

Annual Report 2015



National Science Foundation
47/5, Maitland Place,
Colombo - 07,
Sri Lanka.
www.nsf.ac.lk



NATIONAL
SCIENCE
FOUNDATION

Chairperson's message

It gives me great pleasure to present the annual report of the National Science Foundation (NSF) for the year 2015. As we look back at the evolution of the NSF since its inception in 1994, we can be pleased with the many achievements the NSF has made.

The NSF has carried out many activities successfully during the year 2015 in order to achieve its objectives. I am happy to note that in this reporting year four tangible outputs such as COP Sayura - the three-dimensional coastal surveillance system, cost effective, environmentally friendly cooking stoves, 'iBraille' - a Virtual Braille Keyboard which enables blind users to use modern touch screen devices and cost effective, user friendly and efficient single dryer for different types of natural rubber utilizing the NSF technology grants. NSF provided funds for 10 new technology grants in 2015 to the total value around LKR 30 Million.

In the year 2015, through NSF research grants, more than 65 Million was allocated for scientific research in 8 different disciplines. LKR 53 Million was spent to award 11 equipment grants and supported international liaison in Science and Technology by providing LKR 12 Million through 3 different grant schemes. In addition to 24 Research Students registered for postgraduate degrees through NSF research grants, NSF provided LKR 11 Million to 07 research scholars to read for postgraduate research degrees.

The National Science Foundation along with the Coordinating Secretariat for Science, Technology and Innovation (COSTI) plays a major role in establishing the very first Sri Lanka's National Science Centre which will be a centre to celebrate our technical heritage while stimulating, empowering and inspiring our people to drive Sri Lankan growth and prosperity through an understanding of STI. In 2015, NSF has developed concepts for themes which will be the basis for exhibit galleries.

In 2015 too NSF celebrated World Science Day declared by UNESCO in 2001, by organizing several activities and competitions in School level to encourage younger generations to involve Science based activities. The 2015 theme was "Light and Light based technologies", which was beautifully explained to school children by Prof. A.P de Silva from School of Chemistry and Chemical Engineering, Queen's University Belfast, UK.

I congratulate the Scientists who were awarded NSF Research Awards, SUSRED Awards, TWAS/NSF Young Scientist Awards, Technology grants awarded and NASTA. I believe that these awarding schemes boost our national scientists to involve in scientific researches actively.

I proudly point out here the Journal of the National Science Foundation of Sri Lanka (JNSF) is the only journal in Sri Lanka, currently indexed in the Thomson Reuters databases. In 2015, four (04) issues of JNSF volume 43 (issues 1, 2, 3, 4) were published and also these Journals have wide circulation globally. The Sri Lanka Journal of Social Sciences (SLJSS) is also published twice a year and it is expected to be indexed within next 2 years.

I am delighted to mention that, dedication of the Board of Management, working committees (supported by 150 Scientists and decision makers) and Research Panels led the NSF in a strategic direction and to commit to many scientific projects during the year.

I express my sincere appreciation to all of the staff members of NSF, especially to Ms H A U Amarasinghe, Director-General and Dr Seetha I Wickramasinghe and Ms Sunethra Perera who acted for Director General taking the responsibilities of executing the activities under taken in achieving the goals of NSF during the year 2015.

Prof. Sirimali Fernando
Chairperson, National Science Foundation

Director General's Report

This report focuses on the performance of National Science Foundation, during the financial year ended on 31.12.2015.

Financial overview

Due to the uncertainty in receiving funds from the government in a timely manner the management had to adopt stringent economy measures and exercise a cautious policy towards its commitments. The value of overall commitment for research and development (R&D) and other major scientific activities for the year 2015 was approximately Rs.254 million. This was only 88% of the actual requirement. However, 19% allocation of the Budget 2015 was not released by the Treasury, which resulted in withholding several Science, Technology and Innovation activities planned for the year.

Achieving the Objectives

Despite many constraints and challenges experienced, the NSF maintained a balanced portfolio in accomplishing its objectives through the adoption of appropriate strategies. A significant contribution was made to promote R&D and capacity building of researchers and the research institutes in the country. Technology development and transfer of research outcomes to commercial products was also facilitated to some extent to pave the way towards industrial development. Contribution made towards building up a scientifically literate society was also significant. A noteworthy role was played in catering to the STI information needs of the academic and research community, policymakers and the administrators.

Facilitate Research

The main aim at facilitating research is to support Research, Development and Innovation (RD & I), which addresses national development needs and to enhance the quality of RD&I undertaken by the National Research Innovation System (NRIS). In view of this, during 2015, a few significant achievements have been made.

- **Competitive Research Grant Scheme:** This scheme is intended to provide assistance to supplement the financial, physical and manpower resources availability for scientific research in the country. Under this scheme, 24 new Research Grants were awarded in the year 2015. Funds were released for 70 ongoing projects based on their good progress and financial needs. The total financial commitment for the year for competitive research grants was Rs.90.4M. During the year, 41 new Research Students were appointed to facilitate manpower requirements in the NSF funded projects. Three (03) and fifteen (15) research papers arising from the NSF funded projects have been published in foreign and local journals respectively. The number of other research communications made was forty (40).
- **Research Studentships:** During the year, 41 Research Students were supported under the Competitive Research Grants Scheme while 25 Research Students registered for postgraduate degrees with the NSF support. Thirteen (13) Research Students completed their postgraduate degrees (PhD – 02; MPhil – 09; MD – 02).
- **National Thematic Research Program (NTRP):** National Thematic Research Programme (NTRP) is a mission oriented multidisciplinary, collaborative research programme addressing the national priorities. All three programmes so far identified under the Thematic Research Programme viz, Food Security, Climate Change and Natural Disasters have shown satisfactory progress in spite of the financial and staff constraints experienced during the year. Preparation of the Theme Paper on Climate Change & Natural Disasters was in progress and sixteen (16) projects have been identified

in six thrust areas to be implemented through partnerships with both public and private sector institutions while nine (9) projects awarded under the Food Security theme during 2012 and 2013 continued to show satisfactory progress. Out of these 09 projects 06 are to be completed by 2016.

Capacity building of the Research community and International Collaboration

A critical mass of well skilled competent quality researchers is a must for the development of the country. To address this national need NSF offers a range of schemes towards capacity building of the research community. The contribution during the year was significant.

- **Travel grants:** During the year, forty-one (41) Travel grants were awarded to Sri Lankan scientists. The aim being to provide the researchers an opportunity to present the research findings to the International community and to acquire Scientific Knowledge on new discoveries, achievements, developments etc.
- **Overseas Special Training Program (OSTP):** Under this scheme Sixteen (16) OSTP Grants were facilitated with financial assistance to enhance their knowledge and research capacities in advanced laboratories and research centers of excellence abroad. The commitment of the NSF was Rs. 3.52 million for OSTP for the year 2015.
- **International partnership for Science & Technology (IPSAT):** In order to obtain services of high caliber scientists and technologists working abroad, three (3) grants were awarded under IPSAT scheme.
- **Sponsorships for Local and International Conferences:** The NSF also sponsored research associations and institutes during the year to organize 29 national and international conferences. The objective was to promote sharing of research outcomes and experiences. Twenty nine (29) Sponsorships worth Rs. 6,186,600 were provided during 2015 covering various disciplines in Basic and Applied Science and Social Science.

Facilitate Infrastructure development in academic and research institutes

Laboratories with modern infrastructure facilities are needed for research to be in par with the global S&T research. Seventeen (17) equipment grants worth LKR 42.76M have been awarded in 2015 to universities and research institutes to improve the research infrastructure in the country.

Technology and Entrepreneurial development:

The expected main outcome of the programme is the promotion of innovation and new technology to pave the way towards industrial development and thereby contribute to improve the national economy. A total of 10 grants were awarded during the year to Support 'Technology development' and to Support 'Start-up business based on new technologies'. The total financial commitment towards this for the year was Rs. 25.2 million. This includes, all relevant costs related to grants, NSF allocation, project management costs, grant advertisement's etc. Four (4) technology projects were successfully completed during the year with tangible outputs and the products are ready for commercialization. Also a sound knowledge on Intellectual Property (IP) and related issues is a major requirement for a successful entrepreneur. A successful one-day training workshop on "Business proposal writing" for industrial personnel was held on 28th May, 2015.

Awards for outstanding research: NSF offers several awards schemes to reward, motivate and encourage researchers with significant contributions for the advancement of research and technology. A substantial number of researchers were felicitated during the year under a number of schemes.

- ***NSF Research Awards’ and ‘NSF Technology Awards’***: Six were selected for Technology Awards and one was recommended for certificate of commendation. These were awarded to researchers and technologists who made significant contributions through the NSF funded projects. The Awards Ceremony took place on 15th December, 2015.
- ***The ‘National Awards for Science and Technology Achievement, ‘(NASTA)*** is another scheme implemented by the NSF to recognize significant contributions of scientists & techerists at the National level. Under nine categories, ten projects were selected for the award of five (5) National Awards and five (5) Certificates of Merit. A Ceremony to confer NASTA 2014 was held on 27th February, 2015 at the Presidential Secretariat.
- ***‘Third World Academy of Sciences/ National Science Foundation (TWAS/ NSF) Young Scientist Award’***: Two winners in the fields of Chemistry and Biology were awarded the TWAS/ NSF Young Scientist Award 2015 at the same ceremony based on the recommendations made by the Research Advisory Board of the NSF.
- ***‘Support Scheme for Supervision of Research Degrees’ (SUSRED)*** is intended to motivate, support and recognize the scientists/engineers engaged in supervising students who conduct research in the areas of Science and Technology leading to postgraduate research degrees. Six supervisory teams were successful in securing SUSRED Awards for four PhD and two MPhil degrees completed during 2013 and 2014.

International Partnerships

NSF continued to maintain effective partnerships by serving as the National Focal Point of several international scientific organizations such as TWAS, ICSU, ICGEB, SIDA, IFS *etc.* An initiative was taken to build up a new partnership between the Pakistan Science Foundation and the NSF. This will provide an opportunity for local scientists and technologists to obtain expertise support and establish collaborative activities in various fields of Science and Technology with research institutions in Pakistan.

Communicating Science

Main aim of this programme is to popularize Science, Technology and Innovation towards building up a scientific literate society. The World Science Day Schools Programme is an annual event organized to promote science culture within the school community. In 2015, it was organized under the theme “Light and Light Based Technologies” and held on 09 November 2015 at the Main Hall of BMICH and a series of competitions were conducted among the School Science Societies registered with the NSF. The Secretary of the Ministry of Science, Technology & Research participated as the Chief Guest while the Keynote Address on “Light and Light based Technologies” was delivered by Prof. A.P. De Silva, Senior Professor of the Queen’s University, Ireland.

The “*Mihimandala*” is a series of short video programmes (20 - 25 minutes) produced in all three languages (Sinhala, Tamil, and English) under different scientific topics targeting the general public. Phase II of Mihimadala programme was commenced in 2014 targeting the production of videos on 15 topics in all three languages with an objective to telecast via the national TV channels to reach the diverse target groups among the general public.

The *Vidurava* Science Magazine, which is published in the from of a Science Bulletin since 1978 is one of the oldest Science Magazines in the arena. It has been published for 37 years up to 2015. At present, three issues of the Magazine in three language versions (Sinhala, Tamil and English) are published in January, June and November (Special issue) respectively, each carrying a specific theme. All the issues are distributed among the schools registered with the NSF, Vidatha Centres, University Science Libraries, Provincial Science Coordinators, and Zonal Science Directors free of charge.

Sustainable utilization of Natural resources

The Sub-Committee working on the nomination of Usangoda National park to be declared as a Geopark finalized the first draft of the nomination dossier for submission to UNESCO for their consideration. Schematic design of the proposed Geopark was developed with the collaboration of the Archeology Department and with the members of the Sub-committee of the Usangoda Geopark.

Science and Technology Policy Research

Information required for the formulation of the national policies and scientific indicators is vital for the Socio – economic development of a country. As mandated the ‘Science and Technology Policy Research Division’ continued to carry out policy research on specific areas of national importance for the collection, interpretation and analysis of data to be provided to policymakers, administrators, researchers and other stakeholders. During the year, the National R&D survey 2013 and a Tracer Study on ST&I postgraduates were carried out and both studies showed a significant progress.

The Science and Technology Management Information System (STMIS) database provided a good source of information to cater to information needs of policy makers, administrators and other stakeholders. The STMIS database is being updated regularly and the total number of scientists registered in the database during the year 2015 was 396 and presently it contains information of more than 5,704 scientists of different disciplines. One hundred and thirty seven (137) identity cards were also being issued to the registered scientists in 2015.

Fulfilling the Information Needs

National Science Library & Resource Centre (NSLRC) is the National Focal Point for the dissemination of Science & Technology (S&T) literature for the scientific counterparts. The National Digitization Project started to digitize local S&T literature available in research & academic libraries in the country to facilitate easy & quick online access to the full text through a national network of Institutional repositories. Phase I of the project which covered nine (9) institutions in the country was completed in 2013. Uploading the digitized documents in to the respective Institutional Repositories have been completed in eight (8) libraries namely, Rubber Research Institute (RRI), Hector Kobbekaduwa Agrarian Research & Training Institute (HARTI), University of Moratuwa (UoM), Industrial Technology Institute (ITI), Coconut Research Institute (CRI), Post Graduate Institute of Agriculture (PGIA), Council for Agricultural Research Policy (CARP) & National Science Foundation (NSF). Uploading of documents in the Central Environment Authority (CEA) has shown significant progress.

Sri Lanka Journals Online (SLJOL) is currently operating successfully publishing 61 journals of local origin. Two new journals were set up and 100 journal issues were published on SLJOL in 2015. In March 2015, the site was upgraded by enhancing social media functionality and incorporating the facility to monitor the number of times that an article is viewed or downloaded. These new functions have immensely been beneficial to overcome the great challenge faced by Sri Lankan academics in disseminating their findings worldwide. The usage of SLJOL has also been increased tremendously as per the statistics maintained by International Network for the Availability of Scientific Publications (INASP), UK.

Journal of National Science Foundation (JNSF) and Sri Lanka Journal of Social Sciences (SLJSS)

JNSF is the only one journal currently indexed in the Thomson Reuters databases. All four issues of the journal (March, June, September and December) were published on time. The SLJSS is published twice a year in June and December and the December 2015 issue was being processed.

Improved governance, management, procedure - IT applications

The online system geared towards integrating all key activities of the NSF for the purpose of improving performance efficiency showed very little progress. The targets set for the year could not be met due to reasons beyond the control of the NSF. Internet bandwidth and upgrading local area network devices were the key activities performed by the IT unit. However, the performance of the network remained poor throughout the year. Two databases of the NSLRC crashed during the year and the support provided to reinstate the same by the IT unit was inadequate. The need for upgrading the IT facilities to be in par with modern systems and strengthening with competent staff is important.

Competent scientific administrative, technical and support staff

Human Resources play a critical role in the success of an organization. The staff training showed significant progress compared to previous years. Staff was given the opportunity to improve technical and managerial competencies to attain a high level of professionalism through the participation in local and foreign meetings/ workshops /seminars to enable good performance in specific tasks assigned. The staff represented the NSF at 37 local and 10 foreign meetings / workshops / Seminars.

Constraints and challenges

Performance of the services of an organization is determined to a large extent on the staff strength and the availability of sufficient funds. The high staff turnover experienced during the year was a major challenge faced by the NSF. The non- receipt of total amount of funds allocated for the year and the continuous delays experienced in the release of funds by the treasury were the other major constraints that adversely effected in achieving goals for the year. Inability to disburse funds on time for projects has badly affected achieving planned targets and this has severely affected the image of the NSF among the research community. Inadequate IT facilitation and Unavailability of state of the art backup systems for computer servers of adequate IT support further hindered achieving goals as planned.

Dr Seetha I. Wickremasinghe, BSc(special) Hons, Msc;PhD
Acting Director General

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OVERVIEW

(The National Science Foundation functions under the purview of the Ministry of Science, Technology and Research).

The National Science Foundation (NSF) was established in 1998 by the Science and Technology Development Act No. 11 of 1994 as the successor to the Natural Resources Energy & Science Authority of Sri Lanka (NARESA). NARESA was established in 1981 as the successor to the National Science Council (NSC) set up in 1968. In 2008, NSF celebrated the 40 years of dedicated services to Science and Technology (S&T) in Sri Lanka.

VALUES

While upholding the two principles: universality of science and the freedom in the pursuit of knowledge, the NSF is committed to observe and uphold the freedom of scientists, as individuals, to communicate and associate with other scientists, globally, in the furtherance of their science without discrimination on the grounds other than scientific merit. Furthermore, in pursuing its objectives in respect of the rights and responsibilities of scientists, the NSF opposes any discrimination based on age, ethnic origin, gender, language, physical disability, political stance and religion.

VISION

“To be the nation’s premier driving force in promoting Science, Technology and Innovation for economic and social prosperity of Sri Lanka”

MISSION

Initiate, facilitate and support research, development, innovations and technology transfer through funding, knowledge creation, capacity building, partnerships, information dissemination and popularizing science so as to;

- Create a knowledge driven economy and well informed society efficiently and effectively, and
- Contribute to improve the quality of life and standard of living of our people,

by nurturing a competent staff and ensuring transparency, accountability, fairness, equity and principles of sustainability.

MANDATE

The NSF is mandated for functions as specified in the Science and Technology Development Act No. 11 of 1994 as follows:

- a) To initiate, facilitate and support basic and applied scientific research by universities, science and technology institutions and scientists, with a view to:
 - Strengthening scientific research potential, including research in the social science, and science education programmes

- Developing the natural resources of Sri Lanka
 - Promoting the welfare of the people of Sri Lanka
 - Training research personnel in science and technology
- b) To foster the interchange of scientific information among scientists in Sri Lanka and abroad.
- c) To award scholarships and fellowships for scientific study or scientific work at recognized science and technology institutions.
- d) To maintain a current register of scientific and technical personnel, and in other ways to the availability of, and the current and projected need for, scientific and technical resources in Sri Lanka, and to provide a source of information for policy formulation on science, technology and other fields.
- e) To popularize science amongst the people by funding and executing programmes for the purpose.

KEY PHILOSOPHY

The NSF abides by two principles.

Universality of Science

The NSF observes and upholds the freedom of scientists as individuals, to communicate and associate with other scientists globally, in the furtherance of their science without discrimination on grounds other than scientific merit. Furthermore, in pursuing its objectives in respect of the rights and responsibilities of scientists, the NSF opposes any discrimination based on age, ethnic origin, gender, language, and physical disability, political stance, and religion. NSF shall not accept disruption of its own activities by statements or actions that intentionally or otherwise prevent the application of this principle.

Freedom in the Pursuit of Science

The NSF observes and upholds the rights of scientists to freely pursue science, provided it is in accordance with accepted scientific process and is undertaken responsibly. The NSF recognizes that individual scientists have a responsibility to conduct their work with honesty, integrity, openness and respect, and a collective responsibility to maximize the benefits of science and to dispel the misuse of science for society as a whole.

STRATEGIC GOALS

According to the Mandate, five goals have been designed to encompass major aspects of the NSF Mandate and the sixth goal is designed to improve the capacity of the NSF so as to function as a premier S&T organization in the country and discharge its duties and functions as assigned by the Science and Technology Development Act No. 11 of 1994 of the Democratic Socialist Republic of Sri Lanka.

Goal 1: To be the premier organization to promote Research Development and Innovation, Science and Technology capacity building and be a partner in promoting natural resources conservation and utilization for sustainable development of the country.

Goal 2: To be the leader in facilitation of technology development and transfer and to emerge as the eminent catalyst for RD&I commercialization.

Goal 3: To be the focal point to collect, collate, analyze, interpret, store, disseminate and provide access to Science, Technology & Innovation information.

Goal 4: To be the leader in popularization of STI amongst the general public and partner in promoting science education.

Goal 5: *To be the key gateway for the international liaison of STI community.*

Goal 6: *To be the leading RD&I funding organization with improved governance, management and competent scientific, administrative, technical and support staff.*

BOARD OF MANAGEMENT OF NSF

The NSF is governed by a Board of Management, which consists of the Chairman; the Director General; a Member each representing the University Grants Commission (UGC), the Sri Lanka Association for the Advancement of Science (SLAAS), the Institute of Engineers of Sri Lanka (IESL), the National Institute of Education (NIE), and the Ministry of Finance and four other members appointed by the Honorable The Ministry of Science, Technology and Research (MoTR).

Prof. Sirimali Fernando (w.e.f. 08.06.2015)

Chairperson

*National Science Foundation,
47/5, Maitland Place, Colombo 7
chm@nsf.ac.lk*

Mr Iqbal Mohamed (19.02.2015 up to 07.06.2015)

Chairman

*National Science Foundation,
47/5, Maitland Place, Colombo 7
chm@nsf.ac.lk*

Prof. W.L. Sumathipala (up to 18.02.2015)

Chairman

*National Science Foundation,
47/5, Maitland Place, Colombo 7
chm@nsf.ac.lk*

Mrs P.A.S.F. Perera (up to 11.05.2015)

Actg. Director General,

*National Science Foundation,
47/5, Maitland Place, Colombo 7
dir@nsf.ac.lk*

Mrs H.A.U. Amarasinghe

(12.05.2015 up to 14.05.2015)

Director General,

*National Science Foundation,
47/5, Maitland Place, Colombo 7
dir@nsf.ac.lk*

Dr Seetha I. Wickremasinghe (w.e.f. 15.05.2015)

Actg. Director General

*National Science Foundation,
47/5, Maitland Place, Colombo 7
dir@nsf.ac.lk*

Prof. Thakshala Serasinghe (w.e.f. 29.02.2015)

*Department of Animal Science,
University of Ruhuna, Matara
tseresinhe@gmail.com*

Prof. C. Deepal Mathew (w.e.f. 10.03.2015)

*Department of Biochemistry and Molecular Biology,
Faculty of Medicine, University of
Colombo, Colombo 3
preethiathew@lycos.com*

Prof. W.L. Sumathipala (w.e.f. 10.03.2015)

*4/1, Rajamaha Vihara Mawatha,
Pitakotte
wlsunathipala@hotmail.com*

Eng. (Prof) T. M. Pallewatte (w.e.f. 10.03.2015)
*Head, Department of Civil Engineering,
Faculty of Engineering Technology,
The Open University of Sri Lanka
tmpal@ou.ac.lk*

Mr H.D.C.L. Silva (w.e.f. 01.04.2015)
*Director,
Department of Treasury Operations,
General Treasury
dilipl@tod.treasury.gov.lk*

Mr M.F.S.P. Jayewardene (w.e.f. 01.04.2015)
*Deputy Director General (Science & Technology),
National Institute of Education (NIE),
High level Road, Maharagama
sjayawardene@hotmail.com*

Mr K.G.D.B. Dheerasinghe
(30.04.2015 up to 10.09.2015)
*1/78, Wickremasinghepura,
Battaramulla*

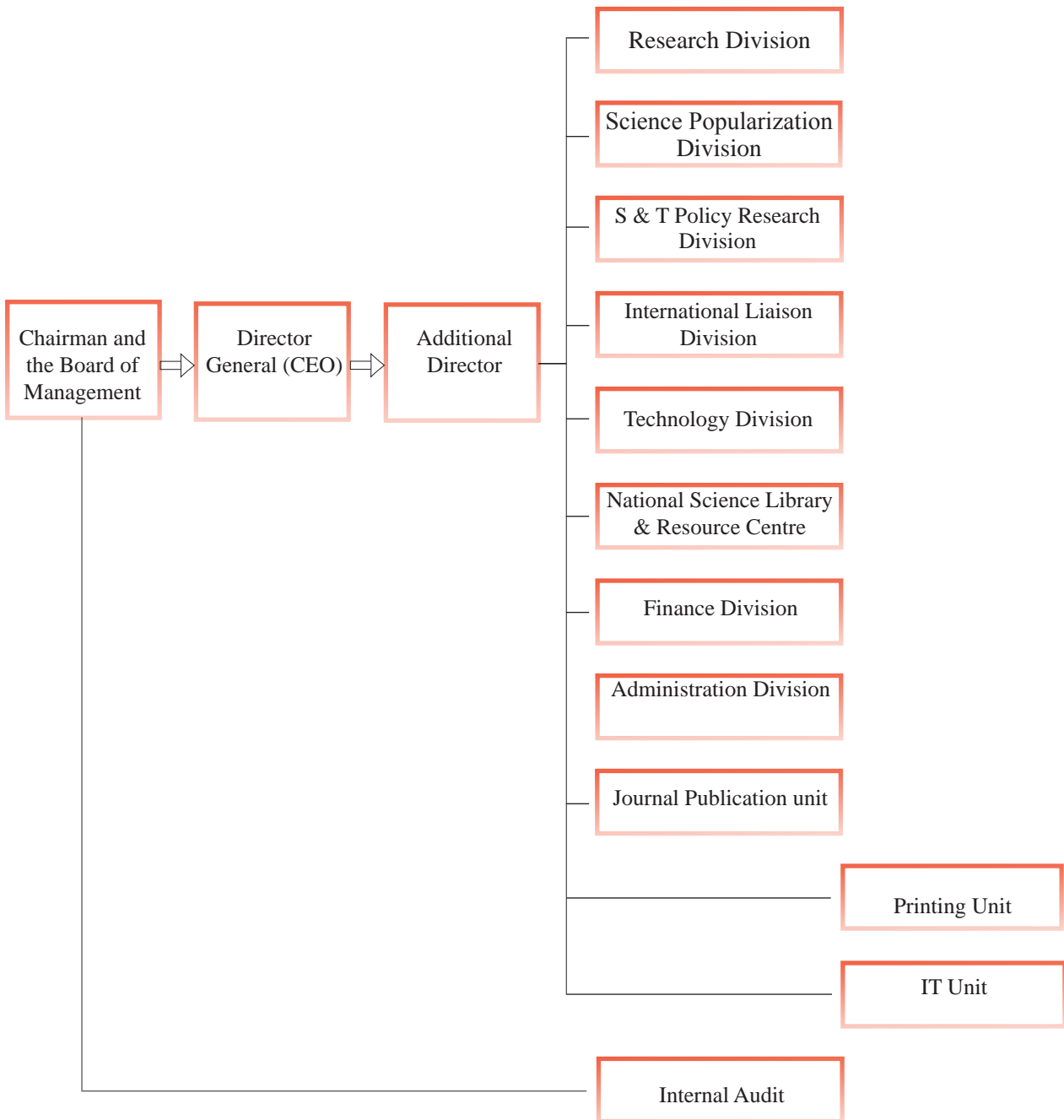
Mr Murad Ismail (30.04.2015 up to 10.09.2015)
*52/3, Ven. Sri Dharmarathne Mawatha,
Madiwela, Kotte*

Prof. Hemantha Senanayake (w.e.f. 11.09.2015)
*Head, Department of Obstetrics and Gynecology,
Faculty of Medicine,
University of Colombo, Colombo 3
senanayakeh@gmail.com*

Dr D.M. Suratissa (w.e.f. 13.11.2015)
*Museum Curator,
Department of Zoology,
University of Colombo, Colombo 3
suratissa@yahoo.com*

Mr J. Yogaraj (w.e.f. 13.11.2015)
*Senior Lecturer/ consultant,
ICBT Campus,
Colombo 04
yogaraj35@gmail.com*

Organization structure



NSF Working Committees

The NSF has established the expert Working Committees with a view to meet the requirements stated in the Science Technology Development Act No.11 of 1994 and to align with the National Science and Technology Policy for Sri Lanka. The members of the Committees have been selected according to their expertise in the relevant field. The main responsibility of the above committees is to advise the Board of Management (BoM) on development and implementation of its plans and programmes based on the NSF mandate while ensuring alignment with the National Science and Technology Policy of Sri Lanka with an orientation towards national development objectives.

NSF Working Committees:

NSF Working Committee on Basic Sciences

NSF Working Committee on Biotechnology & Bioethics

NSF Working Committee on Agriculture & Food Sciences

NSF Working Committee on Oceanography & Marine Resources

NSF Working Committee on Health Sciences

NSF Working Committee on Environment & Biodiversity

NSF Working Committee on Engineering, Architecture and ICT

NSF Working Committee on UNESCO Participation Programme

NSF Working Committee on Science, Mathematics and Engineering Education

NSF Working Committee on Science Popularization

NSF Working Committee on Library & Information Sciences

NSF Working Committee on Social Sciences

NSF Working Committee on S & T Policy Studies

NSF Working Committee on Indigenous Knowledge

NSF National Committee on the Man and the Biosphere Programme

NSF Working Committee on International Liaison

Special Committees:

National Man and Biosphere Committee

Editorial Board – Journal of National Science Foundation of Sri Lanka (JNSF)

Editorial Board – Sri Lanka Journal of Social Sciences (SLJSS)

Steering Committees:

Steering Committee on Climate Change & Natural Disasters

HIGHLIGHTS 2015

- Funded 124 ongoing grants (including 23 new grants), strengthening the research base in the country and facilitating scientists to engage in research, thus contributing to the national development.
- Assisted the development of the National Research and Innovation System (NRIS) by Human Resources Capacity Building:
 - Postgraduate degrees completed – 13
 - Graduate Research Students registering for postgraduate degrees – 24
 - Supervisory teams of PhD and MPhil degrees winning SUSRED Awards – 06
- One outstanding research group was acknowledged by the NSF for research excellence under the NSF Competitive Research Grants Scheme by presenting a Research Award.
- Awarded 07 new Research Scholarships to outstanding graduates to read for postgraduate degrees.
- Facilitated the acceptance of the NSF as a Guest Partner of the E – Asia Joint Research Programme of the Japan Science and Technology Agency.
- Ceremony to confer National Awards for Science & Technology Achievements (NASTA) Awards 2014 was held on 27th February, 2015 at the Presidential Secretariat. Five National Awards were presented to the recipients by the HE the President of Sri Lanka and five Certificate of Merits were presented by the Hon Minister of Technology and Research.
- Technology Transfer Facilitating Cell which was established as an enabling mechanism for liaising with technology developers and investors was registered as a Technology and Innovation Support Center (TISC) under the World Intellectual Property Organization.
- Four projects were completed with tangible outputs
 1. COP Sayura : The three-dimensional coastal surveillance system was deployed at Sri Lanka Ports Authority and Coast Guard, Mirissa,
 2. Cost effective, environmentally friendly cooking stoves for domestic and commercial cooking purposes,
 3. A Virtual Braille Keyboard (VBK), ‘iBrailier’ which enables blind users to use modern touch screen devices (iPads, tablet PCs, etc.) efficiently and effectively was developed,
 4. Cost effective, user friendly and efficient single dryer was developed for different types of natural rubber.
- Mini Bio Asia 2015 Conference was held on 28th January 2015 at the Sri Lanka Foundation Institute with the aim of creating a platform to discuss the current status and future prospects of the three main sectors of biotechnology viz medical, agricultural and industrial. The Federation of Asian Biotech Associations (FABA) was also invited to participate at this event.
- Technical Workshop to Identify the Opportunities and Interventions to Address Enteric Fermentation in South Asia - 27th – 28th August 2015, National Science Foundation, Sri Lanka.
- Follow up of Global Forum of Sri Lankan Scientists - Installation and Provision of CISCO WEBEX facility at the National Science Foundation.
- A Memorandum of Understanding (MoU) was prepared to be signed between the Pakistan Science Foundation and the NSF for the implementation of a programme which will provide an opportunity for local scientists and technologists to obtain expertise in their respective subjects and to establish collaborative activities in various fields of Science and Technology.
- The Science and Technology Policy Asian Network (STEPAN)- The National Science Foundation (NSF) organized a panel discussion on “Revitalization of the Science and Technology Policy Asian Network (STEPAN)” on 23rd January 2015 at the NSF Auditorium with the participation of a group of Scientists from the focal point of Korea.

- Annual TWAS/NSF Prize for Young Scientists- Prof. R.M.U.S.K Ratnayaka, Professor in Food Microbiology, Sabaragamuwa University of Sri Lanka and Dr. N. Gunawardena, Director, International Research Centre, University of Peradeniya were awarded with the TWAS /NSF Young Scientists Award - 2015 from Sri Lanka on the fields of Biology and Chemistry respectively.
- Workshop to Guide Preparation of Education and Communication Strategies for Sri Lanka's Biosphere Reserves- The objective of this Workshop was to guide the field staff of Forest and Wildlife Departments who are attached to the four IBRs to prepare education and communication strategies for the Biosphere Reserves (BR). This was held on 29-30 October 2015 at Management, Development and Training Institute, Southern Provincial Council, Galle.
- The National Symposium on Biogeography and Biodiversity Conservation in Sri Lanka in a Changing Climate, 12-13 November 2015, National Science Foundation. The above Symposium was organized by the National MAB Committee of NSF.
- The Science Research Projects Competition 2015 was conducted in two steps for the first time as Multimedia Presentations and Poster Presentations (new introduction). One winner was selected to participate at the Intel International Science & Engineering Fair 2016 in Phoenix, Arizona, USA which will be held from 08-13 May 2016.
- Three video programmes; Wise use of Medicine, Household Energy Conservation, and Common Inherited Diseases were produced in English, Sinhala & Tamil languages.
- Seven competitions were successfully conducted among the 799 school science societies under Inter Schools Science Society Competition-2015.
- The World Science Day 2015 Schools Programme was successfully conducted with a participation of around 1,500 participants including school children and teachers, under the theme "Light and Light Based Technologies" at BMICH on 09 November 2015. Prof. A.P. De Silva, Queen's University, Ireland participated as the Keynote Speaker.
- School children were sponsored by providing Rs. 3.96 M to participate at six (06) Olympiad International Competitions.
- Three issues of the Vidurava Science Magazine under three themes - Indigenous Knowledge, New Frontiers in Scientific Research, and Light and Light based Technologies – were published in all three languages (Sinhala, Tamil, and English) and distributed among the stakeholders free of charge.
- The "Sri Lanka Science and Technology Statistical Handbook 2013" was published.
- Held an International Conference on "Promoting Socio-Economic Equity in South Asia: Challenges and Prospects" and had a policy dialogue on "Challenges and Prospects for Reducing Socio-Economic Inequity in South Asia" in collaboration with the Indian Council of Social Science Research (ICSSR) and United Nation Development Programme (UNDP).
- The computerized Science and Technology Management Information System (STMIS) was regularly updated and the database recorded information on more than 5,704 personnel by December 2015.
- Held two Panel Discussions on "Emerging Population and Socio-Economic Trends as per the 2012 Census Report" and "Issues and Gaps in Science Education at School Level in Sri Lanka".
- Initiated a series of workshops to investigate the "Scientific Aspects of Indigenous Music of Sri Lanka: Potential for Therapeutic Use" and the preliminary workshop was held with the collaboration of Faculty of Music and Faculty of Dance and Drama of the University of Visual & Performing Arts.

- Initiated the data collection on indigenous knowledge pertaining to food practices existed in Sri Lanka and in this context three workshops were conducted on the theme of Indigenous Food for a Healthy Life in three districts in the country.
- Phase two (II) of the National Digitization Project has made a significant progress completing over 80% of the digitization work at nine (9) institutions. Over 78% of the digitized material of the phase II of the project has been accommodated in databases developed using WINISIS & DSpace software.
- Sri Lanka Journals Online (SLJOL) project is currently operating successfully publishing 61 journals of local origin. In March 2015, the site was upgraded by enhancing social media functionality and incorporating the facility to monitor the number of times that an article is viewed or downloaded. These new functions have immensely been beneficial to overcome the great challenge faced by Sri Lankan academics in disseminating their findings worldwide. The usage of SLJOL has also been increased tremendously as per the statistics maintained by International Network for the Availability of Scientific Publications (INASP), UK.
- The community on ‘research publications arising from research grants funded by NSF’ was accommodated with 1066 Final Reports, 308 Theses and 294 research publications providing more visibility to the NSF funded research.
- The Journal of the National Science Foundation of Sri Lanka (JNSF), which is the only Sri Lankan Journal cited by the Thomson Reuters in its Science Citation Index Expanded published its four (04) issues regularly and on time. On-line publishing of the journals has given very high visibility to its contents both locally and internationally.



**RESEARCH,
DEVELOPMENT &
INNOVATION (RD&I)**



NSF Competitive Research Grants Scheme

The NSF undertakes activities with a view to promote research and development (R&D) in the country and to initiate, facilitate and support basic and applied scientific research by universities, and science and technology (S&T) institutions in Sri Lanka including multidisciplinary collaborative research that address themes of national importance. Also to award scholarships and fellowships to outstanding Sri Lankan postgraduate and postdoctoral researchers for scientific work at S & T institutions.

The NSF Competitive Research Grants Scheme provides assistance to supplement the financial, physical and manpower resources available in S & T Institutions in Sri Lanka for scientific research. It facilitates to harness independent, individual and intellectual capacity of scientists and encourages them to carry out research of high standard, directed towards socio-economic development of the country. Competitive Research Grants are awarded in all fields of Science & Technology.

Twenty four (24) new Research Grants were awarded in the year 2015. Details of grants awarded in 2015 are given in *Annex 1*. An Awareness seminar for the new grants recipients was held on 29th October, giving an opportunity to them to get familiar with the services provided by the NSF. Thirty four (34) scientists attended this seminar.

The Call for applications for 2016 was opened in October, 2015. A total of 103 new applications under eleven research areas were received in response and processed according to the NSF approved procedure.

An Effective Research Proposal Writing Workshop to create awareness on submitting research proposals of high standard to the NSF Competitive Research Grants scheme was held on 19th November at the NSF with the participation of 75 prospective applicants. Three presentations were made by eminent scientists on various aspects of formulation of research proposals, followed by an active discussion.

Funds were released for 70 ongoing projects based on good progress and financial needs. During the year, twelve Progress Review Seminars (10 at the NSF and 02 at the HORDI in Peradeniya) and three field visits (Faculty of Engineering of University of Moratuwa, Faculty of Science of University Jayewardenepura and Faculty of Science of University of Peradeniya) to assess progress of ongoing projects, were held. A total of 21 grants were completed in 2015. Details are given in *Annex 2*. During the year, 24 Research Students have registered for postgraduate degrees and 13 postgraduate degrees have been completed. Status of Competitive Research Grants as at 31.12.2015 is given in *Annex 3*.

Two symposia on “The urban environment: issues in health and well-being” and “Fundamentals of Biological Safety for Academics and Practitioners” were organized by the Working Committees on Health and Biotechnology & Bioethics, during 2015.

Highlights of Completed Grants

Project Title : Selection and evaluation of potential egg parasitoid species for biocontrol of crucifer feeding caterpillar species (RG/2007/AG/05)

Investigators : Dr K. S. Hemachandra, Mr H. N. P. Wijayagunasekera
Department of Agricultural Biology, Faculty of Agriculture,
University of Peradeniya

The objective of the study was to generate required data to initiate a biological control programme using egg parasitoids to manage crucifer feeding caterpillars in cabbage ecosystem. As the intention of the attempt was to use local egg parasitoid species to mass rear and release, investigation on local species was the first step of the study programme. *Trichogramma chilonis* and *Trichogramma achaeae* were found as the main egg parasitoid species present in cabbage ecosystem. Report on *T. achaeae* is the first country report and it had not been reported in Sri Lanka. Identification of *Trichogramma* was carried out at Natural History Museum, London. As biological characteristics of the species longevity of parasitoid, fecundity of parasitoids, oviposition rate, dispersal of adult in simulated cabbage field, searching ability, effect of insecticide on egg parasitoids were studied to verify the suitability of biocontrol agent and investigate the possibility of mass rearing. Most of the data were in favour of *T. chilonis* to use it as biocontrol agent and these data are very useful to move the biocontrol work forward. Hence *T. chilonis* was not parasitized favourable organisms' eggs such as ladybug eggs or spider eggs. For mass rearing of *T. chilonis*, the rearing of *Coccyra* species as rearing protocol could be adapted.

This should be tested as field cage studies, small scale field experiments, farmer field testing are required before field release. This work was planned as the second phase of the research project.

Project Title : Chemistry and bioactivity of the endemic genus *Schumacheria* (RG/2009/BS/01)

Investigators : Prof. Anura Wickramasinghe, Department of Chemistry, Faculty of Science
University of Peradeniya
Prof. B. M. Ratnayake Bandara, Department of Chemistry, Faculty of Science,
University of Peradeniya
Prof. Veranja Karunaratne, SLINTEC

The study was carried out with the objective of studying chemistry and bioactivity of the three endemic species of the genus *Schumacheria* namely *S. castaneifolia*, *S. alnifolia* and *S. angustifolia*.

Those three species were found to have several betulinic acid derivatives, oleanilic acid derivatives, phytosteroid, flavonoids and polyphenols. The betulinic acid derivatives showed considerable antibacterial activity and most of these betulinic acid derivatives are known to have high antileukemic activity and antiviral activity. *Schumacheria* plants can be commercially cultivated for the purpose of industrial scale of extraction of medicinally important bioactive betulinic acid derivatives.



Broad leaves and white inflorescence of *S. castaneifolia*



Dark green oblong leaves and small white inflorescence of *S. alnifolia*



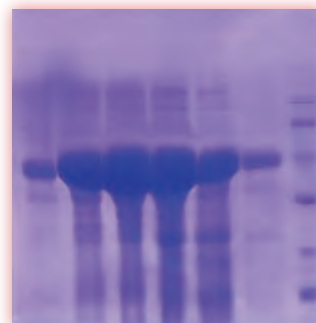
Small leaves of *S. angustifolia*

Project Title : Performance of recombinant proteins as diagnostic intermediates for chikungunya, dengue and leptospirosis, **(RG/2009/BT/01)**

Investigator : Dr Menaka Hapugoda, Molecular Medicine Unit
Faculty of Medicine, University of Kelaniya.

Confirmation of chikungunya, dengue and leptospirosis outbreaks is important for proper management of patients. Enzyme-Linked Immunosorbent Assay (ELISA) can be used for confirmation of these diseases. Development of a diagnostic intermediate for each disease which can detect both IgM and IgG antibodies in ELISA, produced at low cost and easily standardized for use in field settings is important.

This type of study on development of diagnostic intermediates have a significant effect for rapid confirmation of outbreaks and limit spread of such outbreaks from one geographical area to another.



12% SDS PAGE gel showing the purified chikungunya protein: under denative conditions

Project Title : Isolation and typing of efficient rock phosphate solubilizing bacteria, **(RG/2010/BT/03)**

Investigator/s : Dr A. A. L. Ratnatilleke, Department of Chemistry
Faculty of Science, University of Kelaniya

This study brought new scientific knowledge on the occurrence of efficient phosphate solubilizing bacteria, associated with Eppawala rock soil deposit. The methods of their isolation, measuring phosphate solubilizing activity, characterizing bacteria at molecular level have been uncovered. Previously published methods have been optimized specifically for analysis of local bacteria flora. The methods, techniques developed in this study therefore are highly useful in related research in future.

Project Title : Development of a cost effective analysis method for degraded forensic DNA evidence of Sri Lanka, **(RG/2011/BT/07)**

Investigator/s : Dr Ruwan J. Illeperuma, Dr Neil Fernandopulle
Genetech Research Institute

Miniaturized DNA fragment (mini-STR) techniques in forensic human identification are highly successful for degraded biological samples. However, analysis of such smaller DNA fragments demand highly expensive instrumentation and test kits. An in-house method which is validated against commercial test kits was established with significant reduction of analysis cost.

The overall outcome of the project directly contributes to reduce cost and increase sensitivity of analysis of decomposed biological samples in forensic investigations. This project marked the establishment of the first validated method to analyze human mini-STRs in Sri Lanka.

Project Title : Development of basic techniques for nano-encapsulation of bioactive compounds, (RG/2010/NANO/04)

Investigator/s : Prof. Nedra Karunaratne, Department of Chemistry
Faculty of Science, University of Peradeniya

Prof. Veranja Karunaratne, SLINTEC

The objective of this research was to find a method for encapsulating drugs and bioactive material for drug delivery. The encapsulation techniques tested were liposomes, chitosan coated liposomes, chitosan nano particles (NPs), chitosan-alginate NPs and poly(3-hydroxyburate-co-3-hydroxyvalerate) (PHBV) NPs. The drugs tested were,

- Ascorbic acid encapsulated in liposomes with chitosan coating cross linked with sodium sulphate
- Amoxicillin encapsulated in liposomes with chitosan coating cross linked with Sodium tripolyphosphate (STTP)
- Folate encapsulated in, chitosan NPs, folate encapsulated in liposomes with chitosan coating cross linked with STTP and folate encapsulated in PHBV NPs
- Curcumin encapsulated in chitosan-alginate nanoparticles.

The double emulsion technique for PHBV encapsulation of folic acid resulted in high yield as well as good loading capacity. The release of drug over a period of more than 2 weeks in the neutral medium was the key point. In addition, it was noted that in acidic medium release occurred faster with nearly 90% of the drug released within 1 hour. Therefore, this study for encapsulation techniques for drugs indicates that polymers such as PHBV have superior release properties over other polymers such as chitosan and alginate.

Project Title : Oral Health Literacy status of the pregnant mothers and effectiveness of an intervention to improve the Oral Health Literacy status of the pregnant mothers in a selected MOH area in Colombo District, (RG/2012/HS/04)

Grantee : Dr R D F C Kanthi, Health Education Bureau
Ministry of Health

Oral health is an integrated part of the overall health and well-being and it has major impact on the quality of life. Oral Health Literacy (OHL) is an unprobed area of research in the Sri Lankan context. OHL is defined as the degree to which individuals have the capacity to obtain, process and understand basic oral health information and services needed to make appropriate health decisions. This study was conducted to describe OHL status of pregnant mothers and assess the effectiveness of an educational and skill based interventions in a selected MoH area in the Colombo District. The instrument used, modified and adopted Oral Health Literacy Instruments for adults (OHLI), was validated and was successful in improving Oral Health Literacy status, knowledge and practices of the pregnant mothers. The modified and validated OHLI will be useful for future research.

Project Title : Nutrition literacy, its correlates and effectiveness of a skill development interventions to improve nutrition literacy among females aged 25-45 years in Colombo District, (RG/2011/HS/16)

Grantee : Dr N S Gunawardena, Department of Community Medicine
Faculty of Medicine, University of Colombo

Nutrition literacy is the degree to which individuals have the capacity to obtain, process and understand nutrition information needed to make appropriate dietary decisions. Nutrition literacy among females has been shown to influence the nutritional status of all individuals in a family. This study determined prevalence and correlates of nutrition literacy among females aged 25-45 years in Colombo. A skill development intervention package to improve nutrition literacy of adult females was also developed.

The nutrition literacy test was found to be a valid and reliable test to assess the nutrition literacy of adult females in Colombo district. Being the first research in Sri Lanka to develop and validate a content specific nutrition literacy test, this will be useful for future research in other population groups. The intervention package also proved to be effective in improving nutrition literacy at both individual and group level.

National Thematic Research Programme (NTRP)

The NSF initiated this novel contract research programme to address national research priorities and to get tangible outputs for socio-economic development of country.

Theme: Food Security

The Thematic Research Programme on Food Security was initiated to address major issues related to the theme through research, and with a view of ensuring food security of the nation. There are five research programmes that are multidisciplinary and collaborative in nature, which are expected to provide tangible positive impact on the food security of the country.

After extensive discussions and revisions to improve and fine-tune the proposals, nine projects were awarded under these five Programmes, and continued during 2015.

These projects are monitored very closely by the Research Division with the guidance of the Steering Committee on Food Security. As a mechanism for progress monitoring, discussions with research teams were held regularly through five progress review meetings and five Steering Committee meetings. When necessary, they were invited to do presentations and highlight any constraints impeding the progress. Five onsite field visits were made to 3 visits to Matale and one visit to Jaffna and Kilinochchi) for verification purposes and to provide positive feedback.

The Third Research Coordination Meeting (RCM) was held in order to see whether the projects have progressed according to the activity plans provided. All 09 Project Leaders made presentations. At this RCM, activity plans for the next year were discussed in detail and was agreed upon by the Steering Committee, and the project teams. Accordingly, funds were approved and disbursed.

The details of 09 ongoing projects are given in *Annex 04*.

Theme : Climate Change and Natural Disasters

The Thematic Research Programme on Climate Change & Natural Disasters was implemented to address major issues through research, with a view to minimize hazards of climate change & natural disasters through mitigation and adaptation.

The Theme Paper developed to facilitate the activities of this Thematic Research Programme was further modified to accommodate the policy changes that took place in 2015 related to Environment. Sixteen projects have been identified under six Strategic Thrust Areas – as follows:

1. Mainstream Climate Change Concerns into National Planning and Development Processes
2. Climate Change Resilience on Settlements, Human Health Key Economic Drivers and Affected Sectors
3. Future Climate, Climate Scenarios and Natural Disasters and Early Warning
4. Minimize Climate Change Impacts on Food Security
5. Safeguard Natural Resources and Biodiversity from Climate Change Impacts
6. Mitigation

The research projects would be implemented through institutional partnerships, engagement of research institutions, government institutions and the private sector which facilitate the integration of information and knowledge in decision making.

Research Scholarships

At present, there is very low output of postgraduate research degrees by the Sri Lankan Universities. It is important to attract and encourage science/ engineering graduates to conduct fulltime research leading to research degrees. This programme provides the financial support to science and engineering graduates to conduct fulltime research (within Sri Lanka) leading to MPhils and PhDs. Seven new Scholarships were awarded in the year 2015. Eighteen (18) ongoing Research Scholarships were monitored, two scholarships were completed and theses submitted (02 PhD). The details of these grants are given in *Annex 5*.

Equipment Grants and Spare Parts Grants

Laboratories with modern infrastructure facilities are needed for research to be in par with the global S&T research. These schemes intend to assist the acquisition of equipment and spare parts for research equipment that is in general too costly to be purchased by the Research Institutions and Universities. Further, these schemes facilitate and support infrastructure development of research laboratories in order to create a sustainable research culture. Seventeen (17) equipment grants worth LKR 42.76M have been awarded in 2015. The details of these grants are given in *Annex 6*.

Grant recognition to high performing Scientists

NSF Awards Ceremony 2015

The NSF Awards Ceremony 2015 was held on 15th December 2015 at the BMICH to confer awards under the following schemes of the NSF:

- NSF Research Awards
- Support Scheme for Supervision of Research Degrees (SUSRED)
- Third World Academy of Sciences (TWAS)/ NSF Young Scientist Award

NSF Research Awards

The NSF Research Awards are given annually to researchers who have made outstanding contributions for the advancement of science through NSF funded research projects. The purpose of the award is to bestow on researchers the recognition they deserve for the contribution made for the advancement of science and thereby helping to achieve one of the main objectives of the National Science Foundation. The award is also meant to motivate recipients of competitive research grants to conscientiously maintain high standards of scientific research while at the same time helping them to enhance their own career prospects as recognized scientists.

One NSF Research Award and one Commendation Certificate were awarded at this year's awards ceremony. The details of the award winners are given in *Annex 7*.

Support Scheme for Supervision of Research Degrees (SUSRED)

The awards for the Support Scheme for Supervision of Research Degrees (SUSRED) was implemented in 2011 to motivate, support and recognize the scientists/engineers engaged in supervising postgraduate students conducting research in all areas of Science and Technology. This scheme also encourages universities and research institutions to promote and facilitate postgraduate research training.

Six supervisory teams were successful in securing SUSRED awards for four PhD and two MPhil degrees completed during 2013 and 2014. The details of the award winners are given in *Annex 7*.



Third World Academy of Sciences/ National Science Foundation (TWAS/ NSF) Young Scientist Award

Two winners in the fields of Chemistry and Biology were awarded the TWAS/ NSF Young Scientist Award 2015 at the same ceremony based on the recommendations made by the Research Advisory Board.

Other Activities

E-Asia Joint Research Programme (E – Asia JRP)

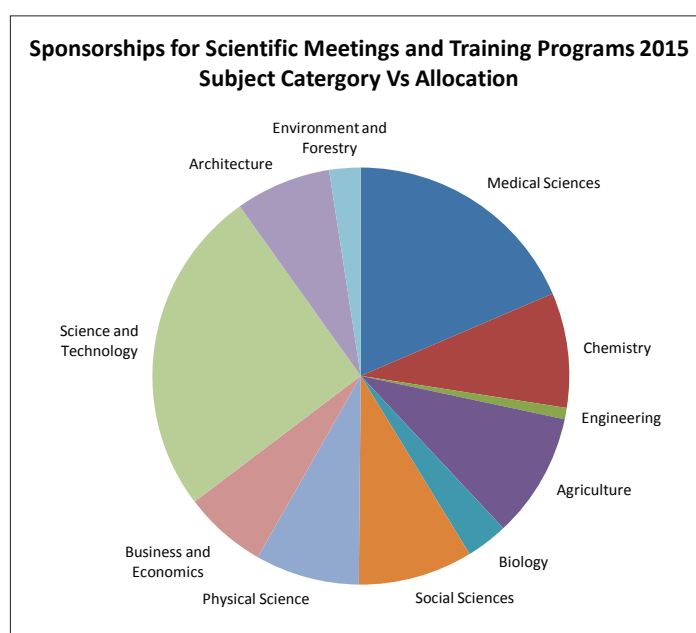
On an invitation extended by the Japan Science and Technology Agency (JST), the NSF became a “Guest Partner” of the E – Asia Joint Research Programme.

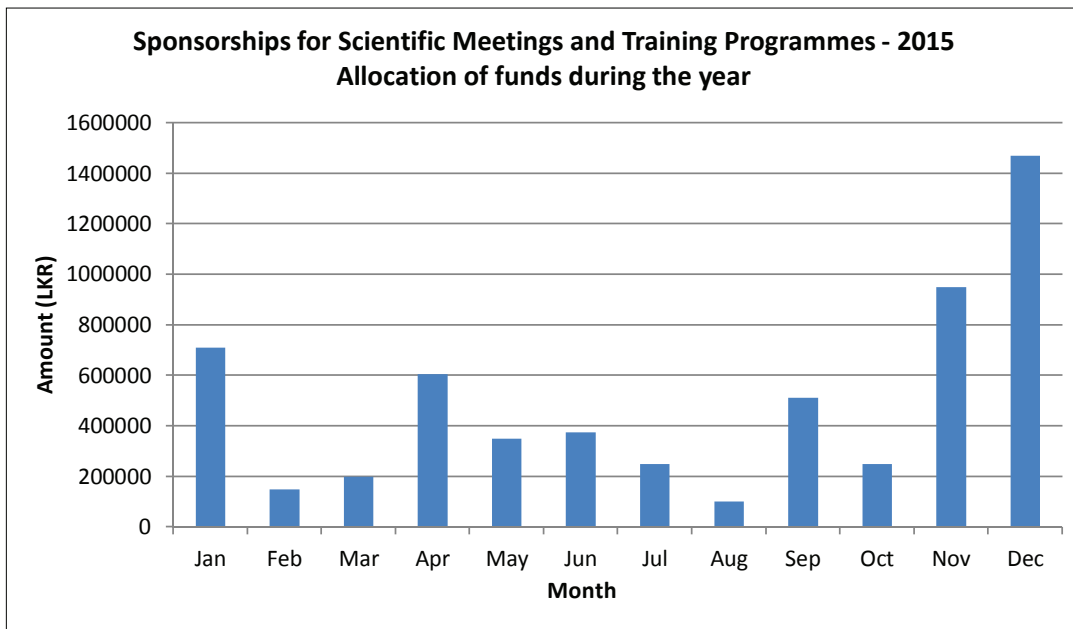
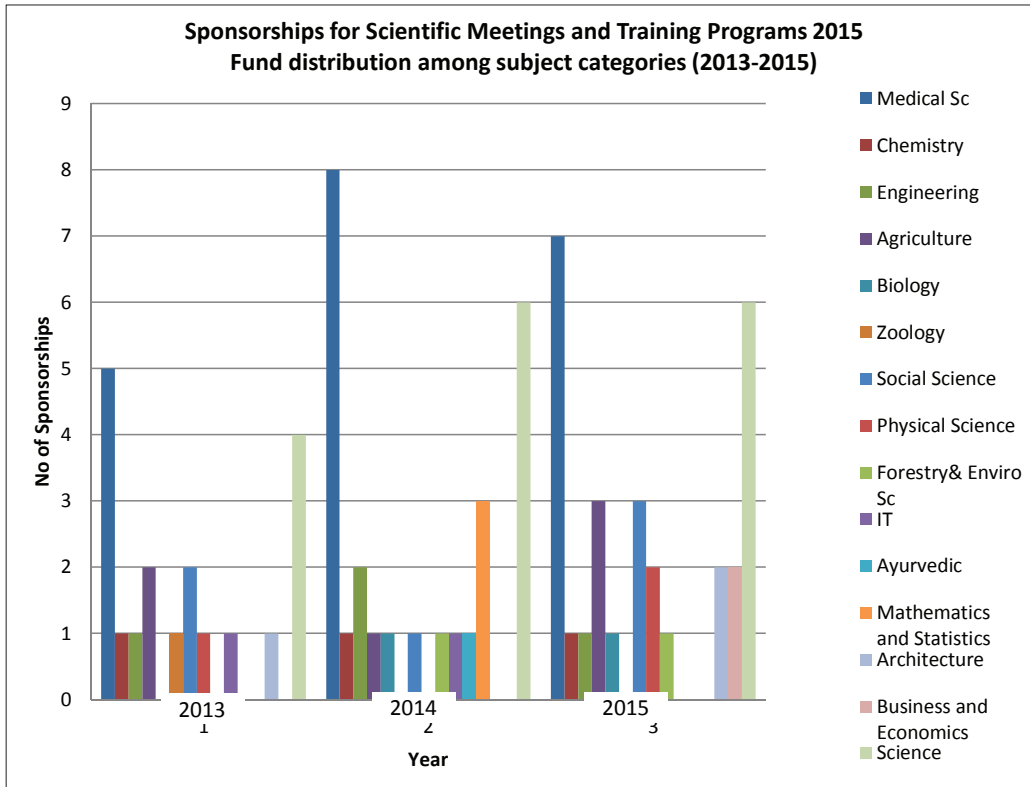
The overall aim of this programme is to develop a vibrant and collaborative research community in Science and Technology, to promote innovation in the East Asian region, and contribute to the region’s economic development.

A Three - member delegation visited the NSF on 7th and 8th December 2015 and had discussions with the Management. The delegation also visited the University of Peradeniya (Post Graduate Institute of Science and Department of Chemistry) and the Institute of Biochemistry, Molecular Biology and Biotechnology (IBMBB) to get an idea about the ongoing research in the fields of Nanotechnology and Cancer which are two of the the Fields of Cooperation identified for their next Call for grants.

Sponsoring Scientific Meetings and Training Programmes

The scheme of ‘Sponsoring Scientific Events and Training Programmes’ intends to provide assistance to both state and non state research institutes, educational institutes, universities and well established S & T associations to conduct scientific meetings, training programs, workshops and conferences. This enhances opportunities for Sri Lankan scientists to interact with each other and with foreign eminent Scientists. Hence, facilitate development and dissemination of Science & Technology of Sri Lanka. Twenty nine (29) Sponsorships worth Rs. 6,186,600 were provided during 2015 covering various disciplines in Basic and Applied Science and Social Science. Details of the Sponsorships are given in *Annex 13*. The graphs below depict the distribution of sponsorships among different disciplines.







Technology Transfer

Implementation of Technology Grant Schemes

- (a) Support for Technology Development
- (b) Support for Start-up Business based on new technologies

The 29 applications received at the close of applications on 15th February, 2015 (1st call, 2015) were evaluated and 10 grants were awarded (*Annex 08*). Twenty (20) applications were received at the 2nd call, 2015 which was closed on 31st August, 2015. Preliminary evaluation was completed.

Monitoring of ongoing projects (24) was in progress. Thirty one (31) site visits and three meetings to monitor the progress of projects were made.

Six articles on completed technology grants were published in the business section of “Sunday Times” on 25th January, 08th March (2 articles), 14th June, 21st June and 16th August, 08th 2015 providing wider publicity and harnessing investors.

The first phase of the Impact Assessment Study on completed technology grants was completed. Draft report was produced.

Updating of the Techgrant database (tGra) was in progress.

Technology Transfer facilitating cell was established as an enabling mechanism for meeting with technology developers and investors. Infrastructure facilities required to cater to the needs of the inventors (patent information search, guiding on patenting process & applying under PCT) were developed. 10 inventors were supported by providing consultancies on how to obtain a patent, how to file patent applications under PCT, how to file local patent applications and how to draft specialize patent applications. The Center was registered as a Technology and Innovation Support Center (TISC Center) under the World Intellectual Property Organization.

Conduct workshops on “effective proposal writing, progress review seminars and grant orientation seminars

A successful one day training workshop on “Business Proposal Writing” for industrial personnel was held on 28th May, 2015.

A progress review seminar was conducted on 07th September, 2015. Grantees presented their works to the Technology Working Committee at this seminar. Feed backs as to improve the projects were given.

A grant orientation seminar was conducted on 04th November, 2015.



Follow up on outcome of research performed by universities & research institutes

Eighteen conference proceedings (2014 & 2015) and 14 scientific journals (published in 2014 & 2015) received by the NSLRC were perused to identify R & D outputs which can be considered for technology development. Seven project outputs were short listed. The corresponding authors were contacted. Follow up action was in progress to obtain project proposals.

Information on recently granted 27 patents was obtained from NIPO. Twenty letters were posted requesting up-to-date information on their inventions. Five responses were received and they were requested to submit technology grant applications. Follow up activities were in progress in order to formulate technology project proposals by them.

Follow up on R & D outputs of NSF funded research grants and others with a view to further develop the outputs to the level of commercialization

One completed research project titled “Risk factors and risk assessment of breast cancer among women in the district of Colombo” was recommended for follow up. The grantee was requested to submit a technology grant application for consideration at the 2nd call for 2015 with further follow ups.

Completed projects with tangible outputs

Four projects were completed in year 2015.

<i>Project Title</i>	: COP Sayura : The three-dimensional coastal surveillance system, (TG/2011/Tech-D/03)
<i>Grantee</i>	: Prof. N.D. Kodikara
<i>Category</i>	: State Sector
<i>Allocation</i>	: LKR 1,545,500.00

A coastal surveillance system enhances the decision making capabilities in port traffic control. The system improves situational awareness, protects meri-time resources, prevents illegal human and drug trafficking, monitors fishermen and ensures meri-time safety of vessels in and around Sri Lanka. The linked sensors provide reliable source of surveillance information in real time. These data fed to the decoding algorithms to generated readable information which are forwarded to the processing system. The processing system generates information necessary to be displayed three dimensionally, based on the sensor data. The solution was deployed at Sri Lanka Ports Authority and Coast Guard, Mirissa and the system is functioning well.



<i>Project Title</i>	: Manufacture and marketing of cost effective, environmentally friendly cooking stoves for domestic and commercial cooking purposes, (TG/ 2011/Start-Up/ 01)
<i>Grantees</i>	: Mr Riyad Ismail
<i>Category</i>	: Individual
<i>Allocation</i>	: Rs. 1,350,000.00

Cost of cooking fuel such as LPG and Kerosene are ever increasing. Use of fuel wood as an alternative has resulted in environmental degradation due to felling of trees and respiratory health issues caused by inhaling wood smoke. A start-up company was established under this grant which introduced a novel cooking stove based on coconut shell charcoal to the market. This new cooking stove offers the user a low cost alternative which is as convenient as cooking with LPG. The fuel source is coconut shell charcoal which provides higher temperature compared to wood and also generate less smoke and soot. In the first year of its operation, sales achieved by the start-up are 24,000 domestic cooking units and 30 commercial cooking units deriving Rs. 72,540,000.00 to the Sri Lankan economy. Stoves are sold island-wide through appointed distributors. User survey conducted revealed that the use of the stove has brought cost savings of more than 80% compared to using LPG and users were satisfied with the efficiency. This project has created direct employment for workers engaged in the start-up business as well as enhanced income levels of village level pottery makers.



Project Title : Novel Accessible Technologies on Touchscreen Devices, **(TG/2012/Tech-D/03)**
Grantees : Dr Sohan Dharmarajah
Category : Individual
Allocation : Rs. 861,770.00

The World Health Organization estimates that the total blind population of the world is equated to approximately 39 million. The blind community is one of the groups most affected with digital divide especially with modern touch screen devices. The output of this project is a Virtual Braille Keyboard (VBK), 'iBrailer' which enables blind users to use modern touch screen devices (iPads, tablet PCs, etc.) efficiently and effectively. What is different about 'iBrailer' is that the keys form around the fingertips when they are placed on the screen. If a user loses his way, he simply lifts his fingers from the screen and places them down again. The 'iBrailer' also has an easy undo/redo function that requires a simple clockwise or counterclockwise twist of a single fingertip across on touch screen. A blind user can cut, copy and paste on the device. The product is commercialized and it can be downloaded from the Apple app store. So far 9,000 users have purchased this app from the App store deriving Rs. 514,368.00 to the Sri Lankan economy and 6,000 users are currently using the app (free of charge) at various blind institutes. It is envisaged that with introduction of this innovative product, blind community will be more encouraged to use modern ICT to enhance their employability for socio-economic benefits.



Project Title : Development of a cost effective, user friendly and efficient single dryer for different types of natural rubber, **(TG/ 2012/Tech- D/ 05)**
Grantees : Dr Susantha Siriwardena, Rubber Research Institute
Category : State sector
Allocation : Rs. 2,367, 400.00

A user friendly, efficient and accelerated dual unit drying system which could be used for drying different forms of rubber simultaneously or separately was designed and constructed. Drying performance of different grades of rubbers at different operational conditions was studied. The new drying system reduces the drying periods of sheet and crepe rubber against the conventional drying units by 20% and 33% respectively. Drying period of ambient air drying of brown crepe reduces from 7- 12 days to 3 days in the new drying system. For skim crepe, drying period reduces from 3-4 days to less than a day. The firewood consumption is reduced by 32% and 12.5% against the conventional drying of RSS and crepe rubber respectively. Drying efficiency, in terms of energy has been increased from 14% (for crepe rubber) to a range of 20% - 26% depending on the operational mode. Energy efficiency in the new dryer was 51% when crepe rubber and sheet rubber were dried simultaneously in two drying compartments. It was estimated that labour cost for operation of a drying unit of this capacity would also be reduced approximately by 60%. For further validation, the technology was introduced to two rubber factories.



Conduct seminars & workshops for need assessment and partnership for R & D, further development of technologies and commercialization

A memorandum of understanding (MoU) and policy were prepared on strategic partnership between NSF and Hemas Holdings PLC and the two documents were submitted to the Board.

A concept paper was prepared on expansion of technology grant schemes, and submitted to the Board. A cabinet memorandum was prepared as per the Board directive.

Conduct industry surveys & update the information

The current status of the data-base including the sources of information was studied.

A status report was prepared with statistics for data already available as of May, 2014. Repetitions were deleted. The data-base was updated according to the 'International Standard Industrial Classification' and entering new data using new information sources such as,

1. The Ceylon National Chamber of Industries members list 2014
2. SME Sector members
3. Electronics and Robotics list
4. Sri Lanka Chamber of Pharmaceutical Industry
5. Sri Lanka Export Development Board (website)
6. Compass Business Directory

The status report was updated.

The number of entries as of May, 2014 was 2950, total of new updates were 407, excluded from the list due to non-existence were 305.

Recognition of contributions to National Science & Technology development

a) National Awards for Science & Technology Achievements (NASTA)

Ceremony to confer NASTA 2014 was held on 27th February, 2015 at the Presidential Secretariat. Five Awards and five Certificate of Merits were made (*Annex 09*).

A post evaluation meeting was held on 25th June, 2015 with the Panel of Judges to review the comments/suggestions made during evaluation of applications in the year 2014 in order to improve the scheme.

b) NSF Technology Awards

Eight final reports of completed technology grants were reviewed. Seven field visits were made to evaluate the projects and six were selected for Technology Awards and one was recommended for certificate of commendation (*Annex 10*). The award ceremony was conducted on 15th December, 2015.

Provide financial support for Patent protection

The "Programme Brief" was revised to include new activities and submitted to the Board for approval. The NSF patent support policy was revised and submitted to the Board for approval. Preparation of publicity plan for the scheme "support for patent protection" was in progress.

Consultancies in patent drafting, filing and awareness building activities

Preparation of a plan for awareness building for the next five years was in progress.

Ten consultancies were provided on how to obtain a patent, how to file patent applications under PCT, how to file local patent applications and how to draft specialize patent applications.

Discussions were in progress with the National Intellectual Property Organization (NIPO) and World Intellectual Property Organization (WIPO) to plan a workshop on “IP Protection and Commercialization Strategies” for Industries.

Staff trainings in specific fields

Two officers completed and passed the distance learning course on “DL- 301 Patents”. One officer completed and passed the distance learning course on “DL- 318 Patent information search”.

**S&T POLICY
RESEARCH AND
STRATEGY
FORMULATION**



S&T Policy Research and Strategy Formulation

The NSF also function as a research arm in the area of S&T Policy by providing evidence based policy recommendations for the policy formulation and addressing the gaps in the existing policies, aiming towards rapid socio-economic development in the country through Science Technology and Innovation.

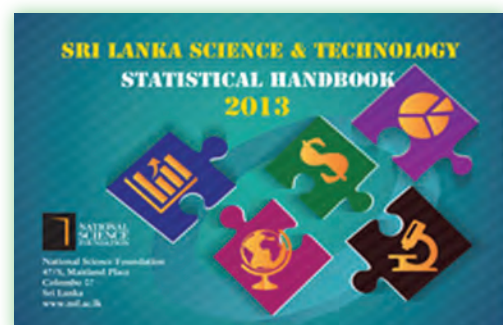
The main focuses made on these directions are:

- Undertaking science, technology and innovation (STI) policy research in the areas of importance to make recommendations towards policy formulation.
- Developing various databases relevant to all sectors of STI that will be useful for decision making.
- Undertaking public awareness programmes and public discourses on nationally important issues related to the areas of STI.
- Investigating, collecting, researching and securing Indigenous Knowledge (IK) that exists and being practiced in Sri Lanka.
- Undertaking capacity building of human resources especially in the areas of Social Sciences and Indigenous Knowledge.

Science, technology and innovation (STI) policy research

1.0 National Research Development and Innovation (RDI) Survey

NSF has been conducting a regular National Research, Development and Innovation (RDI) Surveys once in every two years since the year 2004. This Survey measures and reports the status of science and technology sector in the country in terms of investment on Research, Development and Innovation (RDI), engagement of Human Resources in the Science, Technology and Innovation (STI) sector, and the Outputs of the STI sector in spears of publications, patents, technologies, innovations *etc.*.



The Survey is conducted following international standards laid out by the United Nations Educational, Scientific and Cultural Organization (UNESCO) and Organization for Economic Co-operation and Development (OECD). The scope of the Survey encompasses higher education sector, S&T institutions, R&D institutions, industrial sector and the local and foreign non-government organizations (NGOs).

In the latter part of the 2014, the National RDI Survey 2013 was commenced, and data collection had been continued in early part of the 2015. The data analysis and preparation of the S&T indicators were completed in 2015. The respective “Sri Lanka Science and Technology Statistical Handbook 2013” was published in the end of 2015. In parallel to the preparation of S&T indicator handbook 2013 the RDI Survey on 2014 was also initiated in September 2015 and the data collection in S&T sector will be continued until mid 2016.

2.0 Survey on Grants awarded by the NSF during the period 1998-2008

The survey was conducted to measure and assess the output of the NSF Research grants awarded during the period of 1998-2008 and also to find out the shortcomings, gaps and weaknesses of the NSF Competitive Research Grant Scheme. The draft technical report of the survey was prepared and will be published in early 2016.

3.0 Tracer study of Postgraduates passed out from the national universities during the period 2009-2012

The main objective of the study is to investigate the employability of postgraduates produced by the local universities. The survey was initiated in January 2014 and the data collection and data entry was in progress in 2015. The technical report will be made available in mid 2016.

To be the focal point in collect collate, analyze, interpret, store disseminate and provide access to STI information

1.0 National Science and Technology Management Information System (STMIS)

STMIS is a computerized information system developed and maintained by the NSF since 2004. The online search and registration is available on its website: <http://mis.nsf.ac.lk/> The STMIS database contains information on scientists; S&T related institutions; advanced scientific equipment available in the institutions; information on services and training programmes offered by the S&T institutions; research publications and information on the ongoing research in the country. The STMIS database is being updated regularly and the total number of scientists registered in the database during the year 2015 was 396 and presently it contains information of more than 5,704 scientists of different disciplines. One hundred and thirty seven (137) identity Cards were issued to the registered scientists in 2015. Considering the structural and functional limitations of the existing STMIS, a planning was made to upgrade and to expand the system during the year 2015 and this activity will be continued in the year 2016.

2.0 Directory of Social Scientists

An initiative has been taken to prepare a directory of social scientists in the country. The main purpose of preparing this directory is to keep records on social scientists working in different areas of social sciences in view to get their service and expertise for the various events and activities conducted nationally and internationally that falls into the areas of social sciences.

Public awareness programmes and public discourses on nationally important issues related to the areas of STI

1.0 International Conference on Promoting Socio-Economic Equity in South Asia: Challenges and Prospects

The NSF in collaboration with the Indian Council of Social Science Research (ICSSR) organized an International Conference on Promoting Socio-Economic Equity in South Asia: Challenges and Prospects at the Kingsbury, Colombo from 15-16 July 2015. This was aimed to bring together academics, researchers, policy makers and development practitioners to discuss and debate various issues relating to Socio-Economic equity in South Asia with a view to advancing the understanding of the subject, identifying gaps in research and developing an agenda for research, preferably to be undertaken through international as well as interdisciplinary collaborations. Fourteen (14) foreign participants and around 150 local scientists participated at the Conference.

Forty five (45) papers under the following 05 themes indicated below were discussed during the period of one and a half day;

- ❖ Economic Aspects of Inequality: Impact of Neo liberal Policies on Poverty Trends, Social Polarization
- ❖ Interactions and Intersections between Caste, Class and Gender Inequalities in South Asia
- ❖ Impact of Egalitarianism, Democratic Politics and Current Social Policies on Changing Patterns of Social Inequality
- ❖ Education and Human Resources Development
- ❖ Implications of Science and Technology on Socio-economic Inequality



2.0 Policy Dialogue on Challenges and Prospects for Reducing Socio-Economic Inequity in South Asia

The NSF in collaboration with the Indian Council of Social Science Research (ICSSR) and United Nation Development Programme (UNDP) organized a policy dialogue on Challenges and Prospects for Reducing Socio-Economic Inequity in South Asia on 16th July 2015 at The Winchester, The Kingsbury, Colombo, Sri Lanka. Following areas were under discussion:

- a. Economic impacts of inequality and polarization
- b. Interactions between caste, class and gender
- c. Impact of politics and policies on the trends in social inequality
- d. Education, human resource development and science & technology as response

Around 120 participants from local and foreign organizations participated at the event and important policy issues and recommendations were highlighted during the discussion.



3.0 Panel Discussions on Emerging Population and Socio-Economic Trends as per the 2012 Census Report

The National Science Foundation organized a panel discussion on ‘Emerging Population and Socio-Economic Trends as per the 2012 Census Report’ with the direction of the NSF Working Committee on Social Sciences on 06 April 2015 at the NSF Auditorium. The Seminar was designed to bring together Sri Lankan professionals, academics, researchers, policy authorities, legislators and other relevant stakeholders working in the area under the discussion and giving them an open forum to discuss and debate on the issues, emerging problems, decision and plans to be implemented *etc.* for socio-economic development of the country and the welfare of the people.

The discussion conducted on the following themes:

- a. Main features of 2012 population Census, Sri Lanka
- b. Population growth, distribution and age-sex structure
- c. Changing pattern of marriage and fertility
- d. Internal and international migration
- e. Literacy and education

A few policy recommendations and implications arise in the discussion were:

1. The development of appropriate population and reproductive health policy for wellbeing of the Sri Lankan population.

2. As older generation in the country doubling, a necessary policies and plans should be in place at present to take care for them in future.
3. To use increasing older generation effectively and productively, the retirement age (60 yrs) that currently operating should be increased up to 65 or 70 years. This policy recommendation is supported by evidence arise in some research done in the country.
4. A regular national migration survey should be conducted to capture correct situation and make effective policies for efficient use of income generated from the migrant workers and wellbeing of the migrated & returned workers and their families *etc.*
5. The currently using division of areas as to urban and rural is not accurate. Therefore, a new definition should be developed considering the population density, available facilities, shopping complexes, labour participation in agriculture and non agriculture activities *etc.*



4.0 Panel Discussion on Revitalization of the Science and Technology Asian Network (STEPAN)

The Science and Technology Policy Asian Network (STEPAN) was established in 1988 in view to form a network of researchers and institutions in the Asia-Pacific focusing on researchers and training support for National Science and Technology (S&T) Policy and Management Programme under the auspices of UNESCO. The National Science Foundation of Sri Lanka acts as the focal point of the STEPAN since 1988. This Panel Discussion was focused on to discuss and make plans for the success of STEPAN and its future endeavors and also to discuss issues pertaining to the S&T in Sri Lanka.

The discussion focused on the following aspects:

- a. Introduce the functions and major activities of Science, Technology and Policy Institute
- b. Review on potential Education & Training programmes that will strengthen capacity building of S&T policy makers/researchers *etc.*
- c. Determine exact demand for S&T policy consulting
- d. Discuss the demand for institutional capacity building programmes in the area of STI Policy
- e. Conduct a workshop programme for S&T experts in order to generate future S&T corporation Projects.

Policy recommendations and implications aroused in the discussion were:

- ❖ In Sri Lanka, researchers conduct research in an ad hoc manner without considering the national needs, and therefore, NSF should take action to create a good research culture paying attention to multidisciplinary, and need based research.
- ❖ Strengthen research publication culture in the country
- ❖ Improve the innovation culture in the country
- ❖ Give publicity and create public awareness on research findings and marketable research
- ❖ Identify policy gaps by revisiting Science, Technology and Innovation (STI) Policy of Sri Lanka and take remedial actions to address the issues and taking initiatives for proper implementation of STI Policy
- ❖ Create funding schemes for Proof of Concepts (PoC), and develop a grant scheme for venture capital for new innovations, for commercialization viable research findings *etc.*
- ❖ Create programmes to use young generation such as undergraduates by giving flexibility, correct guidance and other support to conduct research to prevent them leaving the country
- ❖ Identify regulations in the public sector that restrict innovation activities and propose remedial corrections
- ❖ NSF to conduct a survey to identify issues pertaining to newly passed out graduates to leave the country
- ❖ Include Social scientists as well as economists in discussions related to developing S&T policies
- ❖ Develop an innovation index for Sri Lanka

5.0 Panel Discussion on “Issues and Gaps in Science Education at School Level in Sri Lanka”

With the guidance of NSF Working Committee on Science and Technology Policy Research (WCSTPR) a panel discussion was organized by the NSF on “Issues and Gaps in Science Education at School Level in Sri Lanka” which was held on the 10th of December 2015 at the NSF Auditorium with the participation of over 20 key stakeholders in the area concerned.

It was organized with the objective of bringing together a body of experts to present their views and discuss and debate on various issues under the theme, producing evidence-based policy recommendations to address current gaps and issues in science education at school level with an aim to pave the way towards innovation driven economy by producing a competent S&T workforce.



Based on the various issues discussed 4 broad categories were identified as follows,

1. Issues pertaining to current curriculum
2. Issues pertaining to teaching methodologies used
3. Issues pertaining to resource limitations at schools
4. Issues pertaining to evaluation methodologies currently in use

The Committee considered the potential of conducting more in depth discussions along the broad categories identified that affect the S&T education and proposed effective evidence based policy measures to alleviate the issues and gaps in science education at tertiary education in the country.

Investigating, collecting and securing Indigenous Knowledge (IK) existing and practiced in Sri Lanka

1.0 Workshop on Investigating the Indigenous Knowledge (IK) existence and practice by farmers in different regions of the country

A series of workshops was held at different regions of the country to collect information on indigenous knowledge exists and practice by the farmers in the country in view to record and document them for the preservation for future generation as well as to prevent piracy of the knowledge. Information gathered will be investigated and further researched to use along with current farming practices to promote eco-friendly farming system in the country. The 5th programme of the series was conducted at Ussapitiya in Kegalle district on 6th March 2015 with the participation of 160 farmers, agriculture extension officers *etc.*



2.0 Workshop on Scientific Aspects of Indigenous Music of Sri Lanka: Potential for Therapeutic Use

The Workshop to investigate the Scientific Aspects of indigenous Music of Sri Lanka: Potential for Therapeutic Use was organized under the direction of the NSF Working Committee on Indigenous Knowledge with the collaboration of Faculty of Music and Faculty of Dance and Drama of the University of Visual & Performing Arts on 14th September 2015 at Paneebharatha Theatre.

The workshop aimed at raising dialogue on exploration of scientific aspects of indigenous music, its practices and usage of it as a therapeutic tool in medical practices and general wellbeing of the people. The discussions raised the points that the music used by ancient Sri Lankan had close relationship with people and environment which made eco-friendly, mentally healthy nation. The variations and simplicity of the

codes which seems unique to Sri Lankan indigenous music and needs for further research in these directions also were discussed at length during the workshop. Mr Rohana Beddage, Prof Laionl Bentherage and Senior Lectures of the University of the Visual and Performing Arts Mr Saman Panapitiya, Mr Mahinda Wimalasiri, Mr Saman Kumaratunge, Mrs Mangalika Rajapakse participated as Resource Persons. The psychological aspect of indigenous music and how brain reacts to the music was discussed by Dr Aruna Munasinghe, Consultant Physician, Wathupitiwala General Hospital.

The workshop participated around 400 participants including scientists, medical persons (both indigenous and western), academics, artists, postgraduates and undergraduate students.



3.0 Workshops on Indigenous Food for a Healthy Life

A series of Workshop on Indigenous Food for a Healthy Life was planned to conduct in different regions of the country to gather information on indigenous food practices, preparatory methods, preservation methods and ingredients used while educating participants on healthy food practices associated with ancient Sri Lanka *etc.* Three workshops of the series were conducted during 2015 as follows:

1. The 1st workshop of the series was conducted on 04th September 2015 at the Auditorium of Divisional Secretariat at Mathugama, Kaluthara district with the participation of over 160 participants.
2. The 2nd Workshop was conducted at the Auditorium of Divisional Secretariat at Nuwaragam Palatha (East), Anuradhapura district on 7th December 2015 with the participation around 120 participants.
3. The 3rd Workshop was conducted at the Auditorium of Divisional Secretariat at Kundasale District on 29th December 2015 with the participation around 160 participants.



4.0 Intellectual Property (IP) Rights on Indigenous Knowledge (IK)

Two meetings of the NSF Working Committee on Indigenous Knowledge were conducted on 2nd October and 14th October 2015 to discuss how to protect the intellectual property rights on indigenous knowledge with lawyers working in the area of IP and have expertise especially in the areas of IK.

The main objective of the first meeting was to initiate a discussion related to IP right on IK. During the discussions, the objectives to be look at and the steps to be taken for IP protections of Indigenous Knowledge were identified. The Committee decided to have a brainstorming session and a seminar for larger group of stakeholders to finalize the decisions taken at the two meetings and pursue the matter further during 2016.

Capacity building of human resources

1.0 Workshop on Writing a Research Paper in Social Science and Humanities

The National Science Foundation organized two Workshops on Writing a Research Paper in Social Sciences and Humanities on 06th November and 17th December 2015 at the NSF Auditorium under the directives of the NSF Working Committee on Social Sciences.

The main objective of this workshop was to educate and provide hands on experience to the young social scientists and scientists of other disciplines who like to undertake research in the areas of social sciences in writing good research articles targeting high ranking journals *etc.*

Around 80 participants of different disciplines were participated at the above two workshops.



Public awareness on important policy issues, research findings or areas of importance for the welfare of the people *etc.*

1.0 Vidukawaya Public Lecture Series

The Vidukavaya, public lecture series has been designed to make aware the public on important issues of the country. The lectures mainly focuses on general public or group of scientists *etc.* depending the topic

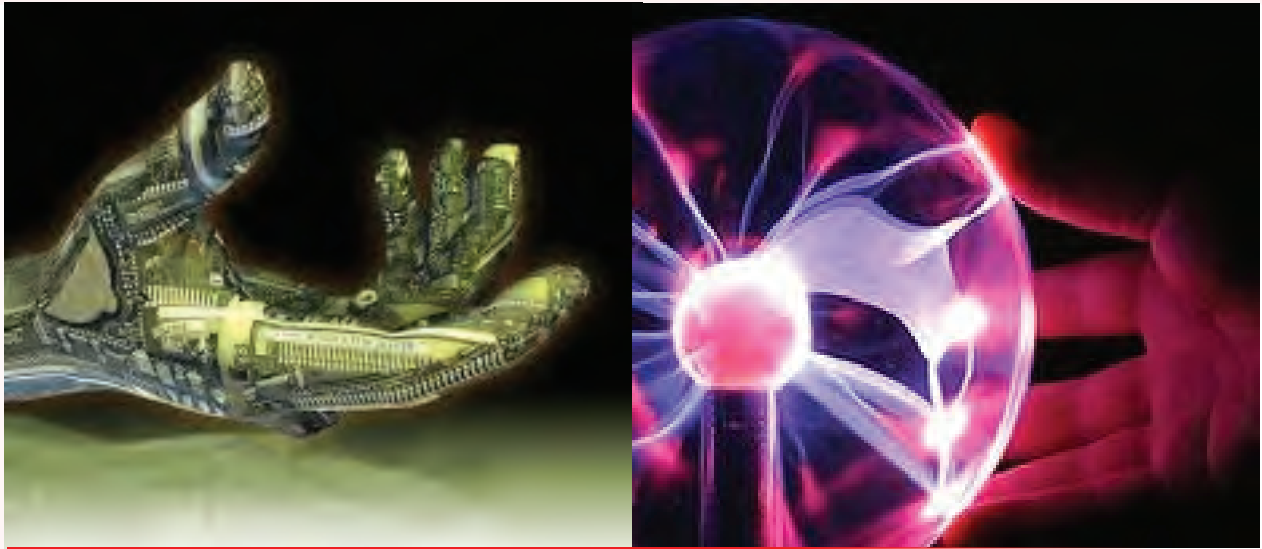
discussed. Every lecture followed by a discussion that given time for participants to exchange their views, raised their questions and debate on the issues *etc.* Accordingly, The following lectures were conducted at the NSF during 2015.

1. Public Lecture on Women & Poverty in Sri Lanka
2. Public Lecture on Prevention of drug abuse among teenagers





SCIENCE EDUCATION AND POPULARIZATION



Science Education and Popularization

Science Popularizing activities are conducted to popularize Science and Technology among the people of Sri Lanka, which focuses mainly on school children, but also takes into consideration the general public, and scientific community towards this direction. The following activities were conducted during 2015.

Use of Mass Communication media to reach diverse target groups

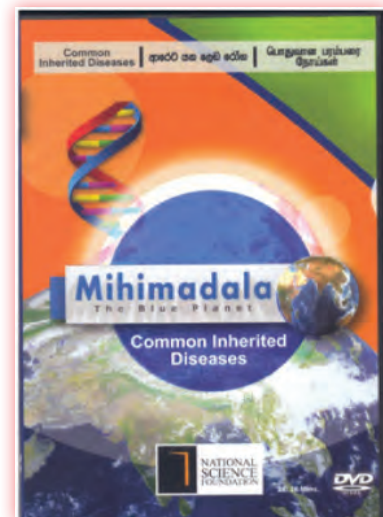
Production of the 'Mihimandala' Video Programmes and telecast over TV channels - Phase II

The “Mihimandala” is a series of short video programmes (20 - 25 minutes) produced in Sinhala, Tamil, and English under different scientific topics targeting the general public.

Phase II of Mihimadala programme commenced in 2014 targeting the production of videos on 15 topics in all three languages with an objective to telecast via national TV channels to reach diverse target groups among the general public.

During 2015, video programmes were produced on the following topics in English, Sinhala & Tamil languages.

- Wise use of Medicine – Dr Chamari Lochana Weeraratne
- Household Energy Conservation – Dr Thusitha Sugathapala
- Common Inherited Diseases – Prof. Vajira Dissanayake



Increasing the availability and accessibility of authentic scientific publications

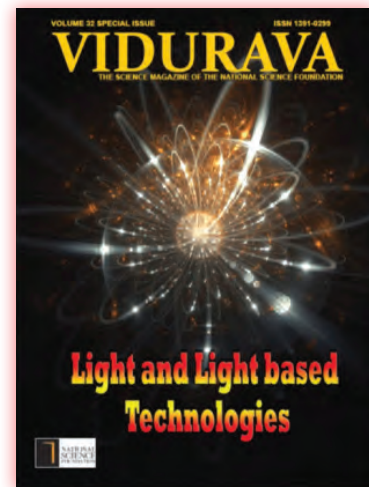
1.0 Vidurava Science Magazine

The Vidurava Science Magazine, which is published as a Science Bulletin since 1976 is one of the oldest Science Magazines in the arena. At present, three issues of the Magazine in three language versions (Sinhala, Tamil and English) is published in January, June and November (Special issue) each carrying a specific theme are published.

All the issues are distributed among the schools registered with the NSF, Vidatha Centres, University Science Libraries, Provincial Science Coordinators, and Zonal Science Directors free of charge. The Special issue is distributed among the participants of the World Science Day Schools Programme too.

Following issues of Vol. 32 were published during the year 2015.

- **January 2015 Issue**
Theme: Indigenous Knowledge (Sinhala, Tamil & English versions)
- **June 2015 Issue**
Theme: New Frontiers in Scientific Research (Sinhala & English versions)
- **November 2015 (Special) Issue**
Theme: Light and Light based Technologies (Sinhala & Tamil versions)



2.0 "Vidya" Newsletter

The "Vidya" Newsletter reports information on various activities organized by the NSF such as seminars, workshops, conferences. It also provides information on the research grants and travel grants administered by the NSF. This Newsletter is a quarterly publication and published as January, April, July and October issues.



April issue and the combined July/ October issue of 2014, and three issues (January, April and July) of 2015 were printed and distributed among the members of the NSF Committees, to Research & Development institutes and University Libraries.

3.0 Science booklets and books

Publication of science booklets and books to improve the readership & knowledge on scientific concept among school children was continued during the year.

Booklets: These are publications on scientific concepts explaining in simple language printed in local languages (Sinhala & Tamil) to easy understanding of school children. Booklets published under this would be distributed among the school children of underprivileged schools.

Printing of 5,000 copies each of four booklets on Nuclear Technology & electricity (Prof. Prinath Dias), Biotechnology (Dr Suneth Sooriyapathirana), Indoor & outdoor air pollution (Prof Ranjith Mahanama), and “Aruma puduma gas wel ” (Dr Sudheera Ranwala) in Sinhala version was in progress and 2,500 copies of the first booklet (Nuclear Energy) were printed.

Books : Under the NSF Grant Scheme for promoting Science and Technology Publications, one book on “The Discipline in Science” (by Ms Nanadani Ashoka Amarasinghe – 1000 copies) was published and handed over to the author.

Using schools as a platform for science popularization

1.0 School Science Society (SSS) Programme

School Science Society Programme was established in 2005 with an objective of registering school science societies with the NSF and to foster them by improving the knowledge of school children in Science, Technology, Engineering, and Mathematics (STEM) to create a scientifically literate society and to making them aware of the application of simple scientific techniques in day-to-day activities.

Eleven (11) new School Science Societies (Sinhala medium: 07 & Tamil medium: 04) were registered with the NSF during the year 2015. The total number of schools science societies registered by the end of the year was 799.

Services of local scientists were provided to 08 schools registered with the NSF on their Science Days free of charge as follows. Honoraria, fuel and refreshment cost for the resource persons was borne by the NSF.

School and date	Resource person's name and institute	Topic
1. Panadura Balika College, Panadura on 04 th March, 2015	Dr. Neil Fernando	Psychological consultation for A\L Students
2. Rajasinghe Central College, Ruwanwella on 12 th March, 2015	Dr. Predeepika Saputhanthri, Department of Plant Sciences, University of Colombo	Green Life Style for the benefit of human beings
3. Isipathana College, Colombo 05 on 21 st May, 2015	Mr. M.J.J Fernando, Central Environmental Authority	Recycling and conservation of the environment

4. Sri Sumangala College, Panadura on 29 th May, 2015	Miss. M.A.L.H.N Munasinghe, Mr. D.J Karunaratne Mrs. D.C Manathunga University of Colombo	Nano technology
5. St. John's College, Panadura on 26 th June, 2015	Prof. B.G.D.N.K De Silva, Department of Zoology, University of Sri Jayewardenepura	Gene technology
6. St. Aloysius's College, Rathnapura on 08 th July, 2015	Prof. Rohan Munasinghe, Department of Electronic and Telecommunication Engineering, University of Moratuwa	Outer Space
7. Gnanodaya College, Kaluthara on 08 th October, 2015	Prof. Balo Daya, Department of Physics, University of Colombo	Lecture on Physics
8. Lakdasa De Mel College, Kurunegala on 23 rd October, 2015	Mr. Manju Gunawardene, Sri Lanka Institute of Nano Technology	Nano technology

2.0 Inter School Science Society Competition (ISSSC) – 2015

Inter School Science Society Competition - 2015 was organized during the period August - October 2015. Six competitions (short science drama, role play of a scientist, viridu poems, manual posters, digital storytelling, and science fictions) were conducted under the theme “Light and Light based Technologies” among the school science societies registered with the NSF.

The first round of competitions (drama, role play, and viridu) were held in Kandy and Colombo. The final round was held at the Mahabodhi Hall, Maradana on 10 October 2015.

Other competitions (digital storytelling, science fictions, and manual poster competitions) were held at the NSF. For the Manual Posters competition it was received more than 200 posters from school children and there were 28 creations from all three languages for the Science Fiction Competition and 15 digital stories were received for the Digital Story Telling Competition.

A competition for teachers of the registered School Science Societies was also conducted for the “Teachers’ Award for promoting science among the school children”.

The winners of the ISSSC 2015 were felicitated at the World Science Day 2015 Schools Programme held at the BMICH on 09 November 2015.



3.0 World Science Day Schools Programme

In the year 2001, United Nations' Education, Science, and Cultural Organization (UNESCO) declared the 10th of November as the World Science Day for Peace and Development. From 2002, Sri Lanka started celebrating the World Science Day and the NSF was selected as the focal point of celebrating the World Science Day. From 2004, the NSF opened this programme to school children and named the programme as the "World Science Day Schools Programme". It has been organized in November in each year under different scientific themes.

In 2015, it was organized under the theme "Light and Light Based Technologies" on 09 November 2015 at the Main Hall of BMICH. School children and teachers of the school science societies registered with NSF, the winners of the competitions conducted by NSF, scientists, academics, and media personnel were invited for the event and around 1500 personnel participated.

The Secretary of the Ministry of Science, Technology & Research participated as the Chief Guest while the Keynote Address on "Light and Light based Technologies" was delivered by Prof. A.P. De Silva, Queen's University, Ireland. The Special issue of the Vidurava Science Magazine published by the NSF under the above theme with theme article provided by Prof. A.P. De Silva and six articles written by other scientists was distributed among the participants of the above programme.

Winners of the following competitions were felicitated by providing plaques, cash awards, and certificates at the World Science Day Programme.

- Inter School Science Society Competition (Short Science Drama, Role Play of a Scientist, Viridu, Digital Story Telling, Manual Posters, and Science Fictions)
- Teachers' Award for Promoting Science amongst the School Children (Award Winner and three commendations)
- Prof. M.T.M. Jiffry Memorial Award for Popularization of Science (Shared Award and two commendations)
- Star Rating (the best performing School Science Societies which are registered with the NSF; five "Five Stars" schools)
- Science Research Project Competition (SRPC) - 2014 and Sri Lanka Science & Engineering Fair - 2015
- Digital story telling competition for undergraduates registered under NSF University Science Society Programme



Science Research Projects Competition (SRPC) and Sri Lanka Science and Engineering Fair

1.0 Science Research Projects Competition (SRPC)

The Science Research Projects Competition (SRPC) is organized annually with the objective of enhancing the innovative thinking, creativity and the investigative ability amongst the school children in the country. The school children who are in the classes from Grade nine to twelve are eligible to participate at this competition. They should conduct a science research project of four month following the scientific methodology. Three introductory workshops were organized for school children in Colombo, Kandy, and Batticaloa to make them aware on application of scientific method for scientific research. The competition was started in early July 2015 and thereafter arranged two progress review workshops on 11th August and 25th September 2015.

The SRPC Final was organized in to two steps for the first time of the SRPC history as ; Step I: Multimedia Presentations and Step II: Poster Presentations. Candidates were provided opportunity to experience a similar situation of the Sri Lanka Science & Engineering Fair. The Step I was organized on 23rd October 2015 and selected 17 projects for the Step II. Poster Presentations (Step II) was organized on 27 November 2015 and top ten winners (10) were selected.



2.0 Sri Lanka Science and Engineering Fair (SLSEF)

Sri Lanka Science and Engineering Fair (SLSEF) is organized annually by National Science Foundation and Institution of Engineers of Sri Lanka in collaboration with Ministry of Education and Intel® Sri Lanka. The first Fair was organized in the year 2008.

Sri Lanka Science and Engineering Fair (SLSEF) 2015 was held on 19 January 2015 at the Institution of Engineers Sri Lanka (IESL) with the participation of 10 inventions selected from the Junior Inventor of the Year (JIY) Competition, and top ten Science Research Projects selected from the Science Research Projects Competition 2014. Two individual projects (from JIY competitors) and one group project (from SRPC) were selected as winners of the SLSEF 2015. They were given the opportunity to represent Sri Lanka at the Intel International Science and Engineering Fair (Intel ISEF) 2015, the world's largest pre-college



science competition held in Pittsburgh, Pennsylvania from 10-15 May 2015, USA with the participation of nearly 1,700 of the world’s most promising young scientists, engineers and mathematicians. Of the three projects, one project won the fourth award under the category Engineering Mechanics (500 US\$).

Conduct awareness campaign on Emerging Technologies

The NSF has identified the importance of making the younger generation aware of emerging technologies such as Biotechnology, Robotics, Information & Communication Technology and Nanotechnology towards socio – economic development of the country. The most effective way to make younger generation aware of this technology is through schools. Since the NSF is not in a position to directly reach all the school children in the country, a programme has been developed to train science teachers through a system who would in turn be able to make the children aware of these technologies.

Two 2-day workshops were organized for teachers of the school Science Societies registered with the NSF in Western and Southern Provinces during the year.

Province	Dates	Venue	Number of Schools Participated
Western Province	24 th and 25 th of March 2015	National Institute of Education, Maharagama	80 schools
Southern Province	25 th and 26 th of June 2015	NSF Auditorium	35 Schools

University Science Society (USS) Programme

The objectives of the University Science Societies (USS) Programme are, to create a platform for science undergraduates to develop their knowledge and skills in national activities, enhance scientific communication and writing skills of the undergraduates, utilize the knowledge of science undergraduates to popularize science for the well-being of the citizens in Sri Lanka, improve the acceptance of science among university qualified A/L students and to facilitate learning of science among school children and university undergraduates.

Reregistration of University Science Societies was done and 47 Societies representing 11 Universities were registered.



Following programmes were conducted for University undergraduates during the year.

Programme	Dates	Venue	Number of Participants
Digital Story Telling Workshop	07.08. 2015	NSF Auditorium	48 undergraduates from 05 universities
Digital Story Telling Competition	07.08.2015 – 14.09.2015		5 applications
Activity Day	27.08.2015	Madu Ganga Coastal Environmental Centre, Ambalangoda	41 undergraduates from 11 University Science Societies
Follow up Programme of the Activity Day	18.09.2015	NSF Auditorium	21 undegraduates from 7 Science Societies

Capacity building of teachers on good laboratory practices

As per the suggestion made by the Ministry of Education (Science Branch), a programme was planned to train 450 Master Trainers selected by the MoE. Open University of Sri Lanka was requested to prepare four Manuals on Chemistry, Physics, Botany and Zoology with an objective of using these manuals in training the Master Trainers.

Printing of the four manuals received from the Open University was in progress.

Capacity building of science communicators

Training Workshops on Science Communication

Science communication plays a major role in bridging the gap between the scientists and the society and making science a part of everyday life. Therefore, the NSF has started a programme to train scientists as science communicators to take science to the general public. One workshop was conducted on 24th & 25th February 2015 at the Staff Development Centre Wayamba University of Sri Lanka to train 23 Academics of the Wayamba University.

Provide grants and support schemes to promote science among the school

1.0 Funding Scheme to Sponsor Science Popularization Activities organized by other Institute

This scheme was implemented in 2013 with the objective of providing financial support for organizing scientific activities by other institutes / organizations including the institutes under The Ministry of Science, Technology and Research, Universities, Research Organizations, and Schools registered with NSF.

Under this scheme, following two grants were provided.

1. Rs. 896,000/- for “Vidu Nena Dasuna” Sinhala Science YouTube Channel Project by National Institute of Fundamental Studies (in 2014).
2. Rs. 1,000,000/- for establishment of an Astronomical Training Centre at St. Mary’s College, Kegalle (2014).

The second installment (Rs. 500,000/-) was released to St. Mary’s College to continue their activity based on the evaluation of their progress of the first installment (Rs. 400,000/-).

2.0 Support Sri Lanka Olympiad Federation (SLOF) and provide grants for International Olympiad participation

The Candidates of the National Olympiad Competitions were sponsored for registration/ airfare or accommodation *etc.* to participate for the following International Olympiad Competitions. International Awards won by the participants also listed in the following table.

International Olympiad Competition	International Awards
1 16 th Asian Physics Olympiad held at China	-
2 China International Mathematics Competition - 2015 Age category II (Under 14) –two teams Age category III (Under 17)- two teams	2 - Gold Medals 1 - Silver Medals 4 - Bronze Medals 5 - Honorable Mentions for individuals Team contest (Age category II) Team 1- 3 rd Place Team 2 -2 nd Place (Age category III) Team 1 -3 rd Place Group contest (Age category II) Team 2- 2 nd Place (Age category III) Team 1 -3 rd Place
3 International Olympiad in Informatics -2015 at Kazakhstan	-
4 International Mathematics and Science Olympiad Competition – 2015 at Thailand (two teams) Age category II (Under 14) –one group Age category III (Under 17)- two group	1- Gold Medals 3- Silver Medals 6- Bronze Medals
5 XI Asia Pacific Astronomy Olympiad at Bangladesh	1-Silver Medal 1-Bronze Medal
6 8 th International Olympiad on Astronomy at Romania	1-Bronze Medal



**S&T
INFRASTRUCTURE,
CAPACITY AND
PARTNERSHIP
BUILDING**



S&T Infrastructure, Capacity and Partnership Building

Maintaining International Liaison is another function of the NSF, the objective being to foster the interchange of scientific information among scientists in Sri Lanka and abroad. Accordingly, the International Liaison Division of the NSF continued its activities to ensure Sri Lanka's contribution towards International Science & Technology activities, to establish and maintain liaison with individuals, associations or institutions in other countries and to promote the visibility of Sri Lankan scientists internationally. During 2015, the activities performed were as follows:

Mini BioAsia 2015 Conference - 28th January 2015, Sri Lanka Foundation Institute

The Federation of Asian Biotech Associations (FABA), is a non-profit, registered society engaged in various activities related to promoting Biotechnology in Asian countries. Sri Lanka is a member of FABA and the National Science Foundation is the focal point of Sri Lanka. The Chairperson of the National Science Foundation of Sri Lanka functions as the current President of FABA (2014 to 2016).

The NSF decided to initiate activities related to FABA in 2015 by organizing the event 'Mini BioAsia' which was held on 28th January 2015 at the Sri Lanka Foundation Institute with the aim of creating a platform to discuss the current status and future prospects of the three main sectors of biotechnology viz medical, agricultural and industrial. It also provided an opportunity to identify potential projects and possible collaborations between academics and industries in the above mentioned areas and also to build networks among the scientists involved in biotechnology.



Over 100 participants including academics, research scientists and industrialists participated at this one day event. The event was arranged into 4 sessions, which included theme presentations, presentations by biotech industries, group discussions and group presentations on potential projects. The invited speeches were delivered by three eminent scientists from India, Prof. P. Reddana, Head of Life Sciences, University of Hyderabad/Vice President of Federation of Asian Biotechnology Association (FABA), Prof. Vijay Kumar Kutala, Additional President of Pharmacology & Biochemistry, NIMS, Hyderabad/Secretary General of FABA and Prof. R. V. Guntaka, Director, Sudershan Biotech Ltd, India.

Technical Workshop to Identify the Opportunities and Interventions to Address Enteric Fermentation in South Asia - 27th – 28th August 2015, National Science Foundation, Sri Lanka

A Technical Workshop to Identify Opportunities and Interventions to Address Enteric Fermentation in South Asia was organized in collaboration with the Global Research Alliance on Agricultural Greenhouse Gases. This was held at the Auditorium of the NSF on 27-28th August 2015 with the participation of scientists, policy makers and industrialists of Bangladesh, Thailand and Sri Lanka.

There had been seven participants from Bangladesh, one from Thailand as well as eight participants and ten observers from Sri Lanka. The workshop was moderated by Ms Carolyn Opio, Food and Agriculture Organization (FAO) and Dr Victoria Hatton, Secretariat of the Global Research Alliance on Agricultural Greenhouse Gases.

As a follow up of the above workshop, a Peer Review Workshop on 'Reducing Enteric Fermentation for Improving Food Security and Livelihood' will be held on 2016 with the participation of experts (i.e. University academics, relevant government officials and private sector representatives) of the field of livestock and dairy sector.



Follow up of Global Forum of Sri Lankan Scientists - Installation and Provision of CISCO WEBEX facility at the National Science Foundation

Based on the recommendations made at the Global Forum held in 2011 in Sri Lanka, the CISCO WEBEX Facility powered by DIALOG was successfully installed to facilitate and organize international webinars and conferences at the National Science Foundation in 2015. Prior to this an awareness programme on 'How to use the WebEx Facility' was also held to the Scientific Staff of NSF on 26th May 2015. Thereafter, the NSF WebEx account was created and a trial run was done. Now this facility is available at NSF for webcasting events at NSF and for Universities and Research Institutes to conduct webinars and webcasting discussions.

International Collaborations

Memorandum of Understanding (MoU) between the Pakistan Science Foundations (PSF) and the National Science Foundation, Sri Lanka

A Memorandum of Understanding (MoU) was prepared to be signed between the Pakistan Science Foundation and the NSF for the implementation of a programme which will provide an opportunity for local scientists and technologists to obtain expertise in their respective subjects and to establish collaborative activities in various fields of Science and Technology. Under the programme Pakistan will also support Sri Lanka in Popularization of Science among the different sectors in the society. In this regard, several meetings with the Ministry Division of Technology and Research were held regarding the decision of signing of MOU with Pakistan Science Foundation (PSF). Communications were made to PSF to sign the MOU between the two governments in early January 2016.

The Science and Technology Policy Asian Network (STEPAN)

The National Science Foundation organized a panel discussion on “Revitalization of the Science and Technology Policy Asian Network (STEPAN)” on 23rd January 2015 at the NSF Auditorium with the participation of a group of Scientists from the focal point of Korea – the Science and Technology Policy Institute (STEPI).

International Centre for Genetic Engineering and Biotechnology (ICGEB)

The Board of Management of the NSF nominated Prof. Jeniffer Perera, Dean, Faculty of Medicine, and University of Colombo as suitable for the ICGEB Council of Scientific Advisors (CSA) and the information of the candidate were sent to ICGEB.

Eight applications received for the ICGEB-CRP Grants for the year 2015 have been sent for consideration. The recommendations were made by the NSF Working Committee on Biotechnology and Bioethics after initial screening by the ILD.

Talented Young Scientist Programme -TYSP

Initial work related to the ‘Talented Young Scientist Programme’ -TYSP (formulation of application, criteria *etc.*) related to have been done with the Ministry Division of Technology and Research. The NSF was informed that the ToR/Agreement has been signed between the two countries (Sri Lanka and China) in this regard.

Networking with Overseas Missions

The printed versions of the Sri Lanka Social Science Journal (SJSS), Journal of the National Science Foundation (JNSF) ‘Vidya’ Newsletter and the ‘Vidurava’ Magazine along with the NSF brochure were distributed among hundred local and foreign embassies to make these overseas missions aware about the NSF and its current activities.

Participations of Sri Lankan Scientists at International Meetings

Prof. Thakshala Serasinghe, Contact Scientist of the Livestock Research Group of the Global Research Alliance (GRA) on Agricultural Greenhouse Gases participated at the 07th Annual Meeting of the Livestock Research Group of the Global Research Alliance on Agricultural Greenhouse Gases on 23rd -24th June 2015 at Lodi, Italy.

Dr Noble Jayasuriya, Policy Scientist and Prof. Thakshala Serasinghe Contact Scientist of the Livestock Research Group of the GRA represented Sri Lanka at the workshop on Improving GHG Inventories from Livestock in South Asia & South- East Asia held on 23-25 September 2015 at Bangkok, Thailand.

Nominations for Representation at International Fora

- Prof. Jennifer Perera was recommended to be nominated for the Council of Scientific Advisers of the ICGEB by the Board of Management of NSF.
- Prof. Anoja Fernando and Prof. Vajira Dissanayake were nominated for the membership of the UNESCO International Bioethics Committee (IBC).
- Prof. Saroj Jayasinghe, Department of Clinical Medicine, University of Colombo was recommended by the NSF Board of Management to be nominated for further three years for the membership of the ICSU 'Scientific Committee for Health and Wellbeing in the Changing Urban Environment: a Systems Analysis Approach'.
- Prof. R.M.U.S.K. Rathnayaka, Department of Food Science and Technology, Faculty of Applied Sciences, Sabaragamuwa University of Sri Lanka who was nominated by NSF represented the country at the 'Future Leaders' Programme of the STS Forum, Japan from 03-06 October 2015.
- Prof. Vajira Dissanayake was recommended to be nominated by the Board of Management for the participation at the 11th Global Summit of the National Ethics/Bioethics Committees to be held in Berlin, Germany, 17-18 March 2016.

Nominations for International Prizes /Awards

- Prof. Anoja Fernando was nominated for the UNESCO Avicenna prize for Ethics in Science 2015.
- Dr Jinie Dela was nominated for the UNESCO Sultan Qaboos Prize for Environmental Preservation 2015.
- One nomination was made for the Tang Prize 2016 in the fields of 'Sustainable Development'.



Annual TWAS/NSF Prize for Young Scientists

The NSF in concord with the World Academy of Sciences (TWAS) has instituted a scheme for the annual award of prizes for talented young scientists who have attained a high level of excellence in research work, in the fields of Biology, Chemistry, Mathematics and Physics. The award consists of a cash prize equivalent of US\$ 2,000 granted by The World Academy of Sciences (TWAS) and a certificate from the NSF. The cash prize of US\$ 2,000 will be shared between maximum of two winners only. The prizes are intended to provide an incentive to talented young scientists to attain high levels of excellence in their research work and to reward such attainments. The NSF received six (06) applications for consideration of TWAS/NSF Prize for Young Scientists - 2015 and out of these applications, the NSF subsequently recommended the nomination from the fields of Chemistry and Biology.

Prof. R.M.U.S.K Ratnayaka, Professor in Food Microbiology, Sabaragamuwa University of Sri Lanka and Dr N.Gunawardena, Director, International Research Centre, University of Peradeniya were awarded with the TWAS /NSF Young Scientists Award - 2015 from Sri Lanka on the fields of Biology and Chemistry respectively.

The NSF International Travel Grants

The objectives of this programme are to provide an opportunity to Sri Lankan scientists and technologists to present their research findings at International fora and to acquire scientific knowledge on new discoveries, achievements, and developments in order to experience the global efforts. Grantees have the opportunity to participate at international conferences to share their research findings, upgrade knowledge and establish linkages with the scientists working in similar areas across the globe for future collaborative activities. In 2015, the NSF awarded forty-one (41) Travel Grants and the details of those Grants are given in *Annex 11*.

Overseas Special Training Programme (OSTP)

The objective of the Overseas Special Training Programme (OSTP) is to enhance national capacities of Sri Lankan scientists by providing training opportunities at centers of excellence abroad. Under the OSTP scientific and technical personnel such as full time research students, science administrators, science educators, S&T policy makers & science communicators are financially supported to acquire overseas training up to a period of 12 months. They are provided the opportunity to obtain advanced laboratory & research skills, industrial & technical experience and science communication & teaching skills that would not be available in Sri Lanka in the foreseeable future. In 2015, the NSF awarded Sixteen (16) OSTP Grants and the details of those Grants awarded are given in *Annex 12*.

International Partnerships for Science and Technology (IPSAT)

The International Partnerships for Science and Technology (IPSAT) is a programme to obtain services of high caliber scientists and technologists working abroad. It is directed at promoting international research collaborations, technology transfer, and at obtaining expertise towards developing a globally-engaged community of scientists and technologists in Sri Lanka. This programme was initiated in year 2012. Three (03) IPSAT grants were awarded in the year 2015 were as follows,

- The Mini BioAsia - 2015 Conference was held on 28th January 2015 at Sri Lanka Foundation Institute, Colombo. For this event Prof. P. Reddanna, Eicosanoids, Inflammation & Cancer Research Group, School of Life Sciences, University of Hyderabad, India and Dr Vijaya Kutala, Additional Professor (Biochemistry), Department of Clinical Pharmacology & Therapeutics, Nizam's Institute of Medical Sciences, Punjagutta, India were participated as Invited Speakers, and the NSF awarded a Grant for this.
- Prof. C.P.D.W. Mathews (General President - SLAAS), Sri Lanka Association for the Advancement of Science (SLAAS) was awarded to invite Prof. S.C. Nanayakkara, Assistant Professor, Singapore University of Technology and Design Singapore and Prof. Paula E. Colavita, Associate Professor in Physical Chemistry, Trinity College, Dublin as guest speakers to the Theme Seminar, Annual Sessions of the Sri Lanka Association for the Advancement of Science (SLAAS) 2015 which was held from 30th November to 4th December 2015.
- Dr Thadhani V. Moolchand (Senior Research Scientist - Sri Lanka Institute of Nanotechnology SLINTEC) was awarded to invite Prof. Wei Zhang, Centre for Marine Bioproducts Development, Flinders University of South Australia, South Australia as a Consultant of Feasibility Studies on – “Potential Applications of Main Seaweeds Produced in Sri Lanka”, SLINTEC, 9-15 January 2016

Sustainable Utilization of Natural Resources - The Man and the Biosphere (MAB) Programme

The Man and the Biosphere (MAB) Programme is an Intergovernmental Scientific Programme aiming to set a scientific basis for the improvement of the relationships between people and their environment globally. The programme was initiated in the early 1970s. It proposes an interdisciplinary research agenda and capacity building that target the ecological, social and economic dimensions of biodiversity loss and the reduction of this loss. The MAB Programme develops the basis within the natural and social sciences for the rational and sustainable use and conservation of the resources of the biosphere and for the improvement of the overall relationship between people and their environment. It predicts the consequences of today's actions on tomorrow's world and thereby increases people's ability to efficiently manage natural resources for the well-being of both human populations and the environment.

Sri Lanka's MAB programme was a direct outcome of the UNESCO-Biosphere Conference of 1968 and was launched in 1971. Activities pertaining to the year 2015 are mentioned below.

Periodic Reviews of International Biosphere Reserves (IBRs) of Sri Lanka

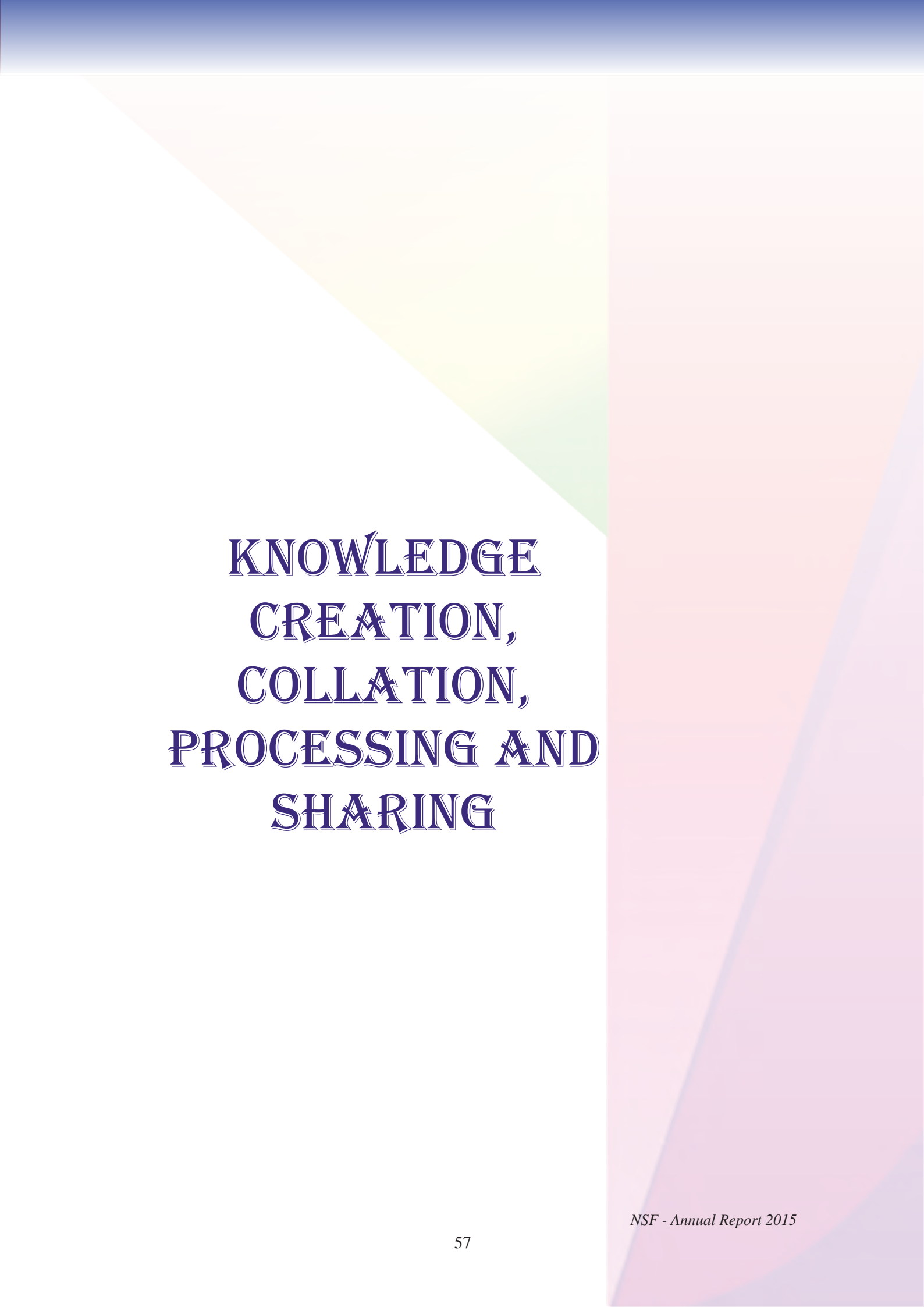
UNESCO recommended Periodic Reviews (PRs) in every ten years for 631 IBRs in 119 countries to determine whether these IBRs meet with the UNESCO criteria and continue to be recognized for further period of time (ten years).

Work on Periodic Review of the four International Biosphere Reserves (IBRs) in Sri Lanka, namely, Sinharaja, Bundala, Hurulu and Kanneliya, Dediyaigala & Nakiyadeniya (KDN) Complex was completed and reports were submitted to UNESCO. UNESCO has approved to continue their IBRs status in Sri Lanka. Further UNESCO has reported that Hurulu PR report has been selected as a model for the use by the members of the World Network of Biosphere Reserves (WNBR).

National MAB Committee has identified the importance of the follow-up activities of PR process and has given the highest priority in its work programme 2015. The following activities were conducted as follow – up activities of PR process.

Site Inspections and Monitoring of IBRs

- ❖ Formation of Bundala IBR Management Committee - Some members of the National MAB Committee and the representative officer of the ILD visited Hambantota District Secretariat and Bundala IBR from 23 - 24 June 2015. The objectives of the visit were to have a discussion with the District Secretary, Hambantota to aware him about the follow up of Bundala Periodic Review process as well as to prepare a project proposal on Bundala IBR to seek funds from a donor organization for the development of IBR. A Second follow-up visit and meeting with the Community Based Organizations and the District Secretary was held at Hambantota District Secretariat and Bundala IBR on 22nd September 2015 with the participation some members of the National MAB Committee and the representative officers of the ILD.
- ❖ Proposed Mini-hydro Project across the Koskulana river at the Sinharaja Biosphere Reserve – A field visit to Sinharaja IBR was made on 21st December 2015 as a follow – up activity of periodic review process and also to see the ongoing construction activities of the proposed Mini-hydro Project across the Koskulana river at the Sinharaja Biosphere Reserve, located close to the Kudawa entrance. Six members of the MAB Committee and a officer of the ILD participated in this visit. The Conservator General of Forest also joined the team at the entrance along with a group of forest officers of that area. As part of the monitoring group activities for the Sinharaja IBR members of the group and other committee members had discussions with the Sinharaha Biosphere Reserve managers on follow-up action with regard to the 2013 periodic review. Observations and recommendations are to be submitted to the Ministry of Science, Technology & Research.



**KNOWLEDGE
CREATION,
COLLATION,
PROCESSING AND
SHARING**



Knowledge Creation, Collation, Processing and Sharing

The National Science Library and Resource Center (NSLRC) of the NSF continues to provide an efficient information dissemination service to the scientific community using information communication technologies through strengthening of linkages and networks, by carrying out necessary programmes to foster the interchange of scientific information among scientists in Sri Lanka and foreign countries, by serving as the National repository of Science & Technology Literature and by facilitating an efficient Science and Technology information services through training of library professionals, provision of technical assistance and software distribution. The following activities were conducted in 2015 to meet the above requirements.

Highlights: Following significant achievements were made during the year.

❖ National Digitization Project (NDP)

Phase two (II) of the National Digitization Project made a significant progress completing over 80% of the digitization work at nine (9) institutions. Over 78% of the digitized material of the phase II of the project was accommodated in databases developed using WINISIS & DSpace software.

❖ Sri Lanka Journals Online Database (SLJOL)

SLJOL was operating successfully publishing 61 journals of local origin. In March 2015, the site was upgraded by enhancing social media functionality and incorporating the facility to monitor the number of times that an article is viewed or downloaded. These new functions have immensely been beneficial to overcome the great challenge faced by Sri Lankan academics in disseminating their findings worldwide. The usage of SLJOL has also been increased tremendously as per the statistics maintained by International Network for the Availability of Scientific Publications (INASP), UK.

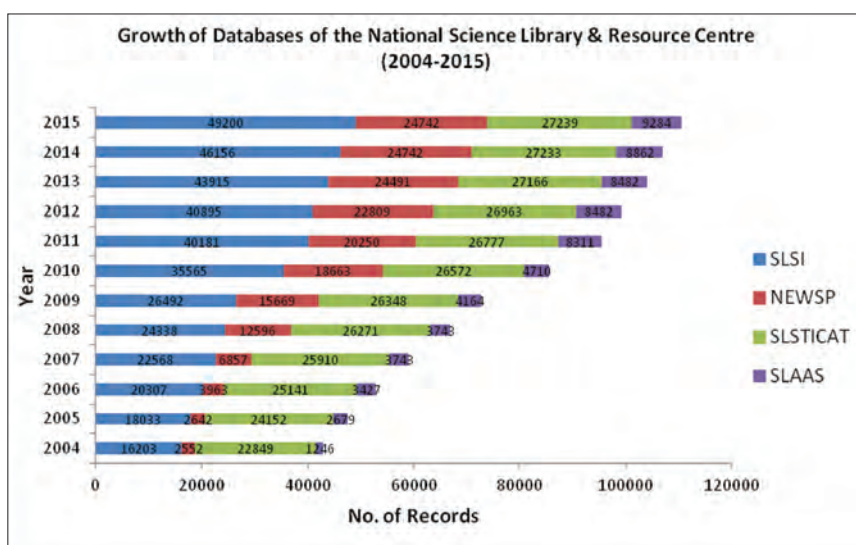


❖ E-Repository of publications arising out of NSF funded research

The community on ‘research publications arising from research grants funded by NSF’ was accommodated with 1066 Final Reports, 308 Theses and 294 research publications providing more visibility to the NSF funded research.

National Level Databases available at NSLRC

The NSLRC by mandate maintains several national level databases to cater to Sri Lankan researchers and the academia to access information on current and past researches conducted in the country. Progress of the databases during the year under review is illustrated below.



1.0 Sri Lanka Science Index Databases (SLSI)

SLSI database currently accommodates 49200 documents of which online access is provided to the full text over 30% of the items. The online access provided to the documents (90%) was severely affected due to the replacement of the server in which the full text files were stored. SLSI database has shown a significant progress during the year with an addition of 3044 records. Transferring data from SLSI database to new open source software JISIS was further continued in order to overcome the problems encountered with WINISIS.

2.0 Research Grants Database (RGRA)

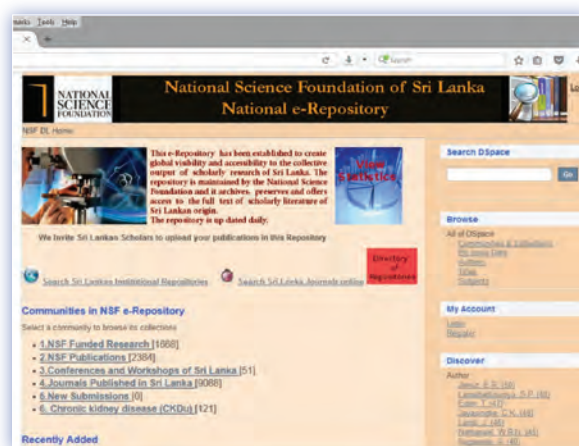
The database was updated with the incorporation of information on 69 final reports and post graduate theses received during the year resulting from NSF funded projects. WINISIS software was installed in a computer at Research Division and made arrangements to update the information on Research Grants in the network database as updating information in the database was discontinued due to the technical problems experienced in the local area network.

3.0 SLASS Database

The SLAAS database was shown significant improvement. SLASS database was also completely transferred to JISIS. The database includes complete references and abstracts to all papers presented at SLAAS annual sessions during the period 1976 -2014. The total number of records added during the year was 421. The database can be searched and abstracts can be downloaded/printed on line.

4.0 Collection Development: National e-repository

It is extremely important to provide the best possible services to the local scientific community by using the latest information dissemination technologies. Accordingly, transferring the contents in the conventional SLSI databases to the National e-repository launched in 2009 on D-space software was further continued. The total number of items transferred during the year from SLSI to national e-repository was 4,154 and the number of scholarly journals of which full text is accessible through the national e-repository was 25. The community on 'research publications arising from research grants funded by NSF' was accommodated with 1,066 Final Reports, 308 Theses and 294 published material based on research outputs. The total number of items recorded in the National e-repository as at 31st December 2015 was 12,806.



5.0 Collections Development – Reference Collection, Special subject collections

Seventy four (74) new books were added to the collection to cater to the reference requirement of the scholarly community. The centre continued to receive copies of new issues (over 30 titles) of scholarly journals published within the country. The number of foreign journal titles subscribed was 8.

6.0 Collection Development strengthening access to global literature

During the year access to the following international databases, a prime requirement of the research community was enabled within the NSF premises. The databases were utilized by academic and researchers for literature searches and for citation information on their publication.

- **SCOPUS Citation & Abstracting Database** : SCOPUS is a comprehensive information source for literature searches covering peer-reviewed literature in over 20,800 journals from 5,000 publishers with smart tools that track, analyze and visualize research. It is an ideal source to conduct literature searches.
- **TEEAL (The Essential Electronic Agricultural Library)** : TEEAL provides access to the full text articles in over 350 Agriculture journals by leading publishers.
- **HINARI (Health InterNetwork Access to Research Initiative) full text journal database** : HINARI together with major publishers provides online access to the major journals (15,000 titles and 47,000 e-books) in the fields of biomedical and related social sciences.
- **AGORA (Access to Global Online Research in Agriculture)** : The AGORA programme, set up by the Food and Agriculture Organization (FAO) of the UN together with major publishers, enables access to an outstanding digital library collection in the fields of food, agriculture, environmental science and related social sciences. It covers contents of 6,100 journal titles.

- **ARDI (Access to Research & Development Information) Database** : ARDI is a database of scholarly literature which provides free online access to Sri Lanka from diverse fields of Science & Technology. It provides access to over 20,000 Journal titles, Books and Reference Works.
- **NSLRC Web site** : The NSLRC web site was incorporated with 62 more useful links to both local & international resources. Special focus was given to provide links to Open Access Journals, Institutional Repositories and other free resources to compromise the very limited access to subscription based international journals and databases within the country.

Strengthening access to information in local libraries

1.0 Sri Lanka Journals Online Database (SLJOL)

SLJOL is currently operating successfully publishing 61 journals of local origin. Two new journals were set up and 100 journal issues were published on SLJOL in 2015.

In March 2015, the site was upgraded by enhancing social media functionality and incorporating the facility to monitor the number of times that an article is viewed or downloaded. These new functions have immensely been beneficial to overcome the great challenge faced by Sri Lankan academics in disseminating their findings worldwide. The usage of SLJOL has also been increased tremendously as per the statistics maintained by International Network for the Availability of Scientific Publications (INASP), UK.

A three day workshop was jointly organized by the NSF and the INASP for editors of the journals on SLJOL with the premier objective of handing over the responsibility of uploading their own journals' content on this platform. The number of participants of the workshop was 37.

Development and implementation of suitable communication strategies to promote Sri Lanka Journals Online Project was another activity performed during the year under review.



National Digitization Project (NDP)

The objective of the National Digitization Project is to digitize local S&T literature available in research & academic libraries in the country to facilitate easy & quick online access to the full text through a national network of Institutional repositories. Phase I of the project which covered eight (9) institutions in the country was completed in 2013. Uploading the digitized documents in to the respective Institutional Repositories have been completed in eight (8) libraries namely, Rubber Research Institute (RRI), Hector Kobbekaduwa Agrarian Research & Training Institute (HARTI), University of Moratuwa (UoM), Industrial Technology Institute (ITI), Coconut Research Institute (CRI), Post Graduate Institute of Agriculture (PGIA), Council for Agricultural Research Policy (CARP) & National Science Foundation (NSF). Uploading of documents in the Central Environment Authority (CEA) has shown significant progress.

Phase II of the project covering the collections of ten (10) institutions (National Library of Sri Lanka, South Eastern University, Irrigation Department, Mahaweli Authority, Department of Census & Statistics, Geological Survey & Mines Bureau, National Institute of Fundamental Studies, National Science Foundation, Tea Research Institute & University of Peradeniya) that commenced in 2014 was continued in 2015 and the total number of pages digitized during the year was 201,713. (25.21% of the total number of pages allocated for phase II). The method used for digitization was book scanning. The total number of pages digitized in phase II of the NDP as at 31st December 2015 was 643,806 (80.47% of the total number of pages allocated for phase II). 100% digitization has been achieved in nine (9) institutions. Digitization work in University of Peradeniya will commence in 2016.

Promote and support the development of institutional e-repositories in universities and S&T libraries for effective resource sharing.

Provision of technical support for IT based services in other libraries and training library professionals are two responsibilities vested on the NSLRC. During the year under review the following services were provided based on requests received from the libraries.

DSpace software was installed in the server of Mahaweli Authority and Institutional Repository was developed.

A meeting was convened to review the progress of the NDP project with the participation of 33 members of participating libraries of both phase I and Phase II of the project on the 22nd September 2015. The meeting provided a forum for staff of the participating institutions to review the progress of their respective projects, share experiences and to learn from each other. The librarians of each participating institute made a short presentation followed by a demonstration of the respective Institutional Repository.

The rapid growth of the contents in IRs was significant. The total number of full text documents added to all institutions' IRs in 2015 was 18,039.

Information Services

Literature searches, document supply services and reference services

NSLRC continued to cater to the information needs of the scholarly community. Requests received for literature searches, copies of documents and journal articles were successfully fulfilled.

Total number of users who made literature searches on Scopus Citation & Abstracting databases was 19 and the total number of abstracts downloaded from Scopus was 2,135. The total number of searches made on local databases maintained by the NSLRC was 899 and the number of full text articles downloaded was 504. The total number of searches made on international full text databases namely (HINARI, TEEAL, AGORA, and ARDI) was 18 and the number of full text articles provided to users was 328. One hundred and seventy six (176) users who visited NSLRC were successfully catered during the year. In addition, 131 inquiries made over the phone and through e-mails were fulfilled.

Capacity building of library professionals in other S&T libraries for effective dissemination of information services.

Capacity building

In order to provide necessary knowledge and training on the maintenance of Institutional Repositories, following services were provided to the library professionals of the participating institutions of the National Digitization project.

➤ *Training on D-Space software for developing Institutional Repositories*

Two training programmes on DSpace administration and installation were conducted for library professionals at Central Environmental Authority and South Eastern University.

➤ *Technical assistance*

Technical assistance was provided on 44 occasions to the libraries of the participating institutions of NDP and the libraries which use WINISIS as the software for library automation.

Awareness Programme on Open Access (OA) to Research Information

During the year under review steps were taken to conduct three seminars at the following institutions with a view to promote awareness on OA concept among the library professionals and research community in Sri Lanka.

- ❖ Tea Research Institute
- ❖ National Institute of Fundamental Studies
- ❖ Wayamba University of Sri Lanka

Sri Lanka Science Technology (SLSTINET) Seminars

Two seminars were organized during the year with the objective to keep library and information professionals abreast at the new developments in the field of information dissemination.

- Review Seminar on Library Management Software used in Sri Lankan Libraries – 30th January 2015 (NSF Auditorium). The number of participants attended was 40.
- New Dimensions in Scholarly Information Management 13th July 2015 (NSF Auditorium). The number of participants attended was 41.

Knowledge Creation, Collation, Processing and Sharing

Journal of the National Science Foundation of Sri Lanka (JNSF)

The Journal of the National Science Foundation of Sri Lanka (JNSF) publishes the results of research in all aspects of Science and Technology since 1973. Four issues of the journal are published per year in March, June, September and December. Contents of the journal are peer reviewed and are currently indexed in Thomson Reuters Science Citation Index Expanded, Chemical & Biological Abstracts, BIOSIS Previews, Zoological Records, SCOPUS, TEEAL, Ulrich's and AGRICOLA . The journal is published both online and in print form.

During 2015, all four (04) issues of JNSF volume 43 (issues 1, 2, 3, 4) were published on time. The Journal has a wide circulation both locally and overseas and the full text of JNSF can be accessed through the Sri Lanka Journals Online (SLJOL) website <http://jnsfsl.sljol.info/> free of charge. Online publication of the journals has given very high visibility to its contents. Usage statistics provide information on high numbers of views and downloads of papers at the global level.

Sri Lanka Journal of Social Sciences (SLJSS)

The Sri Lanka Journal of Social Sciences (SLJSS) is published twice a year in June and December. The Journal publishes articles in Sinhala, Tamil and English languages covering the entire range of Social Sciences, focusing on Sri Lanka and other South Asian countries.

All papers are peer-reviewed. The full text of the Journal articles are accessible through the Sri Lanka Journals Online (SLJOL) web site, <http://www.sljol.info/index.php/SLJSS>. The status of the Journal publication during 2015 was as follows.

- 1) Volume 37 Nos. 1 & 2 : June/Dec (2014) – Published**
- 2) Volume 38 No. 1 : June (2015) – Published**
- 3) Volume 38 No. 2 : December (2015) – Being processed**

SUSTAINABLE UTILIZATION OF NATURAL RESOURCES



Sustainable Utilization of Natural Resources

A field visit to Aruwakkalu Old Cement Cooperation Excavation Site, Wedipitua, Gangewadiya and Holcim quarry site, 27th February 2015

Several members of the MAB Committee, a representative officer from Biodiversity Secretariat, representative officers from Department of Wildlife Conservation and officers of the ILD participated to seek possibilities to recommend relevant research through NSF Research Grant Scheme, to observe palaeo-biodiversity and unique and rare vegetation types in the area.

Workshop to Guide Preparation of Education and Communication Strategies for Sri Lanka's Biosphere Reserves

The workshop was organized on recommendation of the National MAB Committee of the NSF. The objective of this Workshop was to guide the field staff of Forest and Wildlife Departments who are attached to the four IBRs to prepare education and communication strategies for the Biosphere Reserves (BR). This was held on 29-30 October 2015 at Management, Development and Training Institute, Southern Provincial Council, Galle.

The workshop was conducted by Dr Jinie Dela, Member of National MAB Committee and Mr K.A.P. Thillekeratne, Free Lance Consultant. There had been 16 participants from the Forest Department and Department of Wildlife Conservation.

At the interactive sessions participants were grouped into four as to encourage active participation during the planned activities. Each group prepared a draft Communication Strategy for each BR and the problems affecting Education Programmes were presented by each group. The one of the main issues identified at this Workshop is the problem of plastics disposal at Sinharaja due to a large influx of school children at a given time. The other critical issue is the entry of large groups of school children (more than 1,500 during many days) which makes it impossible for the staff to cater or provide a satisfactory educational experience for children. The follow-up meetings for the participants to develop their own education and communication strategies relevant to their IBR is planned to be held in 2016.

Nomination of Usangoda as a Geopark

The Sub-Committee working on the nomination of Usangoda National park which is to be declared as a Geopark finalized the first draft of the nomination dossier for submission to UNESCO for their consideration. Schematic design of the proposed Geopark was developed with the collaboration of Archeological Department and with the members of the Subcommittee of Usangoda Geopark.

The National Symposium on Biogeography and Biodiversity Conservation in Sri Lanka in a Changing Climate, 12-13 November 2015, National Science Foundation

Biogeography is a scientific discipline that deals with both past and present geographic distribution of plants and animals. Sri Lanka's endemic-rich biodiversity is reported to be among the highest in tropical islands on a per unit area basis. It is distributed in diverse range of ecosystems resulting from heterogeneous landscape accompanied by climatic variability.

The MAB Committee has identified the need to provide a platform to re-examine the biogeographic issues of Sri Lanka's biota. Accordingly, the above Symposium was organized by the NSF with the objective to provide a baseline on our current knowledge on the biogeography of Sri Lanka and to identify gaps that need to be addressed in the future to offer biogeographic underpinning for conservation planning in the face of rapid decline in Sri Lanka's biodiversity in a changing climate. At the Symposium eighteen presentations were made under the following two themes on both days.

- a) Patterns and processes of diversification and distribution of a selected fauna/floral group/s
- b) Small populations and conservation perspectives

There were 60 and 50 participants respectively on the first and second days of the Symposium.

Updating the publication “Natural Resources of Sri Lanka - Conditions, Trends and Prospects”

The NSF decided to update the publication on Natural Resources of Sri Lanka 2000 as many developments have occurred affecting the natural resources during the last decade. The publication focused on the current conditions and trends affecting the resources, sustainable use of the resources for economic development, potential investment opportunities, prospects for the industry and tourism *etc.*

The publication consists of eighteen (18) chapters written by well recognized and nationally reputed experts in the relevant fields. Thirteen (13) chapters have been accepted; one (01) chapter is to be submitted (Water Resources); four (04) chapters are being reviewed (Land Resources, Wildlife Resources, Biological Diversity and IAS). In 2015 three stakeholders' meetings were held in July and December 2015 for the improvement of Chapters of this publication.



**OPTIMIZING
PHYSICAL
& HUMAN
RESOURCES AND
PROCESSES AT NSF**



Optimizing Physical & Human Resources and Processes at NSF

The NSF strives to strengthen the linkages and communication between the relevant government and statutory bodies in the external environment. During 2015, effort were made to develop the skills and productivity of our staff to maintain a result oriented open culture, which helped to uplift the employee contribution effectively to achieve the mission of the NSF. Supporting Divisions liaise with the Scientific Divisions in executing their core functions for the smooth flow and sustainability of the organization.

Administration Division

For the purpose of providing the services required to fulfill the core functions of NSF at optimum level, the Administration Division discharged the following key activities; during the year under review.

- ❖ General Administration
- ❖ Human Resource Management
- ❖ Asset Management
- ❖ Logistical Requirements of NSF

The NSF has a staff strength of 128 members including 29 Scientific Officers. A list of the principal staff as at 31.12.2015 is given in *Annex 15*.

During the year 2015, ten (10) new staff members were recruited, twelve (12) members resigned and One (01) member retired.

Staff Training

The Staff Development Committee (SDC) is responsible for providing required training opportunities to the staff to enhance their job - related knowledge and skills in order to develop the individual effectiveness and there make a significant contribution to the work of the respective Divisions finally to the NSF.

Based on the 'Training needs analysis' carried out in 2014, a 'Staff Training Plan' including both local and foreign training for 2015 was developed and implemented to build a competent, skilled and efficient staff.

A large number of employees (more than 80 employees out of 128) at all levels (Academic & Research; Junior Manage and above categories; Management assistants including Primary Level (PL) grades) were trained to improve their knowledge and skills as appropriate. The total number of training programmes

provided at individual levels was 37 while 04 programmes were provided for groups spanning over a number of fields such as Time Management, Presentation Skills, Procurement Procedures, Filing Systems Management *etc.* The PL. grades were provided basic training on computer skills.

The staff represented the NSF at 37 local and 10 foreign meetings / workshops / Seminars. The details are provided in Annex 13. Some National and Institutional Committees were also represented by the NSF Staff.

Finance Division

The Finance Division administers all the financial activities, to provide an efficient financial service ensuring prompt and timely action relating to all financial activities of the institute, within the prevailing Financial Regulations. The following activities were performed during the year with up to date information.

- Maintenance of Books of Accounts, Fixed Asset Register, General Ledger, Grant Ledger, Stock books *etc.*
- Preparation of all financial reports including annual financial statements, estimates, and submitting to the relevant authorities on due dates.
- Setting payments in relation to all activities conducted by the divisions of the Institution.
- general payments such as salaries, overtime *etc.*
- Maintenance of the stores

Printing Unit

The Printing Unit continued to support the activities and printing requirements of all the Divisions of the NSF. Eighteen (18) publications, namely books, Magazines and 71 other printing works were printed during the year.

Information Technology Unit

The Information Technology Unit is responsible to maintain the seamless connectivity of the Foundation's electronic communication links to provide ICT infrastructure facilities to the NSF activities to maintain electronic management information system and provides the end-user IT supports to the NSF staff.

In 2015, some of the key IT facilities were upgraded to introduce latest technological advancements to the NSF. Introduction of HD projection facilities to the auditorium, upgrading of local area network Core Links into 10Gbps fiber optics, upgrading of signal band wireless network into dual bands, replacing of 15 obsolete staff computers and file server can be highlighted as key activities during the year under review.

Internal Audit Unit

During the year 2015, four (04) Audit & Management Committee Meetings were conducted. As per the approved audit plan for the year the physical & financial progress of the Action plan of the year were continually reviewed, follow ups on the grant schemes were continued, gaps were identified and suitable suggestions and recommendations were made to the management to improve the work output and the efficiency. Improvements to the Divisional Inventory Registers were also suggested and the assets recording system was streamlined.

FINANCIAL STATEMENTS



Observations of the Accounting Officer on Performance 2015

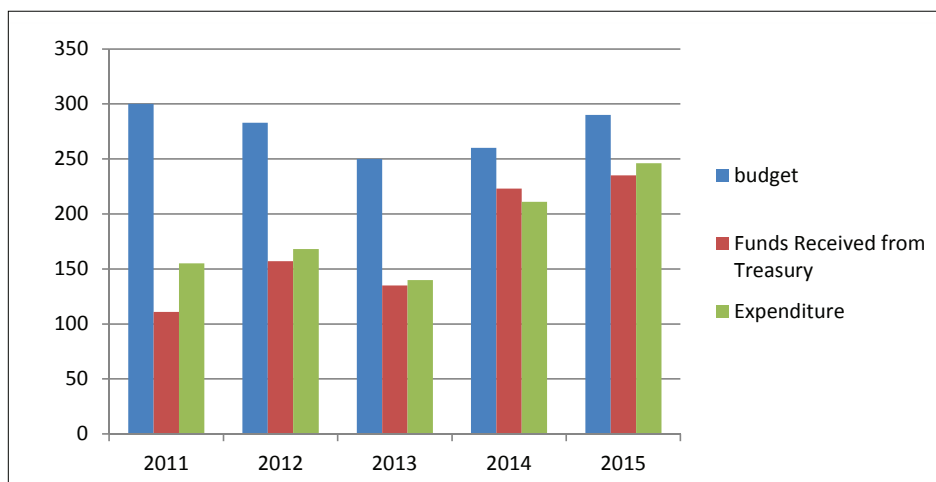
The NSF is a funding organization which is solely dependent on government funds. Amount recommended by the Department of National Budget to be released for “Recurrent” and “Capital” expenditure for the NSF for the year 2015 were Rs. 106M and Rs. 234M respectively. Accordingly Rs. 106,032,000/= and Rs. 234,800,000/= were released by the Department of Treasury Operations for Recurrent and Capital Expenditure.

	<i>Estimate</i>	<i>Funds received from the treasury</i>	<i>Rs.'000 Expenditure</i>
Recurrent Expenditure			
Personal Emoluments	96,430	106,032	79,920
Other Recurrent	53,570	-	27,111
Total	<u>150,000</u>	<u>106,032</u>	<u>107,031</u>

Funds received from the Treasury for Recurrent Expenditure Rs.107,555/=

	<i>Estimate from the treasury</i>	<i>Funds received</i>	<i>Rs.'000 Expenditure</i>
Capital Expenditure			
Object Code - 133-02-05-3-2201	290,000	234,800	245,916

The following graph provides information on the annual Expenditure against the capital funds received during 2011 - 2015.



Details of Capital Expenditure as against the funds received during the year

	Description	Rs.000' Expenditure 2015
1.	Grants for Research & Other Scientific Work	153,006
2.	Science & technology Policy Research Division	6,918
3.	Technology Division	37,236
4.	National Science Library & Resource Centre	5,710
5.	Science Popularization Division	18,272
6.	International Liaison Division	13,962
7.	Information Technology Division	1,673
8.	Office Furniture Fittings & Equipment	-
9.	Rehabilitation of Capital Assets	46
10.	Director's Office Vote	5,424
11.	Overseas Special Training Programme	3,669
	TOTAL	245,916

Management Issues

The first installment of the capital funds allocated for the year was released in April instant making all the activities planned for the first quarter of the year impossible and resulted in non release of Rs. 56M allocated for the year. Both delay and non release of funds allocated for the year affected adversely in achieving annual planned activities, however, the NSF was able to spend 97% of total released capital for Scientific research grants.

Research is carried out under the supervision of the respective Heads of departments of the respective research institutes. In spite of the strong grants scheme conditions in force, timely implementation of projects is adversely affected to some extent due to procedures and systems within grantees' institutions. However, with appropriate management approaches in place the NSF achieved significant success over the programmes scheduled to the previous years.

Financial Statements

	Rs.000			
Revenue	2015		2014	
Government Grant	106,032		107,555	
Other Income				
Interest received	238		234	
Sundry Income	115		147	
Profit/(Loss) Sale of Publications	377		(36)	
Photocopy receipts	2		4	
NSLRC Income	5		1	
Profit/(Loss) Sale of Fixed Assets	(28)		-	
Exchange Gain/(Loss)	243		21	
Differed Revenue	<u>10,622</u>		<u>9,564</u>	
		117,606		117,490
Expenditure				
Personal Emoluments				
Salaries & allowances	68,196		54,674	
Employees Provident Fund	7,086		6,724	
Employees Trust Fund	1,415		1,343	
Provision for retiring gratuity	2,143		2,297	
Overtime	1,033		830	
Holiday payment	45		49	
Uniforms	247		250	
Sraff training	<u>768</u>		<u>550</u>	
	80,933		66,717	
Travelling	483		434	
Supplies	3,923		4,013	
Maintenance	2,736		2,512	
Contractual Service	8,634		9,449	
Others	10,321		11,011	
Depreciation	<u>14,608</u>		<u>13,590</u>	
	40,705	121,638	41,009	107,726
Surplus Deficit over the income				
before extraordinary items		(4,032)		9,764
Extraordinary items (Net Profit or loss)		-		-
Net Surplus/ (Deficit) for the period		<u><u>(4,032)</u></u>		<u><u>9,764</u></u>

Statement of Financial Position as at 31st December 2015

	2015	2014	Rs.'000 2013
ASSETS			
Current Assets			
Cash & Cash Equivalents	13,495	17,929	8,808
Receivables	9,703	11,884	7,065
Stocks	1,521	1,509	2,910
Pre Payments	4,726	3,450	811
Other Current Assets	3,408	3,408	4,141
Total Current Assets	32,853	38,180	23,735
Non-Current Assets			
Receivables	3,464	3,415	3,390
Property, plant & Equipment	446,993	447,157	451,912
Investments	632,000	632,000	632,000
Total Non-current Assets	1,082,457	1,082,572	1,087,302
Total Assets	1,115,310	1,120,752	1,111,037
Liabilities			
Current Liabilities			
Accrued Charges	4,443	10,286	21,330
Creditors	3,933	2,097	4,417
	8,376	12,383	25,747
Non-Current Liabilities			
Provision for Retiring Gratuity	22,533	21,413	20,526
Deferred Revenue	37,944	34,083	28,378
	60,477	55,496	48,904
Total Liabilities	68,853	67,879	74,651
Net Assets	1,046,457	1,052,873	1,036,386
Equity and Reserves			
Accumulated Fund	(8,092)	(1,676)	(18,164)
Revaluation Reserve	422,549	422,549	422,549
Government Grant	632,000	632,000	632,000
Total Equity	1,046,457	1,052,873	1,036,386

Statement of Cash Flow

	2015	2014	Rs'000
<u>Cash flows from operating Activities</u>			
Net excess of expenditure over income	(4,032)	9,764	
Add; NSF fund prior year adjustments	<u>(237)</u>	<u>(12,397)</u>	
	(4,269)	(2,633)	
<u>Adjustments for</u>			
Depreciation	(14,608)	(13,590)	
Loss from publications	-	(2,192)	
Gratuity paid during the year	1,023	1,410	
Provision for Gratuity	(2,143)	(2,297)	
Exchange Gain/(Loss)	243	21	
Profit/(Loss) Sale of Fixed Assets	(28)	-	
Deffered Revenue	10,622	11,721	
Stock of Magazines & Journals written off	<u>(173)</u>	<u>(898)</u>	
	794	3,192	
Operating profit/loss before working capital changes			
Net increase/decrease in trade other receivables	856	(6,750)	
Net increase/decrease in inventories	(12)	1,402	
Net decrease/increase in trade payables	(4,007)	(13,364)	
Cash generated from operations	<u>(3,163)</u>	<u>(18,712)</u>	
Net cash from operating activities		(2,369)	(15,520)
<u>Cash flows from Investing Activities</u>			
Outflow from activities	(228,891)	(202,905)	
Purchase of assets	(8,093)	(8,836)	
Proceeds from sale of books	<u>119</u>	<u>166</u>	
Net cash used in investing activities		(236,865)	(211,575)
<u>Cash Flows from Financial Activities</u>			
Contribution from Government	234,800	230,777	
Foreign Aid	<u>-</u>	<u>5,439</u>	
	234,800	236,216	
Net cash from financing activities	(4,434)	9,121	
Cash & cash equivalent at beginning period	<u>17,929</u>	<u>8,808</u>	
Cash & cash equivalent at end of period	<u>13,495</u>	<u>17,929</u>	

1 General Accounting

The Financial Statements have been prepared in accordance with Sri Lanka Public Sector Accounting Standards (SLPSAS) and presented in accordance to Sri Lanka public sector Accountnig Standards SLPSAS 01 - Presentation of Financial Statements.

The treatment of depreciation related to assets have been dealt as deferred income which is recognized as income on a systematic and rational basis over the useful life of the asset in accordance to LKAS 20

2 Grants for Research & Other Scientific Work

Our policy in funding research grants as formulated in the Research Grants contractual agreement is to transfer the funds to the Institution where the grantee is employed in installments. If there is an unused balance of funds with the relevant Institution, after completion of the project, the balance has to be refunded to NSF. Hence we treat the funds transferred to the Institution as expenditure. At the end of the project if there is remaining unutilized funds, we create a debtor.

3 Assets & the basis of their valuation

Depreciable assets & Depreciation

Depreciation has been provided on original cost or at valuation on a straight line basis from the date of purchase of the assets and is calculated to write off the assets over their estimated useful lives.

Depreciation Rates as Follows

Building	5%
Office Equipment & Furniture	20%
Motor Vehicles	20%
Accessories & Miscellaneous	20%
Library Books	5%
Scientific & Laboratory Equipment out on loan	10%
Documentation Equipment	10%

4 Publications

These are published mainly to disseminate Scientific Knowledge to school children in particular & the society in general as well as to impart knowledge to the scientific community, policy makers, funding agencies *etc* .

Therefore in many occassions publications have to be given free of charge to schools & other relevant various organisations specially as prizes/ awards for science related activities. Eg. Competitions. Such releases are effected always with Director General's approval.

The Journals and Magazines over six months were written down by 50% and the value of Journals and Magazines which are over an year were written down to zero as per the decision of the Board of Management on 15th November 2010.

The value of books/any other publications other than Journals & magazines were written down to Zero value after five years of printing as per the decision of the Board of Management on 12th August 2011.

The Cost of the Publications is treated as an expenditure to the relevent Division as per the decision of the Board of Management on 13th August 2015.

5 **INVESTMENT** - Investment of Rs. 632,000,000 represents the NSF investment in SLINTEC

6 **Debtors** - NSF provides doubtful debts for debts which are outstanding for more than 3 years

7 **Employees Benefit**

All employees are covered by EPF & ETF. An approved Medical Scheme is provided in addition to the normal Welfare facilities available.

8 **Retiring Gratuity**

Provisions have been made in the accounts in respect of liability for retiring gratuity for the employees who has completed one year of Service.

	Rs.	cts
Amount paid for the year		1,023,590.00
Provision for the year		2,143,414.42

9 NSF owns 08 vehicles.

10 **Funds Drawn from the Treasury during - 2015**

		Rs.
Consolidated Funds	Rs.	234,800,000.00
Recurrent Funds	Rs.	106,032,000.00

Funds drawn from the Treasury from 1968 to 2015

		Rs.
Consolidated funds	Rs.	1,640,047,629.45
Foreign Aids	Rs.	338,908,549.60

Note No 11

11.1 **Documentation Unit Capital Fund Expenditure**

	2015	2014
	Rs.	Rs.
1 NSLRC Books	39,300.25	83,564.75
2 National Digitization Project	2,179,612.29	5,902,355.31
3 NSLRC staff training	-	84,342.65
4 International Database	3,197,122.96	2,748,429.43
5 NSLRC workshops & Seminars	132,410.97	-
6 Union List Data Base	-	8,525.00
7 National Repository S & T Literature	12,064.42	83,157.00
8 Seminars Workshops & Other Support to Library	98,599.00	104,920.00
9 Honararium Payments for Committee Members	36,004.00	-
10 SLSI Database	11,774.30	-
11 S & T Libraries in Sri lanka	-	8,755.05
12 Open Access to Research Information	2,640.00	32,582.97
	<u>5,709,528.19</u>	<u>9,056,632.16</u>

11.2 Research Grant Expenditure

	2015	2014
	Rs.	Rs.
1 Research Grants & Other Scientific work expenditure	144,848,405.93	107,481,063.82
2 Research Scholarships & Fellowships	8,115,905.00	9,809,383.80
3 Actual expenditure for the year	152,964,310.93	117,290,447.62
4 Accrued expenditure	41,550.00	447,932.92
	153,005,860.93	117,738,380.54

11.3 Miscellaneous Fund Expenditure

	2015	2014
	Rs.	Rs.
1 International contacts	11,744,239.53	11,866,910.58
2 Science Popularization Division	18,271,609.47	25,127,304.82
3 Information Technology Unit	1,672,614.26	1,586,985.00
4 Rehabilitation & Improvements for assets	46,061.10	-
5 Director's Office Vote	5,423,856.00	7,771,395.71
6 Science & Technology Policy Research Division	6,918,041.51	4,120,061.80
7 Technology Division	37,235,708.87	24,926,555.10
8 International Liasion Division	2,217,602.10	3,063,636.86
9 Global Forum Follow UP	-	840.00
10 International Contacts OSTP	3,669,002.69	3,970,982.86
11 National Science Centre	-	4,483.61
	87,198,735.53	82,439,156.34

Note No 12

12.1 Net Profit/(Loss) Sale of Publications

	2015
	Rs.
1 Other Publications	2,327.50
2 Sri Lanka Journal of Social Sciences	300.00
3 Sri Lanka Journal of Social Sciences Vol 31-32	100.00
4 Sri Lanka Journal of Social Sciences Vol 35-36	(1,800.00)
5 Sri Lanka Journal of Social Sciences Vol 36-37	1,600.00
6 Vidurawa	800.00
7 MAB Publications	850.00
8 Medicinal Plants Monographs	120.00
9 Sustainable Agriculture	270.00
10 Medicinal Plants used in Sri Lanka	36,000.00
11 Atoms for Peace	(1,656.05)
12 Guide to Research & Scientific Institutions	1,500.00
13 Alternative Energy	420.00
14 Ecosystems Based Indiginous Water Management	200.00
15 Ground Water Conditions in Sri Lanka	3,000.00
16 Infant & Young Child Nutrition	(842.40)
17 JNSF Vol. 38	350.00
18 JNSF Vol. 42	6,000.00

19	JNSF Vol. 43	111,127.27
20	Vidurava Vol. 30-1 (E)	100.00
21	Vidurava Vol. 30-2 (T)	(17,450.00)
22	Vidurava Vol. 30 Special (T)	100.00
23	Vidurava Vol. 31-1 (E)	(4,200.00)
24	Vidurava Vol. 31-1 (T)	(17,900.00)
25	Vidurava Vol. 31-2 (S)	(10,342.48)
26	Vidurava Vol. 31-2 (E)	(21,100.00)
27	Vidurava Vol. 31-2 (T)	1,150.00
28	Vidurava Vol. 31 Special (S)	10,750.00
29	Vidurava Vol. 31 Special (E)	11,750.00
30	Vidurava Vol. 31 Special (T)	(59,500.00)
31	Vidurava Vol. 32-1 (S)	20,800.00
32	Vidurava Vol. 32-1 (E)	700.00
33	Vidurava Vol. 32-1 (T)	1,500.00
34	Vidurava Vol. 32-2 (S)	170,000.00
35	Vidurava Vol. 32-2 (E)	130,000.00
36	Vidurava Vol. 32 Special (E)	300.00
		377,323.84

12.2 National Committee Expenditure

	2015	2014	
	Rs.	Rs.	
1	National Committee on the MAB Programme	171,500.00	186,814.18
2	National Committee on Social Sciences	93,070.00	40,000.00
3	Editorial Board of JNSF	269,817.35	179,633.75
		534,387.35	406,447.93

12.3 National Science Library & Resource Centre

	2015	2014	
	Rs.	Rs.	
1	Maintenance & Repairs	7,356.90	36,530.41
2	Periodicals Local & Foreign	911,195.35	848,988.30
3	Consumables	56,122.82	54,792.00
4	Document delivery services	-	7,595.85
		974,675.07	947,906.56

12.4 Printing Unit

	2015	2014	
	Rs.	Rs.	
1	Consumables & Chemicals	707,072.84	762,418.10
2	Paper & Boards	(47,710.36)	112,896.01
3	Maintenance & Repairs	291,538.34	299,846.80
		950,900.82	1,175,160.91

Note No 01 - Cash and Cash Equivalents

	2015 Rs.	2014 Rs.
Bank Accounts		
1 BOC - 0002323269	4,110,525.92	10,676,944.94
2 BOC - 0002323270	146,623.26	531,782.84
3 BOC - 0002322471	2,849,489.12	2,800,739.35
4 BOC - 0002323376	5,110.55	5,110.55
5 BOC - RFC/USD 2872719	15,646.05	14,369.58
6 BOC - RFC/USD LOICZ 2872732	3,242,430.52	2,977,900.82
7 Special cash imprest	50,000.00	50,000.00
8 Petty cash	5,000.00	5,000.00
9 Cash & Cheques in hand	3,069,945.87	866,988.83
	13,494,771.29	17,928,836.91

Note No 02 - Receivables

Cash Advances					
1 Miscellaneous	Schedule 1	759,860.00		1,726,100.00	
2 Research	Schedule 1	100,000.00		-	
3 Loans to Staff					
i. Distress loan	Schedule 2	4,959,964.00		4,822,697.00	
ii. Motorbicycle loan	Schedule 3	833.00		10,829.00	
iii. Combined loan	Schedule 4	189,251.00		296,593.00	
iv. Bicycle Loan	Schedule 5	-		-	
4 Festival Advance	Schedule 6	36,250.00		103,000.00	
5 Staff Debtors	Schedule 7	63,013.08		51,599.60	
6 Sundry Debtors	Schedule 8	7,146,132.76		8,288,090.90	
Less : Provision for Doubtfull Debts		(87,399.42)		-	
		13,167,904.42		15,298,909.50	

Note 02.1 - Staff Loan Payments

	Amount	With in one Year	After one year
Combined Loan	189,251.00	66,243.00	123,008.00
Distress Loan	4,959,964.00	1,618,264.00	3,341,700.00
Motor Bicycle Loan	833.00	833.00	-
	5,150,048.00	1,685,340.00	3,464,708.00

Note No 03 - Stocks

1 Stationery and Consumables	Schedule 9	982,850.11	1,056,374.43
2 Publications	Schedule 9	538,467.24	452,481.81
		1,521,317.35	1,508,856.24

Note No 04 - Other Current Assets

1 Treasury Deposit		3,299,030.09	3,299,030.09
2 Refundable Deposit		108,650.00	108,650.00
		3,407,680.09	3,407,680.09

	2015	2014
	Rs.	Rs.
Note No 06 - Investments		
1 SLINTEC	632,000,000.00	632,000,000.00
	632,000,000.00	632,000,000.00

	2015	2014
	Rs.	Rs.
Note No 07 - Accrued Expences		
1 Accrued Expences	4,443,574.93	10,286,167.54
Schedule 10	4,443,574.93	10,286,167.54


	2015	2014
	Rs.	Rs.
Note No 08 - Creditors		
Creditors amounting to Rs. 3,932,623.03 represents monies held by NSF as given below,		
1 SIDA/RFC A/c	-	11,719.58
2 SIDA	-	608.05
3 Sundry Creditors	-	752,846.66
4 Staff Creditors	50.00	5,870.19
5 Research Project on Energy	-	24,476.05
6 Unesco Participation Programme	-	(134,886.64)
7 Stephan Workshop	1,436,573.03	1,436,573.03
8 National Science Centre	2,496,000.00	-
	3,932,623.03	2,097,206.92

Note No 09 - Provision for Retiring Gratuity

Balance as at 01.01.2015	21,413,460.08	20,526,342.50
(+) Provision for the year	2,143,414.42	2,297,022.58
	23,556,874.50	22,823,365.08
(-) Paid during the year	(1,023,590.00)	(1,409,905.00)
Balance as at 31.12.2015	22,533,284.50	21,413,460.08

Note No 10 - Deffrede Revenue

1 Deffred Revenue - Assets	37,943,804.12	34,082,742.40
	37,943,804.12	34,082,742.40



REPORT OF THE AUDITOR GENERAL



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கணக்காய்வாளர் தலைமை அபிபதி திணைக்களம்
AUDITOR GENERAL'S DEPARTMENT



මගේ අංකය }
 எனது இல. }
 My No. }

TEC/B/NSF/1/15/30

ඔබේ අංකය }
 உமது இல. }
 Your No. }

දිනය } August 2016
 திகதி }
 Date }

The Chairman
 National Science Foundation

Report of the Auditor General on the Financial Statements of the National Science Foundation 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 Foundation 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 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 Foundation 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 Foundation in due course.

1.2 Management's Responsibility for the Financial Statements

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

අංක 306/72, පොල්දූව පාර, බත්තරමුල්ල, ශ්‍රී ලංකාව. - இல. 306/72, பொல்தூவ வீதி, பத்தரமுல்லை, இலங்கை. - No. 306/72, Polduwa Road, Battaramulla, Sri Lanka

+94-11-2887028-34



+94-11-2887223



oaggov@sltnet.lk



www.auditorgeneral.gov.lk



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 misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Foundation'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 internal control of the Foundation. 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 the 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 for the effects 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 Foundation 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 the Financial Statements

2.2.1 Accounting Policies

The accounting policy followed in respect of capital grants had not been disclosed in the financial statements.

2.2.2 Accounting Deficiencies

Scientific and laboratory equipment costing Rs.5,004,108 purchased for research activities during the period from the year 1974 to the year 1998 which had been fully depreciated, had been vested with the relevant research institutions and as such, action had not been taken to eliminate the cost and the accumulated depreciation thereof from the financial statements.



3. Financial Review

3.1 Financial Results

According to the financial statements presented, the financial result of the Foundation for the year ended 31 December of the year under review had been a deficit of Rs.4,031,986 as against the surplus of Rs.9,763,678 for the preceding year thus indicating a deterioration of Rs.13,795,664 in the financial result of the year under review as compared with the preceding year. The increase in operating expenses by Rs.13,911,072 in the year under review had mainly attributed to the above deterioration.

3.2 Contribution

Even though there had been a surplus in the financial result of the years 2013 and 2014 in analyzing the financial results relevant to the period from the year 2011 up to the year under review, there had been deficits in the year under review and the years 2011 and 2012. However, considering the employees emoluments and depreciations for non-current assets, the contribution in the year 2011 had been Rs.53,822,305 and it had improved up to Rs.91,510,109 by the year 2015.

4. Operating Review

4.1 Performance

(a) The functions of the National Science Foundation in terms of Section 10 of the Science and Technology Development Act, No. 11 of 1994 are as follows.

- (i) Initiate, facilitate and support researches by universities, science and technology institutions and scientists with a view to strengthening scientific



research potential, developing the natural resources of Sri Lanka, promoting the welfare of the people of Sri Lanka and training research personnel in science and technology.

- (ii) Foster the interchange of scientific information among scientists in Sri Lanka and foreign countries.
 - (iii) Award scholarships and fellowships for scientific study or scientific work.
 - (iv) Maintain a current register of scientific and technical personnel.
 - (v) Popularise science amongst the people by funding programmes for that purpose.
- (b) In the examination of fulfillment of above functions, there were 150 research projects valued at Rs.189,302,839 completed during the period from 2010 to 2015 and the following observations are made thereon.
- (i) Out of 150 completed research projects, 02 projects valued at Rs.3,049,000 had been submitted for the technology transfers (Improvement for commercialization) and 02 projects valued at Rs.1,782,200 had been submitted only for obtaining patents.
 - (ii) Only the objectives of the final result of the researches of the remaining 146 research projects valued at Rs.184,471,639 such as publishing of local and foreign scientific publications, using for communication, using for Master of Philosophy, Doctor of Philosophy and nomination for Presidential Awards had been fulfilled.
 - (iii) Out of the 150 completed research projects, 59 researches had been at the local publication level, 27 at the international publication level and 37 at the communication level while there had been no publication whatsoever for 27 researches.



- (iv) Even though the final progress report should be submitted within 06 months of completing the project in terms of the Research Project Agreement relating to researches commenced before the year 2011, a delay of a period from 1 to 4 years was observed in issuing the final report in respect of 33 research projects at a cost of Rs.32,024,274 completed during the period from the year 2006 up to the year 2015.
- (e) Even though a maximum period of 03 years had been permitted to complete researches, that period had been extended in special instances. A period between 03 months and 01 year had lapsed by January 2016 after ending a further period given to 33 researches commenced by spending a sum of Rs.64,565,489 in the years 2011 and 2012. Nevertheless, action had not been taken to complete researches.

4.2 Operating Inefficiencies

According to the Project Agreement, if there is a balance out of grants made for research projects after completing the researches, it should be settled within 30 days. Nevertheless, the balance of Rs.5,255,529 receivable from 28 projects completed in the year under review from grants made for the period from the year 2007 to the year 2013, had not been settled even up to 31 December of the year under review.

4.3 Idle and Underutilized Assets

The balances of 04 local and foreign bank accounts totalling Rs.6,112,676 as at 31 December of the year under review had remained underutilized.



5. Accountability and Good Governance

5.1 Procurement Plan

Even though the objective of the preparation of a Procurement Plan is to ensure timely completion of procurements in terms of Section 4.1.1(a) of the Government Procurement Guidelines, out of the planned procurement activities with an estimated value of Rs.94,282,000 for the year under review, the estimated value of procurement activities not completed was Rs.78,445,000.

5.2 Budgetary Control

The following observations are made.

- (a) Despite not having made provisions under recurrent expenditure from the budget of the year under review for foreign travelling expenditure of the officers who are in service, a sum of Rs.4,343,428 had been spent from the Capital Object for the grants of foreign tours in the year under review.

- (b) It was observed in audit that the budget had not been made use of as an effective instrument of management control in respect of capital expenditure due to making additional provisions of Rs.15,000,000 from the revised budget for the year under review for research and scientific purposes.

6. Systems and Controls

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



Area of system and control	Observations
(a) Providing Research Grants and Supervision	<p>(i) Non- maintenance of registers relating to evaluation of applications, documents relating to enrollment of research students and technical assistants and research files including details relating to evaluation of progress reports in an updated manner.</p> <p>(ii) Obtaining financial reports with delays relating to research projects and non-maintenance of the Grant Ledger in an updated manner.</p> <p>(iii) Existence of delays in transferring balance money of completed researches.</p>
(b) Granting of equipment to Universities and Research Institutions	<p>(i) Taking a long time for the purchase of equipment and failure in carrying out physical verifications on the equipment purchased and ensuring their existence.</p> <p>(ii) Failure in obtaining Annual Progress Reports on time.</p> <p>(iii) Failure in obtaining a copy of Inventory of the institution by which the equipment were granted, a copy of Goods</p>



Received Note and a copy of the Maintenance Agreement for two years promptly and failure in confirming their existence.

(c) Giving Technical Assignments

Failure in obtaining annual expenditure reports within the due period and updating the relevant Grant Ledger.

H. M. Gaminí Wijesinghe
Auditor General



NSF COMMENTS OF THE AUDIT REPORTS

CHAIRPERSON'S COMMENTS ON THE REPORT OF THE AUDITOR GENERAL ON THE FINANCIAL STATEMENTS OF THE NATIONAL SCIENCE FOUNDATION FOR THE YEAR ENDED 31 DECEMBER 2015 IN TERMS OF SECTION 14 (2) (C) OF THE FINANCE ACT No. 38 OF 1971

2. Financial Statements

2.2 Comments on the Financial Statements

2.2.1 Accounting Policies

Action has been taken to disclose the accounting policy followed in respect of capital grants to be in line with LKAS 20 from 2016 onwards.

2.2.2 Accounting Deficiencies

The policy of the Foundation was to transfer of the Research Grants provided by National Science Foundation to the Institutions relevant to the said research activities at the end of such researches. This was applied for the said period (1974-1998) too.

However, considering the audit observation, steps will be taken to write-off the value of the aforementioned assets from the accounts of the Foundation with the approval of the Board of Management.

3. Financial Review

3.1 Financial Results

Financial results of the Foundation for the year ended 31 December of the year under review had been a deficit of Rs. 4.032M as compared to the surplus of Rs. 9.764M for the preceding year a decrease of Rs. 13.796M was observed during the year under review. The increase in operating expenses had mainly attributed to the said decrease.

3.2 Contribution

The Foundation is in agreement with the Auditor's observation that the contribution for the year 2015 had improved up to Rs. 91,510,109 as compared to the same figure in the year 2011.

4. Operating Review

4.1 Performance

(a) & (b) According to the Mandate of the National Science Foundation, Provisions should be granted under both kinds of Research Grants namely "Basic" and "applied" and the Research Grants approved since the year 2013 were of 40% for the "Basic Research Grants" and 60% for the "Applied Research Gants" under the instructions of the Line Ministry. Such decisions have been taken considering the needs of the country and because of the results thereon are long term which will be expected in future.

As such, at the application stage the kind of research whether basic or applied is addressed and Research Grantees are requested to fill additional 02 paged format in order to take steps for technical transfers with regard to project commercialization.

Moreover, the Research Grantees are educated to include further improvements for commercialization of research inventions, to section 04 of the final report.

After completion of investigations on these documents, 36 research grants were identified among

the research projects completed between the period 2010-2015, as technical transfers could be effected and such results of the research have been forwarded to the Technology Division for possible commercialization by the Research Division.

Among the forwarded projects for follow up activities only 3 projects were selected and awarded the Technology Grants by the Technology Division.

Please note that the final result of every research grant does not yield an outcome on which a patent could be applied due to the inherent nature of researches. Only 02 research projects had requested for patents among the completed research projects during the period 2010-2015. Such outcomes of the research projects which could be applied for patents could make their applications through the Technology Division of the National Science Foundation if grantees are desirable to do so.

Action has been taken by the Research Division to collect all the details regarding the obtaining of patents through;

- i. The research application before granting the provision
- ii. Mid-year progress reports after granting the provision

in order to promote the process of obtaining patents.

In future the special attention will be drawn with regard to the potentiality of obtaining patent in evaluating applications for Research Grants.

Furthermore, there are certain limitations in practical applications though certain fundamental projects had been successfully completed. However, the results of such research grants are among the;

- Publishing of local and foreign scientific publications
- Human resource development through Master of Philosophy, Doctor of Philosophy and nomination for awards etc and contribute to attain the goals of economic development of the country as long term investments.

4.2 Operating Inefficiencies

Referred Research Grantees were informed to settle the balances of the grants and a sum of Rs. 4,475,529/- out of Rs. 5,255,529/- had been settled up to now. Action is now being taken to settle the remaining balances (Rs. 750,000/-).

4.3 Idle and underutilized Assets

Out of the Rs. 6.1M of idle cash balance in the non – operative bank accounts, Rs. 3.3M have already been transferred to the DST's account in the Treasury.

5. Accountability and Good Governance

5.1 Procurement Plan- 2015

The total Budget approved for Capital Expenditure for the year 2015 was Rs. 290 million and out of that a provision was made of Rs. 94.282 million originally for Procurement Plan.

Although, a total of Rs. 290M was requested, the General Treasury had released only Rs. 214.3M for the year under review. As such the Foundation was compelled to curtail the Procurement Plan up to Rs. 78.445M.

The status of the Procurement Plan as at 31/12/2015 is as follows.

		<u>(Rs. '000)</u>
Total Value		78,445.00
Less: Journal Data bases	30,000	
(Note 01)		
Digitalization of Direct	15,000	
S & T Literature		
(Note 01)		
Less: Landscaping	9,000	
(Note 02)	_____	54,000.00
Less: Goods & Services		10,950.00
Procured during the year		_____
Balance as at 31/12/2015		13,495.00 =====

Note-01

Transferred to other projects since these projects were not implemented.

Note -02

Transferred to other projects.

Therefore, the National Science Foundation is not in agreement with the Auditor's observation because the matters effected to curtailment of Procurement Plan was beyond the control of the Foundation.

5.2 Budgetary Control

- (a) The expenditure was incurred under NSF Travel Grant Scheme and the OSTP (Overseas Special Training Programme) under the Capital vote to fulfil its Mandate as per the Science and Technology Development Act, Part II, Section 9 (b), which states,

“to foster the interchange of scientific information among scientists in Sri Lanka and foreign countries”

Expenses more related to overseas staff development activities will be brought under the Recurrent Budget from 2017.

- (b) National Science Foundation had a balance provision of Rs. 15,000,000/= Capital Expenditure budget which was planned for certain research and Scientific purposes for the year 2014 and subsequently it was used for the planned activities during the year 2015.

As such the National Science Foundation is not in agreement with the statement that budget had not made use of an effective instrument of management control because Foundation always utilizes acceptable budgetary principles whilst taking into consideration of market variable factors to ensure that the budget is acceptable and implementable to achieve the organizational goals.

Therefore, the NSF wishes to indicate that always “The Budget has been used as the main useful management control tool” and therefore in every management meeting this was discussed to ensure that the Foundation has a focused approach.

06. Systems and Controls

All the observations made by the Auditors regarding the systems and controls are noted in a very positive manner and initiated action for future compliance.

Prof. Sirimali Fernando

Chairperson
National Science Foundation

ANNEXES

Research Grants awarded – 2015

Working Committee on Agriculture & Food Science

Grant No. & Duration	Grantee(s)/Institute	Project Title	Total Allocation (Rs.)
RG/2015/AG/01 (2 Years)	Dr W. A. Harindra Champa Dr B. M. K. S. Tilakaratne Institute of Postharvest Technology Jayanthi Mawatha, Anuradhapura	Investigation of fruit phenology and preharvest foliar treatment of growth regulators on fruit quality and post harvest life of lime (<i>Citrus aurantifolia</i> Swingle)	1,849,513/-
RG/2015/AG/03 (3 Years)	Prof. Kapila Seneviratne Dr Nimanthi Jayathilaka Department of Chemistry Faculty of Science, University of Kelaniya	Identification and quantification of previously unexplored chemical and nutritional information about coconut oil and coconut cake	3,796,000/-

Working Committee on Basic Sciences

Grant No. & Duration	Grantee/Institute	Project Title	Total Allocation (Rs.)
RG/2015/BS/01 (3 years)	Dr M. T. Napagoda Department of Biochemistry Faculty of Medicine, University of Ruhuna	A comprehensive study on the anti-inflammatory and antimicrobial secondary metabolites in selected medicinal plants	1,929,968/-
RG/2015/BS/02 (3 years)	Dr G. A. S. M. Ganehiarachchi Department of Zoology Faculty of Science, University of Kelaniya	Investigation of biological & ecological aspects of sand flies (Diptera: Psychodidae) in their natural breeding habitats and evaluation of their reproductive behaviour, fecundity and larval survival under laboratory conditions	2,342,600/-

Working Committee on Biotechnology & Bioethics

Grant No. & Duration	Grantee/Institute	Project Title	Total Allocation (Rs.)
RG/2015/BT/01 (3 years)	Dr P. K. G. S. S. Bandara Department of Genetics and Plant Breeding Rubber Research Institute, Agalawatta Prof. V. A. Sumanasinghe Department of Agricultural Biology University of Peradeniya Dr S. P. Withanage Rubber Research Institute, Agalawatta	Analysis of antioxidant genes expression in tapping panel dryness (TPD) affected rubber trees (<i>Hevea brasiliensis</i> Muell. Arg.) and effect of exogenous application of ascorbic acid on alleviating TPD	1,423,650/-
RG/2015/BT/02 (2 1/2 years)	Dr Nimanthi Jayathilaka Department of Chemistry Faculty of Science, University of Kelaniya	Evaluating the expression changes of non-coding RNA in Dengue Hemorrhagic Fever	2,786,000/-

Grant No. & Duration	Grantee/Institute	Project Title	Total Allocation (Rs.)
RG/2015/BT/03 (3 years)	Dr Inoka Chinthana Perera Department of Zoology Faculty of Science, University of Colombo	Investigation of GntR Transcriptional regulators of <i>Pseudomonas aeruginosa</i> as potential drug targets	3,977,500/-
RG/2015/BT/04 (2 years)	Dr Renuka Attanayake Department of Botany, University of Kelaniya Mr K. P. Somachandra Regional Agricultural Research & Development Centre, Bandarawela Dr C. S. K. Rajapakse Dept. of Chemistry, University of Kelaniya	Genetic diversity and management of cabbage white mold pathogen, <i>Sclerotinia sclerotorum</i> , and feasibility of Anaerobic Soil Disinfestations (ASD) and Bio-Fumigation (BF) based disease management for upcountry vegetable production system.	2,444,552/-
RG/2015/BT/05 (3 years)	Prof. Janakie P. Eeswara Department of Crop Sciences Faculty of Agriculture, University of Peradeniya Dr P. M. C. K. Bandaranayake Director Agricultural Biotechnology Centre University of Peradeniya Dr W. M. T. Madhujith Dept. of Crop Science Faculty of Agriculture, University of Peradeniya Dr Kalyani Ketepearachchi Research Officer, Dept. of Agriculture	Biochemical and molecular characterization and rapid multiplication of 5 selected accessions of <i>Aegle marmelos</i> (Lin.) Correa (Bale)	4,733,343/-

Working Committee on Engineering, Architecture & ICT

Grant No. & Duration	Grantee/Institute	Project Title	Total Allocation (Rs.)
RG/2015/ EA & ICT/01 (3 years)	Prof. R. Shanthini Department of Chemical and Process Engineering Faculty of Engineering University of Moratuwa	Optimization of the processing parameters used in the traditional sesame oil production unit (sekku) and in the screw – press oil expeller used in Sri Lanka [to enhance the quality and the consistency of the quality of sesame oil produced]	4,125,704.00/-
RG/2015/ EA & ICT/02 (3 years)	Dr Rangika Umesh Halwatura Department of Civil Engineering University of Moratuwa	Investigation of mud concrete for in-situ cast load bearing walls	3,122,550/-

Working Committee on Environment & Biodiversity

Grant No. & Duration	Grantee (Name /affiliation)	Project Title	Total allocation (Rs.)
RG/2015/EB/01 (2 years)	Prof. P. Mangala C. S. De Silva Department of Zoology Faculty of Science, University of Ruhuna Dr D. A. L Leelamanie Department of Soil Science Faculty of Agriculture, University of Ruhuna	Ecotoxicological assessment of effects of phenoxy and sulfonylurea herbicides and their commercial formulations on tropical earthworms: A physiological, population and functional approach	3,713,800/-
RG/2015/EB/02 (3 years)	Dr J. W. Damunupola Department of Botany Faculty of Science, University of Peradeniya Prof. B.M.R. Bandara Department of Chemistry Faculty of Science, University of Peradeniya	Screening selected invasive plant extracts/ compounds for antifungal action against pathogens of ornamental foliage plants	3,663,210/-
RG/2015/EB/03 (3 years)	Prof. R. K. Sriyani Dias Department of Zoology & Environmental Management University of Kelaniya	Survey on occurrence and nest density of <i>Aneuretus simony</i> Emery (Family: Formicidae) and associated ant fauna in a selected forest in Colombo and Kegalle Districts and preparation of a preliminary ant inventory of each forest.	2,668,472/-
RG/2015/EB/04 (3 years)	Dr Suresh P. Benjamin National Institute of Fundamental Studies Hantana Road, Kandy Dr Preminda Samaraweera Department of Molecular Biology & Biotechnology Faculty of Science, University of Peradeniya	Diversity of crab spiders of Sri Lanka based on morphology and DNA barcodes	3,988,600/-

Working Committee on Health Sciences

Grant No. & Duration	Grantee (Name /affiliation)	Project Title	Total allocation (Rs.)
RG/2015/HS/01 (3 years)	Prof. Preethi V. Udagama Department of Zoology Faculty of Science, University of Colombo Prof. Sumedha Wijeratne Department of Obstetrics and Gynaecology Prof. Preethi Soysa Department of Biochemistry and Molecular Biology, Faculty of Medicine University of Colombo	Proliferative, differentiation and toxicological effects of selected herbal / sponge extracts tested on in house established mesenchymal and haematopoietic stem cell lines	2,985,000/-

RG/2015/HS/02 (3 years)	Dr Rajiva de Silva Department of Immunology Medical Research Institute, Colombo – 08 Prof. Sriyani Dias Department of Zoology & Environment Management, University of Kelaniya	Immunochemical characterization of Hymenopteran (<i>Apis dorsata</i> and <i>Vespa affinis</i>) insect venom and its cross reactivity with venom from European species	2,125,300/-
RG/2015/HS/03 (1 year)	Dr K. M. G. Prasanna Premadasa KDU-CARE Faculty of Medicine General Sir John Kotelawala Defence University, Ratmalana	Sustained delivery of anti-tumor agents encapsulated by biocompatible polymer	2,123,209/-
RG/2015/HS/04 (2 years)	Dr K. Gajapathy Prof. S. N. Surendran Department of Zoology Faculty of Science University of Jaffna, Jaffna	Gross morphological and molecular analysis to characterize members of the <i>Phelbotomus argentipes</i> complex – the potential vector of leishmaniasis in Sri Lanka	2,112,000/-
RG/2015/HS/05 (2 years)	Dr Sulochana Wijetunga Dr Rasika Kotakadeniya Department of Pathology Faculty of Medicine, University of Peradeniya	Applicability of multilayered epithelium and squamous islands in determining the oesophageal origin of endoscopic biopsies obtained from the gastro-oesophageal junction, in assessing gastro-oesophageal reflux induced metaplastic changes	1,854,000/-
RG/2015/HS/06 (1 year)	Dr A. P. de Silva National Intensive Care Surveillance Quality Secretariat Building Castle Street Hospital for Women, Colombo – 08 Prof. Wasantha Gunathunga Department of Community Medicine University of Colombo Dr Rashed Haniffa National Intensive Care Surveillance	Association of social determinants on the disease-outcome, financial burden and quality of life after a critical illness due to chronic Non Communicable Diseases, among patients treated at government hospitals in the Western Province of Sri Lanka	570,000/-
RG/2015/HS/07 (3 years)	Dr Charitha Lakshini Goonasekara Department of Pre-Clinical Sciences Faculty of Medicine General Sir John Kotelawala Defence University, Ratmalana	The effect of vaccination against Japanese Encephalitis virus on the severity of Dengue disease.	3,325,500/-
RG/2015/HS/09 (1 1/2 years)	Prof. Pujitha Wickramasinghe Department of Paediatrics Dr Dulani Samaranayake Department of Community Medicine Faculty of Medicine, University of Colombo Dr Navodha Atapattu Lady Ridgeway Hospital, Colombo 08	Prevalence of vitamin D deficiency and its association to metabolic derangements among obese children and effects of vitamin D supplementation on obesity	4,424,514/-

Working Committee on Oceanography & Marine Sciences

Grant No. & Duration	Grantee (Name /affiliation)	Project Title	Total allocation (Rs.)
RG/2014/OMS/01 (1 1/2 years)	<p>Dr Pradeep Nalaka Ranasinghe Dr Tereny Pradeep Kumara Department of Oceanography & Marine Geology, University of Ruhuna</p> <p>Dr W. K. B. N. Prame Geological Survey & Mines Bureau 569, Epitamulla road. Pitakotte</p> <p>Commodore Y. N. Jayaratne Sri Lanka Navy C/O NHQ, PO BOX 593, Colombo 1</p>	Constructing Quaternary sea level curve for Sri Lanka	2,400,000/-

Working Committee on Social Sciences

Grant No. & Duration	Grantee (Name /affiliation)	Project Title	Total allocation (Rs.)
RG/2015/SS/01 (1 year)	<p>Dr S. M. P. Chandra Padmini Sri Lanka Council for Agricultural Research Policy</p> <p>Dr Thilakshi Kodagoda Department of Human Resources Management, University of Colombo</p>	Development of Floricultural Supporting Networks for Woman Growers in Sri Lanka	1,315,750/-

Research Grants Completed during – 2015

Working Committee on Agriculture & Food Science

Grant No. & Duration	Grantee (Name /affiliation)	Project Title	Total allocation (Rs.)
RG/2010/AG/01 (1 1/2 years)	Dr G. P. P. Seneviratne Dr S. P. Withanage Mr K. K. Liyanage Genetic & Plant Breeding Department Rice Research Institute	Identification of recommended Hevea Clones grown in Sri Lanka by Morphological and Physiological Analysis	617,445/-
RG/2010/AG/02 (1 year)	Prof. Arthur Bamunuarchchi Department of Food Science & Technology Faculty of Applied Sciences University of Sri Jayawardenepura Dr Ranjith Edirisinghe National Aquatic Resources Research & Development Agency	Characterization of lipids in underutilized fresh water fish in Sri Lanka	485,000/-
RG/2011/AG/05 (2 years)	Dr K. S. Hemachandra Mr H. N. P. Wijayagunasekera Department of Agricultural Biology Faculty of Agriculture University of Peradeniya	Selection and evaluation of potential egg parasitoid species for biocontrol of crucifer feeding caterpillar species	1,484,952/-

Working Committee on Biotechnology & Bioethics

Grant No. & Duration	Grantee (Name /affiliation)	Project Title	Total allocation (Rs.)
RG/2009/BT/01 (3 years)	Dr Menaka Hapugoda Molecular Medicine Unit Faculty of Medicine University of Kelaniya	Performance of recombinant proteins as diagnostic intermediates for chikangunya, dengue and leptospirosis	927,000/-
RG/2009/BT/02 (3 years)	Dr W. T. P. S. K. Senarath Department of Botany Faculty of Applied Sciences University of Sri Jayawardenepura	Clonal propagation of Santalum album to get high and uniformly yielding plants	1,457,750/-
RG/2010/BT/03 (2 years)	Dr A. A. L. Ratnatilleke Department of Chemistry Faculty of Science University of Kelaniya	Isolation and typing of efficient rock phosphate solubilizing bacteria	1,591,250/-
RG/2011/BT/07 (2 years)	Dr Ruwan J. Illeperuma Dr Neil Fernandopulle Genetech Research Institute	Development of a cost effective analysis method for degraded forensic DNA evidence of Sri Lanka	976,500/-

Working Committee on Basic Sciences

Grant No. & Duration	Grantee (Name /affiliation)	Project Title	Total allocation (Rs.)
RG/2009/BS/01 (3 years)	Prof. Anura Wickramasinghe Prof. B. M. Ratnayake Bandara Department of Chemistry Faculty of Science University of Peradeniya Prof. Veranja Karunaratne SLINTEC	Chemistry and bioactivity of the endemic genus Schumacheria.	3,145,000/-
RG/2010/BS/01 (3 years)	Dr S. Ranwala Ms H. I. U. Caldera Department of Plant Science Faculty of Science University of Colombo Prof. W. A. J. M. De Costa Department of Crop Science Faculty of Agriculture University of Peradeniya	Investigating plant responses to changing atmospheric carbon dioxide with special emphasis on anatomical and physiological adaptations of stomata in different ecotypes across a range of altitudes	1,887,586/-
RG/2010/NANO/04 (3 years)	Prof. Nedra Karunaratne Department of Chemistry Faculty of Science University of Peradeniya Prof. Veranja Karunaratne SLINTEC	Development of basic techniques for nano-encapsulation of bioactive compounds	2,516,258/-
RG/2011/BS/02 (3 years)	Prof. A.D.L. Chandani Perera Prof. Nedra Karunaratne Department of Chemistry Faculty of Science University of Peradeniya	Glycolipid formulations for stabilization of bioactive compounds and micro emulsion formation.	1,603,141/-
RG/2011/NANO/03 (3 years)	Dr Shehan de Silva SLINTEC Prof. J. R. P. Jayakody Department of Physics Faculty of Science University of Kelaniya Dr Shantha Amarasinghe Department of Material Engineering Faculty of Engineering University of Moratuwa Prof. Laleen Karunanayake Department of Chemistry Faculty of Applied Sciences University of Sri Jayewardenepura	Near atmospheric plasma enhanced chemical vapor deposition for surface modification and thin film deposition	1,074,668/-

RG/2012/BS/06 (3 years)	Prof. N. S. Kumar Prof. U. L. B. Jayasinghe National Institute of Fundamental Studies Hantana Road, Kandy	Bioactive molecules from endophytic microorganisms associated with medicinal and allelopathic plants from Sri Lanka	1, 148, 200/-
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Working Committee on Engineering, Architecture & ICT

Grant No. & Duration	Grantee (Name /affiliation)	Project Title	Total allocation (Rs.)
RG/2011/ESA/01 (2 years)	Dr J. J. Wijetunga Department of Civil Engineering Faculty of Engineering University of Peradeniya	Disaster Risk Assessment and Mitigation Strategy for Tropical Cyclone Induced Storm Surge Hazard in Sri Lanka	1,752,260/-

Working Committee on Health Sciences

Grant No. & Duration	Grantee (Name /affiliation)	Project Title	Total allocation (Rs.)
RG/2011/HS/02 (2 years)	Prof. S. G. Yasawardene Department of Anatomy Faculty of Medical Sciences University of Sri Jayawardenapura Mrs Mythreya Thayabaran Department of Human Biology Faculty of Health-Care Sciences Eastern University of Sri Lanka	Immunohistochemical characterization of neuronal cholinergic system in immune tissues – An animal and postmortem human study	885,000/-
RG/2011/HS/04 (1 year)	Prof. Rohini De A. Seneviratne Department of Community Medicine Faculty of Medicine University of Colombo Prof. S. Sivayogan Department of Community Medicine Faculty of Medicine University of Sri Jayawardenapura	Safety performance, correlates and cost of construction injuries of male building-construction trades workers working in Colombo Municipal Council area	361,962/-
RG/2011/HS/08 (3 years)	Prof. V. Thevanesam Department of Microbiology Faculty of Medicine University of Peradeniya Dr R. T. R. Chinniah Department of Microbiology Faculty of Medicine University of Colombo	Use of a commercial interferon gamma release enzyme linked immunospot assay in diagnosis of active and latent tuberculosis in a Sri Lankan adult population	3,162,103/-

Grant No. & Duration	Grantee (Name /affiliation)	Project Title	Total allocation (Rs.)
RG/2011/HS/13 (2 years)	Dr Yamuna Siriwardana Prof. Nadira Karunaweera Department of Parasitology University of Colombo	Development of a serological assay for the diagnosis of leishmaniasis in Sri Lanka	990,000/-
RG/2011/HS/16 (1 1/2 years)	Dr N. S. Gunawardena Department of Community Medicine Faculty of Medicine University of Colombo	Nutrition literacy, its correlates and effectiveness of a skill development intervention to improve nutrition literacy among females aged 25-45 years in Colombo District	453,890/-
RG/2012/HS/04 (1 year)	Dr R. D. F. C. Kanthi Health Education Bureau Ministry of Health	Oral Health Literacy status of the pregnant mothers and effectiveness of an intervention to improve the Oral Health Literacy status of the pregnant mothers in a selected MOH area in Colombo District	281,955/-

Working Committee on Science & Technology Policy Studies

Grant No. & Duration	Grantee (Name /affiliation)	Project Title	Total allocation (Rs.)
RG/2011/STP/01 (1 1/2 Months)	Dr Parakrama Samaratunga Ms Dilani Hirimuthugoda Institute of Policy Studies	Intellectual property rights in protecting new plant varieties and farmer's traditional knowledge- The case of rice in Sri Lanka	727,400/-

Summary of Research Grants Scheme - 2015

		Agriculture & Food Science	Basic Sciences	Biotechnology & Bioethics	Environment & Biodiversity	Engineering, Architecture & ICT	Health Sciences	Indigenous Knowledge	Social Sciences	S & T Policy Studies	Oceanography & Marine Sciences	Total
01	Total no of ongoing grants as at 31.12.2015	24	12	23	22	06	30	01	04	01	01	124
02	Applications received	10	15	11	09	04	23	-	04	-	-	76
03	Grants awarded	02	02	05	04	02	08	-	01	-	-	24
04	Grants completed	03	06	04	-	01	06	-	-	01	-	21
05	Grants withdrawn	-	-	-	-	-	01	-	-	-	-	01
06	Grants terminated	-	-	-	-	-	-	-	-	-	-	-
07	RSs appointed/to be appointed	05	03	06	11	03	10	02	03	-	01	41
08	RSs registered for postgraduate degree/ to be registered for post graduate degree	03	02	03	07	03	06	-	03	-	01	25
09	TAs appointed/to be appointed	02	03	-	02	-	03	-	-	-	-	10
10	Postgraduate degrees obtained PhD	01	-	01	-	-	-	-	-	-	-	02
	MPhil	02	04	02	-	01	-	-	-	-	-	09
	MSc	-	-	-	-	-	-	-	-	-	-	-
	MD	-	-	-	-	-	02	-	-	-	-	02
11	No of publications arising from grants (Foreign)	-	-	02	-	01	-	-	-	-	-	03
12	No of publications arising from grants (Local)	01	-	-	01	08	04	-	-	-	01	15
13	Communications	02	07	20	02	07	-	-	-	-	02	40

Awards for science achievements NTRP – Food Security – 2015

Programme	Grant No	Project leader	Title
01	NTRP/2012/FS/PG-01/P-01	Dr R. M. Herath Department of Agriculture	Development of web based crop forecasting system in Sri Lanka
	NTRP/2012/FS/PG-01/P-02	Prof. G. N. Wikramanayake University of Colombo School of Computing	A social Life Network to enable farmers to meet the varying food demands of the population, by providing needed information just in time and better monitoring and management of crop production
02.	NTRP/2013/FS/PG-02/P-01	Prof. K. K. D. S. Ranaweera Department of Food Science and Technology University of Sri Jayawradhenepura	Application of novel techniques to minimize postharvest losses of five selected fruit and vegetable varieties
	NTRP/2013/FS/PG-02/P-02	Dr H. L. D. Weerahewa Open University of Sri Lanka	Food Security through Adoption of Pre-harvest Technologies: Improving Quality of Fresh Produce by soil application of potassium and Silicon
03.	NTRP/2012/FS/PG-3/P-01	Dr T. B. Ananda Jayalal Ministry of Health	Establishing a national system for ensuring microbiological food safety
04	NTRP/2012/FS/PG-04/P-02	Dr Athula Senarathna Institute of Policy studies	A study of supply and price Behavior Relating to Selected Crops and Livestock products in Sri Lanka
	NTRP/2012/FS/PG-04/P-01	Prof. Udith K. Jayasinghe Mudalige Wayamba University of Sri Lanka	Assessing internal and External Trade Policies and Practices affecting food security in Sri Lanka, and identifying areas for improvement
05	NTRP/2012/FS/PG-05/P-01	Dr S. Pathmarajah University of Peradeniya	Development of Household Food Security models for poverty stricken areas of Sri Lanka
	NTRP/2012/FS/PG-05/P-02	Prof. G. Mikunthan University of Jaffna	Development of sustainable integrated food production systems to enhance household food and nutritional security, economic growth and livelihood of resource poor families in the Northern Region of Sri Lanka

Research Scholarships Awarded in – 2015

Grant No. & Duration	Scholar and Institution	Supervisors	Title
NSF/SCH/2015/01 (2 years)	Ms R. W.P. Madhushika Rajapaksha	Dr Kalaivani Vivehananthan Department of Biotechnology University of Wayamba	Molecular Detection of Quarantine Important Microbial Pathogens in Imported Seed Potato
NSF/SCH/2015/02 (3 years)	Mr Sanjeewa Udara Rathnasekara	Dr Muttukrishna Sarvananthan No. 3&5, Somasundaram Road, Off station Road, Wellawatte, Colombo 06 Prof. Sirimal Abeyratne Department of Economics University of Colombo	Trade openness and export diversification of Sri Lanka
NSF/SCH/2015/03 (3 years)	Mr H. Krishantha Sameera De Zoysa	Dr E.M.R.K.B. Edirisinghe Department of Physical Sciences Faculty of Applied Sciences University of Ruhuna Dr (Mrs) T.V. Sundarabarathy Department of Biological Sciences Faculty of Applied Sciences University of Ruhuna	Investigation of the Role of Fatty Acid Profile of Food on the Colonization Success of Selected Freshwater Fish Species in Sri Lanka
NSF/SCH/2015/04 (2 years)	Ms A.M. Piyumali Sandareka Arachchi	Dr T. D. C. P Gunasekara Department of Microbiology Faculty of Medical Sciences University of Sri Jayewardenepura Prof. S. S. N Fernando Dr M. M Weerasekara Department of Microbiology Faculty of Medical Sciences University of Sri Jayewardenepura	Association of selected HLA types, cytokines and bacterial virulence genes with histological severity and the proportion of clarithromycin resistance genes of <i>Helicobacter pylori</i> in patients with dyspepsia
NSF/SCH/2015/05 (1 year)	Mr Jalaldeen Mohamed Harris	Prof. P. Vinobaba Department of Zoology Eastern University	Influences of gender on levels of Pb, Cd and As in the tissues of selected species of Edible Estuarine aquatic species in the Batticaloa Lagoon during dry weather conditions
NSF/SCH/2015/06 (2 years)	Ms A. Nishamani Kodithuwakku	Dr Sudarshanee Geekiyanage Prof. S.G.J.N. Senanayake Department of Agricultural Biology University of Ruhuna Prof. Peter Greenberg School of Medicine University of Washington, USA	Development of farmer friendly co-inoculation method with plant growth promoting bacteria and testing efficacy on selected Sri Lankan rice accessions
NSF/SCH/2015/07 (3 years)	Mr Nimesh Madushanka Deneththi	Dr Manjula P. Sumith Magamage Dr H.A.D. Ruwandepika Department of Live stock Production Faculty of Agricultural Science University of Sabaragamuwa	Effect of angiogenic VEGF isoforms and anti-angiogenic VEGF165B during development of porcine follicles originating from ovaries of new born piglets and adult ovaries with cystic follicles In-vitro

Research Equipment Grants - Approved – 2015

No	Applicant / Designation & Institute	Responsible Officer for the Equipment	Equipment
01	Prof. Srisatkunarajaj Dean Faculty of Science University of Jaffna	Dr K. Gajapathy Department of Zoology Faculty of Science University of Jaffna	Real Time PCR – Rotor gene 5 plex with HRM
02.	Prof. Kapila Seneviratne Dean Faculty of Science University of Kelaniya	Dr Nimanthi Jayathilaka Department of Chemistry Faculty of Science University of Kelaniya	Real Time PCR – LineGene K Plus
03.	Dr W. M. G. Senevirathne Director Rubber Research Institute of Sri Lanka Dartonfield, Agalawatta	Dr P. K. G. S. S. Bandara Department of Genetics and Plant Breeding Rubber Research Institute of Sri Lanka	Portable Freezer
04.	Prof. C. B. Dissanayake Director National Institute of Fundamental Studies Hantana Road, Kandy	Dr Renuka Ratnayake Microbial Biotechnology National Institute of Fundamental Studies	HPLC Machine
05.	Prof. Sudantha Liyanage Dean Faculty of Applied Science University of Sri Jayewardenepura	Dr Nilwala Kottegoda Department of Chemistry Faculty of Applied Sciences University of Sri Jayewardenepura	Automated Powder Diffractometer System
06.	Prof. K. R. R. Mahanama Dean Faculty of Science University of Colombo	Mrs Rangika Maddumage Department of Plant Science University of Colombo	Rotary Microtome
07.	Dr E. M. P. Ekanayake Dean Faculty of Applied Sciences University of Wayamba	Prof. K. P. Vidanapathirana Department of Electronics Faculty of Applied Sciences Wayamba University of Sri Lanka	Module for Multi Auto Lab Cabinet, including cell cable The 1014 Potentiostat Galvanostat
08.	Dr K. A. C. Udayakumara Dean Faculty of Engineering Technology The Open University of Nugegoda	Prof. (Ms) C. S. De Silva Department of Agricultural and Plantation Engineering The Open University of Nugegoda	Portable Spectrophotometer
09.	Prof. S. S. Iqbal Dean Faculty of Natural Sciences The Open University of Nugegoda	Prof. S. R. Weerakoon Department of Botany The Open University of Sri Lanka	Smart View Imager System (Gel Documentation System)
10.	Prof. W. G. D. Dharmarathna Dean Faculty of Science University of Ruhuna, Matara	Dr G. D. K. Mahanama Department of Physics Faculty of Science, University of Ruhuna	Astrography DSLR Camera

11.	Dr I. S. B. Abeysinghe Director Tea Research Institute, Talawakelle	Dr G. D. Sinniah Plant Pathology Division Tea Research Institute	Microplate reader/ Spectrophotometer
12.	Prof. Namal Priyantha Director Postgraduate Institute of Science University of Peradeniya	Mr L. A. A. D. B. Liyandeniya Instrumentation Laboratory Postgraduate Institute of Science	Atomic Absorption/ Emission Spectrophotometer with Auto sampler
13.	Prof. Kapila Seneviratne Dean Faculty of Science University of Kelaniya	Dr R. N. Attanayake Department of Botany Faculty of Science University of Kelaniya	Gel Documentation System - Alpha Imager HP Imaging System
14.	Prof. K. R. R. Mahanama Dean Faculty of Science University of Colombo	Dr Erandathie Lokupitiya Department Zoology University of Colombo	Portable Area Meter
15.	Prof. Sudantha Liyanage Dean Faculty of Applied Sciences University of Sri Jayawardenepura	Dr R. A. U. J. Marapana Department of Food Science and Technology Faculty of Applied Sciences University of Sri Jayawardenepura	Texture Analyzer
16.	Dr K. A. C. Udayakumara Dean Faculty of Engineering Technology The Open University Nugegoda	Dr (Ms) B. C. L. Athapattu Department of Civil Engineering Faculty of Engineering The Open University Nugegoda	Portable DO Meter
17.	Prof. D. P. S. T. G. Attanayaka Dean Faculty of Agriculture and Plantation Management Wayamba University of Sri Lanka	Dr B. L. W. K. Balasooriya Department of Biotechnology Faculty of Agriculture and Plantation Management Wayamba University of Sri Lanka	80°C Ultra – Low Temperature (ULT) Freezer
18.	Prof. Kapila Seneviratne Dean Faculty of Science University of Kelaniya	Dr R. N. Attanayake Department of Botany Faculty of Science Univ. of Kelaniya	L1600000A Perkin Elmer Spectrum Two FTIR
19.	Prof. Kapila Seneviratne Dean Faculty of Science University of Kelaniya	Mr M. M. Gunawardane Department of Microbiology Faculty of Science University of Kelaniya	Anaerobic Growth Chamber
20.	Prof. K. R. R. Mahanama Dean Faculty of Science University of Colombo	Prof. Wipula Yapa Head, Department of Zoology Faculty of Science Univ. of Colombo	Ultra Low Temperature Freezer (-86°C)
21.	Prof. K. R. R. Mahanama Dean Faculty of Science University of Colombo	Prof. Wipula Yapa Head, Department of Zoology Faculty of Science University of Colombo	Laboratory Autoclave

Recommended for NSF Research Awards – 2014

Working Committee	Grantee	Grant No/ Project Title
Biotechnology & Bioethics	<p>Prof. Jennifer Perera Department of Microbiology Faculty of Medicine University of Colombo</p> <p>Dr W. S. S. Wijesundera Senior Lecturer Department of Biochemistry & Molecular Biology Faculty of Medicine University of Colombo Kynsey Road, Colombo 08</p> <p>Research Student Dr. C. P. Adikaram (MPhil)</p>	<p>RG/2007/BT/03</p> <p>“Determination of drug resistant gene mutations among Rifampicin resistant strains of <i>M. tuberculosis</i>”</p>

SUSRED Awards 2015

	Names and affiliations of Supervisory Team	Title of the thesis
MPhil		
1.	<p>Dr S. A. C. N. Perera Genetic & Plant Breeding Division Coconut Research Institute Lunuwila</p> <p>Dr P. N. Dasanayaka Department of Botany University of Sri Jayawardenepura, Nugegoda</p>	Determination of population structure of yellow dwarf coconut population in Sri Lanka
2.	<p>Dr Lanka Ranawake Department of Agricultural Biology Faculty of Agriculture, University of Ruhuna</p> <p>Prof. S. G. J. N. Senanayake Vice Chancellor, University of Ruhuna</p>	Analysis of diversity and fertilizer response of traditional rice cultivars in Sri Lanka
PhD		
3.	<p>Prof. Renu Wickremasinghe Department of Parasitology Faculty of Medical Sciences University of Sri Jayawardenepura</p> <p>Dr N. V. Chandrasekharan Department of Chemistry, University of Colombo</p> <p>Prof. B. G. D. N. K. de Silva Department of Zoology Faculty of Applied Sciences University of Sri Jayawardenepura</p>	Molecular detection and sero-prevalence of <i>Leishmania donovani</i> & risk factor analysis in selected areas in Sri Lanka

4.	Prof. B. S. B. Karunaratne Department of Physics University of Peradeniya	Effect of Ca and Sr doping of $YBa_2Cu_3O_{7-\delta}$ high Tc superconductor on its critical properties
5.	Prof. Sagarika Ekanayake Department of Biochemistry Dr Chandanie Wanigatunge Department of Pharmacology Faculty of Medical Sciences University of Sri Jayawardenepura	Nutritional evaluation and influence on carbohydrate and lipid metabolism of porridge made with green leafy vegetables
6.	Dr T. Sugandhika Suresh Department of Biochemistry Prof. Kamani Samarasinghe Department of Pathology Faculty of Medical Sciences University of Sri Jayawardenepura Dr Shiroma Handunnetti IBMBB 90, Cumarathunga Munidasa Mawatha, Colombo 03	Hypoglycaemic, anti-inflammatory and ATPase effect of the dried flower extracts of <i>Aegle marmelos</i> (Bael fruit)

TWAS/NSF Young Scientist Awards 2015

	Award Winner	Field
1.	Prof. Udaya Ratnayake Department of Food Science and Technology Faculty of Applied Sciences Sabaragamuwa University of Sri Lanka	Biology
2.	Dr Nanda Gunawardhana International Research Centre University of Peradeniya	Chemistry

Technology grants awarded in year 2015

Grant No: & Duration	Project title	Total budget (Rs.)
TG/2015/Tech-D/01 (20 months)	Scaling up, stability testing and product testing of blood glucose strips	511,787.00/-
TG/2015/Tech-D/02 (1 year)	An improvement of available paddle thresher	81,729.80/-
TG/2015/Tech-D/03 (2 years)	Development of a control system for trough withering	6,409,284.00/-
TG/2015/Tech-D/04 (2 years)	Design and development of the new product, 'Student Response System' for classroom/ audience	1,192,000.00/-
TG/2015/Tech-D/05 (1.5 years)	T cell based assay for the detection of serotype specific immunity to dengue infection and comparison of PRNT	4,770,000.00/-
TG/2015/Tech-D/06 (6 months)	Development of an efficient coconut de-husking machine for industry	246,300.00/-
TG/2015/Tech-D/07 (6 months)	Design and construction of remotely operated underwater vehicle	471,100.00/-
TG/2015/Tech-D/08 (2 years)	Design and development of an eco-friendly biodegradable rubber footwear	1,959,500.00/-
TG/2015/Tech-D/09 (9 months)	Collecting, washing and recycling of waste polythene to be reused	9,245,000.00/-
TG/2015/Tech-D/10 (10 months)	Off the shelf, dash board mounted sleepiness and drowsiness detection device for automobile for 7,500 LKR	4,940,500.00/-

NASTA awards/ Certificate of Merit recipients under different categories and their projects

	Award winner	Project title	Category
National Awards			
1.	Prof. (Ms.) Mangala Gunatilake, Dr (Ms.) Ruwini M S Pimburage, Dr (Ms.) Omala Wimalaratne Dr Aindralal Balasuriya and Ms K. A. D. N. Perera	Initiative on immunogenicity studies following canine anti-rabies immunization in Sri Lanka leading to revision of anti-rabies vaccination protocol	Excellence in multidisciplinary team efforts in the application of S&T
2.	Sampath Bank PLC.	Sampath Vishwa Corporate	Technology development and application through local partnerships
3.	Dr Aruna Dharshan De Silva	Establishing an internationally funded research program to study dengue in Sri Lanka	Harnessing advanced technologies through international collaboration
4.	Mr S. S. K. Madage, Mr W. U. D. Medis, Mr R. A. P. Perera, Ms G. D. S. K. Rajapakse and Dr (Ms.) F. Y. Sultanbawa	Developing and commercializing of a designer egg	Transfer of technologies either developed or adapted to industry inclusive of SMEs
5.	Dr M. H. P. Kumara Dr K. B. S. Kulathilaka and the District Hospital, Dompe	Productivity & quality improvement of processes & services at District Hospital Dompe due to Information Technology	Productivity improvement and quality improvement of products, processes and services
Certificate of Merit			
1.	Prof. (Ms) Mangala Gunatilake	Initiation of education in laboratory animal science and alternatives to animal experiments in Sri Lanka and establishment of Sri Lanka Association for Laboratory Animal Science (SLALAS)	Outstanding leadership in introducing technologies
2.	Link Natural Products (Pvt) Ltd	Application of S&T for the sustainability of herbal health care industry to give the benefits of traditional medicine to the modern consumers through integrated multidisciplinary team efforts	Excellence in multidisciplinary team efforts in the application of S&T
3.	Department of National Botanic Gardens	A fully pledge new botanic garden in driest area in the Dry Zone – The mission accomplished	Science and Technology contributions for sustainable development in areas such as energy, food and water security, and climate change
4.	Dr Ruwan J. Illeperuma	Establishment of the First Criminal DNA Database for Sri Lanka	Development and use of innovative applications based on advanced technologies
5.	Orel Corporations (Pvt) Ltd	Use of Technology for productivity improvements at Orange	Productivity improvement, and quality improvement of products, processes and services

Projects selected for NSF Technology Awards/ Certificate of Commendation 2015

Award/ Certificate of Commendation	Grant Details	Team Leader/ Team Member/s - Affiliation Collaborator
Award	<p>Title: Improvement and field testing of a solar powered lift and carry type milking machine</p> <p>Grant No.: TG/2011/Tech-D/02</p>	<p>Team Leader: Dr K.S.P. Amarathunga, Department of Agricultural Engineering, Faculty of Agriculture, University of Peradeniya</p> <p>Team Member: Dr K.F.S.T. Silva, Department of Animal Science, Faculty of Agriculture, University of Peradeniya</p>
Award	<p>Title: Manufacture and marketing of cost effective, environmentally friendly cooking stoves for domestic and commercial cooking purposes</p> <p>Grant No.: TG/2011/Start-Up/01</p>	<p>Mr Riyad Ismail, No. 503/5, Halbarawa Gardens, Thalahena, Malabe.</p>
Award	<p>Title: Scaling up the invention of spherical container for natural rubber latex industry</p> <p>Grant No.: TG/ 2012/Tech- D/ 02</p>	<p>Mr Sunil Somasiri Gomes, 378, 2F, Umagiliya Place, Kelaniya</p> <p>Collaborator: Rubber Rearch Institute</p>
Award	<p>Title: Novel Accessible Technologies on Touch screen Devices (NAT-TD)</p> <p>Grant No.: TG/2012/Tech-D/03</p>	<p>Team Leader: Sohan Dharmarajah 105/1, Rosmead Place, Colombo 07.</p> <p>Collaborator: Sri Lanka Federation for Visually Handicapped</p>
Award	<p>Title: Assessment of socio- economic viability of simplified hydroponics to improve the household food production and to develop a strategy for commercialization</p> <p>Grant No.: TG/ 2012/ Tech- D/ 07</p>	<p>Team Leader: Dr Susil Liyanaarachchi 14A, Saparamadu Avenue, Nugegoda</p> <p>Team Member: Mrs Janaki Saparamadu 14A, Saparamadu Avenue, Nugegoda</p>
Certificate of Commendation	<p>Title: To grow the algae Spirulina to overcome malnutrition of children. Pregnant and lactating mothers in villages in Sri Lanka</p> <p>Grant No.: TG/2012/Tech-D/09</p>	<p>Team Leader: Mr W.J.T.K. Fernando 163/24, Nawala Road, Colombo 05</p> <p>Collaborator: Prof. S.A. Kulasooriya, Institute of Fundamental Studies</p>
Award	<p>Title: Development of an Aloe vera (<i>Aloe barbadensis Miller</i>) incorporated ready to serve beverage</p> <p>Grant No.: TG/2012/Tech-D/11</p>	<p>Team Leader: Prof. Ayanthi N. Navaratne Department of Chemistry, Faculty of Science, University of Peradeniya</p> <p>Team Member: Prof. (Ms.) D.C.K. Illeperuma Dept. of Food Science & Technology, Faculty of Agriculture, University of Peradeniya</p> <p>Dr Kamal Abdhul Naser Teaching Hospital, Peradeniya</p> <p>Collaborator: Nature's Beauty Creations Ltd.</p>

NSF Staff Participation at local and foreign conferences, workshops and training programmes

Name of the Officer	Description on participation
Dr Thamara F Dias	Served as a panel member at the regional workshop on “SMEs and R & D: Collaboration for Commercialization” on 22 nd and 23 rd December, 2015 jointly organized by NEDA, COSTI and ADBI. <i>Venue: JAIC HILTON, Colombo</i>
Dr Thamara F Dias	Made a presentation on “Role of the NSF in facilitating Technology Development and Startups” at the one day workshop on “Science for Technology” on 11 th December, 2015 organized by the PGIS.
Dr Thamara F Dias	Participated at “Entrepreneurial Reawakening” organized by NEDA on 21 st December, 2015.
Mr J.G. Shanthasiri	Training workshop on ‘How to minimize audit queries in government institutions’, 19 – 20 May, 2015 organized by the Skills Development Funds Ltd.
Mr J.G. Shanthasiri	Training Workshop on Technopreneurship for South Countries, International Science, Technology and Innovation Centre (ISTIC), 5 - 9 October 2015, Kuala Lumpur, Malaysia.
Mr J.G. Shanthasiri Ms Priyanwada Warakagoda Ms Suchima Gonapinuwala	Theme seminar of the Sri Lanka Association for the Advancement of Science on 1 st December 2015 organized by SLAAS.
Ms Nadeeja Wickremarachchi	Workshop on “Writing a high impact research articles” 09 th and 10 th July 2015 organized by NASTEC. Theme seminar of the Sri Lanka Association for the Advancement of Science on 1 st December 2015 organized by SLAAS.
Ms Nadeeja Wickremarachchi	Regional Workshop on “SMEs and R&D: Collaboration for Commercialization” 22 nd and 23 rd December, 2015 <i>Venue: JAIC HILTON, Colombo</i>
Ms Priyanwada Warakagoda Ms Suchima Gonapinuwala	Distance learning programme on Intellectual Property (DL-301 Patents, DL- 318 Patent Information Search) World Intellectual Property Organization <i>Registration: 08th December, 2014- 28th February, 2015</i> Provide consultancies in patent drafting filing and implement awareness building activities is an activity aligns to the Technology Division. The Head/TD requested to follow above two courses to obtain self training.
Ms Suchima Gonapinuwala	Workshop on “Writing a high impact research articles” 09 th and 10 th July 2015 organized by NASTEC.
Ms Suchima Gonapinuwala	Sri Lanka Association for Fisheries and Aquatic Resources (SLAFAR) pre-symposium workshop on 16 th May 2015 organized by SLAFAR
Ms Suchima Gonapinuwala	Workshop on bioactive natural products for nutraceutical and cosmetic industry on 19 th November 2015 organized by Herbal technology section, Industrial Technology Institute.

Travel Grants Awarded 2015

Oral Presentation

	Name and Address	Title of the Abstract	Title of the Event, Venue & Date
1	Dr J.N. Senadheera Lecturer (Probationary) Dept. of Maths & Computer Science The Open University of Nawala, Sri Lanka	Hermitian Jacobi forms and $u(p)$ congruences	2015 Joint Mathematics Meeting, San Antonio, USA 10 - 13 Jan. 2015
2	Ms M.C.R. Peiris Research Assistant Postgraduate Institute of Science University of Peradeniya, Peradeniya	Electro catalytic activity of bis (salicylaldehyde)ethylenediamino) Ni(II) complex for CO ₂ reduction	International Conference on Environmental Science and Development - ICESD 2015 Amsterdam, Netherlands 14 - 15 Feb. 2015
3	Prof. S. Ekanayake (SUSRED Winner) Professor, Dept. of Biochemistry Faculty of Medical Sciences University of Sri Jayawardenapura Nugegoda	Do protein, fat and dietary fibre content of cooked rice affect the glycaemic index in different rice varieties? 2. Effect of particle size of starchy staple on glycaemic index of foods	International Journal of Food Science and Technology 50 Celebration Conference Lincoln University, New Zealand 17 - 19 Feb. 2015
4	Dr R.M.S.B.K. Ranasinghe Senior Lecturer Dept. of Livestock and Avian Sciences Wayamba University of Sri Lanka Makandura	Subclinical mastitis in dairy cows in Kurunegala District : Prevalence, associated risk factors and effect on reproductive performance	International Symposium: Global approach to control of diseases and improvement of productivity in dairy cattle through the recent advance in nutritional, metabolic, immunological and genetic studies, Okayama, Japan 13 - 14 Feb. 2015
5	Ms R.P.T.H. Gunasekara Lecturer Dept. of Computing and Information Systems Wayamba University of Sri Lanka Kuliyapitiya	A study to increasing the performance on K-Mean data mining algorithm in parallel environment (Engineering & Technology studies)	2 nd International Conference on Trends in Multidisciplinary Business and Economic Research (TIMBER -2015) Bangkok, Thailand 25 - 26 March 2015
6	Dr U.N.D. Sirisena Senior Lecturer Dept. of Anatomy University of Colombo, Colombo 03	Initial experience in implementation of a cancer gene panel test to determine the aetiology of breast cancer in a developing country	Human Genome Meeting 2015 Kuala Lumpur, Malaysia 14 - 17 March 2015
7	Prof. Sriyani E. Peiris Senior Professor Dept. of Crop Sciecn Faculty of Agriculture University of Peradeniya, Peradeniya	Development of an assessment portfolio as a quality enhancement activity in higher education	Conference of Asia Pacific Network (APOQ) 2015 and Annual General Meeting Kunming, China 17 - 19 April 2015
8	Ms S.A. Samaranyake Research Assistant National Institute of Fundamental Studies Hatana Rd, Kandy	Feasibility of finding geothermal sources in Sri Lanka with reference to the hot spring series and the dolerite dyke	World Geothermal Congress Melbourne, Australia 19 - 24 April 2015

Oral Presentation

	Name and Address	Title of the Abstract	Title of the Event, Venue & Date
9	Ms A.H. Wijetunga Research Assistant Dept. of Electrical & Electronic Eng. Faculty of Engineering University of Peradeniya, Peradeniya	Effect of sampling rate of weather parameters on the dynamic line rating	IEEE International Conference on Industrial Instrumentation and Control (ICIC 2015) Pune, India 28 - 30 May 2015
10	Ms A.M.C. Senevirathna Research Assistant Dept. of Chemistry University of Peradeniya, Peradeniya	Novel quasi - solid - state electrolyte based on γ -butyrolactone and tetrapropylammonium iodide for dye-sensitized solar cells using fumed silica as the gelling agent	8 th International Conference on Materials for Advanced Technologies (ICMAT 2015) Suntec, Singapore 28 June - 03 July 2015
11	Dr A.A.T.D. Amarasekara Senior Lecturer Dept. of Allied Health Sciences University of Sri Jayawardenapura Nugegoda	Barriers to and reasons for glycemic control among adults with T2DM: Perspectives from health care professionals	Annual Worldwide Nursing Conference 2015 (WNC 2015) Singapore 29 - 30 June 2015
12	Dr K.D.R.J. Kumara Senior Lecturer Dept. of Electrical & Electronic Engineering, Faculty of Engineering University of Peradeniya, Peradeniya	Near shore wave manipulation for electricity generation	XIII International Conference on Electrical, Computer, Electronics and Communication Engineering Oslo, Norway 17 - 18 July 2015
13	Mr K. Prashanthan Lecturer (Probationary) Dept. of Physics University of Jaffna Thirunelveli, Jaffna	Effect of interface modifiers on hole mobility in hybrid nanoporous titanium dioxide (TiO ₂)/Poly (3-heythiophene) (P3HT) solar cells	IEEE Nano Conference 2015 Rome, Italy 27 - 30 July 2015
14	Ms P.D.C. Padukkage Research Assistant Dept. of Agricultural Biology Faculty of Agriculture University of Ruhuna Mapalana, Kamburupitiya	Effect of photoperiod on short aged Sri Lankan traditional rice	Second International Conference on Engineering and Natural Science Tokyo, Japan 22 - 24 July 2015
15	Dr V.M. Thadhani Senior Lecturer Sri Lankan Institute of Nanotechnology Mahenwatte, Pitipana, Homagama	Rapid identification of bioactive secondary metabolites in lichen extracts based on structural fragmentation pattern using ESI_MS/MS analysis	3 rd International Conference on Coastal Biotechnology (ICCB) Qingdao, China 18 - 20 August 2015
16	Ms R.Y. Baragamarachchi PhD. Student Institute of Biochemistry Molecular Biology and Biotechnology University of COlombo, No 99 Cumaratunga Munidasa Mw, Colombo 03	Recommendations to enhance reproducibility and reliability in comet assay	4 th Global Summit on Toxicology Philadelphia, USA 24 - 26 August 2015
17	Mr K.G.C. Senarathna Research Assistant Postgraduate Institute of Science University of Peradeniya, Peradeniya	Preparation of palladium-polypyrrole - montmorillonite nanocomposites and its uses as a catalyst for oxygen reduction reaction	250 th National Meeting of American Chemical Society Boston, USA 16 - 20 August 2015

Oral Presentation

	Name and Address	Title of the Abstract	Title of the Event, Venue & Date
18	Ms H.P.G.R.M. Samarakkody Research Assistant Department of Plant Sciences Faculty of Science University of Colombo, Colombo 03	Removal of Cd(II) from contaminated soils and treatment of effluent using <i>Nephrolepis exaltata</i>	12 th International Phytotechnology Conference Kansas State University, USA 27 - 30 September 2015
19	Ms H.M.C.K.K. De Silva Research Student Dept. of Zoology, Faculty of Science University of Colombo, Colombo 03	Phylogenetic relationships and population diversity of commonly found phytoplasma strains in Sri Lanka	Australian Plant Pathology Conference 2015 Western Australia, Australia 14 - 16 September 2015
20	Dr R.M.K.U. Rajapaksha Senior Lecturer Dept. of Architecture University of Moratuwa, Moratuwa	Resolved Duality: External double skin envelopes for energy sustainability of office buildings in the tropics	Architecture in Evolution – 31 st International Conference on Passive and Low Energy Architecture (PLEA) Bologna, Italy 09 - 11 September 2015
21	Dr N.A.M.T. Napagoda Senior Lecturer Dept. of Biochemistry Faculty of Medicine University of Ruhuna, Galle	<i>Lecucas Zeylanica</i> : A source of pharmaceuticals from the tropical forests	2 nd International Conference on Natural Products Utilization : From Plants to Pharmacy Shelf Plovdiv, Bulgaria 14 - 17 October 2015
22	Ms M.L.C. Dulanthika MSc. Student in Analytical Chemistry Dept. of Chemistry University of Colombo , Colombo 03	A physico-chemical analysis of coconut shell powder	International Symposium on Applied Chemistry (ISAC 2015) Bandung, Indonesia 05 - 07 October 2015
23	Dr P.G. Rathnasiri Senior Lecturer Head/Dept. of Chemical & Process Eng. University of Moratuwa Moratuwa	Dynamic modeling and simulation of pilot scale anaerobic digestion plant treating source separated food waste and effect of recycling sludge	5 th International Conference on Solid Waste Management (5 th IconSWM 2015) Bangaluru, India 24 - 27 Nov. 2015
24	Ms C.I. Sahabdeen MSc. Student in Regenerative Medicine Faculty of Medicine University of Colombo, Colombo 03	Experimental study: Neural stem cell density in hippocampal versus lateral ventricle region of the mouse brain and use of gelatin and collagen as alternative neural differentiation matrices	8 th Congress of the Federation of the Asian and Oceania Physiological Societies Bangkok, Thailand 22 - 25 Nov. 2015
25	Dr W.A.D.P.R. Ratnasekera Senior Lecturer Dept. of Plant Science University of Ruhuna, Wellamadama Matara	Geographic variation of wild rice; <i>Oryza nivara</i> (S.D. Sharma & Shastry) populations in Sri Lanka	IJTA 2 nd International Conference on Agriculture, Horticulture & Plant Sciences Shimla (HP), India 26 - 27 December 2015
26	Dr A.M.M.H. Atapaththu Research Scientist Biotechnology Unit Industrial Technology Institute 363, Baudhaloka Mw, Colombo 07	Analysis of recombinant chikungunya (CHIK) E1 and E2 antigens expressed in <i>Escherichia coli</i> and <i>Pichia pastoris</i> for the detection of anti CHIK IgG antibodies in human serum samples	Joint International Tropical Medicine Meeting 2015 (JITMM) Bangkok, Thailand 02 - 04 December 2015

Oral Presentation

	Name and Address	Title of the Abstract	Title of the Event, Venue & Date
27	Ms F.S. Idroos Lecturer (Probationary) Dept. of Zoology University of Sri Jayawardenapura Nugegoda	Development of a laboratory scale sand filter with microcystin - LR degrading <i>Bacillus cereus</i>	11 th International Academic Conference on Development in Science and Technology (IACDST 2015), Singapore 19 December 2015
28	Prof. S.Subasinghe Senior Professor Dept. of Crop Science Faculty of Agriculture, University of Ruhuna , Mapalana, Kamburupitiya	In - vitro propagation of cinnamon (<i>Cinnamomum verum</i> Presl.) using embryos and in vitro axillary buds	International Conference on Sustainable Technologies Phuket, Thailand 25 - 26 December 2015
29	Dr W.M.V.S.K. Wickramasinghe Senior Lecturer Dept. of Civil Engineering University of Peradeniya, Peradeniya	Evaluation of pedestrians' sidewalk behavior in developing countries using conjoint analysis	International Symposium on Transportation Planning and Safety New Delhi, India 03 - 05 December 2015
30	Ms J.F. Fazeena Research Assistant University of Colombo School of Computing , 35, Reid Avenue, Colombo 07	A theoretical approach to initiate mobile assisted language learning among school leavers and university students of Sri Lanka -	The 26 th Australasian Conference on Information Systems Adelaide, Australia 02 - 04 December 2015
31	Ms U.G.R. Lakmali Research Assistant Postgraduate Institute of Science University of Peradeniya, Peradeniya	Structure – photo chromic reactivity correlation of unsubstituted and halo substituted spiropyran in BaSO ₄ matrix	13 th Conference of the Asian Crystallographic Association Kolkata, India 05 - 08 December 2015

Key note Address & Invited Lecturer

	Name and Address	Title of the Abstract	Title of the Event, Venue & Date
1	Dr K. Yakandawala Senior Lecturer/Head Dept. of Horticulture and Landscape Gardening Wayamba University of Sri Lanka Kuliyapitiya	Aquatic cut flower industry - <i>Key note Address</i>	III International Conference on Quality Management in Supply Chains of Ornamentals (QMSCO 2015) Kermanshah, Iran 01 - 04 May 2015
2	Prof. R.M.G. Rajapakse Senior Professor, Dept. of Chemistry University of Peradeniya, Peradeniya	Low-cost clay-polymer nanocomposites as oxygen reduction catalysis for fuel cell applications <i>Invited Lecturer</i>	5 th International Conference on Nanotek and Expo 2015 San Antonio, USA 16 - 18 Nov. 2015

Poster Presentation

	Name and Address	Title of the Abstract	Title of the Event, Venue & Date
1	Dr Y.V.A.J.K. Vidanarachchi Senior Lecturer Dept. of Animal Sciences University of Peradeniya Peradeniya	Effect of starter culture on structural and sensorial properties of fermented gel	9 th NIZO Dairy Conference 2015 Papendal, Netherlands 30 Sep. - 02 Oct. 2015
2	Prof. M.G. Delwatta Associate Professor in Physiology Dept. of Physiology Faculty of Medicine University of Colombo Kynsey Rd, Colombo 08	Follow-up on 2013 EUSAAT's Congress and its impact for Sri Lankan scientific community in 3Rs	19 th European Society of Alternatives to Animal Testing Congress (EUSAAT) Linz, Australia 20 - 23 September 2015
3	Dr S.M. Hadunnetti Director Institute of Biochemistry, Molecular Biology & Biotechnology University of Colombo, Colombo 03	The role of neutrophils in the interaction between pathogenic Leptospira and vascular endothelial cells	9 th International Leptospirosis Society Scientific Meeting Semarang, Indonesia 07 - 10 October 2015
4	Dr W.S. De Silva Lecturer (Probationary) Institute of Biochemistry and Molecular Biology, University of Colombo Colombo 03	Association of pathogenic mutations in BRCA2 exon 11 with early onset breast cancer in Sri Lankan population	AACR New Horizons in Cancer Research 2015 Conference Shanghai, China 12 - 15 Nov. 2015
5	Dr A. Ramanan Senior Lecturer Dept. of Computer Science University of Jaffna, Jaffna	Creating compact and discriminative visual vocabularies using visual bits	IEEE International Conference on Digital Image Computing: Techniques and Applications (DICTA) 2015, Adelaide, Australia 23 - 25 Nov. 2015
6	Ms U.G.S.L. Ranasinghe Research Assistant National Institute of Fundamental Studies, Hantana Road, Kandy	Diversity of the goblin spider genus brignolia (Family: Oonopidae) in Sri Lanka	3 rd Asian Conference of Arachnology Amravati, India 16 - 20 Nov. 2015
7	Dr T.H.P.S. Fernando Senior Plant Pathologist OIC Plant Pathology & Microbiology Dept. Rubber Research Institute Agalawatte	Recent research findings on tree injection : An advanced application technology against disease management giving special emphasis to white root disease	International Rubber Conference Organized by the International Rubber Research & Development Board (IRRDB) Ho Chi Minh, Vietnam 02 - 04 Nov. 2015
8	Mr M.T.V.P. Jayaweera Research Student Materials Technology Section Industrial Technology Institute 363, Bauddhaloka Mw, Colombo 07	Starch coated nano - zero valent iron embedded graphene composite for chromium (VI) removal from aqueous solution	4 th Nano Today Conference Dubai, UAE 06 - 10 December 2015

OSTP Grant Awarded 2015

	Name and address	Type of OSTP Grant	Title of the training programme, venue and Date
1	Ms N.V.T. Jayaprada Research Assistant Dept. of Agricultural Biology University of Ruhuna, Matara	NSF Training Scholarship	Genetic improvement of Anthurium for novel flower color, early flowering and potted plant structure - Kagawa University, Japan 01 st February – 30 th April 2015 (3 months)
2	Dr H.M.A.M.C. Herath Senior Lecturer Dept. of Physical Sciences Faculty of Applied Sciences Rajarata University of Sri Lanka, Mihintale.	NSF Training Fellowship	Novel MIR Method to Quantify GMO in Food Commodities - International Centre for Chemical and Biological Sciences University of Karachchi, Pakistan 25 th February – 25 th March 2015
3	Mr S. Weeraratne Research Scientist Industrial Technology Institute Bauddhaloka Mw., Colombo 07	NSF Training Scholarship	Novel MIR Method to Quantify GMO in Food Commodities - International Centre for Chemical and Biological Sciences University of Karachchi, Pakistan 25 th February – 25 th March 2015
4	Mr R.C.L. De Silva Research Scientist Industrial Technology Institute, Bauddhaloka Mw., Colombo 07	NSF Training Scholarship	Novel MIR Method to Quantify GMO in Food Commodities - International Centre for Chemical and Biological Sciences University of Karachchi, Pakistan 25 th February – 25 th March 2015
5	Mr B.H.R. Pushpananda Research Assistant Language Technology Research Laboratory University of Colombo School of Computing No 35, Reid Avenue, Colombo 07.	NSF Training Scholarship	Research visit to the University of Southampton - University of Southampton, United Kingdom 16 th April – 02 nd October 2015
6	Mr D.M.R.K. Dissanayake Research Assistant Department of Chemistry University of Colombo, Colombo 03	NSF Training Scholarship	Structure Elucidation of Active Metabolites Isolated from Endophytic Fungi Inhabiting Endemic Plants of Sri Lanka Using the Facilities Available. H.E.J. Research Institute of Chemistry - ICCBS University of Karachi, Pakistan- 08 th August – 08 th October 2015
7	Ms D.D. Siriwardhana Lecturer (Probationary) Department of Disability Studies Faculty of Medicine, University of Kelaniya	NSF Training Scholarship	2015 Edition of the Summer School in Occupational and Environmental Health - School of Medicine, University of Brescia, Italy 31 st August – 04 th September 2015
8	Prof. U. L. B Jayasinghe Research Professor National Institution of Fundamental Studies Hantana Road, Kandy	NSF Training Fellowship	Alexander von Humboldt Foundation – Renewed Research Stay - Jacobs University Bremen, Germany 01 st September – 29 th November

9	Mr M.P.J. Dharmaratne Research Assistant Postgraduate Institute of Science University of Peradeniya, Peradeniya	NSF Training Scholarship	Isolation and characterization of active constituents of Terminalia chebula, Terminalia bellirica and Phyllanthus emblica responsible for antibacterial activity against multidrug – resistant bacteria - International Centre for Chemical and Biological Sciences (ICCBS), University of Karachi, Pakistan 01 st September – 01 st December 2015
10	Ms R.W.P.M. Rajapaksha, M Phil Student Dept. of Biotechnology Faculty of Agriculture & Plantation Management Wayamba University, Makandura	NSF Training Scholarship	AMIGA Summer School on Environmental Risk Assessment of GM crops 2015 - Slovak Agriculture University, Nitra, Slovakia 19 th - 22 nd October 2015
11	Mr Gayashan Madappuli Arachchige Research Assistant Department of Aquaculture & Fisheries Wayamba University, Makandura, Gonawila	NSF Training Scholarship	A training for curation, identification and confirmation of echinoid species collected from Sri Lanka with the expert assistance from Natural History Museum of Vienna for the purpose of establishing a national collection of Echinoids in Sri Lanka - Natural History Museum Vienna (NHMV), Austria 07 th November – 07 th December 2015
12	Ms H.N.M.Sarangika Lecturer (Probationary) Department of Physical Sciences and Technology Sciences Sabaragamuwa University, Belihuloya	NSF Training Scholarship	Research on rechargeable batteries - University of Malaya, Kuala Lumpur, Malaysia 01 st November – 31 st December 2015
13	Ms M.A.J.C. Mallawaarachchi Scientist, National Aquatic Resources Research and Development Agency (NARA), Crow Island, Colombo 15	NSF Training Scholarship	A Training for Recirculation Systems and their application in Aquaculture - Mediterranean Agronomic Institute of Zaragoza, Spain 14 th December – 18 th December 2015
14	Dr J.M.J.W. Jayasinghe Senior Lecturer, Department of Electronics Faculty of Applied Science Wayamba University, Makandura	NSF Travelling Fellowship	Session Chair at the 7th IEEE International Conference on Computational Intelligence and Communication Networks 2015 - Jabalpur, India 10 th – 15 th December 2015

Sponsorships for Scientific Meetings and Training Programs 2015

No	Sponsorship	Organization	Category	Amount
1	128 th Anniversary International medical Congress of the Sri Lanka Medical Association	Sri Lanka Medical Association	Medical Science	250,000
2	Annual Sessions of the Physiological Society of Sri Lanka 2015	Physiological Society of Sri Lanka	Medical Science	150,000
3	International conference on GI, Bone & Soft tissue pathology	College of Pathologists of Sri Lanka	Medical Science (Pathology)	150,000
4	Third Annual Scientific Sessions of Sri Lanka Association for Laboratory Animal Science	Sri Lanka Association for Laboratory Animal Science	Medical Science (Laboratory Animal Science)	150,000
5	Scientific Sessions and Annual General Meeting of Sri Lanka Veterinary Association 2015	Sri Lanka Veterinary Association	Medical Science (Veterinary)	375,000
6	Workshop on "From Bench to Bedside : Translational Neuroscience Research in Healthy Brain Aging and Neurological Disorders"	World Class University Grant Project, University of Sri Jayewardenepura	Neuroscience	10,000
7	Bioinformatics Workshop on Eukaryotic Pathogen Database Usage 2015	Department of Parasitology, Faculty of Medical Sciences, University of Sri Jayewardenepura	Bioinformatics	62,600
8	International Symposium of polymer Science and Technology in Collaboration with Industry, Institutes and Universities	Department of Chemistry, University of Sri Jayewardenepura	Polymer Science	550,000
9	Workshop on Photovoltaics : the need , their Science and Applications	Department of Chemistry, University of Kelaniya	Photochemistry	400,000
10	34 th Annual Sessions of the Institute of Biology (IOB)	Institute of Biology	Biology	200,000
11	International Symposium on Agriculture and Environment	Faculty of Agriculture, University of Ruhuna	Agriculture	200,000
12	27 th PGIA Annual Congress	Postgraduate Institute of Agriculture, University of Peradeniya	Agriculture	200,000
13	2 nd Annual Scientific Sessions of Sri Lanka Association for Fisheries and Aquatic Resources (SLAFAR)	Sri Lanka Association for Fisheries and Aquatic Resources	Aquaculture	200,000
14	International Symposium on the Impacts of Atmospheric Extreme Events on Geo-Surface: In a Changing Climate	Industrial Technology Institute (ITI)	Environment and Forestry	150,000
15	31 st Technical Sessions of Geological Society of Sri Lanka	Geological Society of Sri Lanka	Geology	150,000
16	Astrobiology Research Conference (AbReCon) 2015	International Research Centre, University of Peradeniya	Astrobiology	100,000
17	PGIS Research Congress 2015	Postgraduate Institute of Science (PGIS), University of Peradeniya	Science	50,000
18	3 rd International Conference on Sri Lanka Japan Collaborative Research (SLJCR-2015)	Sri Lanka - Japan Study Centre	Science	100,000

19	Sponsorship for the SLAAS for printing SLAAS Proceedings Part II; Presidential Addresses	Sri Lanka Association for Advancement of Science (SLAAS)	Science	74,000
20	71 st Annual Sessions of Sri Lanka Association for the Advancement of Science (SLAAS)	Sri Lanka Association for Advancement of Science (SLAAS)	Science	1,000,000
21	International Conference, Sabaragamuwa University of Sri Lanka	Sabaragamuwa University of Sri Lanka	Science	200,000
22	SCIENTIA' 15	Science Union of Ananda College, Colombo 10	Science	150,000
23	International Conference on Cities, People and Places (ICCP- 2015)	Department of Architecture, University of Moratuwa	Architecture	200,000
24	8 th International Conference on Architecture (FARU 2015)	Faculty of Architecture Research Unit, University of Moratuwa	Architecture	260,000
25	International Multidisciplinary Engineering Research Conference (MERCon 2015)	Engineering Research Unit, Faculty of Engineering, University of Moratuwa	Engineering	55,000
26	4 th International Conference of Sri Lanka University Economists- Sri Lanka Economic Research Conference 2015	Department of Business Economics, Faculty of Management Studies and Commerce, University of Sri Jayawardanapura	Business and Economics	200,000
27	International Conference on Business and Information 2015	Faculty of Commerce and Management Studies, University of Kelaniya	Business and Economics	200,000
28	Annual Research Conference of Royal Asiatic Society of Sri Lanka	Royal Asiatic Society of Sri Lanka	History- (History, religions, languages, literature, arts, sciences and social conditions of Sri Lanka)	200,000
29	4 th International Research Conference on Humanities and Social Sciences - 2015	Department of Sociology and Anthropology, Faculty of Humanities and Social Sciences, University of Sri Jayewardenepura	Sociology	200,000
30	Travel Grant given to Representatives of SLAAS at the 103 rd Indian Science Congress – January 2016	103 rd Indian Science Congress, Mysore, India		91,200
31	Travel Grant given to Prof W.L. Sumathipala to participate UNFCCC COP 21, Paris from 30 Nov. – 11 Dec. 2015	UNFCCC COP 21, Paris in France from 30 Nov. – 11 Dec. 2015		1,132,536

NSF Staff training Local & Foreign

Name of the Employee	Title of the Programme	Period
Mrs D M Nadeesha S Dissanayake Ms K D N Keeragala Mr Krishantha Thennakoon Mrs J A C G Samarasinghe Mr P D G Muditha Mrs Subhani De Silva	Workshop on Serving Etiquette	03.01.2015
Group Training Ms Subani De Silva Ms P Samarasinghe Ms S Rajamanthri Ms M A R L Millawithana Ms Priyanwadha Warakagoda Ms S Gonapinuwala Ms Sammani Weerasinghe Ms Sayuri Randima Ms Anjalee Perera Ms Chamarika Samarasinghe Ms Uthpala Karunarathne Ms Monika Wijemanne Ms Nilanthi Liyanage Ms H Siriwardhana Ms Madhushika Sadhari Ms Harsha Shamani Ms W A H V Chandi Ms Irosha Edirisinghe Ms Ajantha Kanthi Ms N Paravidhana Ms Champika Priyadarshani Ms Lahiruka Abeygunawardhana Ms N B W I Udeshika Ms N Shamali Silva Ms Buddhi Wickremasinghe Ms Amalka Nilmini Mr A Y S L Silva Mr Thanuja Senevirathne Mr Sasindhu Avinash Mr S Chanaka Fernando Mr Dhanushka Soya Mr Dilan Rasika Mr Chinthaka Ekanayake Mr M S Kottahachchi Ms Lakshika Piyumi Ms Nisansala Hansamali Ms V R Priyanganie Ms Shamini Fernando Ms Hansi Mahapitiya Ms Chani Maheshika Mr Asela Buddhika Ms S V P M Rukshani Ms A K S Karunarathne Ms Dilrukshi Ekanayake Ms Bhagya Karawita Ms Maheshi Madhushani Ms N A H Priyadarshani Ms M Shamila Ms Ruwanthi Ipalawaththe Ms Saroja Udayanganie Ms Jithya Wijesinghe Ms Madhuka Senarathne Ms Sarani Meneripitiya	Workshop on Skills for Life	10.02.2015

Ms Deepika Rodrigo Ms Prasadini Dissanayake Ms Christine Dasanayake Ms Pushpa Elleapall Ms Hasni Weerasinghe Ms Jesika Silva Mr L B Ekanayake Ms Dilushi Munasinghe Ms Sobitha Wijenayake Ms Abhimani Ranathunga Ms Inoka Sandanayake Ms Dilani Jayaweera Mr K P Senanayake Mr Sapumohotti Mr Shantha Siri Ms Priyanka Bamunendra	Workshop on Skills for Life	10.02.2015
Mr S N P K Sapumohotti Mr L B Ekanayake	Public Property and Procedure for losses, damages	12.02.2015
Mr Saman Sujeewa	Advanced National Diploma in Human Resource Management	One year commencing from 17.01.2015
Mrs G G Kusumalatha Mrs Srimathi Liyanage	Computer Excel Training Skills Dev. Fund	Two days training 19 th & 20 th January, 2015
Mrs M Niyas Thasneem	Public Relations and Communications for Organizational Development at NILIS	21.01.2015
Mrs Buddhi T Wickremasinghe Mr L B Ekanayake	Management Skills Development of the Executives	26.02.2015
Mr Chanaka Fernando	Voice Record Maintenance & Calling system conducted by Sri Lanka Broadcasting Corporation	2 & ½ months commencing from 28.02.2015
Dr Inoka Sandanayake Ms Sarani Meneripitiya Ms Upuli Rathnayake Mr Janaka Karunasena	Work Life Balance for Scientists : Key to Success	27.03.2015
Miss N S S Silva	Wijeya Graphics Animation Centre, Graphic Designing	04 months
Ms Suchima Gonapinuwala	Monitoring Water quality for safe drinking water, Uni. of Kelaniya	23.04.2015
Dr Inoka Sandanayake Ms Sanduni Samarasekera Ms Abhimani Ranathunga Ms Uthpala Karunarathne Ms Thilina Kandanamulla Ms Suchima Gonapinuwala Ms Priyanwada Warakagoda Ms Dinushi Munasinghe Ms Nadeeja Wickremarachchi	Workshop on writing a Higher Impact Research Article	9 th & 10 th July 2015
Ms Dilushi Munasinghe	To attend the seminar on Scientific Measurements and Calculations	30 th July, 2015
Ms Renuka Sugathadasa Mr Pujitha Hewawasam	Workshop on Bibliometrics & Scientometrics Analysis for Research Management	27 th – 29 th July, 2015

Mr A I Ahangama Ms N A H Priyadarshani	Conference on Strengthening Cooperation among National Libraries in South Asia	06.08.2015
Mr A I Ahangama Ms N A H Priyadarshani	Seminar on Dewey Decimal Classification	11.08.2015
Ms P Samaranayake Mr L B Ekanayake Ms Sammani Weerasinghe Mr Chinthaka Ekanayake	Workshop on “Handling Office Equipment	14 th & 15 th September, 2015
Mr C A B Wickremasinghe Ms N A H Priyadarshani Mr Pujitha Hewawasam	International Conference on LIS (ICLIS) – 2015	17 th – 18 th September, 2015
Ms Jayajeewani	Training on Preparation of Financial Statements for 2015	29 th September, 2015
Ms B T Wickremasinghe	Preparation of Procurement Plan for 2016	13.10.2015
Ms H Siriwardena Ms Uthpala Medhavi	Training Programme on Cashier’s Role and Responsibility	16.10.2015
Ms D L Sirimathi Ms Anjali Perera	How to minimize Audit Queries	04.11.2015
Ms Thilina Kandanamulla	Certificate Course on Introduction to SPSS for Statistical Analysis	11.11.2015
Mr Janaka Karunasenea Ms Subani De Silva	Disciplinary Procedure	16 th & 17 th November, 2015
Ms Suchima Gonapinuwala	Workshop on “Bioactive Natural Products for Nutritional Cosmetics Industry	19.11.2015
Mr Chanaka Fernando	Workshop on Electrical programme for Maintenance Employees and Electricians	22 nd November , 2015
Ms Thilina Kandanamulla	Introduction to SPSS for Statistical Analysis National Centre for Advanced Studies	22 & 29 November & 12 th & 13 th December, 2015
	E Government and Basic IT Office Management Practices	30 th November, 2015 & 01 st Dec. 2015
Mr P Sapumohotti Mr Saman Sujeewa	Recruitment Procedure	
Mr Janaka Karunasena Dr P R M P Dilrukshi Mr J G Shantha Siri Ms Thilina Kumari Kandanamulla	How to minimize Audit Queries	
Mr A I Ahangama	Diploma in Library & Information Science 2015/2016	Commencing from ...
Mr Ajantha Sanjeewa	Certificate in Designing and Development	02 months commencing from...
Dr S A V Moorthy	Theme Seminar SLAAS	01.12.2015

Dr Inoka Sandanayake Ms Sarani Meneripitiya Dr Thamara F Dias Mr Shantha Siri Ms D N Wickremarachchi Ms Priyanwada Warakagoda Ms Suchima Gonapinuwala Dr P R M P Dilrukshi Mr Balashanghar Ms Thilina Kumari Kandanamulla	Theme Seminar SLAAS	01.12.2015
Mr Chinthaka Ekanayake	Board of Survey	December 8 th & 9 th December, 2015
Mr E M D C B Ekanayake	Annual Verification	8 th & 9 th December, 2015
Mr W B Herath Mrs Priyanka Bamunendra	Workshop on Taxation Proposals of the Budget 2016	21.12.2015

NSF Staff Training Foreign

Name of the Officer	Title of the Training Programme	Country, Duration, Sponsoring Agency
Mrs C A B Wickramasinghe <i>Library Assistant</i>	Advanced Training on DSpace Digital Library Software	India, 14 th January 2015 - 15 th February, 2015 National Science Foundation
Mrs Amila Tennakoon <i>Information Officer</i>	ISI CODATA International Training Workshop on Big Data	India, 8 th March, 2015 - 21 st March, 2015 National Science Foundation
Mr S M A W Anuruddha <i>Principal Information Officer</i>	6 th East Asian Biosphere Reserve Network (EARBN), Training workshop	China, 18 th May, 2015 – 31 st May, 2015 Organizers collaboratively by the UNESCO Beijing Office, Chinese MAB National Committee, HIST, Republic of Korea National Commission for UNESCO
Mrs Dilani Jayaweera <i>Scientific Officer</i>	ISTIC Certified Training Programme on Science, Technology & Innovation Policy & Management	Malaysia, 16 th August, 2015 – 25 th August, 2015 ISTIC, Malaysia
Mr J G Shantha Siri <i>Senior Scientific Officer</i>	Training Workshop on Technopreneurship for South Countries	Malaysia, 4 th October, - 10 th October, 2015 NSF and ISTIC Malaysia
Mr S N P K Sapumohotti <i>Administrative Officer</i>	Guest lecture on Conformity Assessment & Accreditation of Inspection Bodies	10 th February 2014
For Studies		
Mrs W L C Dasanayake <i>Scientific Officer</i>	PhD Fellowship on Carbon Management and Bio resources	Southern Denmark, Denmark, 13 th March, 2015 - 20 th March, 2018 (03 years) University of Southern Denmark, Denmark
Conference		
Mrs P A S F Perera <i>Principal Information Officer</i>	SPARC Conference 2015 “Connecting Research Results, Bridging Communities, Opening Scholarship	Porto Portugal from 12 th April, 2015 - 18 th April, 2015 National Science Foundation
Mrs Amila Tennakoon <i>Senior Information Officer</i> Mrs P A S F Perera <i>Principal Information Officer</i>	The First International Journal Online Management Meeting and Public Knowledge Project, Conference	Canada, 7 th August, 2015 – 17 th August, 2015 INASP, UK
Dr S I Wickremasinghe <i>Acting Director General</i>	The First International Conference on Science, Technology, Innovation and Development	South Korea, 8 th September, 2015 – 11 th September, 2015 STEPI

Principal Staff – Year 2015

Chairman / Chairperson

Prof. W L Sumathipala, <i>PhD, FIP, Cphys</i>	- Up to 23.02.2015
Mr Iqbal Mohamed, <i>Attorney-at-Law</i>	- Up to 07.06.2015
Prof. Sirimali Fernando, <i>MBBS (Colombo), Dip.Med.Micro (Colombo), M.Sc (London)</i>	- From 08.06.2015

Director General

Ms H A U Amarasinghe, <i>B.Sc. (Ruhuna), MSc. (Colombo)</i>	- Up to 15.05.2015
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Acting Director General / Additional Director

Dr Seetha I Wickremasinghe, <i>B.Sc. Special (Hons) (Peradeniya), MSc. (Agric.) (Peradeniya), Ph.D. (JNU, New Delhi)</i>	- From 15.05.2015
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Research Division

Dr C G Yapa, <i>BSc. Special (Hons), (Colombo), Ph.D. (Colombo)</i>	Head/Principal Scientific Officer
Dr S A V Moorthy, <i>BSc. (Jaffna), MSc. (Colombo), Ph.D. (Colombo)</i>	Senior Scientific Officer
Dr P V S Panawala, <i>B.V.Sc. (Peradeniya), M.Phil. (Peradeniya)</i>	Scientific Officer
Mrs H D N Jayaweera, <i>BSc (Hons.), Sri Jayawardanapura</i>	Scientific Officer
Ms W L C Dasanayake, <i>BSc. Agric. (Hons) (Peradeniya), MSc. (Peradeniya), MSc (Japan), M.Eng (Germany)</i>	Scientific Officer
Ms Amali Ranasinghe, <i>BSc. (Hons), (Bangalore), MSc.(Food & Nutrition), (Peradeniya)</i>	Scientific Officer
Ms Sarani K Meneripitiya, <i>BSc Special (Hons.) (Kelaniya) BSc Special (Hons.) (Kelaniya)</i>	Scientific Officer
Mrs G G K P S Kumari, <i>BSc (Special) in Agriculture (Peradeniya)</i>	Scientific Officer
Ms S S Ediriweera, <i>BSc (Special) Uni. of Kelaniya, M.Phil (Colombo)</i>	Scientific Officer

Science and Technology Policy Research Division

Dr P R M P Dilrukshi, <i>BSc. Special (Hons) (Peradeniya), Ph.D. (Peradeniya)</i>	Head, Senior Scientific Officer
Ms Chamika Dharmasena, <i>BSc. Special (Hons) (Colombo)</i>	Scientific Officer
Ms W M U K Rathnayake, <i>BSc. Special (Hons) (Wayamba)</i>	Scientific Officer
Ms M.A.D.D. Munasinghe, <i>BSc. Special (Agric.) (Hons) (Peradeniya)</i>	Scientific Officer

International Liaison Division

Mr S M A W Anuruddha, <i>BSc. (Hons) (Colombo), MSc. (Colombo)</i>	Head, Principal Scientific Officer
Ms E M D C K Ekanayake, <i>BSc. Agric.(Hons) (Peradeniya), MSc. (Peradeniya)</i>	Scientific Officer
Ms A M N S Nadugala, <i>BSc. Agric.(Hons) (Peradeniya), MSc. (Asian Institute of Technology)</i>	Scientific Officer
Ms K A T K G Kandanamulla, <i>BSc. Agric.(Hons) (Ruhuna), MSc. (Colombo)</i>	Scientific Officer
Miss M Prishanthini, <i>BSc (Hons.) (Eastern University), MSc (PGIA)</i>	Scientific Officer

Technology Division

Dr T F Dias, <i>MSc. (Hons) (Moscow), Ph.D. (Moscow)</i>	Head / Principal Scientific Officer
Mr J G Shanthasiri, <i>BSc. (Hons) (Colombo), MSc. (Kelaniya)</i>	Senior Scientific Officer
Ms D N Wickramarachchi, <i>BSc. (Hons) (OUSL), MSc. (Sri Jayawardenepura)</i>	Senior Scientific Officer
Ms P S Warakagoda, <i>BSc (Agric.) (Hons) (Ruhuna), M.Phil. (Ruhuna)</i>	Scientific Officer
Miss S T Gonapinuwala, <i>BSc Special (Hons.) (Wayamba), MSc (Peradeniya)</i>	Scientific Officer

Science Popularization Division (SPD)

Mr K G Janaka Karunasena, <i>BSc. Agric. (Hons) (Peradeniya), M.Phil. (Agric.) (Peradeniya)</i>	Head / Senior Scientific Officer
Ms M D Senarathne, <i>Graduateship in Chemistry (I. Chem.)</i>	Scientific Officer
Mr D M Dilan Rasika, <i>BSc. Special (Agric.) (Hons) (Peradeniya)</i>	Scientific Officer
Mr K H N D Rupasinghe, <i>BSc (Hons.) (Uni. of Peradeniya)</i>	Scientific Officer

Journal Publication Unit

Ms Uthpala Karunarathne, <i>BSc. Special (Hons) (Kelaniya)</i>	Scientific Officer
Ms R A A R Ranatunga, <i>BSc. Special (Hons) (Colombo)</i>	Scientific Officer
Dr H I Sandanayake, <i>B.V.Sc. (Peradeniya)</i>	Scientific Officer
Mrs S Samarasekera, <i>BSc Special (Hons.) (Sri Jayawardenepura), BSc (Economic & Mgt.) (Uni. of London)</i>	Scientific Officer

Chairman's Office

Mr K Balashangar, <i>BSc (Hons) , (Jaffna)</i>	Scientific Officer
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Director's Office

Ms G R P I Abeysiri, <i>BSc (Agric.) Special</i>	Scientific Officer
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National Science Library and Resource Centre (NSLRC)

Ms A Tennakoon, <i>BSc. (Kelaniya)</i>	Acting Head / Information Officer
Ms R P Sugathadasa, <i>BSc. (Sri Jayawardenepura)</i>	Information Officer
Mr Pujitha D Hewawasam, <i>B.Com (Swinburn University)</i>	Information Officer
Ms M NiyasThasneem, <i>BSc (Southern University)</i>	Information Officer

Administration Division

Mr W B Herath, <i>JPAI, BMS, FCMA, APFA</i>	Head Administration & Finance - From 06.08.2015
Mr P Sapumohotty, <i>BSc. (Peradeniya)</i>	Senior Administrative Officer - Up to 15.05.2015
Ms W S M De Silva, <i>BBA (Hons) (Ruhuna)</i>	Human Resource Development Officer
Ms B T Wickremasinghe, <i>BSc. (Sri Jayawardenepura)</i>	Procurement & Transport Officer

Finance Division

Ms T D P P Samaranyake, <i>Professional Part II of ICASL</i>	Senior Accountant
Ms E M P Bamunendra, <i>B.Com. (Sri Jayawardenepura), Licentiate Certificate of ICASL</i>	Accountant

Internal Audit Unit

Ms M MJayajeewani, *BSc., B.Ad.(Special) (Sri Jayawardenepura)* Internal Auditor
Mr L B Ekanayake, *Bachelor of Labour Education (IHRA)* Internal Audit Officer

IT Unit

Mr H M MPerera, *MBCS* IT Manager
Mr W A B Fernando, *BSc (Networking) (Wolverhampton)*

Printing Unit

Mr K P Senanayake, Printing Manager

Confidential Secretaries

Ms Sobitha Wijenayake, *B.Com (Sp.) (Sri Jayawardenepura)* (Director General's Office)
- Up to 08.06.2015
(Chairperson's Office)
- From 08.06.2015

Miss Ayomi Palihawadana (Chairperson's Office)
- Up to 08.06.2015

Recruitment during the year 2015

Five Scientific Officers and one Printing Attendant recruited during the year 2015

Resigned during the year 2015

Miss Jithya Wijesinghe 2015.09.25
Mr Nuwan Warusapperuma 2015.12.12

Retired Employees

Miss V N Perera 2015.07.29
Mrs P A S F Perera 2015.10.04

