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1.0 Introduction(with general information with background characteristics)

In 1973, the ICL 1902 mainframe computer was installed in the Universities Computer Centre and Started teaching the university students and provided the trainings and post graduate diploma courses for the participants from the government departments in Myanmar.

In 1981, the Honeywell-bull mainframe computer was installed at the Manpower and Immigration Department for processing of the population census.

In 1986, the IBM 4381 Mainframe computer was installed in Central Statistical Organization(CSO) with a networking of Star-type topology setting up the Ministry's Intranet for the Ministry of National Planning and Economic Development for computerization of respective agencies under the ministry and for Statistical computing in CSO.

In 2000, in order to improve the local and overseas communication in the communication sector, Internet technology was introduced to Myanmar by Myanmar by Myanmar Posts and Telecommunications Enterprise (MPTE) by selling e-mail accounts

and accesses, MPTE also provides the e-mail and Internet Services as an Internet Service Provider (ISP). Internet access was initially permitted government departments and II private IT companies in the same year.

In 2000, Bagan Cybertech (later Myanmar Teleport, My Tel), a semi-government business enterprise was formed and emerged as a second Internet Service Provider (ISP) and internet access available to a large post of local populace.

In January, 2002 Myanmar ICT Park has been established and it is a historical milestone which has emerged as a result of the encouragement of the government and efforts of ICT technicians and entrepreneurs.

Myanmar has signed the e-ASEAN Agreement together with all the other members of ASEAN in November 2000 in order to closely cooperate in the area of ICT within the region and the e-National Task Force was also formed in October 2000 to monitor the implementation of e-ASEAN Framework Agreements and has carried out the ICT development activities by forming the following working committees:

- e-legal infrastructure
- ICT infrastructure development
- ICT education
- ICT application
- ICT products Liberalization
- ICT Standardization
- ICT measurement

1.1 Management Issues of Using ICT for CSO

In order to speed up the ICT development in Myanmar, Myanmar Computer Science Development Law was promulgated in 1996 and Myanmar Computer Science Development Council was also formed in 1996. At present, the government is giving encouragement to the development of computer technology in the private sector. In this connection, Myanmar Computer Federation has been founded on 15 October 1998. In

addition, Myanmar Computer Scientist Association, Myanmar Computer Industry Association and Myanmar Computer Enthusiasts Association have been also formed to mobilize computer technicians and entrepreneurs. Those associations have emerged as national forces to play a crucial role in striving for ICT development in Myanmar.

In Myanmar, these are two major association using ICT, Myanmar Posts and Telecommunications and Myanmar Teleport. CSO collects data on performance of posts and telecommunications services from MPT. MPT is a government department. CSO gathers information on Internet and e-mail subscribers from Myanmar Teleport, companies and organizations. However, CSO has not collected and published yet the computers and related equipment used in both public and private sectors on a grand scale. CSO has collected data from MPT and published the communication statistics in annual publications of the Statistical Yearbook for 10 years time series data in which some of the items are as follow:

1. Post Service

   Post offices, post-cum-telegraph office, letter mail(000), domestic, foreign received and set

2. Telegraph services

   Telegraph offices, wireless stations, Telegrams, (000), domestic and foreign

3. Telephone Service

   Telephone in use, Mobile Phone

   (Yangon and other)

   Cellular, CDMA, GSM

4. Number of Exchange

   Auto exchange, Mannual Exchange, Transit exchange, International exchange, Mobile exchange, Packet exchange, etc.

5. Telex Services

   Number of subscribers, number of calls,

   (incoming and outgoing)

6. Facsimile Service

   Facsimile in use

7. Satellite Earth Service

   International

   Domestic (SCPC)

   Domestic (V-Sat)

8. Number of e-mail subscribers

   Government

   Public

9. No. of internet users

   Government and Public

10. Microwave Stations

CSO has been striving to acquire enough skills to improve the statistical methodologies independently and to manage the statistical database system installed in the client server and LAN system from a decade ago. Now the transfer of statistical database system installed in the existing computer network system in the project site to CSO in Nay Pyi Taw and establishment of the LAN system in CSO are realized. In so doing, the new LAN system will enable the data sharing within CSO for efficient production of reliable and timely statistical data by CSO. CSO is doing its best ICT infrastructure by either its own budget or donor driven programme. CSO has already alone its own web-site.

One of most important issue is CSO has limited staff (only 290 personnel) and CSO is in lack of talented or highly qualified staffs (in spite of some). Therefore, CSO has been trying utmost to promote its limited staffs. In fact, ICT sector is wide and has greater scope.

2. How to manage ICT Effectively and Efficiently in CSO

CSO has been sending its staff to study ICT in foreign countries. Some experts in ICT comes to CSO train its staffs to manage ICT effectively. Most are from foreign NGO organizations like JICA and JOICE.

CSO has been cooperating to promote ICT sector. In the world to day information technology is experiencing rapid development and becoming a towering away ores every sphere of life. This being case, we are in a situation where we cannot dispense with IT knowledge and technology. To spell the development of ICT and the emergence of e-government in the Union of Myanmar, CSO and national entrepreneurs of Computer Industry, with the support of the government , are working hard in concert.

Almost all of the government department are using computers for their own specific purposes or stand-alone applications. Integration of computer applications of the government agencies is under programme. Some efforts have been made to introduce a Trade Electronic Data Exchange (TEDE) and e-procurement; they are on good progress. About 5 years ago, on-line applications such as smart-card, smart school, e-passport, e-visa applications have been introduced to the country. So the data collection for application for e-government will be required in due course.

e-Commerce has been introduced to our country. The e-commerce is taking place in some trading organizations but have little effort at government side to facilitate trading through computerization. At the same time, e-National Task Force is developing the cyber law together with the office of the Attorney-General and it has almost implemented. With regard to the internal trade statistics, the trade volume data is available to some extent. For external trade (Import and export) data for ICT, it can be extracted from the normal trade data (ie ICT import volume) through the Harmonized System. For the time being, ICT import volume has prepared under the group of Machinery and Equipment.

It is beyond limitation to manage ICT effectively and efficiently in promoting demand for official statistics. CSO has already laid down Basic Principles and Guidlines on Data Quality based on utilization of ICT systems. CSO has been striving for producing Internet Service Providers by means of management of human resource development of ICT Industry. At the same time, Myanmar has been trying to enhance educational standard and to make best use of human and natural resources for ICT sector. As for CSO, maintenance of Database Programmes are focused on Timely updates, Data Management and easy handle need for updates and ability to meet deadline.

CSO makes available for the first time, soci-economic data on time-series in Statistical Yearbooks on high-density 3.5 inches diskette for use on IBM or IBM-compatible computer with a hard disk free space 3MB or higher and at least 512K memory and MS-DOS version 3.1 or higher. This introduction was made over a decade ago. Now Myanmar Data on CD-ROM can be available. This system was introduced about six years ago. CSO knows Myanmar's as a new member of ASEAN, is a gap in development of ICT industry among ASEAN nations. In ASEAN nations, Singapore is building a new economy-knowledge-based economy-by establishing its own intelligent island with the help of Singapore One Malaysia is already prepared for a multimedia Super Corridor, Brunei, Indonesia and the Philippines are implementing their own IT programmes of Ra GAM21, Nusantara 21 and IT 21 respectively. The other ASEAN nations have already lay down solid programmes and have been implementing.

In Myanmar, CSO, Myanmar Post and Telecommunication(MPTE) and post and telecommunication department and the other government departments are using e-mail and internet. MPTE is the main department, mainly involved in ICT sector from government side.

Like the government ministries, the MICT park and Bagan Cyber tech are taken an active part in ICT sector. Those Cos are closely related to domestic affairs as well as international.

Myanmar has already singed e-ASEAN framework at the 32nd AEM in Chaing Mai, Thailand. As you all know, one of the objective of the government is to promote the liberalization of trade in ICT products services and investment to support the e-ASEAN initiative.

For a statistical agency, like CSO, the final goal is to ensure IT competence on all levels of data processing in order to be self-reliant. Staff from CSO were sent to the country courses, seminars and workshops to take past in on-the-job-training in network administration, database design and software development. Training schemes consist of all topics from daily use of office information systems for spreadsheet handling or word-processing to more advanced methods of application development.

CSO conducts the training programmes of ICT by using its own budget. Some programmes are donor driven programmes. Some donor-driven programmes are conducted with the assistance of JICA and something like that. Those programmes were done on the agreement of mutual help between the two organizations.

In conducting such country course, training facilities are provided by CSO to achieve a good infrastructure for in-house training. Basic components are whileboards, projection systems and the other necessary facilities.

Training in IT areas always are based on computer activities, at least one PC has been given to each participants. Those PCS are connected to the NSCLAN.

CSO has been striving for statistical compilation ASEAN nations sharing experience on all statistical activities.

Technology is the foundation of the country's future economic development. Myanmar has been making to use information and communications technology to change into the new economy. For this purpose, CSO is to make everything ready in term to use ICT with the assistance of government, private ISP organization and some foreign organizations like JICA and JOICE.

CSO has already laid down policy frame work to disperse ICT capabilities across a broad range of economic activities. The policy framework focuses towards promoting

the development of ICT skills. In Myanmar, ISP companies became aware of the importance of ICT in all social and economic field CSO and private organizations have been making concerted efforts to promote the utilization of ICT. Myanmar government's policy on ICT is to make the society change into knowlege-based community, knowledge centre, achieving software development and data management and e-mail service hus in the country. The other policy of the state is concentrated on e-Government. To meet such national action programme, human resource development in science and technology is a must for ICT sector.

CSO, Myanmar Telecom, Bagan Cybertech and Myanmar ICT park are steel frames of ICT development in Myanmar. Public are also becoming aware of ICT importance. Cyber cafes are on increase in the country day to day. Cellular Mobile Phone Services penetrated the grass roots level. However some challenges on ICT development are in adequate ICT infrastructure and higher cost of telecommunication services. Those are great obstacles for development of internet services providers in Myanmar. Another challenge is personal computer presentation into the public is slow and therefore internet access growing at low speed. However, Myanmar is making double efforts to improve ICT in education. ICT education curriculum has been adopted to star from middle school level to the university. This program at any rate will be off good effect on ICT sector.

Training Programs in CSO , Myanmar are in house application development.

(3)The Government Support to CSO on Improvement of ICT Strategy

CSO is government Statistical agency improvement of ICT in CSO is impossible without the support the government. In Myanmar, there are 15 professional institutes in including computer science and technology and other private institutes of computer science. In those institute , graduates, diploma and post graduates are producing. Most of internet service providers can out from those institutes are giving valuable services to respected organization including CSO. The available training is suited to the needs of ICT in CSO. CSO in Myanmar has an limited staff. The volume of work is wide. So, CSO needs high qualified staff in ICT. Now, our administrated area moved to Nay Pyi Taw. Good relationship with the public and other ministry depend on online.

ICT take key parts in facilitating flows of information, capital, ideas, people and products. The use of ICT allows all organizations to achieve a wide flow of benefits from ICTs. Of course, the level of access to ICT directly related to the wealth of a country. From this point of view, Myanmar needs to take some time to be in line with some ASEAN nations.

(4) Major Obstacles in the Use of ICT in CSO, Myanmar

The major obstacles in using ICT in CSO are (1) Limited Staffs (2) some lack of ICT infrastructure and lack of ICT technicians, such as internet service providers and related staffs. To solve those issues, qualification and number staff is needed based on size of organization; and sufficient training needs to give staff working on ICT sector of CSO.

CSO looks at human resource development, including vocational training and technical training. General speaking, CSO in Myanmar has nearly 300 staff giving service to the state. At any rate, CSO needs to make all staff highly qualified personnel in every field. HRD is of prime importance. HRD, of course, is essentially a national responsibility, sometimes with international help. CSO finds it useful to cooperate on a

national scale as well as regional scale for development of ICT sector. Such a meeting gets good chances to learn one another, inspire one another with country examples of best practice and pool efforts and resources in order to cut costs. This has strengthened ASEAN's conviction that HRD is vital not only to national development but also regional integration and cooperation. I am expecting good results and better way concerning utilization of ICT in national statistical offices will come out and at the same time the delegates present here will bring to light a number of interesting facts to promote.

Statistical role with the help of ICT. Thank you.