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I am sure most of you have heard the age old saying "Behind every great MAN is a great WOMAN". This has been modified by various people to suit various occasions. I have selected the following as the theme for today's presentation, **"Behind every great MAN is a COMPUTER".**

Ours is a long history full of great men. Their achievements are truly magnificent even by today's standards. It is said that the surface accuracy of the Ruwanveli Maha Seya is something that is not easy to obtain even with today's engineering skills, sophisticated instruments and advanced technology. They achieved these without the help of foreign advisors, consultants or even technology. How our ancestors have achieved these is still a mystery. They possessed all the knowledge, expertise, skills and ability in them. They were good managers and undertook teamwork with great spirit. The only thing they did not have was computers.

I know the students who have gathered here today are eager to become great men. We expect these great men to contribute to the national socio-economic development of our country. When we talk of development, the buzz word today is achieving Newly Industrialised Country (NIC) status. Although there is no general agreement as to the definition of what NIC status means, there are a few characteristics which will describe what it means.

A country is described as a NIC, according to the World Bank classifications. If the per capita income is more than US$ 1100/- (by the time Sri Lanka reaches NIC status this will be around US$ 2500/- !! Our current per capita income is only about US$ 600/-), if the industrial sector contributes to more than 20% of the GDP, and more than 20% of the total income from exports is derived from the industrial sector.

So if Sri Lanka has to describe itself as a NIC it should have the above as a minimum. Those who are familiar with economics will immediately recognise that this level of economic growth cannot be possible only with agriculture based industry. Then the question is whether we can achieve NIC status following our traditional approach.

What are factors contributing towards achieving this goal? At the top of the priority list is **human resource development,** in other words education. There is also a need to move away from labour intensive industries and progress towards knowledge and information intensive industries. The world has recognised that access to **knowledge and information** means both **power and wealth.**

Information is used for increased productivity and efficiency of the industrial sector, administration sector, finance and banking sector, trade and commerce sector, etc. We have to be competitive in the international markets. In this respect we cannot disregard the international demand and cannot live in isolation, as we are most of the time driven by technology. Therefore, we must produce for world consumption.

Common factor in all these is the **knowledge, literacy, awareness, skill and expertise in Information Technology.** In short we must try to become an **"Information Rich Society".**

How do we reach our target? We must try to move away from labour intensive

industries and concentrate on knowledge and information intensive industries for which the raw materials are intelligence, brain power, creativity, talent. What are the plus factors? Sri Lanka has the third highest literacy rate in Asia, next to Japan & Korea. This is our greatest resource that we must exploit. The government has made some conscious moves to develop infrastructure which will help us to achieve this.

Initially some of these steps may seem to be non coherent, but like the pieces in a jigsaw puzzle these will fall into place sometime in the future. The sooner it happens, the better it is. So we must consciously progress towards this.

Let me start with education. Education is a lifelong experience. Schools, Teachers, Books, Examinations & Computers are only part of that experience. Two levels are of immediate importance, i.e. The tertiary education and the technical education. At the tertiary level there are the Universities, NIBM, ICT and the private sector Institutes such as IICS, ITS etc.

The courses are designed to produce high level of expertise. Only limited number of places are available but there is a high demand. These cater to a small number of people. So, if the whole country has to contribute to our single goal of becoming an NIC, the coverage above is inadequate.

Let me digress a little bit and argue on a different line. Supposing that we create opportunities for everybody to become an expert in IT, that will be detrimental to the economic growth of the country. For example there will be none to manage our business sector, the banking

sector, the finance sector, which are all vital for the economic development of a country.

On the other hand if we do not produce enough expertise there will not be enough knowledgeable in IT to contribute to other sectors. Threfore, we must strike a balance.

The Centre we are inaugurating today is a step towards that. The objectives of the Centre is to provide opportunities to students from all disciplines to become computer literate. It is not limited to those who have studied Science & Mathematics, in fact if should not. We need economists, linguists, bankers, historians etc. who are computer literate. To take an extreme example, today historians use computers for their work. Ancient scripts such as **Thripitaka** is

being computerised. This will allow Historians, Scholars, Priests etc, equal opportunities to access to information and research.

Coming back to education, there are other avenues for those who do not want to achieve a high level of specialisation. The Computer & Information Technology Council (CINTEC) in collaboration with the Computer Society of Sri Lanka (CSSL) has been instrumental in launching the **National Examination in Computer Studies (NECS).** The objectives of this exercise is to nurture a professional examination in IT locally as a replacement for the BCS & ACS examinations. Since we understand the limitations and difficulties in the local situation better, we have structured the NECS examination in

such away that any interested person can benefit from it.

The NECS is a multipart examination and the completion of which will bring a candidate to full professional status. As of today Stage I examination has been held 3 times and Stage II is scheduled for late May.

The Ministry of Education is actively engaged in the setting up of Regional Computer Centres (RCC) for the benefit of those bright, young people in the out-stations. At times, I have wondered why and how, a handful of people in Colombo try to contribute to an increased per capita income of an entire country with a population of 17 million people. We must let the others contribute. I believe that the talent is not necessarily concentrated here in Colombo. Unfortunately, the talent which is widespread throughout the country has not been tapped effectively so far.

The other organisations such as the National Apprenticeship & Industrial Training Authority (NAITA), National Youth Services Council etc. have recognised the need to quickly envelope a large mass of talented youth in this new technological environment in order to prepare them for the challenges of the future, with the private institutions also contributing in their own way.

The **formal education has not been known to recognise the vertical talents in** the youth. The National Software Competitions organised by the CSSL and the preparation of candidates for the International Olympiad in Informatics (IOI), jointly by the CINTEC and CSSL, are two attempts in this direction. Our participants have fared reasonably well

in these regional and international events and have even defeated teams from Singapore. This definitely proves that there is talent in our youth. What prevents it to surface are the limited resources and opportunities.

In fact it is the limitations in resources which have contributed to the situation in which people with science & maths background have become the natural choice for anything to do with IT. This is a sad situation. Attempts must be made to encourage the students with talent, who do not necessarily have the science & maths background to move into the IT field. I am glad to say that this is already happening at different levels. The other professions have recognised the importance of IT and have included suitable IT content in their curricula and training programmes. These include management, banking, finance etc. to name a few.

The other important aspect is the role of technology itself in achieving our target. This can best be illustrated by the Four Paradigms of Computing viz. Batch Processing in the 1960s, Time Sharing in the 70s, Desktop in the 80s,

and Networked and Distributed computing in the 90s. from the users' point of view they represent an activity related to **punch and try** (60s), **command driven interactive** (70s), **see and point** (80s), and **ask and tell** in the 90s.

In these 40 years we have moved from early languages such as FORTRAN, BASIC, COBOL to **pbject oriented languages.** Advances in chip technology have been responsible for putting an entire CPU on a silicon wafer less than 1cm²area. Today the miniaturisation has continued to the extent of producing a palm top computer with all the features and sophistication. In the near future we will see the emergence of the wrist computer with the ability to communicate with other computers using wireless communication channels. Already, the technology is there to manufacture disk drives of the size of a balance wheel of the wrist-watch, yet holding a few hundred MB of data.

The ability to access information and knowledge available in data bases all over the world through a personal computer at home has introduced another dimension. World-wide networks such as the

Internet, connect more than 140 countries with over 2 million computers directly connected. The number of computers indirectly connected are in tens of millions.

The networks of future will give us the ability to transport data at high speed. They will support multi media complete with text, graphics, image, sound and animation. The ability to shrink the collection of an entire library into a few CD-ROMs opens up very exciting opportunities in the search for knowledge. Simple and user friendly Graphical User Interfaces (GUIs) will allow easy access by non-expert users.

All these means that we must be ready as a nation to use what the technology can offer to our advantage. Going side by side with the technology is not enough. We must try to overtake. The education, again, is the key to success. Therefore, the Centre which we have inaugurated today has to make a major contribution towards revolutionising our socio-economic development process. The success of this is also critical since the others can easily use the same modalities.

Finally, I thank you for your attention and wish every success for this new endeavour.

Behind every great man is a computer