NATIONAL SCIENCE AND TECHNOLOGY COMMISSION

DRAFT ANNUAL REPORT 2004

'towards the enhancement of well being and prosperity of Sri Lanka through the potential of Science and Technology'

March, 2005

A NASTEC Secretariat publication (NSTC/05/MISC/02)

General Editor: M.C.N. Jayasuriya

Assistant Editor: Amali Disanayaka

Financial data and graphics:

Hasitha Serasinghe Thushari Jayasooriya

320, T.B. Jayah Mawatha, Colombo 10

Tel: 2685141, 2687724/25; Fax: 2683755

E-mail: nastec@sltnet.lk Website: http://www.nastec.lk

ABOUT US

The National Science and Technology Commission (NASTEC) was created by the Science and Technology Act No. 11 of 1994 and came into operation in August 1998

It was formally inaugurated on 06 December 1998 and became a functional institute in January 1999

NASTEC has been designated as the Apex Policy Formulating and Advisory body on Science and Technology matters to the Government of Sri Lanka

The six Members of the Commission and the Chairman are appointed by H.E. the President of the Democratic Socialist republic of Sri Lanka.

NASTEC fulfills a need that has been highlighted for a long time by the Sri Lankan scientific community, the establishment of a policy formulating apex body of scientists

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OUR VISION

"..... to enhance the well being and prosperity of Sri Lanka through the potential of Science and Technology"

OUR MISSION

"...to furnish the Government with policies, plans and mechanisms for building a national capability in Science and Technology, and utilizing scientific personnel and institutions to promote national economic development with respect and regard for humanity and environment..."

Chairman's Message

It is never easy to don the mantle of illustrious predecessors: the founder Chairman, Dr. R.O.B. Wijesekera, followed by Prof. Tissa Vitarana, today the Honourable Minister for Science & Technology. Having been myself a founder member right from the Commission's inception will nevertheless ensure a certain continuity in my efforts to be attentive to the needs and ambitions of the scientific community at large.

NASTEC's task of being primarily a consultative body has been pursued under the able and dynamic impetus unstintedly provided by the Director/CEO Dr. M.C.N. Jayasuriya. The several fora and panels, some on-going, as well as the latest biennial gathering, BICOST-III, are reviewed in the Director's report.

It is a truism to declare that scientific underdevelopment is due to an inadequate funding of science, but quite another exercise to come up with the funds in a manner befitting the economic plight of a country and yet satisfying the desires of researchers and technologists who are the principal actors. To what extent will pre-evaluation stifle innovation? How many are concerned with the scientific audit that comes after a feast? Where does the quest for national self-reliance end and the lure of quick returns begin?

That was surely what my immediate predecessor, Prof. Vitarana, had in mind when, in response to a timid appeal of the scientists of a leading institution he rightly castigated the concept of cost recovery, eagerly sought by the proponents of insidious privatization now crawling out of the woodwork, even in the Universities.

We are today in the aftermath of the worst natural disaster that has befallen us within living memory. Understandably, much heart searching is expected. What should have been done? Who should have done this or that? Where did things go wrong? The question that goes abegging is, however, can the great majority of scientific institutions cope in any way with the mentality of a service station bequeathed to us from colonial times?

Prof. A. Kovoor

Director's Report

I am pleased to present the year 2004 Annual Report of the National Science and Technology Commission (NASTEC), for the 5th consecutive year. Having functioned as the CEO for the last 4 years, I have seen NASTEC grow from 'infancy' to 'maturity', ready to bear fruit.

Looking back at activities of the past year, the most significant was the Third Biennial Conference on Science and Technology held at the BMICH, Colombo from 16-19 September. The Conference under the theme 'Science and Technology Strategy for National Development' was once again a landmark event in the history of S&T in Sri Lanka. The apex S&T body and the key conference of the year were able to attract unique combination international scientists, politicians administrators (see page ... for highlights of the Conference). Hon. Mahinda Rajapakse, the Prime Minister of the Democratic Socialist Republic of Sri Lanka was the Guest of Honour; Her Excellency Chandrika Bandaranaike Kumaratunga, who was invited as the Chief Guest was unable to attend the occasion due to unavoidable circumstances, but sent her felicitations and best wishes for the success of the Conference.

The Conference was also the occasion to felicitate the past Chairmen Commission Members for their support advice, and and as a way commemorating this occasion each member was presented with a memento, an eight inch structure of the NASTEC logo. At the Hon. Minister's dinner held on 17th September. Dr. R.O.B. Wiiesekera. distinguished scientist and founder Chairman of NASTEC was honoured by the various scientific institutions coming Ministry of Science and under the

Technology for his dedicated service to science in Sri Lanka.

The way forward action plan prepared at the Conference will be taken up as the follow-up of BICOST-III. The stage has already been set to initiate a Study Group to develop a National Policy for S&T in Sri Lanka, a major recommendation of BICOST-III, based on a concept paper prepared by the Senior Scientists Forum.

We also had several other workshops, seminars and meetings and were able to initiate a number of policy development strategies, in line with the Corporate Plan 2001-2006, developed in 2001. Although financial resources were limited and the staff miniscule, NASTEC prevailed because of the cooperation offered by the Sri Lankan scientific community who vehemently supported NASTEC's activities.

NASTEC's System of Consultation continued to function during the year 2004. The Young Scientists Forum and the Senior Scientists Forum, the two major fora in the NASTEC's System of Consultation, have been very active during the past year conducting seminars, workshops and other related activities. The details of these activities are reported elsewhere in this Annual Report.

At the request of the Hon. Minister of Science and Technology NASTEC Secretariat was moved to the former Ministry premises at no. 320, T.B. Jayah Mawatha, Colombo 10, during the first week of October. A simple pirith ceremony with the participation of three monks was held to invoke the blessings of the triple gem on the Secretariat and the staff.

Following the move to the new premises the long awaited networking of the NASTEC Secretariat was initiated. The networking has been completed and this is expected to increase the efficiency of the Secretariat when handling correspondence and documentation. The Secretariat has also been provided with ADSL facility so that any interested scientist could surf the web for information at no additional cost.

NASTEC bid farewell to its founder Chairman Dr. R.O.B. Wijesekera in December 2002. In May 2003 Prof. Tissa Vitarana took up the post of Chairman but he too had to resign in February 2004 prior to Parliamentary Elections. Her Excellency the President has appointed Prof. A. Kovoor, Science Advisor to the President and a founder member of the Commission as Chairman from July 2004. On behalf of the staff of NASTEC and the Sri Lankan scientific community I would like to Kovoor as the new welcome Prof. Chairman of NASTEC. Prof. Kovoor needs no introduction to the Sri Lankan scientific community and we hope that he will direct NASTEC in all its future endeavours.

Finally, let me take this opportunity to thank the Sri Lankan scientific community once again for all the help and assistance given to us to take S&T forward. We at NASTEC are committed to assisting the scientists of this country, towards the development of S&T, without which no

country could achieve any significant economic and social development. We not only need committed and dedicated scientists and technologists but politicians with a will to support the development of S&T in the country. In this regard we are very fortunate to have Prof. Tissa Vitarana as our new Minister of Science and Technology. Prof. Vitarana, himself being a scientist is fully aware of the needs of the scientific community. There is no doubt scientists need better that our remuneration, recognition and working conditions. Their efforts must be adequately rewarded and they should be encouraged to carry out research and development work rather than earn money for institutions. They must be encouraged to develop technology and take them to the community, especially at the village level. We are very happy to note that the new Minister has this vision. We not only wish him all the very best towards this new endeavour but will gladly support him towards achieving these goals and objections.

I would like to take this opportunity to pay a special tribute to my staff at NASTEC Secretariat and the Research Assistants for their dedication, commitment and the expertise without which none of the achievements would have been possible.

Dr. M.C.N. Jayasuriya

Commission Members Past Commission – 2003 to June 2004

The First Commission, which was appointed in 1998 and functioned until 2003, comprised of the following Members.

Prof. U.T. Vitarana (Chairman)

Virologist; Director of MRI (1983-1994); Consultant Virologist for WHO; Advisor, Ministry of Science & Technology; Professor of Microbiology, University of Sri Jayewardenepura (from 1995 to date)

Deshamanya Dr. Gamani Corea

Economist; Director, Economic Research, Central Bank (1960-1964); Permanent Secretary, Ministry of Planning & Economic Affairs (1965–1970); Deputy Governor and Senior Deputy Governor of the Central Bank (1970–73); Ambassador of Sri Lanka to the European Economic Community (1973); Secretary General of the United Nations Conference on Trade & Development (UNCTAD) (1974–1984). Chancellor, Open University of Sri Lanka (since 1981).

Prof. (Mrs). S. Jayaweera

Educationist; Professor of Education, University of Colombo (1974-1981); Advisor, UNESCO on Teacher Training and Equal Access of Women for Education Programme, Nepal (1980–1982); Consultant, UNICEF on Teacher Training and Education of Girls & Women, in Nepal (1982–1983); Consultant, UNESCO, UNICEF, UNIDO and ESCAP; Joint Coordinator, Centre for Women's Research (1984); Emeritus Professor of Education, University of Colombo

Deshamanya Prof. A. Kovoor

Professor of Botany with expertise in Plant tissue culture; Research Scientist of CNRS, University of Sorbonne, France; Representative for Cell Biology, 'Comite National de le Recherche Scientifique', France (1967-1971); Presently Science Advisor to H. E. the President of the Democratic Socialist Republic of Sri Lanka

Deshamanya Vidya Jyothi Dr. C R Panabokke

Soil Scientist; Director of Agriculture, Department of Agriculture (1979–1982); Senior Research Fellow, International Service for National Agriculture Research (1982–1983); Irrigation Agronomist, International Irrigation Management Institute (1985–89); Senior Associate IIMI-SLFO (1989-1995); Chancellor, University of Sabaragamuwa (since 1999)

Vidya Jyothi Prof. K.K.Y.W. Perera

Professor of Electronics Engineering; Founder Chairman, NERD Centre (1974-1977); Chairman, CEB (1977-1989); Secretary, Ministry of Power and Energy (1981-1990); President, Institution of Engineers, Sri Lanka (1985-1986); Chairman, Arthur C. Clarke Centre for Modern Technologies (1992-1997); Emeritus Professor, University of Moratuwa; Director, ADB Personnel Development Project.

Present Commission - since March 2004

Deshamanya Prof. A. Kovoor (Chairman) Plant Cell Biologist: Former Director of Research of the French CNRS at the Sorbonne; Elected Representative (1967-1971) for Cell Biology to the French Comite National de la Recherche; Visiting Professor at the University of Havana, Cuba and at the National University of Peruvian Amazonia, Peru; presently Honorary Research Fellow of the IFS and Science Advisor to H. E. the President of the Democratic Socialist Republic of Sri Lanka

Vidya Jyothi Prof. K.K.Y.W. Perera Engineer: Emeritus Professor University of Moratuwa; Founder Chairman, NERD Centre (1974-1977); Chairman, CEB (1977-1989); Secretary, Ministry of Power and Energy (1981-1990); President, Institute of Engineers, Sri Lanka (1985-1986); General President SLAAS (1989); Chairman, Arthur C. Clarke Centre for Modern Technologies (1992-1997); Director, ADB Personnel Development Project (1998-2001), Secretary, Ministry of Power and Energy (2002-2003), Chairman, Arthur C. Clarke Centre for Modern Technologies (2004 to date).

Prof. Nalini B. Ratnasiri

Entomologist: Senior Professor of Zoology, Open University of Sri Lanka (1986 to date); Research Officer in Entomology, Department of Agriculture(1966-1974); Research Officer in Entomology, Forest Conservation Department (1974-1983); Professor of Zoology (1983-1986) and Founder Dean, Faculty of Natural Sciences (1986-1992); Member and Vice Chairperson, University Grants Commission (1993-1994); Chairperson, National Steering Committee on GEF/UNDP Small Grants Programme; Member, National Steering Committee on EU/UNDP Programme for Promoting Tropical Forests; Member, Standing Committee on University Education, National Education Commission

Prof. H.P.M. Gunasena

Agronomist: Senior Professor of Crop Science, University of Peradeniya and Executive Director, Council for Agricultural Research Policy; Professor of Crop Science, University of Peradeniya (1982); Dean, Faculty of Agriculture, University of Peradeniya (1982-1994); Rector, Wayamba Campus (1996-1998); Director, Post Graduate Institute of Agriculture (1997-2002); Member, University Grants Commission (1999-2005)

Prof. J.W. Wickremasinghe

Economist: Professor of Economics, University of Sri Jayawardenepura and Director General National Institute of Education; Chairman, Sri Lanka Insurance Corporation Ltd. (1994-1999); Chairman, Asian Re-insurance Corporation, Bangkok (1997-1999); Vice Chancellor, University of Sri Jayawardenepura (1999-2002)

Dr. C.T.S.B. Perera

Industrialist: Managing Director, Samsam Rajarata Tiles (Pvt) Ltd, Director, Ceylon Glass Co. Ltd., Member, Board of Governors of IFS, IPM and ITI and Council Member, Open University of Sri Lanka; General Manager, Ceylon Ceramic Corporation (1982-1988); General Manager, Lanka Tiles Ltd. (1988-1996); Managing Director, Ceylon Glass Co. Ltd. (1996-2002); Chairman, IDB (....)

Prof. K.I. Deen

General Surgeon: Consultant General and Colorectal Surgeon and Professor of Surgery, University of Kelaniya; Visiting Professor, The Tata Memorial Cancer Centre, Mumbai, and Christian Medical College, Vellore, India; Member, American Society of Colon and rectal Surgeons; Fellow, Royal College of Surgeons, UK

Profile of the Organization

The Commission approves our Organization's functions.

The Chairman heads the Commission.

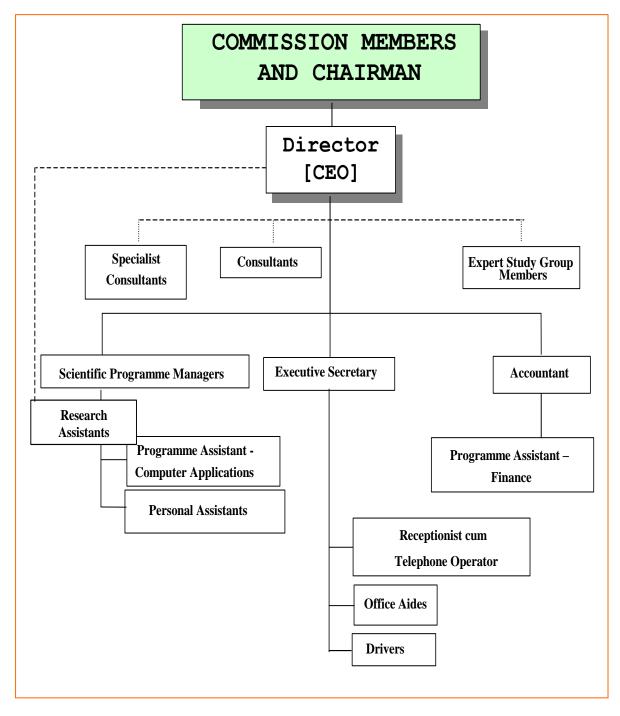
The Director is the Chief Executive Officer and the Senior Scientific Programme Manager.

The Scientific Programme Managers facilitate and manage Expert Study Groups and Consultative Fora.

The Executive Secretary handles administrative matters and functions as the Office Manager while the Accountant is responsible for all financial matters.

All these activities are supported by the rest of the support staff.

Research Assistants and Consultants hired on ad hoc and need-basis carry out specialized tasks and assignments as required by the Commission.



OUR ACHIEVEMENTS DURING 2004

Our efforts during 2004 have been towards
Promoting S & T, Encouraging Scientists, Developing
Policy Initiatives and enhancing S&T awareness among the
public and school children, all within the mandate
and as specified by the S&T Act of 1994

NASTEC has continued its **System of Consultation.** All three fora, the Young Scientists Forum, the Senior Scientists Forum and the Forum of Directors have flourished and continued to provide valuable inputs to NASTEC's activities.

In addition, based on issues of concern to the S&T community or at the request of the Minister of Science and Technology, the Commission has from time to time appointed **Expert Study Groups/Committees/Consultants** to provide information on matters related to S&T development in the country.

NASTEC has continued to function as **Sri Lanka's focal point** for the NAM S&T Centre (Centre for Science and Technology of Non-Aligned and Other developing Countries) and the Technology Sector of the BIMSTEC (Bay of Bengal Initiative for Multisectoral Technology and Economic Cooperation). Through these organizations NASTEC was able obtain much needed training, research, expert-exchange and technology transfer opportunities to many Scientists and Technologists of the country.

PROMOTING S & T

As outlined in the S&T Development Act No. 11 of 1994, NASTEC is mandated to '.....convene the Sri Lanka Conference on Science and Technology biennially, with the prior approval of the Minister to provide a forum for the discussion of science and technology in Sri Lanka'. Accordingly, NASTEC convened the 3rd Biennial Conference on Science and Technology (BICOST-III) in September 2004.

Biennial Conference on Science and Technology (BICOST-III) - 'Science & Technology Strategy for National Development'

Although, BICOST I & II produced a Science & Technology Agenda for National Development (STAND) and recommendations for implementation, these recommendations have not contributed in any significant level to the socioeconomic development of the nation with the anticipated vigor and commitment. Therefore, the Commission felt that the 3rd BICOST should take the form of a strategy formulation workshop and be structured to:

 λ Identify the inimical factors affecting the development of S&T and seek remedial measures

- λ Direct and strengthen the process of Research and Development
- λ Identify available and emerging technologies and their transfer
- λ Develop and strengthen the institution/industrial partnership

The Commission as well as the Hon Minister of Science and Technology approved holding BICOST III in September 2004 on the theme 'S&T Strategy for National Development'. The Commission approved the formation of a BICOST Steering Committee comprising of ten distinguished scientists to assist in the organization of the conference and relevant technical preparations. The Steering Committee having had many meetings agreed to four presentations on: Research and Development in Sri Lanka: *Retrospect and Prospect* (Dr. R.O.B. Wijesekera), Development and Transfer of Technologies: Review of Status and Alternatives for the Future (Dr. A. M. Mubarak), BICOST- I&II Situation Analysis - A Critical Review (Dr. Jaanaki Gooneratne) and The way Forward for Technology-Industry linkage (Mr. C. Embuldeniya).

Conference Proceedings – Inauguration

The Conference was ceremonially inaugurated on 16 September at 4.00 pm by Hon. Mahinda Rajapaksa, the Prime Minister of the Democratic Socialist Republic of Sri Lanka in the presence of the Hon. Minister of Science and Technology, Prof. Tissa Vitarana, eminent scientists from Sri Lanka, internationally reputed scientists from abroad, senior administrators, members of the Diplomatic Corps and a large gathering of special invitees. President of the Democratic Socialist Republic of Sri Lanka Her Excellency Chandrika Bandaranaike Kumaratunga, who was invited as the Chief Guest was unable to attend the occasion due to unavoidable circumstances, but sent her felicitations and best wishes for the success of the Conference.

Among the Special Invitees for the occasion were Prof. Attar-Ur-Rahman, Federal Minister of Education and Former Federal Minister of Science and Technology, Pakistan, Dr. Fawzi Abdel Kader Elrefaie, Chairman, Centre for Science and Technology of Non-Aligned and other Developing Countries, Prof. V.S Ramamurthy, Secretary, Department of Science and Technology, Government of India and Vice Chairman, Centre for Science and Technology of Non-Aligned and other Developing Countries, Prof. Arun Kulshreshtha, Director, Non Aligned Movement Science and Technology Centre, Dr. Jorge Luis Fernandez Chamero, Director, Science, Technology and Environment Department, Cuba and Ir. Sri Woro B. Harijono, Deputy Minister of Science and Technology, Republic of Indonesia.

The Conference was formally inaugurated with the lighting of the traditional ceremonial oil lamp by the Hon Prime Minister, Hon Minister of Science and Technology, Special International Invitees, former Chairman, NASTEC Dr. R.O.B.Wijesekera and Members of the Commission and Director/Chief Executive Officer of NASTEC, amidst beating of traditional drums.

The Director/CEO, NASTEC welcomed the Guest of Honour Hon. Mahinda Rajapakse, PM and Prof. Tissa Vitarana, Minister of Science and Technology, Sri Lanka and the foreign guests, Prof. Atta-ur-Rahman, Minister of S&T, Pakistan, Prof. V.S. Ramamurthy, Secretary, Department of S&T, India, and members of the NAM S&T Bureau, Prof. Dr. Fawzi A.K. Elrefaie of Egypt, Sri Woro B. Harijono of Indonesia, Dr. Jorge Luis Fernandez Chamero of Cuba and Prof. Arun Kulsreshtha of India.

Prof. Vitarana addressing the gathering gave his vision pertaining to the development of S&T in the country, especially in relation to the small and medium scale industries. The two guests of honour Prof. Atta-ur-Rahman and Prof. V.S. Ramamurthy addressed the gathering following the Minister. The three NAM S&T Centre Bureau members too addressed the participants. Thereafter the Hon. Prime Minister addressing the gathering reiterated the importance of developing S&T in Sri Lanka as a pre-requisite to socio-economic development.

During the inauguration the past Chairmen and the members of the past Commission were felicitated by presentation of a plaque. The presentations were made by the Hon. Prime Minister Mr. Mahinda Rajapakse.

Mrs. Amali Disanayaka, Scientific Programme Manager, delivered the vote of thanks and the delegates were invited for the ministerial reception.

Conference Proceedings – Workshop

The Conference programme began on the 17th with Prof. Atta-ur-Rahman addressing the gathering on the importance of developing S&T as an imperative to socio-economic development. He described Pakistan's vision and outlined how he had been able to convince the government of Pakistan to increase the financial commitment for R&D by 6000 percent during the past 3 years. This was followed by a presentation from Prof. Ramamurthy who highlighted India's programme to develop S&T.

Dr. R.O.B. Wijesekera brought to light the Sri Lankan experience in relation to R&D and the possible way forward while Dr. Mubarak reviewed the present status of development and transfer of technologies and discussed alternatives for the future. Dr. Jaanaki Gooneratne presented a critical review and a situation analysis of BICOST-I and II while Mr. Chandra Embuldeniya made a presentation on the way forward for technology-industry linkage for national development.

The NAM S&T Bureau members presented their experience in the development of S&T in their respective countries.

Through group work sessions held on days 2 and 3 facilitated by Mrs. Mallika Samaranayaka and her team from the Institute for Participatory Interaction in Dvelopment (IPID), and having identified inimical factors and gaps that impede progress in the development of S&T as perceived by different players, followed by discussion and general consensus, remedial measures for overcoming the identified constraints were proposed. The workshop developed a vision, mission, key objectives and outputs for a national strategy on S&T. The Group working session also identified key indicators and main activities as per objectives and outputs identified. Having presented work group results on plenary, further group discussions ensued identification of short, medium and long term strategies for S&T development in the context of national development. Hon. Prof. Tissa Vitarana, Minister of S&T was also present when consensus on strategy directions were reached. This was followed by the presentation of a way forward action plan for follow-up activities.

The Conference came to an end with a final address by the Hon. Minister and a vote of thanks by Director, NASTEC. The NASTEC Secretariat will compile the workshop proceedings and initiate follow up action as soon as the full report is approved by the Commission.

A special dinner was hosted by the Minister of Science and Technology at the Taj Samudra Hotel where Dr. R.O.B. Wijesekera was felicitated by NASTEC, NSF, ITI, SLAAS and the Academy of Sciences for his 50 years of dedicated service to science in Sri Lanka.

The Way Forward Action Plan

The Workshop participants met at Plenary for the final session of the Workshop to formulate the Way Forward Action Plan to operationalize the key outcomes of the BICOST III Workshop. It was noted that the BICOST III Workshop activities were restricted to making a Situation Analysis primarily comprising of Identification of inimical factors and Gaps impeding the implementation of BICOST I & II outcomes, developing consensus on the Goal, Purpose and Key Objectives/Outputs for a National Strategy to create an environment for Science and Technology to be a significant and indispensable driving force in National Development and Identification of Key Indicators for the Main Activities in regard to the Objectives/Outputs. In the process of identifying the key activities and Indicators, Group exercises also produced Short term, Medium term and Long term activities. However a technically precise Activity Plan in the form of a GANT chart was not attempted due to the time constraint.

In order to follow-up on the outcomes of the BICOST III Workshop, the participants decided on the following 3 stage Post BICOST III Way Forward Action Plan.

Stage I. Determination of Key Researchable Areas

A Post-BICOST III Workshop would be held to determine the Key Researchable areas in the context of creating a niche for Science and Technology Research and Development to make a significant contribution to National Development. The Workshop focused on the need to address issues, which are of strategic importance for national development, and to enhance the well-being and prosperity of Sri Lanka. The Workshop reflected on the observations made by Dr. R.O.B.Wijesekera in the course of his presentation, which focused on four areas, or Goals, considered as primarily important and current in the context of National Development. They are (i) Security in Food and Nutrition (ii) Security in Water and Energy (iii) Security in Health and Shelter, and (iv) Competitiveness in Trade and Industry. Using these four key areas, which the Workshop agreed, as strategically important National Goals, the key researchable areas could be identified and prioritized.

The Post BICOST III Workshop on Determination of Key Researchable Areas will have the participation of a small representative group of Scientists and Technologists, Researchers, Policy makers and Administrators, Industrialists and other End-Users including the SME and Micro Enterprise interests and Civil Society groups. The Workshop considered the options available to have a wide representation keeping the numbers practically small in order to have more focused discussion and reaching consensus. It was left to NASTEC to come up with proposals to constitute the follow-up working group. Prior to the working group session, NASTEC will develop Criteria for identification and prioritization of researchable areas.

The role of the Post BICOST III Workshop will be to determine key researchable areas in the context of strategically important National Development priorities.

Stage II. Presentation of Post BICOST III Workshop findings

The findings of the Post BICOST III Workshop on Determination of Key Researchable Areas would be presented to key Organizations, Institutions and Agencies, Donors and International agencies, Politicians, Policy makers and Administrators critical to making decisions to allocate funds and other resources and also for decision-making with regard to implementation. The principal objective of Stage II of the Way Forward Action Plan is to influence politicians, decision makers and donors to attach the required importance to Science and Technology Research and Development to make a significant contribution to National Development.

Stage III. Operationalizing Action Plans of Workshop Outcomes

At the final stage of the Way Forward Action Plan, an Action Planning Committee will be constituted to prepare Final Action Plans, determine the priorities learning from the observations that would be offered at the Presentation of Key Researchable Areas (to be undertaken under Stage II) and communicate the outcome to the parties responsible for the implementation. The essential characteristics of the persons who will comprise the Committee are that (a) they should be knowledgeable (b) they should be stakeholders, and (c) they should have time available at their disposal. The Action Plan will have specifically identified activities and tasks with fixed responsibilities for their implementation.

For the purpose of implementing the outcomes, each head of Institution responsible will nominate a Senior Official equipped with the necessary competence and authority to make decisions to undertake and be responsible for the implementation and also to liaise with other concerned organizations, institutions and NASTEC.

The proceedings of BICOST-III with full paper presentations are now being compiled and will be made available to the public in due course. Action has also been initiated to implement the way forward action plan. As the first step a Study Group has been appointed by the Commission to develop a National Science and Technology Policy for Sri Lanka using a back ground document compiled by the Senior Scientists Forum of the NASTEC.





Prof. V.S. Ramamurhty addressing the participants at BICOST-III

Bay of Bengal Initiative for Multisectoral Technology and Economic Cooperation [BIMSTEC]

The former BIMST-EC – Bangladesh, India, Myanmar, Sri Lanka, Thailand Economic Cooperation – has now been termed Bay of Bengal Initiative for Multisectoral Technology and Economic Cooperation (BIMSTEC). As the National Focal Point for the Technology Sector of BIMSTEC the project proposal submitted by NASTEC on the 'Development of small/medium scale agro-industries for fruit production in the rural areas of Sri Lanka' has not been initiated for lack of funds.

However, based on the pre-BIMST-EC Workshop held in July 2002 to identify the supply and demand in the transfer of agricultural technologies, and with a view to supporting the local agro-based industries and encouraging technology co-operation amongst BIMSTEC countries, NASTEC has printed a Technology Catalogue with illustrations of available technologies on agriculture based technologies such as Agricultural Technology, Biotechnology, Food technology, Herbal Drugs and Aromatic Plants and Post-Harvest Technology. The Catalogue was presented to the Hon. Minister of Science and Technology in May 2004 and is considered to be useful in promoting SME's in the rural sector. A translation in Sinhala and Tamil languages are also envisaged.

Encouraging Scientists

'To encourage and strengthen cooperation in science & technology between scientists in Sri Lanka and to involve scientists and technologists in the formulation of policy and decision making' NASTEC has been operating three consultative for aencompassing all strata of scientists.

Young Scientists Forum



The Young Scientists Forum, which functions via a Steering Committee, has been in existence for 4 years. They have continued to work closely with NASTEC in popularizing science and inculcating a scientific culture amongst school children and the general public. They participated in exhibitions organized by the Ministry of Science and Technology and initiated a series of seminars targeting school children.

Science Day Programme at Holy Cross College, Kalutara 10 March 2004

The YSF organized this seminar with a view to popularizing science and scientific thinking among school children. It was conducted at the auditorium of Holy Cross College, Kalutara and was attended by over 120 students and staff of both the College and the adjoining Holy

Family Convent. Three presentations were made on 'The Story of Lightening', 'Microbial World' and 'Present Status of Biotechnology'. Three Young Scientists from the University of Colombo and the University of Kelaniya conducted the seminar, which was highly appreciated by the children and the staff of both schools.

Workshop on "Scientists and Computers - Basics, application and troubleshooting" and Annual General Meeting - 11 March 2004

The workshop was held at the Auditorium of the Department of Meteorology, Colombo 07 for the benefit of the members of the YSF. The programme, fully sponsored by E-W Information Systems Ltd (e-WIS) was attended by 72 members of the Forum. The topics covered included: 'Buying and maintaining a computer – what we should know?', 'Software packages for Scientists' and 'Internet viruses – some useful hints'. In addition Dr. K. Hirimburegama from the University of Colombo, delivered a very effective presentation on 'Making effective presentations –the use of multimedia'.

Following the workshop the Annual General meeting was held to select the new Office bearers for the year 2004/2005.

Seminar on 'Avian Flu' - 26 April 2004

Considering the importance and the impact of the Avian flu, the Young Scientific Forum in collaboration with the Sri Lanka Association for the Advancement of Science (SLAAS) Section B and the Department of Animal Production and Health held a seminar at the SLASS auditorium on 26 April 2004.

Dr. S.K.R. Amarasekara, Director General, Dept. of Animal Production and Health, briefed the gathering about the action that the Department has already taken in relation to the Bird flu scare. He stated that no cases of bird flu have been recorded in Sri Lanka and that immediately following the reporting of the disease in the Asian region, the Veterinary Research Institute ensured that the Animal Disease Act & the Animal Feeds Act were implemented preventing the potential spread of the disease.

Dr. Pushpa Wijewantha, Assistant Director, Poultry Development of the Department of Animal Production and Health giving the 'etiology of the pathogen' stressed the need for strict quarantine measures and active surveillance as possible preventive methods.

Dr. D.D. Wanasinghe, President of the Poultry Association of Sri Lanka elaborated the panic caused by the media in relation to the Avain Flu. He was of the opinion that this has had a negative impact on the poultry industry causing it to incur huge losses. He further established that the poultry industry is extremely important to our country as it provides employment to approximately 1 million people and has a value of Rs.18 billion. A brief discussion followed the presentations.

Seminars for School Children in Gampaha and Kalutara Districts 22nd June and 1 July 2004

Two seminars were organized by the YSF for school children during the months of June and July. The first was held at the Kirindiwela Central College in Gampaha District. The seminar covered the topics 'Biotechnology', 'Lightening Protection', and 'Disposal of waste'. At the latter seminar held at Neboda Maha Vidyalaya, Kalutara the subjects 'Biotechnology', 'Lightening Protection', 'Land Slides and Floods' and 'Cleaner Environment' were covered. The presentations were made by members of the Young Scientists from University of Colombo, National Building Research Organization and the Cleaner Production Technology Centre

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Seminar on Physics at Thurstan College, Colombo - 22 July 2004

A/L students of the Thurstan College, Colombo benefited by a lecture on 'Photo Electricity', presented by the Young Scientists from the University of Colombo, which was held at the invitation of the School's science society.

Science Quiz Competition in the Colombo District - 29 July 2004

In collaboration with the Ministry of Science and Technology the YSF organized a Science Quiz Competition for schools in the Colombo Divisional Secretariat. Nine schools participated in the competition. The semifinals and finals were held at the Office of the Colombo Divisional Secretariat with the District Secretary as the Chief Guest. Modara Ananda Madya Maha Vidyalaya became the winners of the competition.

Seminar at St. Benedict's College, Colombo - 03 November 2004

The Young Scientists Forum held a school science seminar at St. Benedict's College, Colombo on 03 November 2004. Over 200 students from both O/L and A/L Science and Commerce streams received most up to date information on 'Electro Magnetic Terrorism', 'Genetically Modified Foods' and 'The Gem Industry in Sri Lanka'. Both students and staff of the College appreciated the efforts of the YSF in the attempts to educate school children on topics of general importance.

All Island Science Quiz Competition on World Science Day - 10 November 2004

In order to celebrate the World Science Day 2004, the Ministry of Science and Technology invited the YSF of NASTEC to conduct an All Island Science Quiz Competition, in collaboration with the National Science Foundation. All Secondary Schools in the Island that have an A/L Science stream were invited to participate by submitting names of 4 students. 199 schools from 13 Districts registered for the Competition.

Based on the responses received 13 centres were selected district-wise to conduct a preliminary round comprising of a written examination. 30 multiple choice questions were

prepared by the members of the YSF and the examination was held on 4 November 2004 in 13 selected schools all round the island.

The Semi-Finals were held at the NASTEC Secretariat on 9th November and the Finals were held on 10 November, 'the World Science Day', at Navarangahala, Royal College, Colombo. Since the Finalists, Maruthamunai Shams Central College, Batticaloa and D.S. Senanayake College, Colombo received equal points after 5 rounds, the Chief Guest Hon. Prof. Tissa Vitarana, Minister of Science and Technology suggested that the First Price be awarded to both schools. Accordingly, each school received a new Computer with accessories as the First Price. Each team member also received a Certificate of Participation and a cash price of Rs. 3000/- per student.

Science Magazine - 'Science to Society'

The Science Magazine "Science to Society" (Vidu Denuma) was published in December 2004 and has been distributed amongst over 150 schools (randomly selected) through out the country. It is a magazine with a number of popular articles on day-to-day issues, written in all three languages, English, Sinhala and Tamil, for the benefit of school children and the general public. The articles are of general interest and expected to impart scientific knowledge on subjects of day-to-day importance.

Workshop on 'Research and Development - The Need for a New Research Culture' - 21 December 2004

The YSF organized a workshop on the above theme in collaboration with the SLAAS on the occasion of its 60th Annual Session. The workshop was held on 21 December at the Auditorium of the Centre for Information and Communication Technology, University of Colombo with the participation of over 165 members of the Young Scientists Forum.

Guest lectures were conducted by Dr. M.C.N. Jayasuriya (Future Research Directions and Interaction Process), Prof. L. Dissanayake (Identifying Areas for Research and Idea generation), Prof. H. Abeygunewardene (Writing a Research Proposal), Prof. Sirimali Fernando (Funding Research and Development), Prof. U. Samarajeewa (Link between Research Findings and Industrial Application – Some Case Studies) and Mrs. Shyeamalee Wickramasinghe (Marketability of Research Findings Leading to Entrepreneurship..

This was well attended and one of the most successful workshops of the YSF. An evaluation carried out at the end of the workshop demonstrated clearly that the YSF membership greatly appreciated the information provided to them by way of this workshop.



School Science Programme at Holy Cross College, Kalutara organized by the YSF

Senior Scientists Forum



The Senior Scientists Forum (SSF) focused its attention to a number of issues related to human resource development of the S&T community.

Training programme on 'Leadership' - 15 March 2004

The Senior Scientists Forum (SSF) organized a training programme for its membership on 'Leadership', an important component in human resource development. The programme was attended by 39 members of the Senior Scientists Forum and covered two important topics, 'The importance of leadership in the field of science' and 'Leadership competencies for scientists'. The programme also included a video presentation on 'Vision', a group work session as well as a question and answer session. Each participant was charged a nominal Registration fee of Rs. 400/- which helped to cover the consultancy fee of the Expert who conducted the workshop. The workshop was considered highly valuable to the Senior Scientists who would be tomorrow's leaders in science and technology.

Public Seminar on 'Small Tank Settlements in Sri Lanka: Prospects, Constraints and Path ahead' – 10 June 2004

The SSF in collaboration with SLAAS Section B organized a public seminar on 'Small Tank Settlements in Sri Lanka – Prospects, Constraints and Path ahead'. The principal speaker was Dr. C.R. Panabokke, former Director of Agriculture of the Department of Agriculture and a renowned soil scientist and irrigation agronomist.

The seminar held at the SLAAS Auditorium was moderated by Dr. M. Samad with the assistance of four discussants. Prof. Tissa Vitarana, Hon. Minister of Science and Technology was the Chief Guest. The seminar was well attended by the public. The Recommendations of this seminar was forwarded to the Minister of S&T for further action to be taken.

Workshop on Drafting a National S&T Policy for Sri Lanka – 19 November 2004

Considering the Hon. Minister's concern on the need for a National S&T Policy for Sri Lanka and the recommendations of BICOST-III, the Steering Committee of the Senior Scientists Forum assisted NASTEC in drafting a set of policy components for the development of S&T in Sri Lanka, having considered the previously attempted S&T Policy initiatives of NARESA, the Sri Lankan Scientific Community and other neighbouring countries such as India and Malaysia. These draft policy statements were presented to a group of Senior Scientists at a workshop held on 19 November at the Conference room of the NASTEC Secretariat. While the Policy statements were presented to the workshop participants by Prof.. S. Ekanayake and Dr. Shanthi Wilson, the discussion that ensued helped to refine the policy statements for submission to the Commission.

These policy statements developed by the SSF will form the background information to a Study Group comprising of 8 distinguished senior scientists who have been nominated by the Commission to formulate a 'National S&T Policy for Sri Lanka'.

Forum of Directors

Workshop on Review of Activities of Science & Technology Institutions in Sri Lanka - 26 February 2004

The Forum of Directors met at the Conference Hall at HARTI to discuss the report on the 'Review of Activities of S&T Institutions in Sri Lanka' prepared by Prof. W.A.J.M. de Costa of the Faculty of Agriculture, University of Peradeniya. Thirty Directors from various S&T and R&D institutions attended the meeting. Prof. Costa presented a summary of the report based on his observations of 19 R&D institutions in the country. A discussion followed where the main issues and recommendations were made for consideration by the Forum members. In addition, to take the following recommendations forward, a steering committee of six members were appointed.

Recommendations on Improvement of working conditions of Government owned S&T Institutions - July 2004

The Steering Committee of the Forum of Directors met several times and decided to address the need of the hour – 'Improvement of working conditions of Government owned S &T institutions and the Provision of better facilities for S&T personnel.' A set of recommendations prepared by them on issues such as improvement of information system to scientists, requirement of funds to meet the basic requirements of the institutes, reward schemes for scientists and the increase of salary and other incentive schemes for scientific and technical staff, Recruitment of S&T Personnel and capacity building in Research and Development, have been forwarded to the Minister of Science and Technology.

Developing Policy Initiatives

"In formulating policies relating to Science & Technology and in implementing such policies, the Minister shall have regard to the objects set out in section 2 and shall consult the National Science & Technology Commission".

As such, we have been involved in addressing issues which would enhance the status of S&T institutions and thereby ensure better working conditions for Scientists.

Expert Study Groups

Formulation of a National Policy on Food Security (Study group XI)

As follow up to the workshop on 'Formulation of a National Policy for Sri Lanka in relation to Food Security', held on 27 November 2003, with Hon. Karu Jayasuriya, former Minister of Power and Energy and Chairman of the Sub-Committee on Food Security and Cost of Living, a report has been prepared by the Secretariat and submitted to the Commission for approval. With the concurrence of the Commission and once approved, this document could form the basis of the policy initative on Food Security in Sri Lanka.

Inimical Factors affecting Science & Technology (Study group XIV)

The Study group on Inimical Factors affecting Science and Technology, after much deliberation, presented an Interim Report on the above subject. The Minister of Science & Technology Professor Tissa Vitarana acceptd the report.

Formulation of a National Policy on the use of Pesticides (Study group XV)

The work of the Expert Study Group that was appointed to formulate a National Policy on the use of Pesticides has been stalled as the Group required clarification as to the actual need of a National Policy on Pesticides. It was pointed out that legislature on the use of pesticides already exists and that the Registrar of Pesticides has controlling authority on the importation of pesticides and/or ingredients used in the formulation of pesticides. The Commission has therefore, appointed a Consultant to report on the present status quo in relation to policy and legislation on pesticide use in the country.

Enhancing Public Awareness in S&T

'To cultivate among people an appreciation of the value of science, scientific method and technology and of the integral role that science plays in modern society and to disseminate the benefits of science and technology activity to all sectors of the people and to improve the quality of life of the people,' we have attempted to reach the public via various methods.

Exhibitions

NASTEC participated in the Vidatha Exhibition organized by the Ministry of Science and Technology held in Kuliyapitiya from 14th to 18th January 2004. The YSF organized a Science Quiz to motivate the school children in an attempt to inculcate a scientific culture amongst the school children.

Visiting Scientists

Dr. Simon Fraser from the University at Harbour Centre, Canada visited NASTEC on 23 December 2004 with Dr. Seetha Wickremasinghe of the NSF to discuss the S&T Management Information System initiated by the NSF.

NASTEC Reports and Publications – 2003

- ➤ NSTC-SG-14/04/01 (2004) Inimical factors Affecting Science and Technology Development in Sri Lanka, February 2004
- NSTC-MONO-03/01 (2004) February 2004 A Guidebook on Research Ethics, February 2004
- ➤ NSTC/04/MISC/02 (2004) Annual Report 2003, March 2004
- ➤ Preliminary report of the Third Biennial Conference on Science and Technology BICOST-III, Proc. Prepared by Workshop facilitator, Mrs. Mallika Samaranayake, Institute of Participatory Interaction in Development (IPID), Colombo
- Science to Society YSF Magazine, December 2004

Workshops/Seminars/Conferences/Meetings attended by Director, NASTEC

- ➤ Seminar on 'GM Foods' at JAIC Hilton, Colombo organized by the Ministry of Environment and Natural Resources 09 March 2004
- ➤ Seminar on Asia Centre for Underutilized Crops, organized by CARP, 22, March 2004
- Consultation Workshop on 'Policy on Biotechnology and Biosafety', 28 May 2004
- Workshop on 'Postgraduate Research in National Development', 08 July 2004, UGC Auditorium, Colombo
- Consultation Workshop on 'Policy on Biotechnology and Biosafety', PGRC, Kandy -01 November 2004
- ➤ Consultation Workshop on 'Policy and legal recommendations for Policy on Biosafety', 25 November 2004, SLFI, Colombo

➤ Workshop to 'Assess the achievements and sustainability of interventions of the Science and Technology Development Project of the Ministry of Science and Technology', 04-05 December 2004

Miscellaneous Events

21 April, **2004:** Hon. Prof. Tissa Vitarana visited NASTEC Secretariat in his capacity as the new Minister of Science and Technology. This was his first Official visit to a S&T institution under the purview of the Ministry.

7 May 2004: Hon. Prof. Tissa Vitarana visited NASTEC to launch the Guidebook on Research Ethics, Technology Catalogue and the Directory of Donor Agencies.

22 October 2004: On 22 October the NASTEC Secretariat was relocated at the new premises, the Office of the former Minister of Science and Technology at number 320, T.B. Jayah Mawatha, Colombo 10.



Pirith ceremony to mark the relocation of NASTEC Secretariat to Colombo 10



Our Appreciation

WE APPRECIATEthe assistance given to us by the scientific community, especially those who took part in the following activities of NASTEC......

Steering Committee for Biennial Conference on Science & Technology

Dr. R.O.B. Wijesekera, Prof Lakshman Dissanayake ,Prof. K.K.Y.W. Perera, Prof. W.A.J.M. De Costa, Prof. Nalini B. Ratnasiri, Dr. Bandula Perera, Mr. Chandra Embuldeniya, Prof. A. Kovoor, Dr. M.C. N. Jayasuriya, Miss Amali Disanayaka (Coordinator/Convenor)

Expert Study Groups

Prof. W.D. Lakshman (Chairman), Dr. R. Mahindapala, Dr. N. Atapattu, Prof. K. Hirimburegama, Dr. N. Sanadaratne, Dr. N.F.C. Ranaweera – Mr. L.M.M.P. Liyanagedera (Coordinator/Convenor) (National Economic Policy for Sri Lanka in relation to Food Security)

Prof. Ravindra Fernando, Dr. A.A.L. Amerasinghe, Dr. C.K. Shanmugarajah, Dr. A.M. Mubarak, Mrs. L.P. Batuwitage, Mr. K.G.D. Bandarathuleke, Mr. D.A.M.R. Sagara, Dr. G.K. Manuweera – Mrs. Amali. S. Disanayaka, (Coordinator/Convenor) (National Policy for Sri Lanka on the use of Pesticides)

Dr. U.P.de S. Waidyanatha (Chairman), Dr. A.M. Mubarak, Mr. Ranjan Rodrigo, Prof. M.T.M. Jiffry, Prof. Priyan Dias, Prof. A.L.T. Perera, Mrs. Amali. S. Disanayaka, (Coordinator/Convenor) (Inimical Factors Affecting Science & Technology)

Consultative Fora

Dr. Chandima Gomes, (Chairman), Dr. Saman Fernando (Joint Secretary), Ms. Shamila Corea (Joint Secretary), Dr. Bimali Jayawardene, Dr. S.A. Ariadurai, Dr. G.A.S. Premakumara, Mr. H.A.G. Jayaissa, Ms. U.A.P.K. Dissanayake, Mr. P.R.K. Fernando and Mr. Sirinda Gamage - Mrs. Amali S. Disanayaka (Coordinator/Convenor) (Young Scientists Forum)

Dr. Jaanaki Gooneratne (Chairperson), Dr. Shanthi Wilson, Prof. Sriyani Ekanayake, Mr. E.A.C. Ekanayake, Prof. U.S. Amarasinghe, Dr. D.M.N. Dissanayake - Mrs. Amali S. Disanayaka (Coordinator/Convenor) (Senior Scientists Forum)

Prof. Prinath Dias (Chairman), Dr. L.G. Herath, Dr. A.M. Mubarak, Dr. Gamini Seneviratne, Mr. B.S.P. Mendis – Mrs. Amali S. Disanayaka (Coordinator/Convenor) (Forum of Directors)

We like to thank the E-W Information Systems Ltd (e-WIS) for their generous financial support towards the Workshop on 'Scientists and Computers – Basics, application and troubleshooting' held on 11 March 2004 at the auditorium of the Department of Meteorology, Colombo.

Staff News

A number of staff changes took place within the NASTEC during the reporting year. Looking at it in a more positive way we are happy that those who left us found more lucrative jobs with better remuneration (as against the highly unrealistic pay packets that they have been receiving). However, in the long term NASTEC will be the loser, and therefore it is essential that the authorities take note of these and correct the anomalies that exist in the salaries of NASTEC staff.

The Staff at the NASTEC Secretariat would like congratulate Prof. Tissa Vitarana for having been appointed as the Hon. Minister of Science and Technology. Prof. Vitarana is well known to the scientific community. He has been a Commissioner since the inception of NASTEC. He is well known for his contribution to the Health sector especially to the MRI. We wish him all the best in his new responsibilities. Staff at NASTEC will be with you in all your attempts to develop S&T in the country.

We wish to say 'Good Bye' to a number of Research Assistants who have been actively supporting NASTEC's activities during the year. We wish to thank Miss. M.C. Vitarana, Miss. Vanathy Nalliah, Miss. D. T. Hiripitiya & Mr. Amila Wijeratne for their dedication, commitment and capable handling of all duties assigned to them during their short tenure at NASTEC. We wish them good luck in their future endevours.

We would like to welcome Miss. Pramitha Kumarasinghe to NASTEC. She assumed duties as a Personal Assistant replacing Miss. Shakila de Zoysa who left us in November 2003.

We would like to say 'Thank you' to Miss. Geethika Kumarasihi graduate student from the University of Sabaragamuwa who has been with us for four months on 'on the job training' in computer applications. Geethica helped NASTEC to up date the website as part of her research project for the B.Sc. degree programme at the Sabaragamuwa University.

Our Staff

Executive Staff:

Director / Chief Executive Officer / Senior Scientific Programme Manager Dr. M.C.N. Jayasuriya, B.Sc.Agric, (Cey), Ph.D. (Reading), CBiol, FIBiol (UK)

Scientific Programme Managers

Mr. L M M P Liyanagedara, B.Sc., M.Phil (Peradeniya) – on study leave Mrs. Amali Disanayaka, B.A. (Maine, U.S.A), M.Sc. (Colombo)

Accountant

Mrs. Hasitha Serasinghe, B.Sc. Accountancy (Spc.) (Sri Jayawardenapura), M.A.A.T.

Executive Secretary
Mrs. Malkanthi de Silva

Supporting Staff:

Programme Assistants

Finance – Mrs. A.T.T. Jayasooriya, B.B.A (Colombo), ACA (P-1) Computer Applications - Mrs. L.A.L.N. Liyanaarachchi, B.Sc (Sabaragamuwa)

Personal Assistants

Mrs. Nilmini Perera

Miss. Asandhimithra Edirisinghe

Miss. Pramitha Kumarasinghe

Receptionist cum Telephone Operator

Miss. Derina Gunesekera

Office Aides

Mr. A.D. Dhanapala

Mr. Nishantha Piyadasa

Mr. Susantha Perera

Drivers

Mr. H.A.Anil Kumara Hettiarachchi

Mr. I.G. Jayashantha Prabath

Research Assistants

Miss M.C. Vitarana

Miss Vanathy Nalliah

Miss. D. T. Hiripitiya

Mr. Amila Wijeratne

Spending money effectively