of poor political situations, four-year program usually takes six to seven years to complete.

3. Number of IT engineers and its comparison to employment opportunity in the nation

The number of IT engineers in our country is very small. We produce only about 1500 IT graduates (not all are engineers) from the public universities and about another 1000 graduates from private universities in a year. As the national IT task force forecasted a requirement of ten thousand programmers per year for the national market, so this 2500 graduates are only 25 percent of the total targeted requirement. As usual, the IT graduates are highly demanding professionals both in home and abroad.

4. Specific engineer, which is mostly insufficient in your nation

Note: IT engineers are distinguished according to their service fields as follows: 1) Infrastructure 2) System designing and creation 3) System engineer 4) Solution – integration

Among the four groups most of the IT engineers are presently engaged in developing IT infrastructure. The next majority is involved in system designing and creation. A small percentage of the IT engineers may be categorized as system engineers and another small percentage of them is involved in solution-integration jobs.

5. Brief Explanation of IT and on-going activities/ projects

Five universities including this university (BUET) received US \$0.5 million for developing *Post-Graduate in Information Technology program*. Only BUET has started the program yet. It is expected that within a year 60 IT professionals will be produced from our university. The other universities should produce the IT professionals as quickly as possible. If the number of PGD professionals is increased, the storage of programmers/ tutors will be minimized.

Private universities are also taking similar program but the quality of education is poor. Private computer schools also offer computer courses of different duration, but there is no regulatory body to control the course curriculum and teaching quality.

Government has also taken program at the district level to train persons but again the absence of qualified tutors and suitable infrastructure has made the project a failure.

5. Obstacles and constraint against IT human resource development and encouraging IT

The absence of trained qualifier trainers for IT human resource development is the main obstacle and constraint behind the slow IT human resource development.

The JICA can contribute in this regard. Since the best trainers for IT human resource development is concentrated in the Capital City, Dhaka, hence only a distant learning scheme can make the IT human resource development program a success.

For this, a central knowledge-broadcasting center has to be established at BUET. BUET will be responsible for developing the course materials and Internet-based teaching tools and broadcasting the program for persons at remote places in Bangladesh. The local centers equipped with computer facility and managed by a semi-skill IT professional will be the broadcasting points for the central station. A huge number of IT trainee will be benefited through this distant learning scheme.