FIVE DECADES OF EDUCATION AT REID AVENUE: SOME PERSONAL REFLECTIONS

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Abstract

The author began his contact with Reid Avenue in January 1950 when he entered Royal College as a grade 6 student. In 1956 he left school to join the University of Ceylon next door and on graduation in 1961, continued to be with the University as a member of the academic staff thus covering a period of over 54 years at educational institutions around Reid Avenue. During this period many changes have taken place in education and related spheres and these are analysed in the paper from an educational, social and political point of view. The impact these changes have had on national development will also be discussed. Finally how the last 54 years have contributed towards preparing Sri Lanka to face the challenges of the 21^{st} Century will be examined.

Key Words

1. Education 2. Human Resourse Development

3. National Development4. Sri Lanka5. University of Colombo6. Computer

7.Information Technology 8. Science Education

I. School Education

I first set foot on Reid Avenue to arrive at Royal College in 1949 to sit the entrance examination where over 400 competed for 20 places which were available for entry to Form I (the present Year 6) in addition to the seventy odd students admitted directly from Royal Primary. When my father was informed that I had been selected he had a difficult decision to make as I was then a student of Ananda College, Colombo. He decided that since I had done so well at the entrance examination, it was my destiny to move on to Royal College. On the 2nd of January 1950 I began my regular visit to Reid Avenue which continues to date, fifty three years later. My primary education at Ananda was in the Sinhala medium and I had to switch over immediately to the English medium at Royal. That was not all, the subjects for Form I included Latin. Naturally, coming from a Sinhala speaking home, I was handicapped but this was not even thought of as an obstacle and I was able to compete with others without difficulty within a short period. My class teacher was Mr. Viji Weerasinghe an old Royalist, who also joined the teaching staff of Royal in

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the same year, and still continues to serve the School at the Royal College Union (the Past Pupils Association) Office after his retirement. He has served Royal for a continuous period of 54 years and has been associated with Reid Avenue for 70 years! Very few have served a school with such devotion for such a long period.

Admission to Royal at present is at Year 1 and the number of classes is doubled at Year by admitting a fresh group of students on the results of the highly competitive 5th standard scholarship examination. Thus the number of students at Year 6 exceed six hundred - almost the total school population during our times. The school curriculum in our time consisted of English, Sinhala, General Science, Social Studies, Mathematics, Art and Latin. The medium of instruction was English The text books used were almost all written and published in Britain and often our studies were on subject matter meant for British schools. When we were in the Third Form (Year 8), the government introduced a selection test to divert students to various streams such as Arts and Science according to their abilities. Parents were very concerned about this as the future of their children would depend on this crucial test. Quite unexpectedly, the question papers of this test appeared on the front page of a newspaper on the day of the examination and that was the end of the test and the proposed streaming. This is a good example of the failures of many attempts made in the past to rationalise education in the country.

In the Fourth Form (the present Year 9), there was a choice between Greek and Pali and I selected Pali as three years of Latin had not helped me much. Those who performed well at the Fourth Form Examination were allowed to sit the Senior School Certificate (SSC) Examination in one year while the others took two years. I won the Mathematics Prize at this examination and this strengthened my liking for Mathematics. Having performed well at this examination I moved on to the Upper Five to read eight subjects for the SSC in just one more year. New subjects like Applied Mathematics, Advanced Mathematics, Sinhala Literature, Physics and Chemistry were taken, and the foundation we had in the first four years was sufficient to achieve good results. No student obtained eight distinctions at that time. The best in the class scored only six Distinctions and that was the best performance in the island. It is a pity that today we do not allow the talented to skip a year at this stage.

While I was being educated at Royal in the English medium, I was at the same time exposed to Swabasha education at home! My father was the Principal of Hewavitarane Vidyalaya, Rajagiriya, a well known assisted school and my mother was also a teacher at the same school. We lived in the school principal of quarters and thus I was at the same school living in the environment of a Swabasha school after my school hours at Royal. I got involved in many of the activities of the school such as fund raising, various cultural activities and even in the administration of the school. The young Mahagama Sekera, fresh from training college took up his first appointment as a teacher of this school. Part time teachers included Lionel Edirisinghe the well known Oriental Musician and the Kandyan

Dancers Sederaman and Jana Shantha (brother of Pani Bharata). There were separate schools for Carpentry, Weaving and Sewing at Rajagiriya and the school excelled not only in academic activities but also in the arts, music and sports. The experience I gained was very useful to me later on. After completing my Senior School Certificate (SSC) Examination in the English medium in 1954, I took the SSC in the Sinhala medium in 1955 purely by self study. As all the subjects I offered in the English medium were not available in the Sinhala medium I took subjects such as Geography, Art and Hygiene to make up the eight subjects. I passed this examination with results which were better than my English medium examination results. I became the first Royalist to pass the SSC examination in the Sinhala medium. This illustrates very well the opportunities which those of us from middle class families had, to be bilingual. With the introduction of Swabasha teaching in Universities in the seventies, I was able to teach equally well in both English and Sinhala media. Students at the school going age find it easy to acquire skills in more than one language. This becomes difficult as one grows older. Unfortunately with the introduction of Swabasha in schools, English was forgotten and this has caused an irrevocable loss to a few generations of our youth. It is heartening to note that proper bilingual education would be brought back under the new educational reforms. One should however keep in mind that competency in one's your mother tongue as well as English is a necessity today, if we are to be competitive.

We had lecture rooms and laboratories like at the University for our Sixth Form classes. We were on the new South wing and could witness the horse racing next door. Little did we know then that the race course would later become part of a University! We studied four subjects for the University Entrance Examination as it was called then and the class was divided into the streams of Arts, Physical Science and Biological Science. Although parental pressure was there, we had the freedom to decide what we liked best. My choice was to read Mathematics at the University and all of us including those who wanted to read Engineering at the University were in the Physical Science stream. There were many distinguished students such as Prof. Chandra Wickremasinghe the wellknown Astronomer, who like me read Mathematics. Unfortunately today, over 90% of those who study Physical Sciences assume that they are preparing for admission to the Engineering faculties and almost 100% of those studying Biological Sciences assumethat they are preparing for admission to the Medical Faculties. Pressure from parents are partly responsible for this situation.

We sat the Entrance Examination conducted by the University in December 1956 and simultaneously sat the London AL examination with no additional preparation except for a few lectures on Probability and Statistics (topics outside the local examination syllabus) conducted by our excellent Mathematics teacher, Mr. Elmo de Bruin, free of charge after school hours. Tuition classes were unheard of and those who failed examinations were often sent to Jaffna College which had a reputation of producing good results from those who would not take studies

seriously in Colombo. Not all in our class were sent for the University Entrance Examination as there was a "withdrawals test" whereby applications of those who did not perform well at this test were withdrawn by the school. All those who sat the examination in 1956 for Physical Science from Royal College gained admission to the University and I believe that some of those who were withdrawn by the school may also have gained admission if allowed to sit. Results were published in the Ceylon Daily News and that how we, as well as our parents got the good news. Today, not even the degree results are published regularly in the newspapers which however have the space to publicize the winners of all sorts of marketing competitions of goods, services and private education. Those who wanted to enter either the Medical or Engineering faculties and others who did not obtain direct admission by scoring high marks had a further hurdle in the form of a viva-voce examination.

II. University Life as an Undergraduate

I had only a fence to cross to enter the Colombo campus of the University of Ceylon the only university in the country. In fact Peradeniya had been chosen as the location to which the whole University was to be shifted gradually. But the Faculties of Science, Engineering and Medicine were still in Colombo (Siriwardene 2000). Those of us from Royal College were surprised to see the foundation stone on the main building of the Campus, now housing the Mathematics Department. It is the foundation stone which was laid in 1921 for Royal College. Even in 1921, the State seems to have acquired buildings of the ÷best schooløin the island to establish the University College!

The #agø was very much unlike those of more recent times. Freshers would be asked to come in white and a few seniors indulged in collecting a rupee or two from the Freshers. Inhuman acts as was witnessed decades later were totally absent. In the first year we had classes till 6 p.m. and on Saturdays as the laboratories had to be used for three batches: Physical Science; Engineering; and Biological sciences. At the end of the first year we sat the General Science Qualifying (GSQ) Examination. Selection to the Faculties of Medicine and Engineering, and to special degree courses in Science were made on the results of the GSQ examination. Courses in Medicine and Engineering began in Year 2. The GSQ examination had three compulsory subjects ó Mathematics, Physics and Chemistry or Chemistry, Botany and Zoology. To some of us who did not like the study of Chemistry this was a further hurdle. There were some students who had distinctions in both Mathematics and Physics but never got beyond the first year as they simply could not pass Chemistry. Several years later as a member of the academic staff I took the initiative to break up Mathematics into two subjects as in the case of the AL examination and this allowed three out of four subjects to be taken in the first year thus allowing many students to drop Chemistry.

The Reid Avenue Campus had a small administration office headed by an Assistant

Registrar, the Science Library, the Science Faculty and the Engineering Faculty. College House was a hostel and the Campus canteen was a small shed at the location where the Physics building now stands. The Engineering Faculty occupied several temporary buildings at the site where the UCSC now stands. These buildings were later used by the Second Arts Faculty and the Law Faculty. The Physics, Chemistry and Biology Lecture Theatres and the King George (KG) Hall were used for lectures. Our Student Union rooms were those adjoining College House. There were many student societies and I was the Secretary of the Mathematics Society in 1960 with Chandra Wickremasinghe as President. We were very much interested in space science as it was during this time that the Russians successfully launched their first Sputnik and the battle for space supremacy between the two super powers began. One of the lectures arranged by our society was by Basil Mendis then a lecturer in Philosophy from Peradeniya who talked on "The Earth is flat, the moon is on the other side of the earth". While our Astronomy guru, the Mr. Douglas Amarasekera thought this was nonsense, three hundred undergraduates and the media crowded the Chemistry Lecture Theatre, some seated on the windows, to listen to Basil, who through his eloquent oratory more or less "convinced" the audience. Next day the office bearers of the Mathematics Society had to bear the fury of Mr. Amarasekera while the newspapers carried banner headlines. We were also influenced by the arrival of Arthur C. Clarke to Sri Lanka in the mid-fifties.

Campus life was not all study nor was it campus politics as of today. There were the annual trips where meals were traditionally provided by dignitaries such as SWRD Bandaranayake at Horagolla, Robert Gunewardena at Boralugoda and Ruskin Fernando at Moratuwa. As Secretary of the Mathematics Society I arranged a trip to Kitulgala with lunch hosted by a politico at the famous Rest House. Breakfast was at Boralugoda, courtesy Mr. & Mrs. Robert Gunewardena. The trip was such a success that the society decided to repeat it the next year and on arrival at Kitulgala the Rest House keeper greeted us by recognising us as the group that visited one year ago and had not paid the bill! Apparently the politico had not paid the bill as promised. Since the poor Rest House keeper was the loser, we had to find a way of paying the previous year's bill too. The Students Union social and dance, and the pirith and dane' of the Buddhist Brotherhood were important annual events which gave us ample opportunities to engage in extra-curricular activities and show our leadership qualities without having to resort to violence. Students did what they thought was correct and never had to seek advice from outsiders or even those who had left the campus a few years back. During our undergraduate days we did not encounter Proctors or Marshals.

Many came to the Campus on bicycles. We had to beware of the policemen who would charge us for riding a bicycle without lights, without a reflector, for doubling or for riding abreast. None of these are even considered an offence today!

Those of us who were selected for the special degree sat the final exam in 1961. This was the only examination after the General Science Qualifying (GSQ) examination sat in 1958 and we were tested on three years work in eight papers running without a break except for the Sunday. Unlike today, there was hardly any study leave and definitely no breaks in between papers. Our papers and answer scripts were sent to the UK for moderation and results came a few months later. Almost all of our external examiners came from Britain, continuing the traditional links with Britain that were established when the Colombo University College was a branch of the University of London. In my opinion, the over-reliance on Britain and the British system of education has had its drawbacks. Even today some departments follow some practices which have been discarded by the British many decades ago.

III. After Graduation

After the finals we all applied for teaching jobs through the Ministry of Education and I was given a post at Ananda College from May 1961. I taught Physics and Mathematics to the GCE OL and University Entrance classes in the Sinhala medium as by then the medium of instruction had changed. I could continue only for two months as the University offered me a post of Assistant Lecturer from July when the new batch of students arrived. I had to reluctantly leave Ananda. Normally the Mathematics Department appointed new graduates as temporary lecturers immediately after graduation and often only one of them was made a Probationary Assistant Lecturer after one year of employment. Senior staff did the first year lectures and in the first year of employment staff were given mostly second year general degree lectures and the marking of tutorials.

However, due to the acute shortage of staff at that time, I was made a Probationary Assistant Lecturer in October 1961 almost immediately after my results and was also given the task of taking first year Algebra for both the Physical and Engineering batches. The department was in a crisis with Prof. C. J. Eliezer leaving without much notice and Mr. P. Kanagasabapathy from Peradeniya acting as Head of the Department. This resulted in the younger staff including myself becoming much more involved in the departmental administration than in other departments. The department that existed at Peradeniya to service the Arts Faculty was expanded to cater to the new second Science Faculty (Calendar 1964).

During the two years I spent as an Assistant Lecturer I took a keen interest in Astronomy, teaching the subject and conducting astronomical observations using the departmental telescope. I also began writing a book in Sinhala - *Mulika Tharaka Vidyawa*, which included star maps which would help a local star gazer. I managed to get a publisher who agreed to publish the book at no cost to me. The book was published in 1965. After joining the department, I found that I had not come to the end of studies but to the beginning of another long journey of research leading to the necessary qualifications for promotions. The tradition was to go to the UK and

there were some who had preferred to go to Cambridge to do the Tripos which was a first degree. I was keen on following my friend and teacher Wimal Epasinghe who was already at Imperial College studying Mathematical Physics. I followed suit without difficulty as Prof. Eliezer was known to Prof. Abdus Salam, the Head of the Department at Imperial College. Prof. Salam who later won the Nobel Prize for Physics had a high regard for Sri Lankan Mathematicians. Prof. Salam visited the University of Colombo in 1986 and a plaque commemorating this event was unveiled at the entrance to the main building now occupied by the Mathematics Department, I did the Diploma of Imperial College in the Academic Year 63/64 and moved on to University College for my Ph.D. in Elementary Particle Physics. Just before I left for the UK, one of our staff had been called back from study leave after three years even though he needed just a few months more to complete his Ph.D. Thus I was very keen on completing my research work without delay and returned to the island with my Ph.D. in December 1966. The university system provided travel, fees and paid leave for study abroad for a Ph.D. and the salary of an Assistant Lecturer amounting

In 1965, I had the opportunity of attending the Boulder Summer School in the USA and traveled there by US Military Air Transport as my department in London had a research grant from the US Army. I was able to travel 25,000 miles within the US mainly by Grayhound bus on a 99 day \$99 unlimited travel plan. I still remember Prof. Sudarshan a well known Physicist from the Syracuse University telling me that we Ceylonese are making a very big mistake in going to the UK for higher studies ignoring the USA where there were ample opportunities. Looking back, I fully agree with him and this tradition of ours has in fact adversely affected the development of Science & Technology in the country. Majority of Indians used to go to the USA and in my opinion this factor is one reason for the advances in Information Technology that India has made today. The first Sri lankan graduate to obtain a Research Assistantship and leave for the USA was a brilliant Mathematics graduate Prof. Jeeva Satchithanandan, who joined the university of Pittsburg in 1972. he performed so well that his professor wrote to me and asked me to recommend other brilliant students of mine. This I did and very soon there were many graduates from Colombo in the USA, a trend that has now expanded to almost all major Universities in the USA, thus fulfilling Prof. Sudharshangs wish. One such student is Prof. L.S.R. Wijewardena who is at Cincinnati.

Immediately on my return to the country, the new Head of Department, Mr. Douglas Amarasekera wanted me to report to the Department at Peradeniya. As my father had expired a few weeks earlier, I asked for time and agreed to work two to three days of the week at Peradeniya and the rest at Colombo. In mid 1967 a new University act was introduced. The single University of Ceylon was to be split into two, one called the University of Ceylon and the other the University of Colombo. We at Colombo opposed this move as we strongly believed that we had an equal right to the name, status and assets of the parent university. A strike by staff, students and non-academic staff supported even by the then Vice- Chancellor of

Colombo Prof. O.H.de.A. Wijesekera, was the result. After much agitation, the assets were equally distributed and the two new Universities were called the University of Ceylon, Peradeniya and the University of Ceylon, Colombo with equal status. The Science Teachers of Colombo formed the Science Teachers Association and took a lead in this battle. I was the founder Secretary of this association.

By this time, Swabasha educated students were entering Universities. A decision of the Faculty of Science to insist that every student shall follow the English Medium classes in addition to the Swabasha classes (which we considered optional in spite of rules to the contrary) made us produce graduates who could communicate in English and be fit for any type of local or overseas employment. Those who came in with little or no skills in English benefited much from following the course in both media and before long picked up sufficient proficiency in English to switch over completely to the English medium classes in the second year. As our staff are recruited mostly from our own graduates, this helped us to continue recruiting staff who were proficient in English. This is the situation even today in the UCSC and the Science Faculty unlike in some of the other faculties and universities. The benefits of this have been many. The junior staff at the UCSC are proficient in English and are able to join any international research group for their higher degrees. They are able to keep up with the rapid changes in the technology. Our students too are able to obtain immediate employment and move up the corporate In a very competitive environment where private educational institutions have appeared in numbers, we have been able to maintain a high standard and be the major IT centre of the country. Thus it is very clear that such a procedure of introducing English medium teaching in all faculties is an urgent need.

In the late sixties, several of our staff left to take up Professorships at other Universities. Once again the junior staff ran the department. Prof. Epasinghe became Professor at Vidyodaya University at the age of 31. Having assumed duties he soon realised the need to produce statisticians and commenced a Postgraduate Diploma in Applied Statistics. I enrolled as a student of the first batch. Until then Statistics was more the territory of the Economists who had a full paper or two for their special degree as an option. Prof. Epasinghe and his colleagues at Vidyodaya University were also instrumental in introducing Mathematics as a major component of study for the Biological Sciences degree course.

While in the UK I had the opportunity to learn computer programming and use this for my research work. I used the early ICL computers at the Universities of London and Manchester and at the Atomic Energy Research Centre at Harwell. We first used punched paper tape and then punched cards. On my return, I realised the importance of teaching Computer Programming to my colleagues and students. In 1967, I commenced teaching FORTRAN Programming to a group of enthusiastic teachers and students. We were fortunate in Dr. A.N.S. Kulasinghe then Chairman of the State Engineering Corporation allowing us free computer time to run our programs on their

main frame. Later on, the Census and Statistics Department too allowed us free use of their main frame computer as we were not in a position to purchase our own computer. Some of the Science graduates of Colombo were already on the programming staff of these organisations as well as other pioneering computer installations and they formed the core group of Programmers who later took up positions as Data Processing Managers in various large installations. They also formed the nucleus of the Computer Society of Sri Lanka formed in 1976.

Having worked in the field of High Energy Particle Physics, it was no easy task to continue research due to the lack of a critical mass of researchers, journals and most importantly data from the experimental groups working in this rapidly changing field. The newly formed International Centre for Theoretical Physics (ICTP) headed by Nobel Laureate Prof. Abdus Salam came to my rescue at this stage. The ICTP was set up to provide Third World Scientists the opportunity of working with fellow researchers at Trieste, Italy with all the necessary facilities. I received scholarships to work at the ICTP in 1969 and again in 1971. This helped me to publish several papers and this in turn helped me obtain a merit promotion to the grade of Senior Lecturer and also in obtaining an Associate Membership tenable at the ICTP for three months a year for three years.

As a young member of the Department of Mathematics, my colleagues and I had a hand in developing the department and also in having close contact with our students. I recall the initiative we took to introduce a series of lectures on the Two Cultures so as to expose the Science students to the world of Culture and Literature. Eminent speakers such as Martin Wickremasinghe, Dr. A.W. Adikaram, addressed well attended seminars. The Science Students Union too invited eminent personalities including politicians of all hues to speak to packed audiences and there was tolerance and peace. No meeting was disrupted and physical assault was not resorted to counter verbally expressed opinions. We all enjoyed the intellectual battles fought using words and ideas rather than fists and bricks which is the unfortunate situation today. However, a few years later a recital by Ustad Khan a very famous Sitarist from India who performed at the New Arts Theatre was disturbed while performing, by a group of students who wanted free admission. This caused a temporary halt to the performance for the artist to recover from the shock. Having then gained admission, they did not appreciate the type of music. They remained noisy for some time and left the hall even before the performance was over. As the organiser I had to go backstage and reassure the great musician who said that he had never experienced such a situation. This type of behaviour has inhibited us from organising such events or inviting eminent guest speakers.

IV. University Reforms

In 1970, a new government came to power and Prof. B.A. Abeywickrema became the Vice Chancellor (VC) at Colombo. He appointed me as Deputy Proctor and later as Proctor. During the tenure of the previous Vice-Chancellor, Mr. Walvin

Silva, the Marshals were given much power and the student community did not respect the Marshals very much. I took the initiative to appoint Student Marshals, selecting the winner and the loser at elections to the post of President of the several student societies that existed for subjects such as Economics and History. I thereby managed to rope in students from the two major rival groups. Later on, we developed a new set of rules for student discipline and also changed the designation of Proctor to that of Senior Student Counsellor. The duties of Marshals were changed to that of assisting the Student Counsellors. Large notice boards were erected and posters were allowed on them with the approval of the Student Counsellor. We got involved in many student welfare activities such as a shramadana to clear the whole of the race course area which then belonged to the campus. I was also appointed as the President of the Arts Council and a set of musical instruments was purchased with funds donated by the VC. I was supported in my work by senior staff such as Prof. Ediriweera Sarathchandra who encouraged me by saying that the Arts Council needed someone dynamic to lead it. As Senior Student Counsellor, I found that most of the student problems arose due to misinformation or lack of information. Thus I initiated a newsletter Sarasavi Puvath to provide official information to the student community. I was also closely associated with all extracurricular activities of the university as I felt that this was essential if one was to be a successful Student Counsellor.

In mid 1970, some of our freshers were harassed by a boy who when challenged by seniors ran into Thurstan College. Our students followed him and on hearing this, as Proctor, I too rushed into Thurstan College where our students were demanding that the culprit be handed over. A verbal battle between the students of Thurstan College and our undergraduates led very quickly to violence and the students retreated to Thurstan Road (now Kumaratunga Munidasa Mawatha). This led to both sides hurling bricks and stones at each other on Thurstan Road with the university students being at the College House end. It was not possible to calm either side and I had to inform the Police. The riot squad who arrived did not distinguish staff from students and having driven our students into the campus premises, baton charged me at the door of the Radio Isotope Centre. This battle lasted three days and a Commission of Inquiry was set up. However, the report was never released as other events which followed a few months later were of much greater consequence to the youth of this country.

On the night of the 4th of April 1971, the Faculty Club was having one of its dinner parties, a frequent event those days. Around 10 p.m. I was informed by the Cinnamon Gardens Police that there was a curfew and that we should disperse and go home. I drove home alone and the roads were deserted. Next morning the Police were searching for me and I was ordered to report to the Cinnamon Gardens Police Station. When I went there, I was asked about a complaint I made the previous day to the effect that some students had left some knives in a parcel at the University security post. The police who had not taken any notice of this complaint when it was made was now very excited. This was because the 1971 insurgency had broken

out the previous night. Subsequently I had to make several visits to the Police Station to answer their numerous questions and help in the release of some of our staff and students.

The insurgency made the new government think afresh about the aspirations of the youth and one aspect they looked at was University reforms. A committee headed by Dr. Osmund Jayaratne of the Physics Department was appointed to look into University reforms and I was its youngest member at the age of 32. The establishment of a single university with several campuses, elevation of the Technical Colleges at Maradana and Katubedda to University status and the rationalisation of courses were some of the major recommendations (Report of the Committee 1971). There were many objections and as I was away in Trieste, the other members bore the brunt of the criticism. A new Universities Act was passed and came into effect in February 1972.

The Vidyodaya and Vidyalankara campuses had been converted into "rehabilitation" camp to house the thousands of arrested youth after the insurgency and the Campuses functioned in temporary premises elsewhere. The Heads of the Science Faculty at Vidyodaya campus were very much opposed to the new act and refused to take up the appointment of Dean. However, they did not want just anybody to be Dean and they requested me to be their Dean! I accepted the Challenge and became the Dean of the Faculty of Science at Vidyodaya campus from February 1972 having obtained a temporary release from the Colombo campus. My first task as Dean was to shift the faculty which was operating from temporary buildings at Thurstan College back to the campus. New Buildings for the faculty designed by the well known architect Bevis Bawa were under construction and was separate from the re-habilitation camp. I negotiated with the contractor, Mr. Tudawa to take over the new buildings, room by room as they were completed and moved my own Deanøs office to the first room of the first building completed. Thereafter, I moved the whole Faculty, department by department to the Chemistry building which was the first to be completed. I recall with gratitude the active support I received from the entire Faculty, both students and staff.

Vidyodaya campus was the only campus where a member of the Jayaratne Committee was not the Campus President as Prof. Hema Ellawala, the outgoing Vice Chancellor was appointed President. However, in September the same year, he resigned from his post of President and I was asked to oversee the duties of President. A fracas between a group of supporters of the young parliamentarian Mahinda Rajapakse an ex-employee of Vidyodaya and some of the campus students broke out during a *Shramadana* held to clear the campus after it was taken back from Army occupation during insurgency. I was able to take Mr. Rajapakse out of the campus in my own car seconds before the main gates were closed by the students who were by then on the war path. Thereafter, the villagers of Gangodawila turned against the students and no one could get out of the Campus. Some "brave" students marched out to confront the villagers. The student union

President Amaradasa pleaded with them to resist but when they insisted he went with them down the road to be assaulted mercilessly while his "brave" colleagues were the first to run away. When we tried to get the injured to hospital, some students tried to smash up the university vehicle that was to take the injured to hospital. Hundreds of students together with the staff were trapped inside and the Police were not at all helpful at that stage. As earlier in the day, the students had insulted the Police who were at the nearby Police Post. I had to contact the Higher authorities through Prof. B.A. Abeywickrema, the Vice-Chancellor of the single University to obtain help and evacuate around 500 staff and students that night. The long day ended with my accompanying the Vice-Chancellor around midnight to visit the student leader in hospital. Although student leaders are very understanding and responsible, often they are unable to control the mob who could be instigated to become highly agitated and violent in a very short time.

A few days later, I had to take over as the new Campus President. The task of commencing classes for all Faculties at the Gangodawila campus and running the Vidyodaya Campus of the single University was now my responsibility. I soon identified some of the major grievances of the students and their needs. Hostels was one major problem. I found that there was provision for a new hostel with funds given to Colombo as well as to Vidyodaya. While the Colombo hostels were being built there was no sign of any action at Vidyodaya. I found the space needed opposite the Foster Hostel and building work commenced soon. Another problem was the lack of resources to teach English. I found that many students were attending private classes to study English as the English Department could not cater to their demands due to lack of space and staff. I created 13 new posts of English instructor overnight at the request of the Head, Dr. A.J. Gunewardena using savings from posts in other departments which were not filled. I provided space by allocating the whole of the old Royal Air Force building within the campus for the department. I left for ICTP Trieste in October 1973 on leave and resigned from the post of President in November while in Italy. During my short stay at Vidyodaya I was able to re-establish the campus at Gangodawila, initiate an expansion of hostel facilities, improve academic programs, provide training opportunities to academic staff and fill a large number of vacancies including Chairs. It is unfortunate to note that these very same requirements exist in all universities even today.

V. Curriculum Reforms

The Department of Mathematics at Colombo too recognised the importance of Statistics about the same time Prof. Epasinghe did so at Vidyodaya. In 1968 the need for the establishment of a centre to undertake statistical work was simultaneously requested by me from Mathematics, Dr. Lakshman Yapa from Geography and Prof. H.V.J. Fernando from Forensic Medicine. The then Vice-Chancellor appointed a Senate sub-committee to look into this and appointed Prof. Fernando as Chairman. Dr. Yapa and I were too junior to be even in the Senate and were not part of the committee. However, Prof. Fernando recommended the

establishment of a Statistical Unit for the whole University attached to the Department of Mathematics. Thus began the process of developing not only Statistics but also Computing at Colombo. Credit must be given to Prof. Fernando who saw where the development would best take place. Thus a tradition of providing support to the whole university from a single unit was established. At a Senate Meeting in 1968, it was also decided that training programmes and other activities could be conducted by the unit to earn funds which could be utilised to develop the unit. This decision paved the way for the Statistical Consultancy and Data Processing Service (SCADPS) and the creation of a separate ledger account for its income.

In 1973, a lecturer in the Mathematics Department of the Colombo Campus was found guilty of taking a tutorial class only with the students of one medium, during the study leave period, a few days before the examination and explaining the very questions which were to appear at the Examination in two of the Mathematics papers. This was reported to the authorities and an analysis of the marks showed that in the two relevant papers students of that particular medium had performed much better than those of the other two media and that this was not the case in the third paper. The lecturer concerned was dismissed after an inquiry. Professor Gangadharan who was Head of Department resigned a few months later and left for Singapore. As the Departmental staff refused to accept the post of Head of Department, a Senior Lecturer in the Physics Department was requested by the Vice-Chancellor to look after the Department. The post of Professor was advertised in due course. I was selected out of the several applicants and was appointed Professor and Head in December 1973. I assumed duties on 1st January 1974.

During the Tenure of Prof. Gangadharan as the Head, the Department had requested a Lecturer under the British Council administered Exchange Programme to replace the only staff member with a Ph.D. degree in Statistics - Dr. Dayananda who left the country. Dr. Roger Stern from the Deptartment of Applied Statistics of the University of Reading, U.K. arrived in the last Quarter of 1973 to a department in turmoil without a Head. He was even requested by the Dean to be Head, which he very politely refused. He had no work as such and Dr. Roger Stern being one of the most active academics I have met, did not waste his time. He studied the status of Statistics Education and its use in the country and identified the training and consultancy needs. When I came back to the department in 1974 as Head, Roger was there to meet me with his plans. Together we began to implement his proposals and thus began the long standing Reading-Colombo link. Unlike other exchange staff Dr. Roger Stern came from a tenured position at Reading University and was keen on returning after two years although he could have stayed for four years. However, he saw the benefits of a departmental link and recommended Ian Wilson, another colleague for the balance two years. Ian helped us launch the MSc programme in Statistics in 1977, the first of its kind in Sri Lanka. Once he left in 1977, we benefited from short term visits by staff of Reading University who took some of the courses and trained their counterparts. In parallel, our staff were sent for split-Ph.D. degrees to Reading University and thus a departmental link was established with very modest funding from the British Government. Equipment was also provided. Initially we received an HP 9825 "computer" and many BBC microcomputers, which were very different from the now familiar PC. This could be identified as the initial thrust towards the development of Computing at Colombo University (Reeves, 1985; Samaranayake, 1984; 1997b; Samaranayake and Abeysekara, 1985a; Samaranayake et. al, 1985a)

The single University established in 1972 was now working on new courses and one initiative introduced in both Colombo and Vidyodaya was the Development Studies degree programme that replaced the General Arts degree at these two campuses. This new course had a Foundation year with Mathematics, General Science, and English as some of the subjects. This was followed by three more years of study in employment oriented job-streams such as Statistical Services, Fisheries and There were also separate degree level courses in Taxation, Estate Management, Valuation and Education. These courses were formulated in consultation with the state agencies and the private sector but unfortunately the very agencies which spoke of a demand refused to employ the graduates when they were produced. A classic example was the 700 students admitted for a BEd course to produce teachers. These students were told, even before they graduated, by the very Ministry of Education which wanted them trained, that they would not be absorbed as teachers. My view at that time was that, politicians did not want those coming out of universities employed as teachers! A similar fate awaited those who opted for some of the other courses.

I had contributed towards the planning of the Development Studies Course and took a personal interest in the Statistical Services job stream. I was therefore determined to ensure its success. The Mathematics Department at Colombo assumed the responsibility of handling this job stream, and our staff including Dr. Roger Stern delivered lectures in the programme. Computing was a major component and there were practicals and project work. One such project was the study of the student reaction to the course itself and resulted in a joint paper published by a student, a staff member and myself (Samaranayake, Abeysekara, and de Silva, 1979). The student was Indralal de Silva, who having equipped himself with a Ph.D. is now a Professor of Demography at the Colombo University. Other students who followed this course include Dr. Lakshman Dissanayake also of the Demography Department and Mr. ST Nandasara of the UCSC who now has an extensive knowledge of IT. It is a pity that such an initiative had to be abandoned after a few years as the tendency was to move back towards the old structure of the Faculty of Arts. The new Government of 1977 would have nothing to do with whatever initiatives (political or otherwise) that were taken during the previous regime, and thus ended this exercise on university reforms.

With the re-establishment of the University of Colombo in 1979 and the return of the traditional courses, we continued to provide support to other Faculties. The

Mathematics Department conducted the first year Mathematics course to the Arts Faculty and also conducted computing courses to the final year students in the special degree programmes in Economics, Sociology and Geography. Having taught the introductory Mathematics course for Arts students I realised that this type of course should be delivered by an experienced teacher and not by a recent special degree graduate. I found the ideal lecturer in Mr. C.M. Weeraratne who was an excellent Mathematics teacher at Ananda College. Although he was not a graduate he was appointed as a Visiting Instructor and did an excellent job in making the students understand and appreciate the beauty and value of Mathematics.

As was the case with the Statistical Unit, the Colombo Campus took the initiative to set up a Demographic Training and Research Unit (DTRU) in the seventies. I was a member of its Advisory Council at its inception. The idea came from Prof. Laksiri Jayasuriya the then Dean of Arts but the first Director was Prof. A.D.V. de S. Indraratna. The funds came from the UNFPA and this contributed to the major difference between the DTRU and the Statistical Unit. UN funding was lavish unlike the British funding received by the Statistical Unit and catered to international consultancies and training. Neither the donor nor the recipient was interested in institutional linkages leading to sustainability after the end of donor funding. Fortunately, some of the younger staff have kept the DTRU going and recently they have been able to obtain departmental status. In contrast the British Council funding for Statistics resulted in a link between Colombo and Reading which has a history of over 25 years of collaboration, even after the modest foreign funding ceased.

In 1976, the then Government requested the Vice-Chancellor of the single University, to acquire the Sri Palee Institute of Fine Arts established by Mr. Wilmot A. Perera. I was the Chairman of a Committee appointed to make recommendations. Our recommendation was to make this excellent site for aesthetic education the nucleus of the Institute of Aesthetic Studies which already existed as part of the single university at two locations in Colombo. This recommendation was implemented but the staff were reluctant to operate from Horana as most of them had their "private practice" in Colombo. The site then became one of the many affiliated University Colleges with no success. Today this institution has become the Sri Palee Campus of the Colombo University catering to 60 students following a specially designed degree course in Aesthetics. I was glad to have had the opportunity of serving in the Board of Management of this Campus more than 20 years after my first involvement with Sri Palee.

I was elected Dean of the Faculty of Science at Colombo in 1975, succeeding Prof. T de S. Mutukumarana. I continued as Head of the Department of Mathematics as well for some time. In mid 1978 Prof. P. W. Epasinghe joined us from Vidyodaya, and he took over the responsibility of being the Head of the Department of Mathematics. Colombo Campus has had no new buildings since the inception of the University of Ceylon in 1942 except for the New Arts Theatre built in 1963 to cater to the new Arts Faculty and the Biology Building built in 1976. The latter was



a result of a decision of Heads, on an initiative of Prof. Raja Fonseka of the Botany Department, to pool the funds allocated for extensions to existing buildings for the construction of a larger building of a permanent nature.

VI The New Universities act of 1978

In January 1979, with the introduction of the new Universities Act of 1978, the University of Colombo was established. As Dean, I worked with the new Vice-Chancellor, Prof. Stanley Wijesundera on a building programme for the Faculty. A UNESCO workshop had already identified the requirements and divided the Colombo Campus into zones, one for administration, one for Arts and Law and one for Science. Architects were selected for each zone and new buildings were planned for Chemistry, Physics and Biology. Each department agreed to shift to other locations as needed to demolish the temporary structures and in this spirit the Physics Department was housed in the new biology building. The Mathematics Department including the Statistical Unit was to occupy the main building and no new building was planned for them. The foundation for the five storied Chemistry building was laid in late 1979.

The Faculty of Science took the initiative to introduce a course unit system in the late seventies. After a series of workshops, the course structure and the corresponding examination scheme was agreed on, approved by the Faculty and Senate and introduced with effect from 1979 (Handbook of the Faculty of Science 1976, 1979, 1984, 1991). I must record here the invaluable assistance I received from the Heads of Departments and the academic staff, and particularly from Prof. K.D. Arudpragasam, then Professor of Zoology. This changed the existing 1+2 General and 1+3 Special Degree programmes to a 2+1 General and 2+2 Special Degree programmes. The third year general course consisted of 9 course modules and gave much flexibility. There was a possibility of taking all nine modules from Chemistry. Subsequently in 1985, the very popular Management Unit was introduced as a third year option to all Science students on the recommendation of a faculty sub-committee headed by me. This sub-committee sought the views of the private sector extensively, before designing the course.

VII Other academic involvements:

With the formation of a new government in 1972, several progressive university academics began a programme to provide university education to trade union members who for various reasons, mostly economic, had no opportunities for higher education. The Government recognised this effort and a programme of Workersø Education that began in the early seventies, in an ad-hoc manner at Colombo and Peradeniya was given the status of an Institute of Workersø Education (IWE) in 1975 with the publication of a Gazette notification. As a member of World University Service (WUS) Sri Lanka, I was associated with this activity. Prof. Osmund Jayaratne who headed the organisation before it became an Institute was to

be the Founder Director. As ill health prevented him from doing so, I was requested to be the first Acting Director of IWE. In this capacity, it fell on me to establish the IWE and organise its administration and academic programmes including the rules and regulations for the award of diplomas and degrees in Labour Education (Non-Formal Education 1975; Samaranayake 1975, 1976a, 1976b).

The Institute of Aesthetic Studies and the Institute of Indigenous Medicine were two other Institutes which became part of the university system. The staff of these institutions were mainly non-graduate professionals and were placed on their previous salary scales. There was naturally a demand from them for University salaries. I was requested to head two different committees to recommend their absorption to the university system. On the recommendation of these committees which I chaired, university posts were created as in other Faculties and Institutes, and the same salary schemes were applied placing each and every member of staff on appropriate salary points.

I became the President of Section E of the Sri Lanka Association for the Advancement of Science in 1978. In my Presidential Address in December (Samaranayake, 1978), I was critical of the way New-Mathematics was introduced to the school curriculum and of the University admission system that was tied to the GCE AL examination where many students were resorting to tution. I proposed a two tier admission system and although this is considered suitable by many, no person or government has yet had the courage to introduce such a scheme. The nearest we have come to is the introduction of a Common General Paper in year 2000. In late 1979 I went on sabbatical leave and devoted much time and effort to the study of university admissions systems the world over (Samaranayake and Weerasekera, 1985; Samaranayake, et al. 1985b). My association with the SLAAS was re activated in their Golden Jubilee year, 1994, when I became the General President (Samaranayake 1994a, 1994b, Samaranayake and Seneviratne 1994)

As Dean/Science of the University of Colombo, I was responsible for the holding of practical examinations for the GCE AL Examination of the University of London for students from Sri Lanka and the Republic of Maldives who sat the examination in Colombo. In 1982, there was a request from the Government of the Republic of Maldives that the examination should be conducted in Male, their capital and I was asked to report on its feasibility to the GCE AL authorities in London. I visited the three schools which had AL classes in Male and found that the only available examiners were from these schools as there was no University in the Maldives. As such they could not examine their own students. However I recommend that the practical examinations could be held in Male at the Science Education Centre with the local Examinations Department handling the paper work of registration etc. The University of Colombo was to send Chief Examiners from Colombo to conduct the examination with the assistance of the local staff until they were available in sufficient numbers. This was accepted by all parties and from the next year a team of Professors from the Faculty visited Male annually to conduct the examinations.

Subsequently, the responsibility was handed over completely to the teachers in Male.

VIII. Non-academic Activities

In the early seventies I had the opportunity to be associated with the activities of the World University Service (WUS), an international organisation of university staff and students established after the war as European Student Relief and was expanded later. I was active with the Colombo campus branch and later became the Treasurer of the Sri Lanka Chapter. In 1974, I was elected as the Committee Member representing Asia in the International Executive Committee for the period 1974 to 1976 and subsequently as the International Treasurer from 1976 to 1978. Sri Lanka hosted a regional Conference on Non-Formal Education (Non-Formal Education 1975) and the International Assembly in 1978. I once again served in the International Executive Committee from 1982 to 1984. The WUS initially helped to raise funds to assist in the rebuilding of universities damaged by the war and later universities in developing countries. Thus the support of black students in South Africa under Apartheid and Rhodesia after the Unilateral Declaration of Independence was undertaken by WUS as direct government to government support was not available. Thousands of students in these countries and the rest of Africa and Latin America benefited from this assistance. In addition student welfare facilities were provided by WUS, particularly to University hostels and Student Centres.

This phase of student welfare gave way in the seventies to social action where projects involving staff and students helping the community were supported. Finally, in the eighties, social action gave way to academic freedom and solidarity. In the seventies, WUS assisted the Institute of Workersø Education and the technical training initiative of the Moratuwa WUS. My association with the International WUS gave me an opportunity to work with people such as Bishop Desmond Tutu and acquire hands on experience regarding international aid and project evaluation. As International Treasurer, I was on the side of the donor and had the opportunity to know at first hand what the donor looks for in a project. This definitely helped me in my successful negotiations with the UK, Japan, Sweden and several International agencies later on.

IX. Computer Education

In 1980 the Statistical Unit obtained a mini computer on rent to undertake a major Statistical Consultancy Project. This machine was replaced in 1981 by a Data General Mini Computer with funds coming from the Netherlands University Fund for International Coorperation (NUFFIC), the University Grants Commission (UGC), the annual Grant to the University and the earnings of the Statistical Unit. This Computer was extensively used for teaching and consultancy work which included a major network analysis project for the International Telecommunication Union and the processing of University admissions for the UGC. In 1982, we also received our first BBC Microcomputer an eight bits machine running structured

Basic. The machine was developed by the British Broadcasting Corporation for their Computer Literacy Programme introduced at low cost, with colour, sound and data storage on audio cassettes and floppy disks. This machine provided many possibilities and I volunteered to assist the Commissioner of Elections and Rupavahini to help them with the processing and release of the results of the 1982 Presidential Elections using the machine. On our proposal being accepted after several demonstrations, we air lifted three more computers and floppy drives. These arrived on the morning of the elections and the software was developed till then on the single machine we had with an audio cassette drive. The release of results was completed with great satisfaction and the whole country knew of us. This led to our equipping a laboratory with 30 BBC computers which were networked to a file server. Eighteen years later we are still providing this service in a much improved manner to the Commissioner of Elections and to the media including Rupavahini and the Internet (Samaranayake 1997b).

In 1982 the Statistical Unit launched three certificate programs held during the weekends, two using the Data General machine and the other using the BBC lab. These six month programmes introduced computing to many who were able to thereafter embark on a career in Computing. About this time, the staff of Colombo and Reading together with a statistician from Mauritius developed a statistical package for the BBC called INSTAT (Samaranayake and Abeysekara 1985a, 1985b; Samaranayake et al. 1985c). This was extensively used in the Regional College on Statistical and Computing Methods in Data Analysis conducted by the Statistical Unit in 1984.

In a parallel move, the Ministry of Education too was keen on introducing Computers to schools. Several schools were selected and teachers were trained by the Universities of Colombo, Peradeniya, Moratuwa and DMS Electronics. BBC and Commodore microcomputers were selected and were distributed to several schools. Unfortunately, in most cases the school Principals feared that these computers would be damaged by use and kept them under lock and key discouraging their use! The students too did not see any advantage in sacrificing the time they had to study for the competitive AL examination for the study of computing. Over 700 computers were distributed in a second phase but the programme never took off. Later on the Ministry of Education changed the programme by establishing Regional Computer Centres which could operate independently on a self supporting basis to provide computer training to students of the neighbourhood (Samaranayake, 1988, 1989).

In 1983 the International Labour Organisation prepared a report on a Computer Policy for Sri Lanka (ILO Report 1983). This recommended that assistance be sought from donors for a study on Computer Education in Sri Lankan Universities. Accordingly, Prof. Colin Reeves of the University of Keele, UK visited Sri Lanka and submitted a comprehensive report (Reeves 1985). Prof. Stanley Kalpage, who was both the Chairman, UGC and the Secretary/Higher Education accepted the

recommendations for implementation, and with support from the British Council launched a programme monitored by the Sri Lanka Inter University Committee for Computing (SLIUCC). Funds were made available for the establishment of a Computer Centre in each University, training of teachers who could teach the subject of Computing and for several workshops that produced teaching material. Thus began computing at most universities. In the Universities such as Colombo, Peradeniya and Moratuwa where facilities were already available, this programme helped to establish new departments of Computer Science/Engineering and to expand Computing facilities to the whole university.

I revisited the ICTP in Trieste in 1983 and took part in the College on Microprocessors conducted by a team of specialists from the European Nuclear Research Centre (CERN). During this period I made arrangements to hold this College in Colombo as the Asian Regional College on Microprocessors for 70 participants with a 20 member faculty. Together with Prof. Luciano Bertocchi of ICTP, I was able to raise \$140,000 required to run the course and handled most of the logistics from the University of Colombo which was designated the organiser.

In late 1983, Dr. Mohan Munesinghe, Energy Advisor to H.E. the President handed me a draft proposal for the establishment of a Computer Training Centre, and the proposal was submitted to the Japanese Government for funding. This was done in early 1984 and I visited Singapore and Japan under the auspices of JICA for further discussions. After several drafts, several missions and much paper work, the Japanese Government agreed to provide Project Type Technical Co-operation to the University of Colombo for the establishment of the Institute of Computer Technology. The Government of Sri Lanka which gave this project priority status provided funds for the Building. The Record of Discussion was signed in March 1987 and the project commenced on 1st April 1987. Eight experts arrived in August 1987 and were housed at the BMICH as the building was not ready. Staff were recruited and sent on training programmes to Japan. On their return, the curriculum was prepared and classes commenced in 1989 for the Postgraduate Diploma in Computer Technology which was meant to convert graduates of other disciplines into IT professionals (Samaranayake, 1997b).

In 1985, the Department of Statistics and Computer Science made a request for assistance to introduce a Masters Degree programme to provide computer professionals already in employment an academic foundation and technical update. This project was accepted by UNESCO for support through the UNDP Country Program. US \$ 500,000 was provided for equipment, staff training and visiting staff. A link arrangement with the Department of Computer Science of the University of Wales at Cardiff provided the technical expertise. Very similar to the Colombo-Reading link of the seventies, this link too provided visiting staff who delivered lecturers to the first batch and trained the counterparts who took over. The project was considered to have had excellent progress and at the mid-term review the budget was doubled to provide for more equipment.

The Statistical Unit organised the Course on Statistical Data Analysis in collaboration with the Department of Applied Statistics of the University of Reading from December 1984 to January 1985. On January 1st, the New Department of Statistics and Computer Science (DSCS) was established with the staff of the Statistical Unit forming the core. Dr. Savitri Abeysekera functioned as Head for a very short time and then I moved out of the Mathematics Department to be the next Head of DSCS.

X. Information and Communications Technologies

In 1984, the Government of Sri Lanka entrusted a committee headed by Dr. Mohan Munesinghe to prepare a Computer Policy for Sri Lanka. I was a member of this committee and our proposals (Report of the National Computer Policy Committee 1983), resulted in the Computer and Information Technology Council (CINTEC) Act No 16 of 1984 (CINTEC 1984) and the formation of CINTEC with Dr. Munesinghe as Chairman. With Dr. Munesinghe returning to the USA a few months later, I was entrusted with the task of establishing the Council on an operational footing as its Acting Chairman (Samaranayke, 1986, 1990a; Samaranayke and Siriwardena, 1987).

CINTEC established several committees to work on the various recommendations of the Computer Policy Committee (COMPOL) report which contained the initial computer policy of the government. The salient committees were on Law and Computers, Computer Education and the use of Sinhala and Tamil in IT (Samaranayake 1991, 1992a, 1998c, 1998d). The importance of standards for the character code and the keyboard layout for Sinhala was recognised by CINTEC and very soon a keyboard layout was developed for the electronic typewriters which were then popular, based on the existing Wijesekera Keyboard standard for Sinhala typewriters. This was approved by the cabinet of ministers and became the accepted standard. In parallel, work progressed with the collaboration of the Natural Resources and Energy Authority of Sri Lanka to identify the characters of the Sinhala alphabet and also the alphabetical order. While this work was going on, we were made aware of proposals before the Working Group on the ISO 10646 standard for a Sinhala character code. This proposal presented by foreign experts contained characters not in use for centuries and the mutilation of our standard character set with an attempt to standardize on an indic script group. This meant the), absent from all indic scripts. We omission of the characters () and (immediately stopped this exercise of the ISO who were also joined by the UNICODE consortium by notifying them through the Sri Lanka Standards Institute (SLSI) and work on our own code was accelerated. The Sri Lankan standard was finally approved in 1999 and after a series of presentations to the ISO/UNICODE working groups, the code page OD80 for Sinhala in the ISO 10646/UNICODE standard was approved in 1999. In this work, the University of Colombo played a major role with the active involvement of Prof. J.B. Dissanayake, Mr. S.T.

Nandasara and myself (Samaranayake and Nandasara 1990, 1997a, 1997b; Nadasara et al. 1997). It should be noted that similar work for Tamil had already been completed by the Indian Government.

My association with CINTEC allowed me to provide programmes to create computer awareness among the public both in the cities and the rural areas. The mobile computer laboratory commenced in 1987 in a bus donated by the Petroleum Corporation with a network of computers donated by the British Council. The running costs were made available with the income generated by a grant of Rs. 500,000 from the Mahapola Trust. The bus was a regular feature of Mahapola and Gam Udawa exhibitions and the Presidential Mobile Service. It also visited schools particularly on their science day or for science exhibitions. All this was done at absolutely no cost to the school. In 1992 when I ceased to be the Chairman, CINTEC, the operation of the bus also stopped and with the assistance of the ICT, I was able to operate this very useful programme until I returned to CINTEC in 1994 and took back the operation of the Bus (Samaranayake 1998a, 2000b).

Another initiative was to send a team to the International Olympiad in Informatics. This competition in Computer programming lasting two days of five hours each for those under 20 was promoted by UNESCO. As we had joined the UNESCO Intergovernmental Informatics Programme in 1985 when I represented Sri Lanka at the inaugural meeting, we were duly notified of this initiative. We sent our first team in 1992 but our first win was a Bronze in 1993. In 1994 we won a silver and in 1995 a Gold. The tally in eleven years upto now is two golds, five silvers and ten bronzes. This as well as the South East Asia Region Computer Confederation (SEARCC) International software competition to which a team is sent annually by the Computer Society of Sri Lanka has not only provided an opportunity for our youth to compete internationally but also to show to the world at large their capabilities. The winners at these competitions have been able to obtain scholarships for further study in Computer Science at prestigious universities in the USA. A national competition, Sri Lanka National Olympiad in Informatics (SLNOI) was launched a few years back so as to prepare rural children for these competitions. The University of Colombo has contributed much to the success of this programme by providing the necessary training to our national pool.

Year 1999 was dominated by activities relating to the preparations to face the threats from the Y2K problem- inadequacy of some of the older computer systems to accommodate the changes due to the arrival of year 2000. The National Y2k task Force was headed by me and consisted of a group of devoted professionals. With some assistance from infodev of the World Bank all necessary steps were taken to proven any calamity due to the Y2K. What was most important was not necessarily the problem itself, but the need to be confident so as to convince the many commercial partners overseas such as the garment buyers, that sri lanka would not be affected. His we achieved with great success.



XI. International Recognition for computing at Colombo

The Institute of Computer Technology (ICT) was established in 1987 on a proposal made by Dr. Munasinghe as Chairman, CINTEC. The ICT soon became the base that provided the necessary infrastructure for a rapid development of the University of Colombo as an internationally recognised IT Centre. The powers and its administrative structure of the ICT were determined by the ICT Ordinance No. 02 of 1987 which provided much flexibility in administrative and financial matters. Managed by a Board of Management (BOM) the ICT could receive funds direct from the UGC and be audited separately from the main University. On a decision of the BOM, the building and equipment was insured and thus the damage caused from two bomb blasts in the vicinity could be repaired under insurance cover. The staff too, both academic and non-academic worked as a team with devotion and purpose. Bureaucracy was minimal and the Institute was kept clean and to international standards. This flexibility helped the ICT to establish its own consultancy arm the Computing Services Centre (CSC) in 1991, on the approval of the University Council. This allowed the ICT to utilise the human as well as material resources of the ICT as well as the Department of Statistics and Computer Science (DSCS) of the University to provide a consultancy and training service to the outside world. The funds thus generated were utilised to supplement the almost negligible equipment grant received from the UGC and also meet part of the cost of utilities. In addition, this scheme allowed our staff to undertake assignments after hours as part of the CSC rather than undertake individual consultancies as is the case with some of the other academics. At a time when IT professionals are earning six digit salaries, this scheme provided a way of compensating for the relatively low salaries paid to our staff and thus minimising the brain drain (Samaranayake 1990b). This also resulted in activity at the ICT round the clock on all seven days of the week.

The teaching programs of the ICT expanded from the original full time Postgraduate Diploma to commence three certificate courses and a part-time Postgraduate Diploma. Simultaneously the CSC introduced a large number of short courses to meet the ever increasing demand for state of the art training programmes in IT. Software development of Sinhala and trilingual products such as Wadantaruwa and Sarasavi were undertaken and released to the market. The tradition of assisting in the release of election results that began in 1982 was continued with the CSC being the supplier of the service. Today the CSC provides a service to assist the count at district level, the transmission of results to Colombo, the processing of results in Colombo and the release of results to the media through the Information department, Rupavahini, Sri Lanka Broadcasting Corporation (SLBC) and the Internet in all three languages. For sometime in the past CSC also provided a service to Rupayahini to telecast sports events such as Cricket, SAF games and even the programme parade. More recently the CSC has been actively involved in the weekly live radio (SLBC) programme on the use of Internet and a similar programme on Rupavahini (Nadasara et al. 1997; Samaranayake and Nandasara 1997a; Samaranayake 2000b).

The University of Colombo has always worked in collaboration with other universities and our support to establish and develop the Lankan Educational and Research Network (LEARN) initiated by the University of Moratuwa was one good example. This commenced with a store and forward e-mail facility operated by Dr. Abhaya Induruwa and his staff at Moratuwa. One of the staff members was Dr. Gihan Dias who was pursuing his Postgraduate studies in USA. He is the present LEARN Technical Manager. The network now provides a very useful service of email and internet access to the whole university system and is managed by a Board of Management chaired by the Vice-Chairman of the UGC. The ICT is responsible for the administrative and financial aspects of LEARN while the Technical Unit is situated at Moratuwa. A recent grant from the Swedish International Development Agency (Sida) has allowed us to improve the internet connectivity and inter university communications. This is a vital resource for the whole university community and it is important that this is further improved in a truly co-operative manner so as to reap the benefits of e-learning including video conferencing, remote learning and access to the vast international resource of knowledge (Samaranayake 1997a, 2000b).

The pioneering work in establishing *Kirana*, the community Internet facility with the web page had the technical support of the ICT/CSC. A collaborative effort of UNESCO, Ministry of Posts and Telecommunuications, SLBC, the Journalism Unit and the ICT/CSC of the University of Colombo, this project provides internet technology to facilitate the Community Radio Service at Kotmale. This project has received much commendation from many quarters including the Time magazine and has already received several awards (Samaranayake 1999a, 1999b). This is a very good example of multi-disciplinary co-operation and contribution to the society at large. A similar collaboration between the ICT and the *Sarvodaya Shramadana Sangamaya* to establish Multi-purpose Tele-Centres at Sarvodaya Community Development Centres across the country is awaiting funding. The first such centre that had functioned for some time as a pilot study was formally inaugurated on 1.9.2000 at Kuruwita and provides a variety of services to the community (Samaranayake 1998b, 1999a, 1999b, 1999c, 1999d, 2000b). At present there are eight such centres established in different parts of the country.

In 1993, JICA provided support for the ICT to conduct a Third country Training Programme in IT for the benefit of 20 participants from the region. This six week residential course was conducted by the ICT at the ICT building with its own staff and equipment and was funded by JICA. The rationale was that it was much more expensive for the Japanese Government to conduct such a course in Japan and an institute such as the ICT established with Japanese Government funds should be equipped to do so. This course specialising in Systems Analysis and Design Methodologies was conducted for five years and was then replaced by a Course in Software Engineering in 1998 to be conducted for five years from then. A similar programme supported by the Commonwealth Secretariat on Audit and Control in a

Computerised Environment was conducted at the ICT in 1995 with the assistance of Coopers and Lybrand. This course was also repeated in the Maldives (Samaranayake 1997b). In 1997 the ICT negotiated with the Republic of Maldives to conduct a one year Diploma programme on IT for their governmental staff with the sponsorship of the Commonwealth Secretariat and the World Bank. Two representatives from the Kingdom of Bhutan too followed this course in addition to 31 from the Maldives. In 1997, JICA presented its President's Award to the author for his contribution towards international co-operation. This was followed by the presentation of the JICA President Award for the best Project given to the ICT in 1999 for its Third Country Training Programme.

In late 1998, an application was made by the ICT to Sida for supporting ICT/DSCS staff to obtain postgraduate qualifications. The Asian Development Bank sponsored Science and Technology programme had already agreed to fund some but there was a need for more. At the same time a request to improve the LEARN network was also made. These projects were accepted with the Ph.D. programme being extended to several universities. The overall project is being administered at the Sri Lanka end by the ICT (Samaranayake, 2000a).

In recent years the global demand for graduates with IT skills has increased exponentially and the output of the university system was woefully inadequate (Samaranayake 1992b). On the other hand, producing a graduate is no easy task and requires much resources which even the private sector is reluctant to invest in. With pressure for the software developers mounting, Dr. Ajith Madurapperuma of the DSCS proposed the launch of a graduate training programme by the CSC/ICT to cater to this need by a short term intensive course in currently required IT skills for recent non-IT graduates. This commenced with a batch of 40 in 1998 and their fees were supported through a loan scheme introduced by the Peoples' Bank. The IT industry helped to interview the prospective students and also witnessed the project presentations after the conclusion of the course. All were employed within a short period at high salaries. Several such batches have completed their course and are now employed. The demand was so high that some are offered employment even before they complete the course. This was a self sustained programme that had no burden on the CSC or on the University (Samaranayake 1997b, 2000b). With the current expansion of computer science training in universities both public and private including the UCSCos own external degree BIT, this programme was discontinued recently, having fulfilled a need for several years.

The above initiative has had several benefits other than providing employment with very high emoluments to many graduates from the University of Colombo as well as other Universities, who had not specialised in Computer Science as a subject. The very realisation of possible employment changed the attitudes of these students and they were able to understand the need for skills such as communication. There was a total transformation of their personality and even the industry representatives who took part in the initial selection process were astonished to see the output four

months later. This clearly proves that the major cause of unemployment of graduates is not the fault of the student but of the system. Authorities have given in to pressure to admit more and more students to universities to cater to the ever increasing numbers sitting and qualifying at the GCE AL examination which is not a university admission test. It is the end of the Secondary School Examination. The easy way to create places for increasing Student numbers was to expand the Arts based Faculties and provide these students with a type of education which was meant to produce the limited number of graduates needed during our colonial past. We are still continuing with a very British system that existed decades ago. Most countries including Britain have changed their educational system but we are still very reluctant to make changes to our educational system. Some initiatives have been taken and the proposed educational reforms have provided some very important solutions (Samaranayake 1999c).

Todayøs graduate needs to fit into current requirements and also should be ready to adapt to the future needs. The state sector is not necessarily the major employer now and the private sector looks for different attributes. Furthermore, there is also a need for communication skills and IT skills. This is different from the skills in software development needed by the IT industry. Even professionals such as Lawyers, Accountants and Doctors need IT skills. Thus these skills have to be acquired by the undergraduates. The provision of such skills should lie primarily with the respective faculties with advice being sought and received from the IT specialists. This was in fact partly achieved in the seventies with the Development Studies degree programme but as stated earlier, the whole programme was discontinued. The Campus network is now nearing completion. The proposed allocation of state funds to the value of Rs. 1 Billion in year 2001, which has been declared as the Year of IT Education, should be utilised to provide these facilities so as to make every graduate skilled in IT or at least computer literate. This would in turn change the attitudes of all undergraduates and make them use their stay at the University more meaningfully than at present.

The need for IT graduates made us explore ways and means of producing the large numbers needed. The traditional universities had no resources or even the space to produce thousands overnight but their own graduates were assured of employment. On the other hand the private sector programmes had no standard nor any credibility. The solution was to provide a standard curriculum and an acceptable certification. Much funds were being sent overseas for foreign examinations and this too could be retained if a solution could be found. The staff of the UCSC developed an External degree programme of three years duration leading to a Bachelor of Information Technology (BIT) which was made deliberately different from internal courses so as to avoid direct competition. As is the case of all external degrees, the curriculum, the examinations and the award of certificates and degrees is the responsibility of the UCSC with the approval of the Senate of the University of Colombo while the provision of training is left to others with also the possibility of self study. This initiative would, over the next few years provide the manpower

required by the expanding IT industry while at the same time providing employment opportunities to many of our educated youth. (Samaranayake, 2000b)

XII. The New Millenium

The arrival of the IT revolution was not at all clear in 1950 nor in the next few decades. However, it is clear that Information and Communication Technologies which has already pervaded almost all disciplines would dominate the next century together with other new technologies such as bio technology and nano technology. Hybrid disciplines such as bio-informatics would also dominate. The gradual development of computing at Colombo University culminating with the establishment of UCSC in 2002 with its expertise and equipment bringing it to the level of an internationally recognised Centre of Excellence, has allowed us to meet the changing future needs of these technologies. Such a Centre of Excellence cannot live on its past and needs to be always ready for future developments. Accordingly, a Multi Media Training, Research and Development Centre and several other initiatives such as e-Learning have been launched in the new Millenium.

The success of the BIT program immediately attracted donor assistance to provide for learning resources to the thousands of external students registered for this programme. This was indeed a win win situation where a quality degree recognised by the industry was offered by the university of Colombo with the curriculum developed by the highly qualified staff of the UCSC while the students who were unable to enter university or enter the high demand courses in Computing could aspire to be an IT graduate. The learning resources however were scarce at the beginning but with the use of the web and the national TV, these improved. With three years of experience behind us, the UCSC with the able support of Sida and JICA are now embarking on introducing e-Learning resources including a Learning Management System (LMS) for the thousands of BIT students. It was heartening to know that already, final year students are applying for employment in the IT industry and are being identified as very suitable for the industry.

XIII. Conclusion

I have attempted to record from my personal recollection some of the important events which have taken place in the field of education during the last fifty years. Some aspects have not been considered at length due to lack of space but will be elaborated in an expanded work, to be published in the near future. I hope that this paper will help the reader in utilising our past experiences towards evolving a long term plan for human resources development to meet the changing needs of the nation.

I have retained my substantive post at the University of Colombo commencing from my first appointment in 1961 in spite of my major responsibilities at Vidyodaya Campus (1972-73) and at CINTEC (1985-1992 and 1994-2000). I believe that I have been able to contribute much to the development of the University of Colombo while

at the same time expanding my own horizons and experience. The decision to retain my post at Colombo University and my membership and active interest in professional associations has helped me to withstand pressures from others outside the University system and retain my independence. This has helped me to acquire a balanced attitude towards developmental issues.

Throughout my university career, I have maintained a policy of not undertaking any private consultancies and channelling all such activities through the university, thus helping the development of university facilities and creating an additional source of income for all staff. This has resulted in the collective development of our resources for the benefit of all.

I have also looked at the University as a whole and contributed to the overall development of the University in whatever way I could. The considerable achievements made by all of us at the University of Colombo during the past were the result of hard work, co-operation, support for genuine initiatives of those who took independent decisions purely on merit and above all their sincere intentions to contribute to the progress of the nation.

In conclusion, I wish to thank our immediate past Vice-Chancellor, Prof. Savitri Goonesekere for the encouragement she gave me to write this paper in the year 2000 for the Millennium Issue of the University of Colombo Review. As there was a delay in publishing, I was requested by the editors to bring the paper upto date and thus this is a version that includes more recent developments upto the end of 2004. I also wish to record my appreciation of many who have associated with me during the past to make our efforts at the University of Colombo meaningful and effective. The next five decades would certainly be very different from the last five, but there are many lessons that we have learnt that would help the future generations to overcome the challenges of their time. May this contribution be of some help to those who would care to look back before re-inventing the wheel.

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