

## IV. MYANMAR

### A. Country background and policies governing ICT use and production

Myanmar presents the case of an economy that has made earnest efforts towards regaining its glorious past through a series of market-oriented reforms initiated since 1988. However, the structural transformation of the economy being pursued through policy reforms has not yet been completed. Data provided by the World Bank (2002b)<sup>55</sup> on the contribution of different sectors to GDP indicate that Myanmar presents a case of “structural retrogression” contrary to the experience of most developing countries. The share of the primary sector increased from 47 per cent in 1981 to nearly 59 per cent 1991 and recorded a marginal decline in the following decade to reach 57 per cent in 2000. Growth in GDP has failed to keep pace with the population growth rate; between 1985 and 2000 per capita real GDP grew at about 1.88 per cent on an annual basis.

To address the issues of efficiency, productivity and international competitiveness, an overall technological transformation is needed, which in turn calls for providing increased access to both embodied and disembodied technology, harnessing the potential of information technology. As a founding member of WTO, a new entrant to ASEAN and a signatory to the e-ASEAN Framework Agreement, these concerns have indeed been reflected in the policy reforms initiated by the Government since 1988.

Although the Government does not have an explicit ICT policy, it has made significant initiatives to promote such production and to put ICT to work for the growth and development of the economy. For example, it passed the Computer Science Law in 1996,<sup>56</sup> which has, among others, the objective of developing computer science in Myanmar and of creating study opportunities. The law has the following objectives:

- To contribute towards the emergence of a modern developed State through computer science;
- To lay down and implement measures necessary for the development and dissemination of computer science and technology;
- To create opportunities for youths, especially students, to study computer science;
- To study computer science, which is developing internationally and to utilize the same in a manner which is most beneficial to the State;

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<sup>55</sup> World Bank data are used because the data provided by the Central Statistical Organization (CSO) follows a classification different from that adopted by most countries. Instead of following the conventional division of GDP into primary, secondary and tertiary sectors, CSO divides GDP into three categories: goods, services and trade.

<sup>56</sup> For details, see <<http://www.myanmar.com.gov/laws/computerlaw.html>>.

- To extensively develop the use of computer science in respective fields of work; and
- To supervise the import and export of computer software and information.

The law also provides penalties of 5-7 years in prison plus possible fines for possession of certain types of computer or for connection to forbidden links on networks. In 2002, the Myanmar Computer Science Development Council<sup>57</sup> developed a draft information technology master plan for the country; however, while dealing comprehensively with different aspects of ICT production and use, the draft has yet to be approved by the Government.<sup>58</sup> Nonetheless, the draft master plan is indicative of the direction the Government wants to take. It emphasizes the need to develop an ICT industry, highlights potential employment opportunities and identifies priority areas such as ICT infrastructure, legal and regulatory frameworks, human resource development and education. However, the role of provincial governments and stakeholders, such as NGOs, may deserve more attention, especially with a view to bridging the intra-national digital divide and harnessing ICT for rural areas, as well as the role of trade and investment policies.

## **B. Current state of ICT use and production**

### **1. Fixed-line telephones**

Until recently, Myanmar Posts and Telecommunications (MPT) had been the monopoly provider of postal and telecommunication services. Thanks to initiatives by the Government, telephone lines have markedly increased during the post-1990 period. Compared with the recorded annual compound growth rate of 5 per cent during the period from 1980/81 to 1985/86 and 7.8 per cent during the period from 1985/86 to 1990/91, the growth rate during the period from 1990/91 to 1995/96 was 14.4 per cent. Also, during the period from 1980/81 to 2000/01 the number of telephone exchanges increased from 206 to 556. In 1980/81, almost 61 per cent of the telephone lines were concentrated in the capital city Yangon, but by 1995/96 Yangon's share declined to 49 per cent; however, in 2000/01 its share reached 52.5 per cent.

According to the World Bank (2002b), more than 93,000 people were on a waiting list for a telephone in 2000; the average waiting time was 5.3 years. The cost of obtaining a fixed line from MPT currently is Kyats 500,000<sup>59</sup>, which puts a telephone ownership beyond the reach of the large majority of the population. While

<sup>57</sup> The Computer Science Development Council (CSDC) is a statutory body having constitutional powers and responsibilities, which include, among other things, formulation of appropriate policies for the growth of the ICT sector and for promoting the use of ICT in the country. CSDC has a person assigned by the State Law and Order Restoration Council as the Chairman and the following as members: minister or deputy ministers from relevant ministries, heads of the relevant government departments and organizations, suitable computer scientists, and the deputy minister of education, who serves as the Secretary.

<sup>58</sup> In addition, the Ministry of Posts and Telecommunications has issued additional guidelines to govern the use of computers and the Internet.

<sup>59</sup> The official exchange rate is US\$ 1 = K 6.42; however, the United Nations exchange rate is US\$ 1 = K 820 as of 31 December 2003.

telecommunication density is as high as 2.54 in Yangon, it is much lower in rest of the country. To illustrate, in Ayeyarwaddy, with a population of 7.1 million, there are only 14,970 telephones, producing a telecommunication density of 0.21. Rakhine has the lowest telecommunication density (0.17).

## 2. Mobile telephones

Myanmar is one of the pioneers in providing cellular services, which began in 1992. However, during the first four years the total number of cellular subscribers was only around 2,000. MPT is still the sole provider of mobile services. Mobile telephone charges are exorbitantly high<sup>60</sup> blocking the way of mobile technology diffusion. Hence, there is a need to bring down the cost of mobile telephone services, and this may form the priority agenda for policy makers.<sup>61</sup>

## 3. The Internet and computers

Internet use in Myanmar is subject to restrictions. The use of Myanmar Intranet, one mode of Internet access launched in 2001, is open to members of MPT mail and members of Bagan Cybertech, a publicly owned enterprise founded in October 2000.

There are four types of users of the Myanmar Intranet:<sup>62</sup>

**Membership A** – has access to use FTP services, Intranet services, and dial-up web access (web browsing). The user can request sites that he or she wants to see, and can access this service from home or office.

**Membership B** – The services provided are the same as for Membership A, although FTP services are not provided unless the user accesses such services at the main office of Bagan Cybertech.

**Membership C** – provides FTP services only.

**Membership E** – provides Intranet services only.

Bagan Cybertech has built Bagan Teleport, which has the infrastructure for the biggest wireless network in Myanmar. It doubled its available broadband delivery speed from 256 kpbs to 512 kpbs in early April 2003. The activation fee for broadband wireless access is K 1.95 million for an individual account and K 2.2 million for corporate subscribers. According to the speed of the connection and the volume of data downloaded, the monthly fee for individual users ranges from K 28,000 to K 76,000 and that for corporate users ranges from K 120,000 to K 200,000.

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<sup>60</sup> MPT charges an initial deposit equivalent to US\$ 750; the monthly fee is US\$ 50 and the activation fee is US\$ 40. Domestic calls are US\$ 5 and international calls US\$ 8.

<sup>61</sup> According to MPT, there are about 40,000 mobile subscribers; most of them are in urban areas.

<sup>62</sup> For details, see <<http://www.myanmars.net/myanmar/internet.htm>>.

The net result of the series of restrictions and high costs is that “the use of internet is restricted to a handful of privileged enterprises (government)” (Kyaw, 2002b). About 30 government ministries and departments currently have Personal computer and most of them are networked and have Internet access. According to the World Bank (2002) there were only about 10,000 Internet users in Myanmar in the year 2000, illustrating the fact that the benefits of the new technology are restricted to only a privileged few.

On the whole, it appears that the efforts made by the Government are not bringing about the desired returns, primarily because of the lack of complementary innovations. If the Government is to achieve its declared objective of harnessing ICT for the overall development of the economy and society, and to facilitate a vibrant ICT industry, there seems to be no other way other than relaxing the restrictions and bringing about a more competitive telecommunication market.

#### **4. ICT production**

According to the Myanmar Chamber of Commerce and Industry, the production of ICT goods in the country is at a low level. While there are two local producers of computers, around 70-80 per cent of computers are provided by the so-called grey market. Few members of the Myanmar Computer Industry Association are engaged in computer production; most of them are engaged in hardware and software supply and services and software production. In consumer electronics, transnationals such as Toshiba and Daewoo have operations in the country. In the public sector, Myanma Machine Tool and Electrical Industries has one electrical and electronics factory producing fluorescent lamps and incandescent bulbs, electric rice cookers, electric irons, electric hot plates and dry cell batteries.

While the production base in ICT goods appears to be limited, Myanmar has already initiated some bold steps towards creating software and service production. This is manifested in the establishment of the Software Technology Park at the instance of Myanmar ICT Development Corporation, a consortium of 50 private companies, with the active support and cooperation of the Government. The needed communication infrastructure is provided by Bagan Cybertech. The project, set up in Hline University campus with a total investment of about K 2.5 billion, was initiated in March 2001. The first phase, which was completed within 10 months, covers a developed area of about 4.5 hectares and has 32 rooms. The occupancy rate is 100 per cent. The Park has been able to attract two foreign companies; it also is home for an e-learning centre, an incubation centre for promising local software programmers and the Japan-Myanmar e-learning Centre. The activities in the Park include software development, human resource development, national level projects, data-processing services and consultancy services, all providing employment for about 700 people. The Government plans to set up another park at Mandalay.

## **C. Human resource development in ICT**

Realizing the importance of higher education, the Government has taken pro-active steps in promoting education in science and technology in general and ICT in particular. Major institutions of higher learning, which are kept under the administrative control of the Ministry of Science and Technology to enable better focus and attention, include the following: Yangon University of Technology, Mandalay University of Technology, Pyay Technology University, Yangon University of Computer Studies and Technology and Mandalay University of Computer Studies and Technology. The last two are specialized universities focusing exclusively on ICT. The Yangon University of Computer Science and Technology, the leading university in ICT education, provides 12 courses in ICT education. In addition to these universities, there are 24 government colleges and 80 university colleges; all of them have ICT departments and offer diplomas or degrees in ICT education. These institutions produce 3,000 students per year; the Government has a target of reaching 25,000 per year by 2010.

## **D. Trade and investment in ICT: policies, performance and prospects**

### **1. Investment policies**

The main agency for all issues related to investment is the Myanmar Investment Commission, which was established to oversee and administer the foreign investment law of 1988. Among other duties, the Commission is responsible for scrutinizing FDI proposals and for issuing specific investment permits after getting approval from the Trade Council and the Cabinet.

The law underscores, among other things, the need for regional development, but is not explicit in terms of achieving this objective. Hence, it might be advisable to divide the country into different zones, as Thailand has done, based on definite indicators of development. Also, given the fact that regional governments may be better able to assess regional requirements, it would be worth exploring the possibility of providing a greater role for the regional governments.

The law states that for fully-owned foreign subsidiaries the minimum foreign investment should be at least US\$ 500,000 in the case of the industrial sector and US\$ 300,000 in the case of a service organization. For joint ventures, the minimum foreign contribution should be at least 35 per cent. The stipulation of minimum capital requirement and minimum contributions is likely to have the effect of erecting entry barriers to certain foreign enterprises, especially small and medium-sized ones. This in turn could have an adverse effect on total investment inflows.

While the law provides for a number of incentives, there appears to be an element of ambiguity in some of the provisions, which might in turn lead to a situation where there is a lack of transparency and where corrupt practices occur. To illustrate, the provision to give a tax exemption beyond the initial three years will be given for an “appropriate period”, “in case the project is considered beneficial to the State”.

How is the appropriate period decided? What is the criterion for deciding the usefulness of the project? From the investors point of view, it is only appropriate that these be defined in clearer terms. Another point is related to the tax exemption for profits on exports. It appears that regardless of the nature of exports such incentives are offered. This suggests that the law does not differentiate between potato chips and microchips. Given the fact that competitiveness varies across different commodities, the incentives offered need to have some relationship with the entry barriers faced by the exporters in the international market.

ICT goods or services currently do not find a place in the list of items considered by the Government as offering opportunities for investment. In view of the fact that the Government has been making earnest efforts towards developing Myanmar's human capital stock and communication infrastructure, it would seem important that the ICT sector find its proper place in the agenda for investment promotion, especially since this sector could absorb trained people.

## **2. Trends in foreign direct investment**

The effectiveness of the FDI policy in any country may be gauged to some extent by examining the trend in foreign investment approvals and actual investment inflows. It may be noted that the investment approvals and the number of projects in Myanmar showed an upward trend until 1996/97, when the number of projects peaked at 78 and the investments approved reached an all time high of US\$ 2,814 million. From 1996/97 both the number of projects and investments approved showed a downward trend, reaching an all time low of seven projects and US\$ 19 million in 2001/02. However, judging by the data available for the first six months of 2002/03, there appears to be a revival not only in terms of the number of projects but also in terms of the value of the investments approved. Using the approved and actual data, which are available for the period from 1995/96 to 2000/01, the estimated fructification rate is only 29 per cent. To the extent that there is a significant gap between approvals and actual inflows, it is important that the FDI policy, apart from focusing on attracting more investment, should also give equal importance to the issue of investment implementation. This calls for identifying the road blocks in investment implementation and correcting them in a timely fashion. Perhaps the Government might consider the formation of an investment implementation agency, following the example of India, which would be empowered to address the issues in relation to investment implementation.

Four sectors (oil and gas, manufacturing, real estate development, and hotels and tourism) account for almost 80 per cent of the foreign investment in Myanmar. When it comes to domestic investment, almost 90 per cent is concentrated in four sectors (construction, manufacturing, hotels and tourism and industrial estates). While the Government upholds the importance of investment in the rural sector, there is hardly any investment being attracted to it. Since these sectors are the ones with higher employment potential, efforts may be made to attract investment into these and other lagging sectors. In this process, the regional Governments have a better role to play, and the study underscores the need for more decentralized decision-making.

### 3. Trade policy

Ever since the initiation of economic reforms in 1988, the Myanmar Government has undertaken a series of measures to promote trade. These included, among others, permitting private enterprises to export and import, promoting border trade, streamlining the export-import procedures by lowering tariff and non-tariff barriers and reactivating the Myanmar Chamber of Commerce and Industry. As a founding member of WTO, the country's foreign trade policies are today guided by the rule-based multilateral trading system. In general, registered exporters have the right to export all commodities, except rice and rice products, which are reserved for export solely by State-owned economic enterprises. Registered exporters are also allowed to enjoy 100 per cent retention of foreign exchange earned through exports.

Imports are generally allowed against export earnings, with a view to promote exports and overcome trade deficits. Since March 1998, the Government has imposed a restrictive import policy, requiring that all imported items must be included on priority lists<sup>63</sup>: "A" – list items should be imported in a ratio of at least 80 per cent, and "B" – a list items can be imported at a maximum of 20 per cent. What this means is that B list items may be imported only after the arrival of the A – list items. In December 1998, the Ministry of Commerce stipulated that items which are not restricted but which are not included under either list should be treated as though they were B – list goods. Import permits may be obtained by producing evidence of export earnings.

Business people in Myanmar often claimed that they "export in order to import". Such a practice is bound to affect the investment prospects and long-term growth of the economy. For example, a new venture which involves the import of machinery might find it difficult to import because the export earnings have yet to flow in as the project has not yet been commenced. Hence, it is worth considering doing away with such policy measures, which might be instrumental in achieving short-term goals at the cost of long-term growth.

Myanmar follows the Harmonized System of International Nomenclature. Three types of taxes can be levied on imports: import duties, commercial taxes and licence fees. After joining ASEAN in 1997, measures have been undertaken to comply with the ASEAN Common Effective Preferential Tariff (CEPT) Scheme. Myanmar is in the process of meeting the CEPT tariff reduction commitments to be phased in between 2001 and 2008. Currently, tariffs range from a low of zero to a maximum of 40 per cent, with cars, luxury items and jewelry, among others, facing the highest tariffs. ICT goods in general attract a tariff of less than 5 per cent; tariffs on most industrial inputs, machinery and spare parts average about 15 per cent.

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<sup>63</sup> Priority A items include agricultural machinery, farm implements, fertilizers, pesticides, high-yielding seeds, edible oil and fats for the soap industry, construction stores and building material. Priority B items include about 60 items grouped under personal goods, household goods, foodstuffs, construction materials, textile products, electric and electronic products and general products.

Customs valuation is based on CIF value, after adding landing charges equal to 0.5 per cent of the CIF value. The major impediment to trade may relate to the country's foreign exchange regime. Myanmar has a highly overvalued foreign exchange: the official exchange rate is about K 6 to US\$ 1, whereas the market exchange rate is as high as K 900 to the US dollar. Such an overvalued exchange rate, coupled with high rates of inflation in the domestic economy, undermines export competitiveness.

#### **4. Structure and direction of trade**

While food items continue to dominate exports, their share has declined from a little over 52 per cent in 1980/81 to 38 per cent in 2000/01. The share of manufactured goods has increased more than three-fold (from 5.3 to 18.5 per cent) during the same period. Estimates of revealed comparative advantage (Balassa Index) suggest that the comparative advantage of Myanmar is limited to a few products: clothing (10.37),<sup>64</sup> wood products (4.82), fresh food (3.4) and minerals (2.46). In general, Myanmar's commodity composition is characterized by the domination of traditional commodities. There is an urgent need for product diversification, with a focus on high value-added products such as ICT goods and services.

When it comes to the direction of trade, there is a fairly high regional concentration. A little over 60 per cent of the exports are directed to Asian countries; South-East Asia accounts for over 26 per cent of the total exports and of this, almost 90 per cent is accounted for by Thailand, Singapore and Malaysia. Because such high levels of regional concentration are likely to make Myanmar more susceptible to external shocks, there is a need for more regional diversification. In this process, ICT, especially e-commerce, could play a major role.

#### **5. Promoting trade: the role of ICT**

The country's export promotion strategy has to underline the need for product diversification as well as diversification in terms of trading partners. Given Myanmar's resource endowments, the Government has rightly emphasized the important role of agriculture in exports. Economic history, however, teaches that no country in the world has so far been able to achieve a per capita income higher than US\$ 500 by focusing on primary agriculture. Also, empirical evidence tends to suggest that in the new trading environment, the primary exporting countries are unlikely to reap any significant return unless they go up the value chain. Hence, there is a need for concerted efforts to add greater value by investing in post-harvest operations and new product development. In this process, Myanmar should be able to join hands with the large transnational corporations, which dominate the processing and marketing of primary commodities. Here again, ICT could play a facilitating role not only through e-commerce but also by delivering real-time information and customized knowledge

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<sup>64</sup> Figures in parentheses show the estimated value of the Balassa Index.

to improve farmers' decision-making ability. This could lead to better quality products, productivity enhancement and improved price realization.<sup>65</sup>

It should be noted that ICT is only an enabling tool. To harness the power of the new technology, complementary innovations are needed; these include, but are not limited to, the creation of new institutional structures, bringing together different stakeholders such as the private sector, State and regional governments and NGOs as active agents in the diffusion of ICT. Greater decentralization is also needed in decision-making; also a greater role for the provincial and State government is needed, as well as a better communication infrastructure and a freedom to use ICT in an innovative manner.

It is important to modernize industries such as textiles, where the country has emerged as a major player, and leather products, where the country is developing a comparative advantage; the role of ICT in this regard also cannot be overemphasized. This could take the form of new design development, better supply-chain management and locating markets through e-commerce. Other areas where ICT could be profitably used for promoting international competitiveness include tourism, dairy development and fisheries.

## **6. Implications of trade agreements**

According to UNCTAD data, the total value of imported ICT goods in 2000/01 amounted to US\$ 57 million, mainly for calculating machines, digital automatic data-processing machines, telecommunication equipment and transmission and reception apparatus. More than half (56 per cent) of the imports of calculating machines were from China and 69 per cent of the digital automatic data-processing machines were from Singapore. These two countries account for almost 63 per cent of total imports.

In order to evaluate the impact of an elimination of tariffs on ICT goods, we employ the same methodology as in the chapter on Cambodia. According to our estimates, the available stock of ICT goods would likely be enhanced by US\$ 2.5 million. At the same time the revenues lost would likely be only US\$ 0.95 million. The reason for these low values is that tariff rates are already very low. Hence, both the adverse impact arising from revenue loss and the positive effect resulting from enhanced access to ICT goods appear to be limited. In view of the fact that the production of ICT goods is very low, potential negative effects on employment resulting from a surge in imports would not be expected either. It may be tempting to conclude that Myanmar could take an indifferent approach to both the e-ASEAN Framework Agreement and ITA, but such a strategy poses the potential danger of not making use of the advantages offered by these Agreements. By signing ITA, Myanmar could send the right signal to the outside world and could attract more investments into the ICT sector. As in the case of Cambodia and the Lao People's Democratic Republic,

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<sup>65</sup> See the e-Choupal initiative undertaken by the India Tobacco Company which brought together diverse agencies, each with specialized competencies, in a bid to empower farmers; <<http://www.echoupal.com/default.asp>>.

much could be gained by advancing the implementation of e-ASEAN Framework Agreement and making use of the e-ASEAN forum to build up an ICT infrastructure and production base in the country, which in turn could lead to increased employment- and income-earning opportunities in the domestic economy.