

COMPUTER APPLICATIONS IN SRI LANKA

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The information revolution, which has been compared in terms of its likely impact on contemporary society to the industrial revolution of the last century has been underway for the past quarter century in the industrialized countries. This process has gathered momentum during the past few years, largely due to the dramatic fall in the cost of computer equipment as a result of advances in solid state technology and the mass production of micro-electronic devices. Further reductions in costs and improvement in both hardware and software capability are anticipated in the coming decades.

While the uses of computers and information in urbanized commercial and industrial activities are well known from the experience of the Western countries little is known about its likely impact on the rural, agricultural-based lifestyles of the vast majority of Third World citizens. I am confident that the ARTI will lead the way in Sri Lanka to establish a sound and practical approach for bringing the benefits of modern technology to the rural masses.

As a developing country, Sri Lanka must seek to rationally and efficiently allocate scarce financial and manpower resources, so that these new technologies may be harnessed to maximize socio-economic developments. We are very fortunate in this respect, to have strong support for computer development originating from President Jayewardene himself. His initiative and vision of the future are evident in the following extract from a speech made at the University of Sri Jayewardenepura on February 26, 1984.

"The microchip is today a carrier of knowledge. It is my intention to encourage the use of these devices to bring new knowledge to the people of our villages. We can take advantage of the work that has been done so far and lead this nation into the 21st century."

The Natural Resources, Energy and Science Authority (NARESA) set up the National Computer Policy Committee (COMPOL) in November 1982 to formulate policy guidelines and recommend a practical framework and action programme for implementing such policies. The committee's April 1983 report was accepted by the government including its principal recommendation to set up a national level

advisory body on computers, functioning directly under the President. This 10 member Computer and Information Technology Council (CINTEC) will advise the government in formulating, co-ordinating and implementing policy. CINTEC would provide a guiding framework within which Sri Lankan public and private sector institutions in the computer field can develop and interact fruitfully, without unnecessary duplication, wastage of scarce resources and policy conflicts. The emphasis will be on promotion, encouragement and co-ordination, rather than controls and regulation that can stifle initiative in this rapidly progressing field.

INFANCY

The use of computers in Sri Lanka is in its infancy both in terms of the number of systems installed and their level of sophistication. However the establishment of CINTEC is based on the conviction that given the support and guidance of the government, and a commitment of resources that will be very modest in terms of our overall national investment programme the resulting developments in computers and information technology will bring about fundamental improvements in our lifestyles and contribute significantly not only towards material progress but also to sociopolitical development and national cohesiveness. Let us examine below a desirable and practically achievable scenario for computer development in Sri Lanka

In the short-run (2 to 3 years), we may expect progressive gains in productive efficiency of private and especially public sector organisations through the use of computers. Improving the quality of high level decision making where management skills are scarce will help create more jobs at lower levels rather than making workers redundant. Working level operational efficiency and quality of work will also improve. Better application of computers to science and technology will enable the intellectual community to enhance their contribution to national development. The initiation of a major effort in computer education encompassing schools, universities, industry and commerce and the general public is already under way.

ASSETS

The medium term (5 to 10 years) is likely to lead to the development of Sri Lanka as an

Asian Service Centre for computerised international banking and trade. Our assets include the attractive economic policies of the government and stable climate for investment, convenient geographic location, highly educated manpower base and acceptability among all countries in the region.

In this time frame, we also expect the development of more decentralized domestic institutions to meet the needs of administration, finance, production and exchange of goods and services. The use of computers will significantly improve the flexibility of citizens to make use of their skills and talents. This will provide an additional impetus for entrepreneurial activities more in keeping with national character and temperament. Exports of computer software and hardware as well as programmers and analysts provide encouraging prospects. By this time carefully nurtured centres of excellence will be making significant contributions.

TRANSFORMATION

In the long-run towards the turn of the century, we should aim for a systematic transformation of the economy. Sri Lanka can move rapidly from the agricultural to the services oriented stage of economic development, while avoiding some of the worst aspects of the intermediate heavy industrial stage, like environmental pollution, urban slump, etc. We can concentrate on industries that are knowledge intensive and efficient in the age of scarce resources such as capital skilled manpower, land and energy. It will also be possible to avoid investment in industries where future developments world-wide especially in robotics, are likely to erode the advantages of our low cost labour.

The first and second generation of computers built from vacuum tubes and transistors respectively, have already passed us by. The industrialized world is presently well into the third generation of computers characterised by large scale integration (LSI) techniques and is anticipating the move towards the fourth generation that will utilize very large scale integration (VLSI). We, in Sri Lanka, will have about one decade, i.e. in 1985 to 1995 to catch up with these developments and prepare ourselves for the fifth computer generation expected in the mid 1990's. Although opinions vary, enthusiasts and experts claim that these machines will

process knowledge in a quasi-intelligent way, rather than processing data mechanically like existing computers. Since costs will fall unlike in most industrial activities requiring machinery imports, Sri Lanka and other developing countries must seek to develop the manpower base to take advantage of these advances.

EFFORT

CINTEC hopes to play the leading role in co-ordinating and guiding the sustained and systematic national effort necessary to bring about this scenario.

The proposed organization of the computer sector in Sri Lanka is indicated in the attached figure.

CINTEC is expected to create a Central Computer Secretariat (CECSEC) to service its needs and those of the sector. Permanent committees of CINTEC will also be established on: (a) Computer education; (b) Computer Application in Public Sector; and (c) Telecommunications and data transmission; to advise on and promote activities in these areas. These committees will ensure close collaboration with the Minister of Higher Education and Education, as well as other concerned government institutions.

The growth and development of several centres of excellence, identified in the first instance as the Arthur Clarke Centre, the Universities of Colombo, Moratuwa and Peradeniya and the National Institute of Business Management will be supported. CINTEC also hopes to establish channels of communication with and draw on the contributions of the Computer Society of Sri Lanka, and other private special interest groups and companies.

One of the first items on CINTEC's 1984 work programme would be the organizing of several regional/international workshops on the latest applications of computers in science technology and business. Leading foreign and local experts will lecture and demonstrate thus enabling a large number of Sri Lankan participants to obtain valuable up-to-date training and skills in these areas. Specific studies concerning the scope of application and impact of computers in different sectors will be initiated. Other organizations will be encouraged to assist in these efforts.

Sri Lankan society is transforming itself rapidly today, adapting to fast paced changes worldwide. Some teething problems must be expected but there is confidence that our experienced and farsighted leadership will solve the sociopolitical problems. At the same time the professional and technical community must provide the necessary effort to meet the physical and economic challenges. Our country is blessed with a unique and invaluable resource - a highly enlightened and well educated population, especially the youth, which we must harness. The primary impetus for intellectual growth must come from indigenous sources. Foreign technology transfer can and will accelerate this process but a high degree of self-reliance and self-respect is essential.

From ancient times, intellectual development has been a revered goal in Sri Lanka. Over the centuries the nation has displayed the wisdom and good sense to absorb the best elements of knowledge brought from abroad without fear or favour. In the same spirit, Sri Lankans must continue to look outwards with open minds into the futuristic world of computers and modern technology, secure in the basic strengths provided by a rich socio-cultural heritage and our sound contemporary intellectual skills. The future may be uncertain but it is not entirely beyond our control. We are confident that the challenge of modern technology will offer an unique opportunity to speed up development efforts and build a truly united Sri Lanka through the enhanced application of the human intellect.

FIGURE 1. ORGANIZATION OF THE COMPUTER SECTOR IN SRI LANKA

