

National Science and Technology Commission

Annual Report 2016



National Science and Technology Commission

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Annual Report 2016

***A publication of the Secretariat of the
National Science and Technology Commission
(NASTEC)***

***Compiled by: Ms. Nishanthi Maharage
Edited by: Dr. Muditha Liyanagedara***

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About Us

The National Science and Technology Commission (NASTEC) was established by the Science and Technology Development Act No. 11 of 1994 and came into operation in August 1998. It was formally inaugurated on 06 December 1998 and became a functional Commission 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 Commission comprised of seven members appointed by H.E. the President of the Democratic Socialist Republic of Sri Lanka.

Our Vision

“To be an excellent advisory body to the Government on the potential and use of Science and Technology to enhance the well-being and prosperity of the people of Sri Lanka”

Our Mission

“To furnish the Government with policies, strategies and plans to build high national capabilities in Science and Technology, for application for sustainable development”

Chairman's Review



As the Chairman of the National Science and Technology Commission of Sri Lanka (NASTEC), I am very pleased to issue this review on the activities carried out during the year 2016.

In 2016, NASTEC was able to finalize the National Research and Development Framework (NRDF) and present it to His Excellency the President of the Democratic Socialist Republic of Sri Lanka. The NRDF was approved by the Cabinet Ministers also in 2016 as the National Research and Development Framework. The NRDF identifies ten focus areas of Science and Technology (S&T) of that are of immediate national importance. The NRDF helps the Government in developing plans related to carrying out research and formulation of policies on areas which are immediately needed for economic development and improving quality of life of the people.

The NASTEC as per the powers vested in it by the Science and Technology Development Act No.11 of 1994 (S&T Act of 1994) collected information from 31 national S&T institutions during the year 2016 in order to prepare the Annual National S&T Report. It was evident from the information collected that some of the S&T institutions do not spend the entire amount of funds allocated for them from the General Treasury for Research and Development. Further, only few marketable products and technologies have been developed. The number of patents produced by national S&T institutions is also very low. Nevertheless, large number of research publications are produced by the scientists in the national S&T institutions. However, majority of them are abstracts of presentations made at research conferences. It is also necessary that more and high quality researches which can be published in high impact research journals are carried out in these institutions.

The research in the national S&T institutions should focus more on developing marketable products and technologies that are immediately needed for the economic development of the country and to improve the quality of life of our people.

As per the S&T Act No. 11 of 1994, the NASTEC should convene the Sri Lanka Conference on S&T biennially to provide a forum to discuss S&T in Sri Lanka in relation to the objects of the Act. During the year 2016, NASTEC convened the 8th Biennial S&T conference. The Chief Guest of the conference was the Minister of Science, Technology and Research, Hon. Susil Premajyantha. This conference focused on developing an implementation strategy for the NRDF. More than 100 leading scientists in Sri Lanka participated in developing the implementation strategy. This implementation strategy would be formalized in 2017.

In 2016, the NASTEC initiated the development of another important national policy, the National Mineral Policy. Leading experts in the fields associated with mineral resources participated in developing this policy, which would be finalized in 2017.

The NASTEC is also required by the S&T Act of 1994, to review the progress of national S&T institutions in relation to the objects of the Act. In 2016, the NASTEC reviewed the performance of two national S&T institutions, namely the Field Crop Research and Development Institute and Fruit Research and Development Institute. These reviews were conducted by review panels consisting of

experts in the relevant fields with the objective of assessing quality, cost effectiveness, relevance and impact of the research carried out at these institutions to ensure that they fulfill the needs and expectations of the nation.

Another major activity carried out by the NASTEC during 2016 was conducting the international workshop on “Mitigation of Disasters due to Natural Events: from Policy to Practice”. Delegates from 18 foreign countries and Sri Lanka participated in this workshop and the output was the Colombo Resolution on the mitigation of disasters and hazard due to severe natural events. This workshop was jointly organized with the Centre for S&T of the non-aligned & other developing countries (NAM S&T Centre).

Being the Sri Lanka’s national focal point of the NAM S&T Centre, NASTEC was associated with providing several training opportunities for Sri Lankan scientists & science administrators through NAM S&T Centre. During the year 2016, the NASTEC conducted several other activities also to develop human resources in S&T institutions. These included workshop on “Writing research proposals and reviewing and editing research articles” and a short course on basic statistics to scientists in Sri Lanka.

The national symposium organized by the Young Scientists Forum of NASTEC for the 5th consecutive year, provided an opportunity for young scientists to present their research findings to the Sri Lankan S&T community. This was another S&T activity carried out by NASTEC for the development of human resources in the S&T sector in Sri Lanka.

In 2017, NASTEC plans to carry out all activities identified in the annual plan including the finalizing of the implementation strategy of the NRDF, finalizing the National Mineral Policy, and recommending to the government the action that should be taken to enhance the efficiency and output of S&T institutions for economic development and improving quality of life of the Sri Lankan People.

I sincerely thank Hon. Susil Premajayantha, Minister of Science, Technology and Research for his unstinted support given for the activities of NASTEC. His encouragement & cooperation helped NASTEC to achieve its targets during the past year. I also thank the Secretary and the other officials of the Ministry of Science, Technology and Research for their support & cooperation. I take this opportunity to express my sincere thanks and appreciate the contribution made by the Director/CEO and the staff of the NASTEC for successfully carrying out the activities in 2016.

Senior Professor M.J.S. Wijeyaratne
Chairman
National Science and Technology Commission

Commission Members

Up to 20th April 2016



Prof. D. A. Tantrigoda

Chairman

Senior Professor and Chair of Physics, University of Sri Jayewardenepura, Technical Consultant of the Petroleum Resources Development Secretariat; Lead Consultant, Policy and Strategy Unit, Ministry of Higher education; Visiting Research Fellow, University of Edinburg.



Prof. R.T. Cumararatunga

Senior Professor and Chair of Fisheries Biology, University of Ruhuna.

Other Positions held

Founder Dean/Faculty of Fisheries and Marine Sciences & Technology, University of Ruhuna.; Head of the Department of Fisheries Biology, University of Ruhuna. General President of Sri Lanka Association for Advancement of Science; Member of the Board of Management of National Institute of Fisheries and Nautical Engineering and National Science Foundation.



Prof. A.A.P.S. Manamperi

Senior Lecturer, Molecular Medicine Unit, Faculty of Medicine, University of Kelaniya and Consultant Molecular Biologist, Durdans Hospital. Consultant Technical Assessor, SLAB



Dr. S.S. Namasivayam

Senior Lecturer, Faculty of Engineering, University of Moratuwa;

Other Positions held

Dean, ICFAI Education Lanka, Institute of Chartered Financial Analysts of India; Director/CEO of Arthur C. Clarke Institute for Modern Technology; Head of Electro Technology Unit, Industrial Technology Institute.



Prof. Narada Warnasooriya

Senior Professor in Pediatrics, Kotalawala Defense University

Other Positions held

Vice Chancellor, University of Sri Jayewardenepura; Senior Professor of Pediatrics, University of Sri Jayewardenepura; Chairman of the Committee of the Vice chancellors and Directors of Sri Lanka; Consultant Pediatrician, Royal Gwent hospital, UK.



Dr. J. Wattavidanage

Senior Lecturer in Zoology, The Open University

Other Positions held

Member of the Wages Board for the Textile Manufacturing Trade, Ministry of Labor Relations and Foreign Employment; General Secretary of the Sri Lanka Association for the Advancement of Science; Member of the Governing Council of National Institute of Fisheries and Nautical Engineering



Dr. A.M. Mubarak

Former Director/CEO, Industrial Technology Institute (ITI)

Other Positions held

Member of Sri Lanka Delegation –SAARC, Coordinator of the Sub Commission on S&T, Indo Sri Lanka Joint Commission, Member of Cabinet Appointed Expert Advisory Committee

From 30th June 2016



Prof. M.J.S. Wijeyaratne – Chairman

Senior Professor and Chair of Zoology, University of Kelaniya

Other Positions held

Vice Chancellor of the University of Kelaniya, Sri Lanka; Dean of the Faculty of Science, University of Kelaniya, Chairman, Committee of Vice-Chancellors and Directors (CVCD) of Sri Lanka; Chairman of the Board of Management, Postgraduate Institute of Archaeology; Member of the Governing Councils of the Sri Lanka Standards Institution, Arthur C Clarke Institute of Modern Technology, National Institute of Fisheries and Nautical Engineering, National Aquatic Resources Research and Development Agency, National Science Foundation, National Institute of Fundamental Studies, Industrial Technology Institute, and Provincial Environmental Authority of the North-Western Province



Prof. R.T. Cumararatunga

Senior Professor and Chair of Fisheries Biology, University of Ruhuna.

Other Positions held

Founder Dean, Faculty of Fisheries and Marine Sciences & Technology, University of Ruhuna.; Head of the Department of Fisheries Biology, University of Ruhuna. General President of Sri Lanka Association for Advancement of Science; Member of the Board of Management of National Institute of Fisheries and Nautical Engineering and National Science Foundation.



Prof. W.L. Sumathipala

Senior Technical Advisor, Ministry of Environment, and Consultant of the Dam Safety Project, Ministry of Mahaweli Development and Environment

Other Positions held

Chairman, National Science Foundation, Sri Lanka; Professor in Physics, Open University of Sri Lanka; Founder Director Climate Change Division and Chief Negotiator on Climate Change Ministry of Environment and Natural Resources; Member of the Adaptation Fund Board of the UN Framework Convention on Climate Change; Chairman of the Experts Committee on mitigation of Climate Change of the Ministry of Environment; Member of the Expert Committee on Adaptation to Climate Change of the Ministry of Environment and Renewable Energy; Chief Negotiator and Senior member of the Sri Lankan delegation to Conference of parties at the United Nations Framework Convention on Climate Change; Director of the National Ozone Unit & National Coordinator of the Montreal Protocol Unit of the Ministry of Environment, Head of the Sri Lankan delegation to the Open Ended Working Group meeting of parties and Regional ODS officers meetings of the Montreal Protocol, President of the Implementation Committee of the Montreal Protocol, Member of the Executive Committee of the Multilateral Fund of the Montreal Protocol



Prof. D.N. Karunarathne

Senior Professor, Department of Chemistry, University of Peradeniya

Other Positions held

Visiting Professor, University of Guelph, Canada; Visiting Professor of the Open University of Sri Lanka; Visiting Scientist of the University of Waterloo, Canada; Research Fellow of the University of Kansas, USA; Research Associate and Visiting Scholar, Mahidol University, Thailand



Prof. Gunapala Nanayakkara

Senior Advisor of the Ministry of Education; and Member of National Salaries and Cadre Commission

Other Positions held

Director General of the National Institute of Education, Ministry of Education; Senior Professor of University of Sri Jayewardenepura; Chairman, Sri Lanka Institute of Cooperative Management; CEO of Sussex College Network under the Merchant Bank of Sri Lanka; Member of the Administrative Reforms Council of Sri Lanka; Vice President of Association of Management Development Institutions in South Asia (AMDISA); Member of the Governing Councils of National Institute of Education, Sri Lanka Foundation Institute, National Institute of Technology Education, and National Institute of Business Management, Sri Lanka



Prof. W.A.J.M. De Costa

Senior Professor and Chair of Crop Science, University of Peradeniya; Member of the National Research Council of Sri Lanka;



Prof. Arjuna P. De Silva

Chairman of Sri Lanka Anti-Doping Agency (SLADA); Head of Department of Medicine, University of Kelaniya; Consultant Physician at Colombo North Teaching Hospital; Chairman Board of study in Gastroenterology; Member of the Board of study in Sports Medicine; Member of the Board of Study in Medical Council Member; National Institute of Education; Trainer in Gastroenterology; Associate Editor World Journal of Gastroenterology; Council Member National Sports Council of Sri Lanka

Profile of the Organization



The Chairman heads the Commission.



The Director is the Chief Executive Officer.



The Senior Scientists facilitate and manage Study Groups and Consultative fora that produce policies, plans and other S&T relevant documents.



The Executive Secretary is the Secretary to the Commission and also functions as the Office Manager.



The Deputy Director (Finance and Administration) manages all financial matters.



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

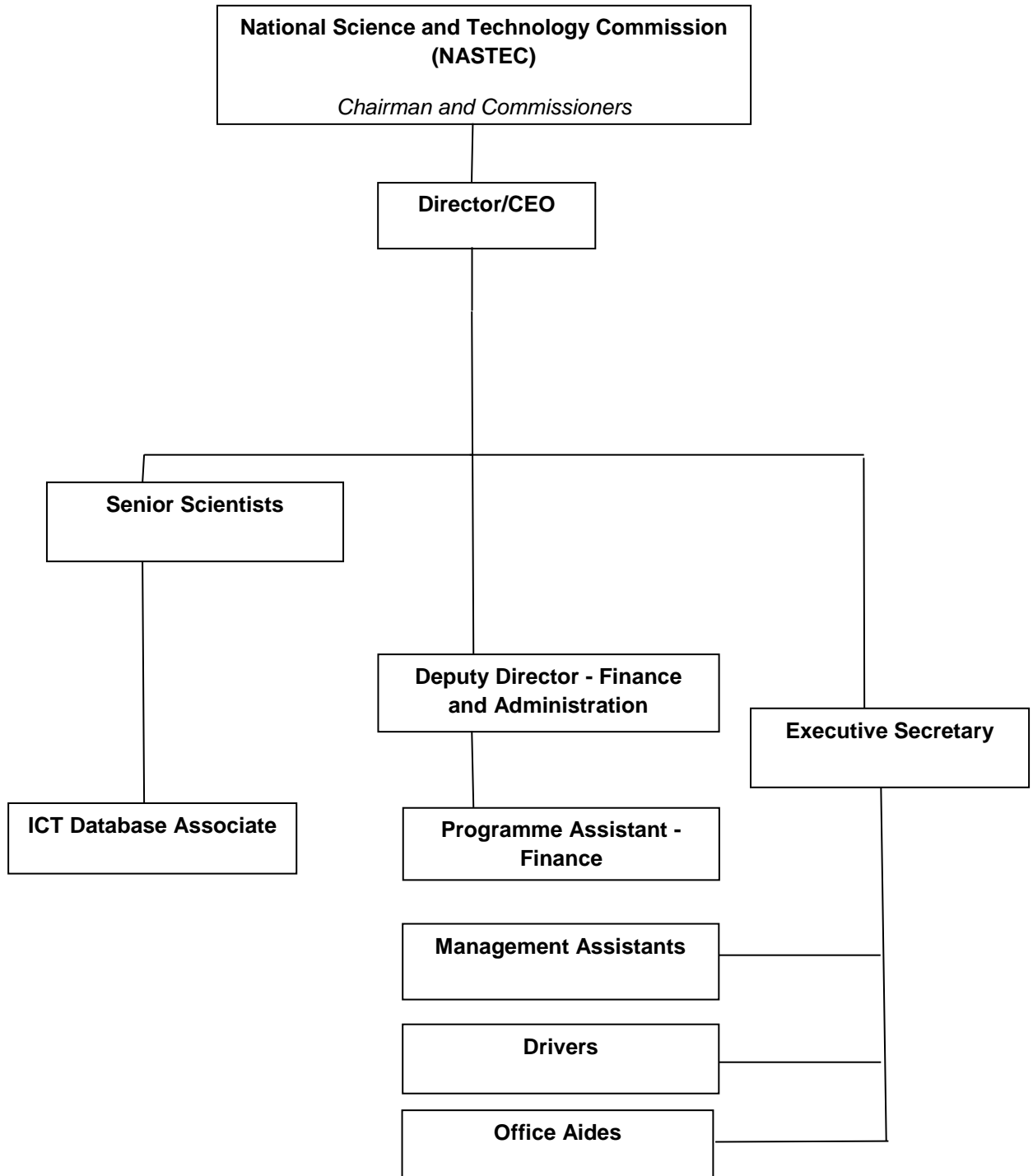


assignments as required by the Commission.
need-basis to carry out specialized tasks and
Consultants and Research Assistants hired on



Administration) manages all financial matters.
The Deputy Director (Finance and

Organizational Structure



Science and Technology Reviews

ANNUAL NATIONAL REVIEW OF THE STATUS OF S&T IN THE COUNTRY

NASTEC is mandated to submit a report annually to the Government, reviewing the Science and Technology (S&T) activities in Sri Lanka in the preceding year. Reviewing S&T status of a country annually is needed for decision-making and policy formulation in the S&T sector.

NASTEC conducted a questionnaire survey in 2016 in 37 S&T institutions in the country to obtain information relevant to year 2015. Based on the information received the report on “Science and Technology Status of Sri Lanka- 2015” was prepared.

This report covers the following main components:

- i) Human and physical resources at the S&T institutions
- ii) Effectiveness of public spending on S&T
- iii) Performance of S&T institutions
- iv) S&T activities of learned societies

Based on the information gathered several recommendations were made for the development of S&T sector of the country.

Science and Technology Institutional Reviews

The Science and Technology Development Act No. 11 of 1994 mandate the NASTEC, *inter alia*, to review the progress of Science and Technology institutes in Sri Lanka. Since 2011 to 2015 fourteen institutional reviews have been successfully completed by NASTEC. The details are given below,

| Institute | Date Completed |
|-------------------------------|----------------|
| SLAB - 1 st Review | 2011/May |
| SLAB - 2 nd Review | 2015/February |
| AEA - 1 st Review | 2011/November |
| AEA - 2 nd Review | 2015/April |

| | |
|---------------------------|---------------|
| NBRO | 2013/February |
| Department of Meteorology | 2012/December |
| IFS | 2013/October |
| NERDC | 2014/March |
| ITI | 2014/April |
| NSF | 2014/April |
| SLSI | 2015/May |
| NRC | 2015/February |
| ACCIMT | 2013/June |

Review of the Field Crop Research and Development Institute (FCRDI)

In 2016 NASTEC reviewed the performance of the FCRDI with the objective of assessing its performance in achieving objects and also assessing the quality, cost effectiveness, relevance, and impact of the scientific programmes conducted at the Institute in order to ensure that the needs and expectations of the Government and other stakeholders are being met to the fullest possible level.

The following Panel of Reviewers conducted this review.

1. Prof. W. A. J. M. de Costa, Senior Professor and Chair of crop Science, Faculty of Agriculture, University of Peradeniya (Chairman of the Panel)
2. Dr. Wijaya Jayatilake, Professor Emeritus, Faculty of Agriculture, University of Peradeniya
3. Dr. Everad Jayamanne, former Deputy Director, Coconut Research Institute
4. Dr. Keerthi Mohotti, Deputy Director (Research), Tea Research Institute
5. Dr. Renuka Silva, Senior Lecturer, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka

FCRDI submitted its Self-Assessment Report to NASTEC on 9th June 2016. The first meeting of the review panel was held on 09th June 2016 at NASTEC and the review plan was worked out at this meeting. The panel visited FCRDI on 04th, 05th, 11th and 12th of July 2016 for the review. The panel visited FCRDI Substations at Kilinochchi and Aralaganwila on 15th & 16th August 2016 respectively and also the Substation in Agunakolapelessa on 19th & 20th September 2016.

The panel had discussions with the stakeholders of FCRDI on 29th August 2016 at Mahailuppallama and 31st August 2016 at the Hector Kobbekaduwa Agrarian Research and Training Institute. Review Panel also met on 05th, 17th & 20th October 2016. NASTEC is awaiting the first draft of the report.

Review of Fruit Research Development Institute (FRDI)

FRDI was the second institute reviewed by NASTEC in 2016. Upon receiving of the Self-Assessment report of the institute, a review panel consisting of the following members was appointed by the NASTEC.

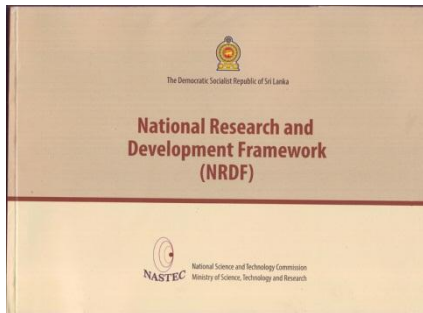
1. Prof. S. Subasinghe, Professor, Faculty of Agriculture, University of Ruhuna
2. Prof. Laleen Karunanayake, Professor, Faculty of Applied Sciences, University of Sri Jayewardenepura
3. Dr. Nimal Dissanayake, Former Director, Rice Research and Development Institute
4. Dr. Wasana Wijesooriya, Senior Scientist, Rubber Research Institute

The first meeting of the review panel was held on 04th July 2016. The panel visited FRDI for the review on 18th & 19th August 2016. The Panel also visited FRDI Substation at Peradeniya on 14th September 2016. The stakeholder meeting was held on 21st October 2016. The 1st draft of the review report was submitted to NASTEC on 22nd December 2016.

Other NASTEC Activities

National Research and Development Framework submitted to H.E. The President.

NASTEC presented the National Research and Development Framework (NRDF) to H.E. Maithripala Sirisena, the president of the Democratic Socialist Republic of Sri Lanka on 3rd May 2016 at a special meeting held at the President's House.



This Framework has identified 10 focus areas with pressing issues that need immediate attention of the scientific community. The areas identified are I) Water, II) Food, Nutrition and Agriculture, III) Health, IV) Shelter, V) Environment, VI) Energy, VII) Mineral Resources, VIII) Textile and Apparel, IX) ICT and Knowledge Services, and X) Basic Science, Emerging technologies and Indigenous Knowledge.

Under each area specific issues and R&D needs had been identified. More than 600 interventions had been proposed to overcome the issues and they are listed under 10 main categories: i) Policy Formulation, ii) Pure and Applied Research, iii) Biotechnology, iv) Nanotechnology, v) Promotion of Innovations, vi) Application of Indigenous Knowledge, vii) Standardization, Accreditation and IPR, viii) Capacity Building, ix) Application of ICT, and x) Popularization.

It is expected that the NRDF will show the directions to S&T community and relevant stakeholders in planning their research and other relevant activities. The ultimate objective of the NRDF is to contribute towards increasing quality of life of people and enhance the economic development of the country. It has been distributed among the Science and Technology Institutes and is also available in the website of NASTEC (www.nastec.lk).



Prof. Dammika Tantrigoda, Former Chairman, NASTEC presented the NRDF to H.E. the President

8th Sri Lanka Biennial Conferences on Science and Technology (BICOST VIII)

The NASTEC is mandated by the Science and Technology Development Act of No. 11 of 1994, to convene biennially the Sri Lanka Conference on Science and Technology. This forum enables NASTEC to consult scientists, technologists, industrialists, administrators, and other stakeholders on matters pertaining to Science and Technology and application of them towards achieving socio-economic development of the country.

The 8th Biennial Conference on Science and Technology (BICOST-VIII) was held from 24-25 November 2016, at Gateway Hotel (Airport Garden), Katunayake.

The focus of the conference was Formulation of strategies for the implementation of National Research and Development Framework (NRDF)

The conference was attended by 114 invited delegates including Scientists, Engineers, private sector stakeholders, and representatives of Government Ministries and Departments and institutions.



Some Highlights of BICOST-VIII

International workshop on “Mitigation of Disasters due to Severe Natural Events: From Policy to Practice”

NASTEC organized the above workshop in collaboration with the Center for Science and Technology of the Non-Aligned and other Developing Countries (NAM S&T Center). The workshop was held on 10th to 13th March 2016 in Colombo.

There were 24 foreign participants from 18 countries (Cambodia, Egypt, Hungary, India, Indonesia, Iran, Malaysia, Mauritius, Myanmar, Nepal, Nigeria, Pakistan, Palestine, Thailand, Uganda, Venezuela, Zambia, and Zimbabwe) and 35 local participants.

The main objective of the workshop was to bring together stakeholders of NAM and other developing countries with relevant experts to formulate strategic interventions to mitigate the hazards due to severe natural disasters.

The main output of the workshop was the Colombo Resolution on Practical Guidelines to minimize hazards due to severe natural events.



Some Highlights of the Workshop

International Relations

Center for Science and Technology of the Non–Aligned and Other Developing Countries (NAM S&T Centre)

The Centre for Science and Technology of the Non-Aligned and other Developing Countries (NAM S&T Centre) was set up in 1989 as an inter-governmental organization in pursuance of the decisions taken at various Summits of the Heads of States of the Non-aligned Movement Countries. Forty-Four developing countries represented by their Government Departments/Ministries and Agencies dealing with Science and Technology have so far joined the Centre as members. NASTEC is the Sri Lanka’s national focal point of the NAM S&T Center.

NAM S&T Center provides opportunities to scientists and other officials to participate at workshops, seminars, conferences and other short-term and medium-term training programmes organized by the

member countries. The Center provides the airfare and the hosting country provides the accommodation for participants.

Training opportunities provided to Sri Lankan scientists through NAM S&T Centre – 2015

During the year 2016, Sri Lankan scientists/officials participated at the following activities sponsored by the Center.

1. Mrs. R. Wijjaludchumi, Secretary, Ministry of Science, Technology and Research represented Sri Lanka at the international training workshop on Commercialization of Technology, held in Iran from 23rd to 26th May 2016.
 2. Dr. Muditha Liyanagedara, Director/CEO, NASTEC represented Sri Lanka at the international training programme on STI Policy and Management for Developing Countries, held in Malaysia from 8th to 12th August 2016.
 3. Mr. W. A. L. S. Karunawardana of the National Engineering Research and Development (NERD) Centre, participated at the international workshop on Evolving Energy Models in Emerging Economies – POST COP 21 held in India from 12th to 14th December 2016.
- Announcement on Research Training Fellowship for Developing Country Scientists circulated among S&T institutes in April 2016.
 - Announcement on Joint NAM S&T Center – ZMT Bremen Fellowship in Tropical Coastal Marine Research, 2016 was circulated among relevant S&T institutes in July 2016.
 - DST (South Africa) Training fellowship on Minerals Processing & Beneficiation was circulated among S&T institutions in December 2016.

Consultative Fora Activities

Young Scientists Forum (YSF) Activities

YSF Annual General Meeting – 2016

The 2016 Annual General Meeting (AGM) of the Young Scientists Forum was held on 22nd January 2016 at the Institute of Engineers, Colombo 7, Sri Lanka.

The following members were elected to the YSF Steering Committee for year 2016 at the AGM.

- Mrs. Lohini Athiththan, Senior Lecturer - Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayewardenepura
- Dr. Darshani Bandupriya, Senior Research Officer, Tissue Culture Division, Coconut Research Institute
- Dr. Pradeepa Bandaranayake, Director, Agricultural Biotechnology Center, Faculty of Agriculture, University of Peradeniya
- Dr. Asitha Bandaranayake, Senior Lecturer, Department of Computer Engineering, Faculty of Engineering, University of Peradeniya
- Dr. Indika Herath, Soil Scientist, Soil and Plant Nutrition Division, Coconut Research Institute
- Mr. H. M. Akila Jayasanka Herath, ICT Centre, Wayamba University of Sri Lanka
- Dr. H. A. H. Champa, Senior Research Officer, Institute of Post-Harvest Technology
- Dr. Chulantha Jayawardena, Senior Lecturer, Department of Earth Resources Engineering, Faculty of Engineering, University of Moratuwa.
- Dr. Usha Hettiarachchi, Senior Lecturer, Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayewardenepura
- Dr.H. M. Kasuni Akalanka, Lecturer, South Asian Institute of Technology and Medicine (SAITM)
- Dr. Meththika Vithanage, Research Fellow (Chemical & Environmental System Modeling), National Institute of Fundamental Studies
- Dr. R. M. Nilanthi A. Wijewardana, Senior Research Officer, Institute of Post-Harvest Technology
- Mr. S. V. T. D. Raveendrasinghe, Research Officer, Gem & Jewellery Research Institute

Fifth YSF Research Symposium

The Fifth YSF Symposium was held on 22nd January 2016 at the Institute of Engineers, Colombo 7 , with the participation of 58 scientists. In response to the call for Abstracts, NASTEC received 36 Abstracts from YSF Members. Each Abstract was evaluated by two Senior Scientists. Based on their recommendations, 32 abstracts were selected for presentations. The selected abstracts were published in the proceedings of the forum.

Oral presentations were made under the following five themes;

- Agricultural Sciences
- Food Science and Microbiology
- Medical & Health Sciences
- Environmental & Physical Sciences
- Economics & Social Sciences

All the presentations were evaluated by invited Senior Scientists and merit certificates were awarded to the best presenters of each session.

Workshop on “Reviewing and Editing Research Articles: Are we doing it right?”

The above workshop was conducted on 28th April 2016, at the Industrial Technology Institute (ITI), Colombo.

The objective of the workshop was to improve the quality of research papers published by Sri Lankan scientists. This event was attended by 45 researchers who are reviewing, editing and writing research papers.

The resource persons of the workshop were;

Prof. Buddhi Marambe
Director, Agricultural Education Unit
Faculty of Agriculture, University of
Peradeniya

Dr. Pradeepa Bandaranayake
Senior Lecturer
Agricultural Biotechnology Center
Faculty of Agriculture, University of
Peradeniya

Dr. Asitha Bandaranayake,
Senior Lecturer,
Department of Computer Engineering,
Faculty of Engineering, University of
Peradeniya

Dr. Meththika Vithanage,
Research Fellow,
National Institute of Fundamental Studies

Workshop on “Writing a Winning Research Proposal”

On 30th September 2016, the NASTEC and the YSF conducted the above workshop for university Academics, Scientists, and Research Officers at the Sri Lanka Institute of Development Administration, Colombo. The workshop was attended by 52 young researchers attached to R&D institutions and young academics from universities.

The following resource persons conducted the workshop

Prof. W.A.J.M. de Costa
Senior Professor and Chair of Crop Science
Faculty of Agriculture
University of Peradeniya

Dr. Lalith Suriyagoda
Senior Lecturer
Department of Crop Science
Faculty of Agriculture, University of
Peradeniya

Prof. N. Salim
Professor
Department of Botany
Faculty of Applied Sciences
University of Sri Jayewardenepura

Prof. Sagarika Ekanayake
Professor
Department of Biochemistry
Faculty of Medical Sciences
University of Sri Jayewardenepura

Prof. (Mrs.) Asoka Pathiratne
Senior Professor
Department of Zoology and Environmental
Management
Faculty of Science, University of Kelaniya

Short Course on “Basic Statistics for Researchers: Principles and Practices”.

The above short course was organized by the YSF of the NASTEC on 13th and 14th June 2016 at the ICT Centre, Wayamba University of Sri Lanka, Kuliypitiya. The workshop was attended by 58 young academics, final year research students, postgraduate students and young researchers attached to R&D institutes.

The resource persons of the workshop were as follows

Prof. R.O. Thattil
Professor Emeritus,
Department of Crop Science
Faculty of Agriculture, University of Peradeniya

Dr. R. Abeynayake
Head / Senior Lecturer
Department of Agribusiness Management,
Faculty of Agriculture and Plantation Management,
Wayamba University of Sri Lanka.

Dr. L. Suriyagoda
Department of Crop Science
Faculty of Agriculture
University of Peradeniya

Our Staff

Chairman (Up to 20th April 2016)

Prof. Dammika Tantrigoda (B.Sc. (Sri Lanka), M.Sc., Ph.D. (Durham), FNASSL, FIP (SL)
Chair and Senior Professor of Physics (University of Sri Jayewardenepura, 2004 to Present)

Chairman (Since June 2016)

Prof. M.J.S. Wijeyaratna B.Sc. (Sri Lanka), M.Sc. (Michigan), Ph.D. (Kelaniya), FNASSL, FIBiol
(SL), Senior Professor and Chair of Zoology

Director/CEO

Dr. Muditha Liyanagedara B.Sc., M.Phil (Peradeniya), Ph.D. (Seoul)

Executive Staff

Senior Scientist

Mrs. Asha Pitadniya (B.Sc, M.Sc Peradeniya)

Mr. Indika Siriwardena (B.Sc. MEcon. Colombo)

Mrs. Kamalapani Degambada (B.Sc, M.Sc Colombo)

Deputy Director - Finance and Administration

Mrs. Kumari Peiris (B.Com J'Pura)

Admin Officer

Ms. Lakmini Udugama (B.A, Sabaragamuwa)

Supporting Staff

Programme Assistant - Finance

Mr.Thusitha Rathnayake (M.A.A.T.)

ICT/Database Associate

Mr. Anuradha Ilanganthilake (BIT,Colombo)

Office Aids

Mr. A.D. Danapala

Mr. Nishantha Piyadasa

Mr. Kanishka Gimhan

Management Assistants

Mrs. Nilmini Perera (B.Sc J'pura)

Mrs. Sayumi Wijesinghe

Miss. Nishanthi Maharage

Drivers

Mr. Anil Hettiarachchi

Mr. Prabath Jayashantha

Mr. Pradeep Eranda

Staff News

1. On 20th June 2016 NASTEC bid farewell to Mr. Indika Siriwardena, Senior Scientist. We wish him success in his future career.
2. On 08th August 2016, NASTEC welcomed Ms. Lakmini Udugama, who joined NASTEC as the Administrative Officer.

Events Attended by the Staff

1. Dr. Muditha Liyanagedara, Director/CEO, NASTEC represented Sri Lanka at the international training programme on STI Policy and Management for Developing Countries, held in Malaysia from 8th and 12th August 2016.

Acknowledgement

NASTEC Acknowledges the following review panel member for their excellent service

FCRDI Review

1. Prof. W. A. J. M. de Costa, Senior Professor and Crop Science, Faculty of Agriculture, University of Peradeniya (Chairman of the Panel)
2. Dr. Wijaya Jayatilake, Professor Emeritus, Faculty of Agriculture, University of Peradeniya
3. Dr. Everad Jayamanne, former Deputy Director, Coconut Research Institute
4. Dr. Keerthi Mohotti, Deputy Director (Research), Tea Research Institute
5. Dr. Renuka Silva, Senior Lecturer, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka

FRDI Review Panel Members

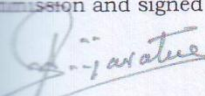
1. Prof. S. Subasinghe, Professor, Faculty of Agriculture, University of Ruhuna
2. Prof. Laleen Karunanayake, Professor, Faculty of Applied Sciences, University of Sri Jayewardenepura
3. Dr. Nimal Dissanayake, Former Director, Rice Research and Development Institute
4. Dr. Wasana Wijesooriya, Senior Scientist, Rubber Research Institute

NATIONAL SCIENCE AND TECHNOLOGY COMMISSION
STATEMENT OF FINANCIAL POSITION
AS AT DECEMBER 31, 2016

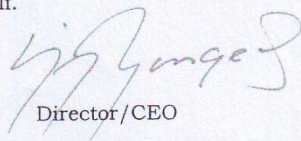
(all amounts are given in Sri Lanka Rupees)

| | Notes | 2016 | 2015 |
|----------------------------------|-------|-------------------|------------------|
| ASSETS | | | |
| Current assets | | | |
| Cash and cash equivalents | 1 | 314,338 | 672,270 |
| Trade and other receivables | 2 | 2,400 | 17,500 |
| Inventories / Stocks | 3 | 57,881 | 60,235 |
| Prepayments | 4 | 930,381 | 885,103 |
| Staff Loans - Short-term | 5 | 188,652 | 191,661 |
| | | 1,493,652 | 1,826,769 |
| Non - current assets | | | |
| Property, plant and equipment | 6 | 16,025,029 | 3,988,674 |
| Refundable Deposit | 7 | 1,275,500 | 1,275,500 |
| Staff Loans - Long-term | 8 | 508,737 | 421,259 |
| | | 17,809,266 | 5,685,433 |
| Total Assets | | 19,302,918 | 7,512,202 |
| LIABILITIES | | | |
| Current liabilities | | | |
| Accrued expenses | 9 | 1,574,380 | 921,022 |
| Non - current liabilities | | | |
| Differed Income | 10 | 1,216,243 | 2,894,974 |
| Provision for Gratuity | 11 | 2,295,143 | 2,430,916 |
| | | 3,511,386 | 5,325,890 |
| Total liabilities | | 5,085,766 | 6,246,912 |
| Total Net Assets | | 14,217,152 | 1,265,290 |
| NET ASSETS/EQUITY | | | |
| Accumulated fund | | 2,540,639 | 2,831,946 |
| Revaluation Surplus | | 16,658,610 | 2,589,250 |
| Reserves | | (4,982,097) | (4,155,906) |
| Total Net assets/equity | | 14,217,152 | 1,265,290 |

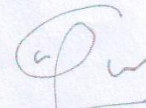
The Accounting policies on pages 01 to 02 and Notes on pages 07 to 11 form an integral part of these Financial Statements. The members of the Commission is responsible for the preparation and presentation of these Financial Statements. These Financial Statements were approved by the members of Commission and signed on their behalf.



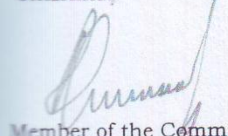
Chairman



Director/CEO



Deputy Director
(Finance and Administration)



Member of the Commission

NATIONAL SCIENCE AND TECHNOLOGY COMMISSION
STATEMENT OF FINANCIAL PERFORMANCE
FOR THE YEAR ENDED DECEMBER 31, 2016
(all amounts are given in Sri Lanka Rupees)

| | | 2016 | 2015 |
|--|----|--------------------------|--------------------------|
| Revenue | | | |
| Recurrent Grant | | 23,556,808 | 19,795,000 |
| Capital Grant - S & T Services | | 8,300,000 | 2,135,900 |
| Amortization of Government Grants - Depreciation | | 2,272,837 | 4,712,636 |
| Income | 12 | <u>558,441</u> | <u>563,900</u> |
| | | <u>34,688,086</u> | <u>27,207,436</u> |
| Expenses | | | |
| Personal Emoluments | 13 | 10,291,548 | 10,327,921 |
| Traveling | 14 | 410,472 | 79,142 |
| Supplies and consumables used | 15 | 399,440 | 406,549 |
| Maintenance | 16 | 816,496 | 561,694 |
| Contractual services | 17 | 8,428,860 | 5,617,363 |
| Transfers | 18 | 3,160,145 | 2,994,398 |
| S & T Services | 19 | 9,729,049 | 1,618,316 |
| Depreciation and amortization expenses | 6 | <u>2,272,837</u> | <u>4,712,636</u> |
| Total expenses | | <u>35,508,847</u> | <u>26,318,019</u> |
| Surplus/(Deficit) from operating activities | | <u>(820,761)</u> | <u>889,417</u> |
| Financial Cost | | | |
| Gain on sales of property plant and equipment | | (5,430) | 16,260 |
| Net surplus/(deficit) for the period | | <u>(826,191)</u> | <u>905,677</u> |

Auditor General's Report



විගණකාධිපති දෙපාර්තමේන්තුව கணக்காய்வாளர் தலைமை அபிபதி திணைக்களம் AUDITOR GENERAL'S DEPARTMENT



මගේ අංකය
எனது இல. }
My No. }

TEC/A/NASTEC/1/15/23

ඔබේ අංකය
உமது இல. }
Your No. }

දිනය
திகதி }
Date }

August 2016

The Chairman,
National Science and Technology Commission.

Report of the Auditor General on the Financial Statements of the National Science and Technology Commission for the year ended 31 December 2015 in terms of Section 14(2) (c) of the Finance Act, No. 38 of 1971.

The audit of financial statements of the National Science and Technology Commission for the year ended 31 December 2015 comprising the statement of financial position as at 31 December 2015 and the statement of financial performance, statement of changes in equity and cash flow statement for the year then ended and a summary of significant accounting policies and other explanatory information was carried out under my direction in pursuance of provisions in Article 154(1) of the Constitution of the Democratic Socialist Republic of Sri Lanka read in conjunction with Section 13 (1) of the Finance Act, No. 38 of 1971 and Section 40 of Part VII of the Science and Technology Development Act, No.11 of 1994. My comments and observations which I consider should be published with the Annual Report of the Commission in terms of Section 14 (2) (c) of the Finance Act appear in this report. A detailed report in terms of Section 13 (7) (a) of the Finance Act, will be issued to the Chairman of the Commission in due course.

1.2 Management's Responsibility for the Financial Statements

The management is responsible for the preparation and fair presentation of these financial statements in accordance with Sri Lanka Public Sector Accounting Standards and for such internal control as the management determines is necessary to enable the preparation of financial statements that are free from material misstatements whether due to fraud or error.

1.3 Auditor's Responsibility

My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with Sri Lanka Auditing Standards consistent with International Auditing Standards of Supreme Audit Institutions (ISSAI 1000-1810). Those Standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements.



An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatements of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Commission's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Commission's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of financial statements. Sub-sections (3) and (4) of Section 13 of the Finance Act, No. 38 of 1971 give discretionary powers to the Auditor General to determine the scope and extent of the audit.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

1.4 Basis for Qualified Opinion

My opinion is qualified based on the matters described in paragraph 2:2 of this report.

2. Financial Statements

2.1 Qualified Opinion

In my opinion, except of the matters described in paragraph 2:2 of this report the financial statements give a true and fair view of the financial position of the National Science and Technology Commission as at 31 December 2015 and its financial performance and cash flows for the year then ended in accordance with Sri Lanka Public Sector Accounting Standards.

2.2 Comments on Financial Statements.

2.2.1 Sri Lanka Public Sector Accounting Standard 07

The following observations are made.

- (a.) Although the entire class of assets should be revalued, the Commission had revalued only a part of the Property, Plant and Equipment.
- (b.) When assets are restated at the revalued amounts, it is necessary to reveal the effective date of revaluation, whether an independent Valuer had been appointed, methodologies applied in estimating the fair value of the assets and important assumptions made.



However, such disclosures had not been made in connection with the Property, Plant, and Equipment that had been revalued.

- (c.) The fair value of the fully depreciated assets still in use, should be shown in the accounts after being revalued. However, it had not been so done in respect of the assets valued at Rs. 15,445,186.

2.3 Non-compliance with Laws, Rules, Regulations, and Management Decisions

The "Report on the Review of scientific and technology activities conducted on the utilization of science and technology by the Public and private sector enterprises in Sri Lanka in the preceding year" that had been prepared for the years 2013 and 2014 in terms of Section 5(b) of the Science and Technology Development Act, No.11 of 1994, had not been presented to the Minister in terms of the provisions in the Act.

3. Financial Review

3.1 Financial Results

The following observations are made.

- (a.) According to the financial statements presented, the operations of the Commission for the year ended 31 December of the year under review, had resulted in a surplus of Rs. 889,417 as against the deficit of Rs.542, 816 in the financial result for the preceding year. Accordingly, an improvement of Rs. 1,432,233 in the financial result of the year under review as compared with the preceding year was indicated. The decrease in the expenditure by Rs 5,113,880 despite the decrease in the income of the year under review by Rs. 3,681,647 had attributed to the improvement of the financial result.
- (b.) An analysis of the financial results in respect of 4 preceding years from the year under review revealed that , the deficit that continued from 2011 to 2014 had converted to a surplus in the year 2015. The contribution of Rs. 7,460,849 for the year 2011 after adjustment of the employees' remuneration and the depreciation on non-current assets had improved continually improved to Rs. 15,946,234 by 114 per cent in the year under review.

4. Operating Review

4.1 Performance

In terms of Section 05 of Part 1 of the Science and Technology Development Act, No.11 of 1994, the functions of the Commission include: advising the Government on policies and plans for the development of Science and Technology, strengthening of economic growth, health and



nutrition and alleviation of poverty, implementation of science and technology for the development of human and other resources required for education, training and research, preparation of policies and plans relating to the allocation of funds for research and development, submission of a report to the Government annually by reviewing the Science and Technology institutions in Sri Lanka, convening the Sri Lanka Conference on Science and Technology biennially and providing a forum for the discussion of Science and Technology, and presentation of a report to the Minister in that connection.

The following observations are made on execution of the aforesaid activities.

- (a.) Action had not been taken during the year under review to commence the reviews by identifying the science and technology institutions.
- (b.) Although the 7th Biennial Session of the Sri Lanka Conference on Science and Technology had been held in the year 2014 by spending a sum of Rs. 2,995,861, and an agreement had been entered into for the development of 10 areas in science and technology, the process had remained dormant.

4.2 Procurement and Contract Process

Contrary to Guideline 8.9.1 of the Government Procurement Guidelines – 2006, security services for the year under review had been obtained from a private institution at a contract value of Rs. 763,477 without entering into a written agreement.

4.3 Staff Administration

The following observations are made.

- (a.) The approved and actual cadre of the commission had been 18 and 15 respectively and as such there were 3 vacancies as at 31 December 2015.
- (b.) Action had not been taken to make recruitments for 02 posts of Scientist, and a post of Administrative Officer rendered vacant during the year under review. According to the Action Plan, it had been planned to commence 03 academic group activities during the year under review, whereas 02 activities had not been commenced. Although the final report of the activity commenced had been prepared, action had not been taken to issue the report. The Chairman of the Commission informed that those activities could not be commenced due to the dearth of staff in the Scientific Service that existed in the Commission over a long period of time.



5. Accountability and Good Governance

5.1 Internal Audit

An Internal Audit Unit for the execution of internal audits had not been established in terms of Financial Regulation 133 (1) (a) of the Financial Regulations of the Democratic Socialist Republic of Sri Lanka. However, an Annual Audit Plan for the year under review had been presented to the Commission by the Internal Auditor of the Ministry on 02 September 2015.

5.2 Budgetary Control

A comparison the budgeted expenditure of the year under review with the actuals, revealed saving of provisions on 21 items ranging from 50 per cent to 100 per cent. As such it was observed that the budget had not been made use of as an instrument of management control.

6. Systems and Controls

Deficiencies observed during the course of audit were brought to the notice of the Chairman from time to time. Special attention is needed in respect of the following areas of control.

| <u>Area of Systems and Controls</u> | <u>Observations</u> |
|-------------------------------------|---|
| (a) Procurement | Procurement of services without entering into formal agreements. |
| (b) Budgetary Control | Saving of provisions due to failure to prepare estimates properly. |
| (c) Staff Administration | Failure to take action to fill vacancies in the Scientific Service. |

H.M. Gamini Wijesinghe.
Auditor General

Report of the Auditor General in terms of Section 14(2) (c) of the Finance Act No. 38 of 1971 on the financial statements of the National Science and Technology Commission for the year ended on 31st December, 2016 .

Clarifications in relation to the aforesaid report bearing No. TEC/A/NASTEC/1/16/10 dated 30th June 2017 sent by you, are given below.

2.2. Opinion on the financial statements

2.2.1. No- compliance with Sri Lanka Public Sector Accounting Standards

(i) and (ii).

Instructions were given to accurately disclose the carrying value of the property, plant and equipment given in paragraphs (i) and (ii) of the report as per Sri Lanka Accounting Standard No.07 when financial statements are prepared for the coming year.

2.3. Non-compliance with rules and regulations and management decisions

a) Information has to be obtained from the relevant institutions to prepare the report relevant to 2015 as per paragraph No. 05 (b) of the Act. Preparation of the report was delayed as those institutions failed to provide the information on time. However, that report has been finalized and submitted to the Hon. Minister of Science and Technology by now, after obtaining the approval of the Commission.

Obtaining information required to prepare the report relevant to 2016 is being carried out at present.

b) A finger print machine is used by now to record the arrivals and departures.

4. Review of operations

4.1 Performance

(i) Even though review of 06 institutions had been planned as per the Action Plan, review of only 03 out of those 06 institutions was commenced because of the reasons cited below.

- i A considerable time was spent to obtain the consent of the Sri Lanka Council for Agricultural Research Policy for the review of Agricultural Research Institutes.
- ii Allocation of time for committee meetings and observation of institutions being extremely difficult as the members of the committees appointed to perform the reviews are very busy persons.
- iii Delay in review activities as a result of the delay in the provision of the reports due from the institutions reviewed.

(b) The mandate of our institution includes inviting Research Papers and holding the Young Scientists' symposium based on the Research Papers received by the institution and the downward trend in the reception of research papers is a matter outside the mandate of the institution.

- (c) The number of workshops held by NAM in 2017 was not 6 but 7. Sri Lankan representatives participated in 4 of those workshops and even though applications were called for the remaining 03 workshops, none was received.

4.2 Procurement and contract process

Terms and conditions of the institution are presented when bids are called for obtaining sanitary service and the security service and services are obtained only from those institutions that comply with them. Accordingly, the sanitary service and the security service are obtained only from the service providers that comply with the conditions of the institution. However, the officers were advised to enter into written agreements when the sanitary service and the security service are obtained again.

5. Accountability and good governance

5.1 Internal Audit

The Internal Auditor of the Ministry was made aware of this audit paragraph relevant to the internal audit reports.

5.2. Budgetary Control

The budget estimate of the institution for 2016 was Rs.36 million and Rs.25 million out of that was allocated for recurrent expenditure while Rs.11 million was allocated for capital expenditure. The actual expenditure of the institution for 2016 was Rs.32 million. That is 89% as a percentage. The reasons for the existence of a balance of 11%, that is Rs.3 million, are given below.

- I. Failure to recruit for the two posts of Scientists as planned by the institution.
- II. Allocation of time for committee meetings and observation of institutes being extremely difficult as the members of the committees appointed to perform the reviews are very busy persons and the delay in review activities as a result of the delay in the provision of the reports due from the institutions reviewed.

6. Systems and Control

Instructions were given to pay special attention to these three areas of control.

Professor M. J. S. Wijeyarathne
Chairman.