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தேசிய விஞ்ஞான மன்றம்  
National Science Foundation



# Annual Report 2018



NATIONAL  
SCIENCE  
FOUNDATION

ජාතික විද්‍යා පදනම  
தேசிய விஞ்ஞான மன்றம்

47/5, Maitland Place, Colombo 07



## **It's all about the NSF'S hard work done in 2018 !**

*The NSF is moving ahead progressively with the energy and drive of its committed staff delivering the maximum output as empowered by the institutional mandate described in the Act. This year's Annual Report captures basically the completed work as set out in the Action Plan for the year. All relevant information that would enable the interested parties to form a judgment on performance, future prospects and constraints of the institute is contained in this report with 60 Graphical Presentations, 12 Tables, 148 Pictures, 01 Diagram and 28 Annexes. The entire annual report contains 249 Pages together with the Audit Report & the NSF feedback on the Audit Report.*

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# Overview

- **About**
- **Functions as Mandated by the Act**
- **Vision for Science, Technology, Research & Innovation**
- **Mission**
- **NSF's future direction**





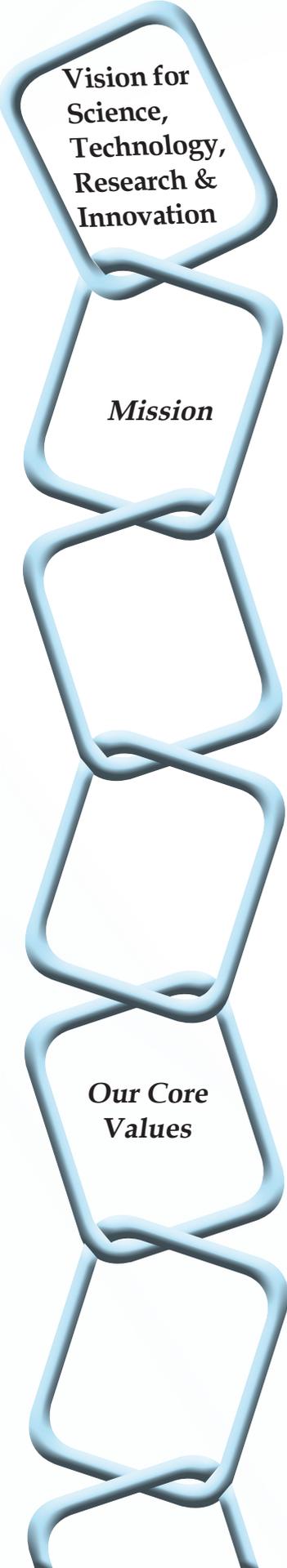
## About

The National Science Foundation, which functions under the purview of Ministry of Science, Technology and Research completed 50 years of its dedicated service to the nation in May, 2018. The organization was initially established as the National Science Council (NSC) in 1968 (by Act No. 09 of 1968). NSC was restructured as the Natural Resources, Energy and Science Authority (NARESA) in 1982 (by Act No. 78 of 1981). After 16 years of service, NARESA was reorganized as the National Science Foundation in 1998 (by Act No. 11 of 1994).

## Functions as mandated by the Act

NSF is mandated to function in accordance with the provisions of 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 individual scientists, with a view to:
  - Strengthening scientific research potential, including research in the social sciences, and science education programmes;
  - Developing the natural resources of Sri Lanka;
  - Promoting the welfare of the people of Sri Lanka; and
  - 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 an updated register of scientific and technical personnel in Sri Lanka, and to make available policy related information and data on the projected needs of human, physical and financial resources for scientific research and advancement.
- e) to popularize science amongst the people by funding programmes for the purpose.



**Vision for  
Science,  
Technology,  
Research &  
Innovation**

***Mission***

***Our Core  
Values***

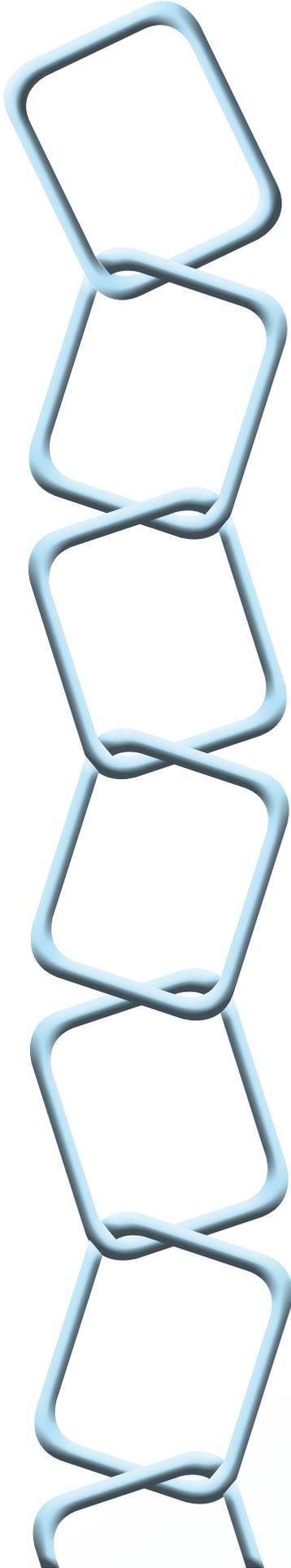
Be the nation's premier driving force in promoting Science, Technology and Innovation for economic and social prosperity of Sri Lanka

Promote Science, Technology and Innovation for economic and social prosperity of Sri Lanka by:

- Initiating, facilitating and supporting research, development, innovation and technology transfer;
- Enabling and funding for knowledge creation, dissemination, capacity building, partnerships, popularizing science and promoting STEM education; and
- Conducting policy research and supporting policy development;

Whilst ensuring competent & contented staff and providing due attention to sustainable development goals.

1. **Freedom:** Upholding the two principles: universality of science and the freedom in the pursuit of knowledge as individual scientists without any discrimination based on age, ethnic origin, gender, language, physical disability, political stance, personal interest and religion
2. **Quality:** Striving to achieve the highest quality in all its endeavours
3. **Competence, Professionalism and Due Diligence:** Committing to provide all the services competently, professionally and with due diligence to meet the highest standards of achievement
4. **Collaboration and Teamwork:** Fostering cooperation, collaboration and teamwork whilst respecting team dynamics in an environment conducive for stakeholder satisfaction and a rewarding experience



5. **Staff Empowerment:** Embracing new ideas and empowering staff and capacity building for best performance
6. **Responsiveness:** Understanding national and industry needs and promptly responding with expert advice and innovative initiatives to facilitate rapid development
7. **Honesty and Openness:** Building trust and respect with all stakeholders through effective communication and mutual understanding
8. **Ethical behaviour, Accountability and Integrity:** Performing all tasks maintaining the highest ethical standards, demonstrating high integrity and accountability
9. **Safety and Security:** Ensuring safe and secure environment for all
10. **Sustainability:** Embracing sustainability principles and green concepts
11. **Good Governance:** Conducting all activities responsibly ensuring fairness, equity and transparency whilst fulfilling statutory requirements



# NSF's future direction



The National Science Foundation (NSF), a leading public research funding organization coming under the purview of the Ministry of Science, Technology and Research, commits public funds annually to support and nurture scientific research. Areas of focus have been extensive with wide ranging objectives-including among others advancement of knowledge (scientific impact), development of society (societal impact) and fostering innovation (economic impact). In recent times there is a growing concern among both the political leadership and the general public on the perceived deficit of scientific knowledge in addressing societal problems such as CKDu, Solid waste disposal *etc.*, and in fostering innovation to commercialize research and to increase technological intensities of SMEs. Consequently, demand for research that generates immediate and visible impact on the society and the economy has considerably increased over the last several years.

In order to fulfill these expectations, NSF, after a thorough review of its activities and giving due cognizance to Government priorities, has formulated a Corporate Plan that outlines its strategic direction, challenges and priorities for the next five years, with a greater focus on societal and economic impacts. The plan also provides an integrated strategy to advance the frontiers of knowledge, build research capacity including a high-quality S&T workforce and expand the scientific literacy of the society, in particular the school children. Since we operate in dynamic environments, this plan will be reviewed each year, allowing us to continue to refine and adapt our efforts and ensure that we remain on track. The plan also contains key performance indicators to monitor the performance under all five mandates empowered by the Act.

Some of the key interventions will be in the areas of Project evaluation and monitoring to ensure that the stated objectives are in line with our expectations, delivered on time as per the agreed time plan, disseminated to the respective end users in a timely manner and assessing and demonstrating the impacts of research *ex post*.

Although NSF is in existence for more than 50 years, we heavily rely on external experts to carry out many of the mandated activities. NSF will therefore actively pursue in strengthening the core expertise of its staff in areas that are mandated by the Act, in particular, Project evaluation and monitoring; S&T information network and data mining; Surveys and compilation of S&T databases; and Popularizing and disseminating science.

The Board looks forward to working with the Director General and the staff of the NSF in aligning our activities to the strategic priorities and to fulfill the expectations of the policy makers and our key stakeholders.

**Dr A M Mubarak**  
**Chairman**



# Director General's review

*The Director General's review contains a summary highlighting the main achievements, the information on Special Projects followed by a detailed account on the work performed under the 6 Major Programmes*



The year 2018 was indeed eventful for the NSF as we celebrated its Golden Jubilee with many activities and events, while performing our duties under the five mandates empowered to NSF with a clearer focus towards realizing our vision. NSF utilized 100% of its capital allocation of Rs. 300million during the year and our performance is detailed under various programmes in this Annual Report. I wish to provide a brief review here.

## **Performance under various grant schemes**

NSF provides 13 types of different grant schemes and conducts competitions, award schemes, make publications, provide online and on-site access to literature, popularize science and carries out many other projects in fulfilling our mandates under 6 major programmes detailed in this Report. During the year under review, the Competitive Grant Scheme alone produced 12 post graduate research degrees and 127 research publications benefiting 171 researchers in 23 institutions. Findings of several of these projects have already been put into application for societal and economic benefit. In addition, the National Thematic Research Programme on Food Security was completed during the year addressing 5 key areas under 9 projects involving 70 scientists in 21 institutions. The developments through these projects have resulted in a very successful technology transfer for home gardening in the Northern District, and a Mobile App capable of providing information to individual farmers to cultivate and market their crops from any location.

During 2018, the NSF was promoting international collaborative research under the bilateral agreements with the Pakistan Science Foundation (PSF) and the National Natural Science Foundation China (NSFC). Six projects were ongoing in the areas of materials research and health research between Sri Lankan and Pakistan Scientists. Similarly, 5 major projects were finalized for funding between Sri Lankan and Chinese Scientists on CKDu. It is expected that these will provide a new experience for our scientists to carry out global yet locally relevant research with international counterparts.

Under technology grants, 28 projects were ongoing during the year with several reaching the target for commercialization and start-ups. By the end of 2018, 9 new products/processes were introduced to the market contributing to socio-economic development. During 2018, NSF supported holding of scientific meetings organized by 28 institutions facilitating around 6000 individuals to participate at the events allowing 2000 scientists to publish their research findings sharing new knowledge. National digitization project funded by the NSF digitized local research publications of 15 institutional libraries while making available international databases of literature to the users of 120 S&T libraries. Popularization of science among school children and the public was a key mandate implemented in 2018 expanding wings to 935 school science societies and through an array of activities even leading to global platform. The two indexed journals published by the NSF had a rapid growth of local and international submissions. Research on national policy support continued expanding to social sciences too and publishing ST&I statistics for local policy support and global use.

## **Corporate and Strategic Planning**

A new Corporate Plan for NSF was developed during the year for a five year horizon 2019-2023 by following a collective approach with input from all the stakeholders of NSF with the objective of enhancing the scope, efficiency and effectiveness of fulfilling NSF mandates. It is expected that implementation of this Corporate Plan will improve internal systems, ensure good governance, improve quality, enhance effectiveness of achieving scientific, social and economic impact of our activities while supporting towards fulfillment of sustainable development goals.

## **Quality and Productivity Improvement**

Improvement of quality and productivity of the NSF activities and services was identified as a need to provide more effective and efficient services to NSF stakeholders. To this end, action was initiated towards the latter part of 2018 to transform NSF to a 5S system - implemented institution. Services of the National Productivity Secretariat was initiated, staff training was provided, 5S Seiri day was held and action was taken to improve internal systems. It is expected that once the concept is fully implemented with other productivity improvement tools such as Quality Circles, staff training and attitude building, there will be a significant improvement of the quality and productivity of NSF activities and services.

## **Constraints**

NSF always strives to achieve it's mandates with limited resources given by the government and it's performance is directly affected by the manner these resources are available. NSF suffered very much due to non availability of a significant part of funds allocated for 22 continuing health sector projects and delayed release of part funding coming through the Health Ministry resulting in significant delays in project performance, discontinuing research staff and students and frustrations among grantees. This curtailed funding for ongoing projects and delayed release of funds are the two factors the NSF must overcome in order to build confidence among grantees for the NSF to deliver its mandated tasks.

## **Looking Ahead to the Future**

Our future direction would be to provide increasing attention to the outputs and outcomes of grants and efforts of the NSF during the entire value chain of our grants from calling applications to translating results to make an impact to the knowledge, society and economy. To this end, NSF's key performance indicators will be derived based on the results rather than the investment. Internal processes and external communications with the stakeholders are expected to be online moving away from the paper-based operations to paperless operations with performance on process efficiency measured based on how efficiently and accurately NSF provides its services. Further, NSF will constantly review its existing programmes for impact and effectiveness and introduce innovative initiatives for greater impact in realizing its vision.

## **My Appreciation**

I extend my sincere appreciation to the Minister, Secretary and other officials of the Ministry of Science, Technology and Research for their support, Chairperson and the members of the Board of Management for their guidance and the NSF Team, which is our greatest strength, for their commitment and dedication in fulfilling our mandates despite resource constraints.

**Prof. Ananda Jayawardane**  
**Director General**



## Administrative highlights

- **Brief profile of the Board of Management**
- **Senior Management Committee**
- **Organizational Structure & Staff review**



## Brief profile of the Board of Management

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



**Prof. Sirimali Fernando** (*w.e.f. 8<sup>th</sup> June, 2015 - 31<sup>st</sup> December, 2018*)  
Chairperson, National Science Foundation  
47/5, Maitland Place, Colombo 07



**Dr Jayantha Wattavidanage** (*w.e.f. 17<sup>th</sup> October, 2017 - 17<sup>th</sup> January, 2018*)  
Director General (Acting), National Science Foundation  
47/5, Maitland Place, Colombo 07



**Prof. Ananda Jayawardane** (*w.e.f. 18<sup>th</sup> January, 2018 - to date*)  
Director General, National Science Foundation  
47/5, Maitland Place, Colombo 07



**Prof. Vasanthi Arasaratnam** (*w.e.f. 31<sup>st</sup> July, 2018 - 31<sup>st</sup> December, 2018*)  
Senior Professor, Dept. of Biochemistry,  
Faculty of Medicine, University of Jaffna,  
Adiyapatham Road, Kokuvil, Jaffna



**Prof. Upul Dissanayake** (*w.e.f. 31<sup>st</sup> May, 2018 - 31<sup>st</sup> December, 2018*)  
Vice Chancellor  
University of Peradeniya  
Peradeniya



**Eng. Jayavilal Meegoda** (*w.e.f. 22<sup>nd</sup> October, 2016 - 31<sup>st</sup> December, 2018*)  
Deputy General Manager, Colombo City  
Ceylon Electricity Board, Lakshman Building  
Colombo 03



**Mr H C D L Silva** (*w.e.f. 01<sup>st</sup> April, 2015 - to date*)  
Additional Director General  
Department of Treasury Operations  
Ministry of Finance, Colombo 01



**Prof. Thakshila Serasinhe** (*w.e.f. 24<sup>th</sup> February, 2015 - 31<sup>st</sup> December, 2018*)  
Consultant, Dairy and Livestock Development  
Ministry of Social Welfare and Primary Industries  
Level 16, Suhurupaya, Battaramulla



**Prof. Manjula Vithanapathirana** (*w.e.f. 20<sup>th</sup> July, 2016 - 31<sup>st</sup> December, 2018*)  
Dean, Faculty of Education  
University of Colombo, Colombo



**Dr Gotabhaya Ranasinghe** (*w.e.f. 24<sup>th</sup> November, 2016 - 31<sup>st</sup> December, 2018*)  
Consultant Cardiologist, Institute of Cardiology  
National Hospital of Sri Lanka, Colombo



**Dr T A R J Gunasekera** (*w.e.f. 17<sup>th</sup> October, 2017 - to date*)  
Director General, National Institute of Education  
High Level Road, Maharagama

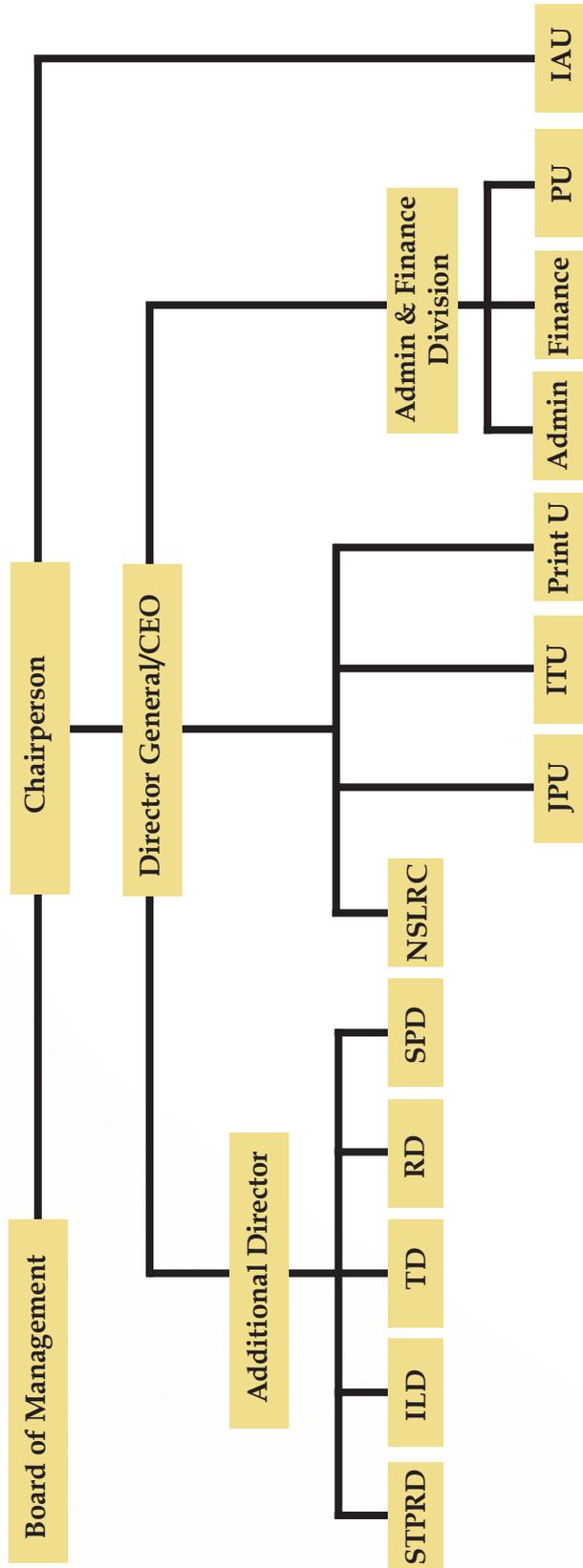
## Senior Management Committee

In order to reap the desired effects of good governance, and helping the Board of Management to ensure smooth functioning of the Foundation, and also to bring into focus the matters/issues that may have negative impact for the Foundation and further enhancing the inter-relationships and interactions between the Staff and the Board of Management, the Senior Management Committee (SMC) functions in the following composition.

- Chairperson
- Director General
- Additional Director
- Head/ Research Division
- Head/ Technology Division
- Head/ International Liaison Division
- Head/ Science Popularization Division
- Head/ Science & Technology Policy Research Division
- Head/ National Science Library & Resource Centre
- Head/ Journal Publication Unit
- Senior Accountant
- Senior Administrative Officer
- IT Manager/ IT Unit
- Printing Manager/ Printing Unit
- Internal Auditor/ Internal Audit Unit

The Senior Management Committee meets every month to discuss matters according to a specific agenda and the minutes of the meetings are submitted to the Board of Management for information.

# Organizational Structure & Staff Review

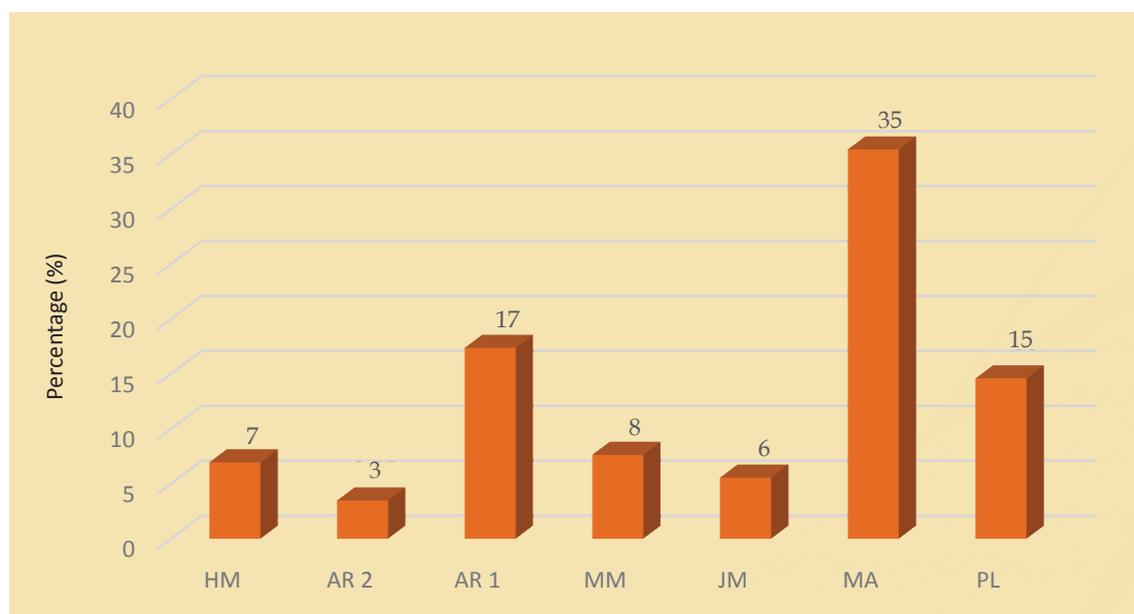


- STPRD - Science and Technology Policy Research Division
- ILD - International Liaison Division
- TD - Technology Division
- RD - Research Division
- SPD - Science Popularization Division
- NSLRC - National Science Library and Resource Centre
- JPU - Journal Publication Unit
- ITU - Information Technology Unit
- Print U - Printing Unit
- Admin - Administration
- PU - Procurement Unit
- IAU - Internal Audit Unit

The NSF functions with an approved cadre of 144. Due to high turnover the NSF experienced throughout, the human capital development had been changed. However, the vacant posts were advertised and some of those were filled. A complete review of the NSF staff occupation is given in *Table 1* and is graphically presented in *Figure 1*.

**Table 1:** Staff distribution based on category

Category	Year					
	As of 2017.12.31			As of 2018.12.31		
	Approved	Existing	Vacant	Approved	Existing	Vacant
HM	10	7	3	10	10	0
AR 2	6	3	3	6	5	1
AR 1	26	20	6	26	25	1
MM	11	9	2	11	11	0
JM	10	5	5	10	8	2
MA	57	54	3	57	51	6
PL	24	18	6	24	21	3
<b>Total</b>	<b>144</b>	<b>116</b>	<b>28</b>	<b>144</b>	<b>131</b>	<b>13</b>



**Figure 1:** Staff occupation against the approved cadre in 2018

The details of Principal Staff of the NSF as at 31<sup>st</sup> December 2018 is given in Pages 191 to 195.

## Committees helping with NSF work

- Research Advisory Board

- Working Committee on Agriculture & Food Science
- Working Committee on Basic Sciences
- Working Committee on Biotechnology
- Working Committee on Oceanography and Marine Resources
- Working Committee on Environment & Biodiversity
- Working Committee on Health Sciences
- Working Committee on Engineering, Architecture and ICT
- Working Committee on Library and Information Services
- Working Committee on Technology
- Working Committee on Science & Technology Policy Research
- Working Committee on Social Sciences
- Working Committee on Indigenous Knowledge
- Working Committee on International Liaison
- Working Committee on Bioethics
- Working Committee on Workshop and International Grants
- Working Committee on Science Popularization
- Working Committee on STEM Education

- Steering Committee on Climate Change & Natural Disasters
- Steering Committee on Food Security
- Steering Committee on Research Programme on Health Science
- Steering Committee on Special Project on Cinnamon
- Steering Committee on Water Security

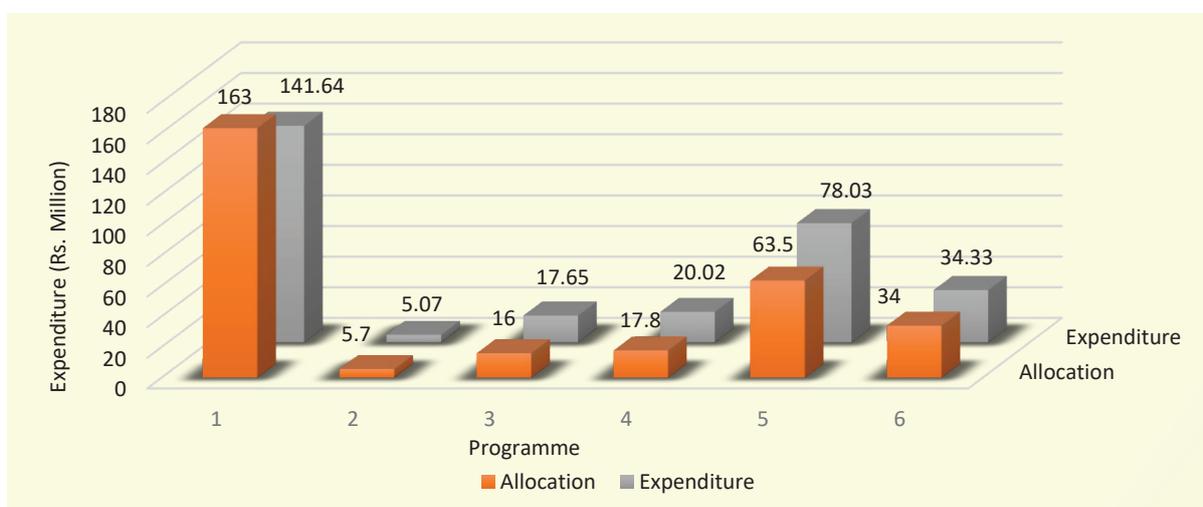
- Editorial Board of the JNSF (Journal of the National Science Foundation of Sri Lanka)
- Editorial Board of the SLJSS (Sri Lanka Journal of Social Sciences)

- National Committee on Man and the Biosphere

# SUMMARY

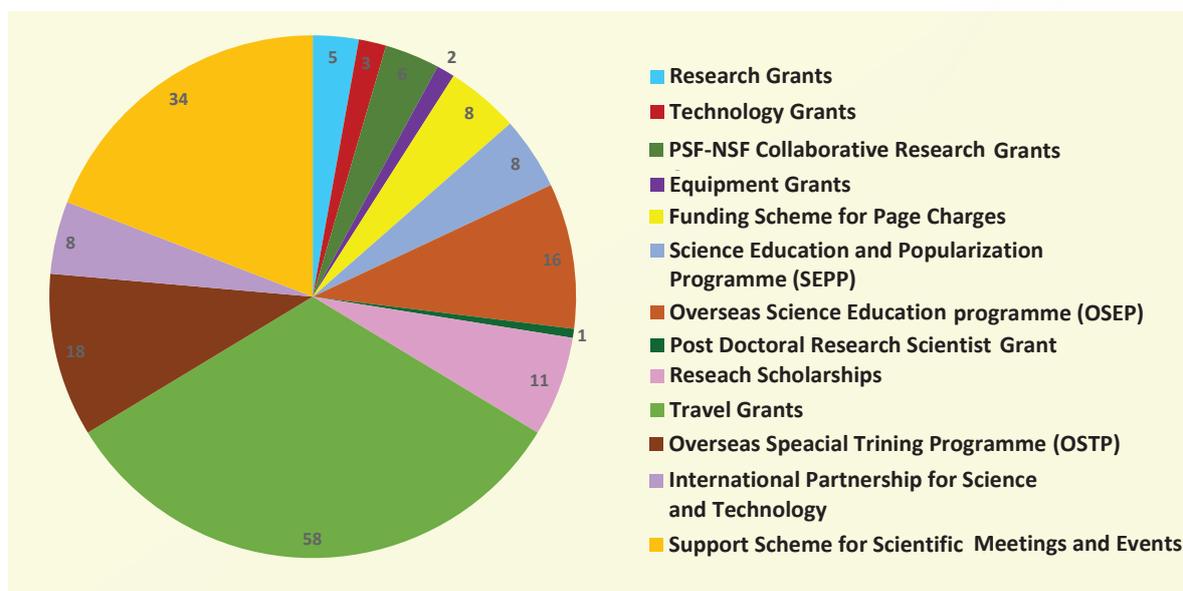
The following highlights the NSF performance in 2018.

- The financial progress of the NSF under six major programmes aligned to the mandate is graphically depicted in *Figure 2*. The Staff of the NSF worked hard to utilize the funds allocated by completing as much as possible the planned activities for 2018. It is difficult to measure and depict as a % the exact physical progress made during the year. Some actions planned for the year could not be performed due to various reasons. Together with other activities introduced in the middle of the year and bringing necessary revisions to the Action Plan, the NSF was able to spend a sum of Rs. 308 million, against the amount received Rs. 283 million released by the Treasury to carry out the functions as stipulated in the Science & Technology Development Act no. 11 of 1994. The excess amount was reached using the refunds made to the NSF by the debtors.



**Figure 2:** Financial performance 2018

- The support provided under different grant schemes to enhance S, T & I potential of the country during the year is summarized in the *Figures 3, 4 & 5*



**Figure 3:** Number of grants awarded under different grant schemes

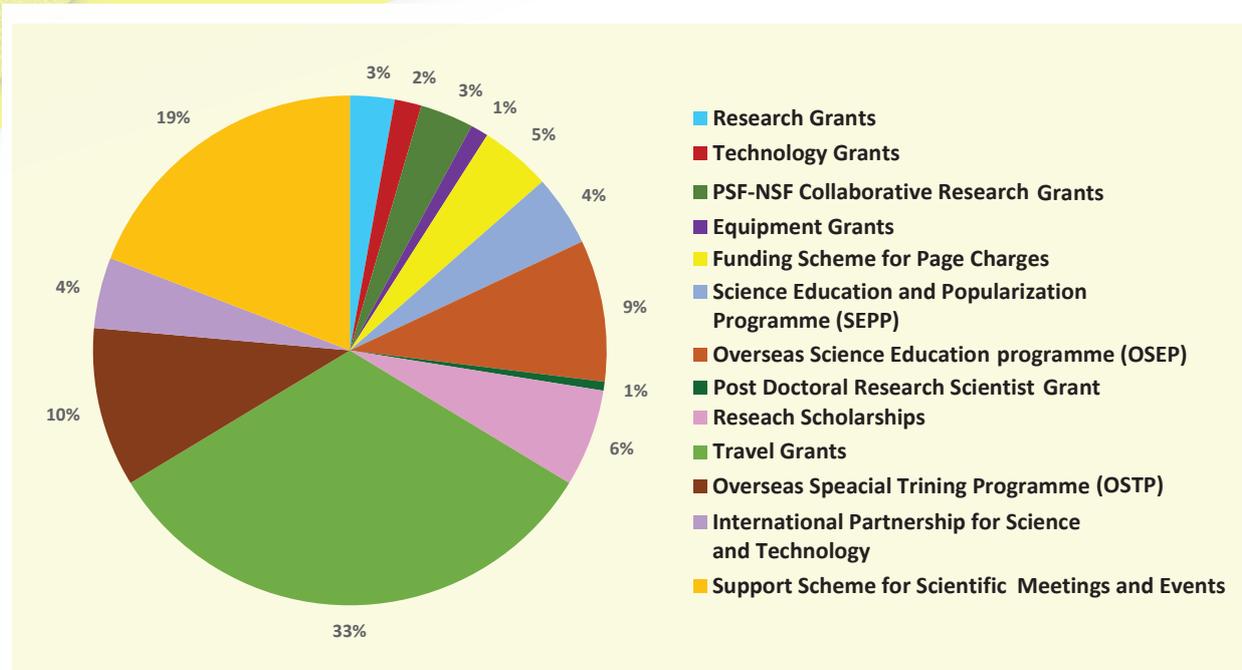
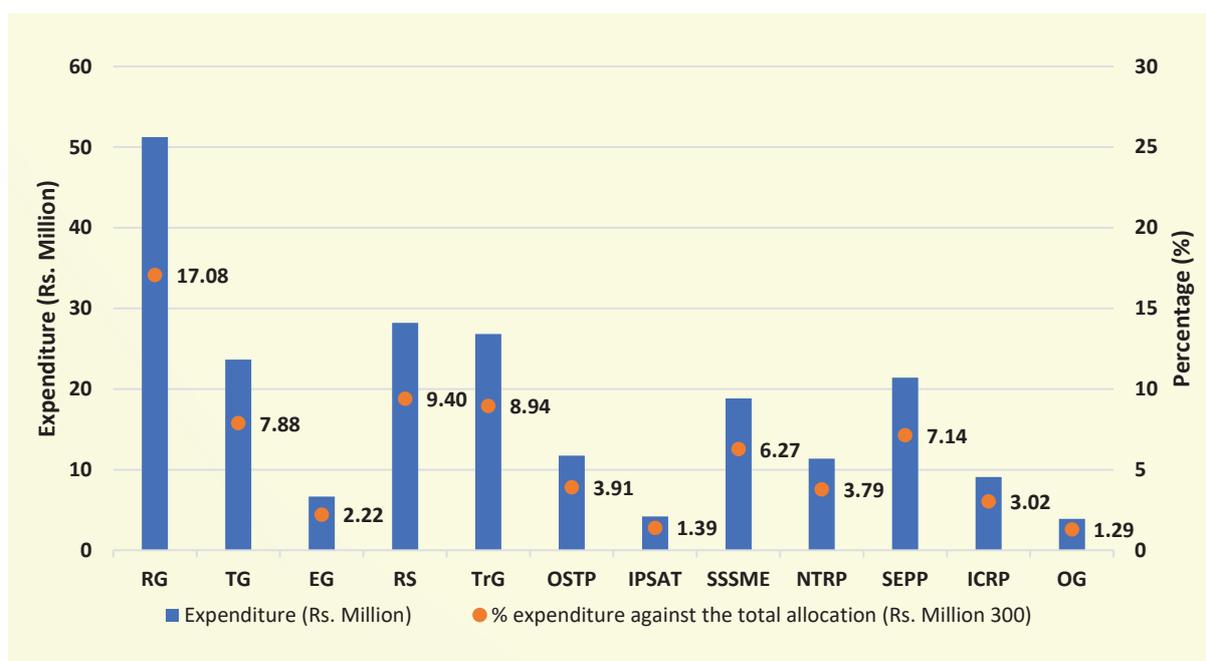


Figure 4: Scheme performance as a % against the total number of grants (178)



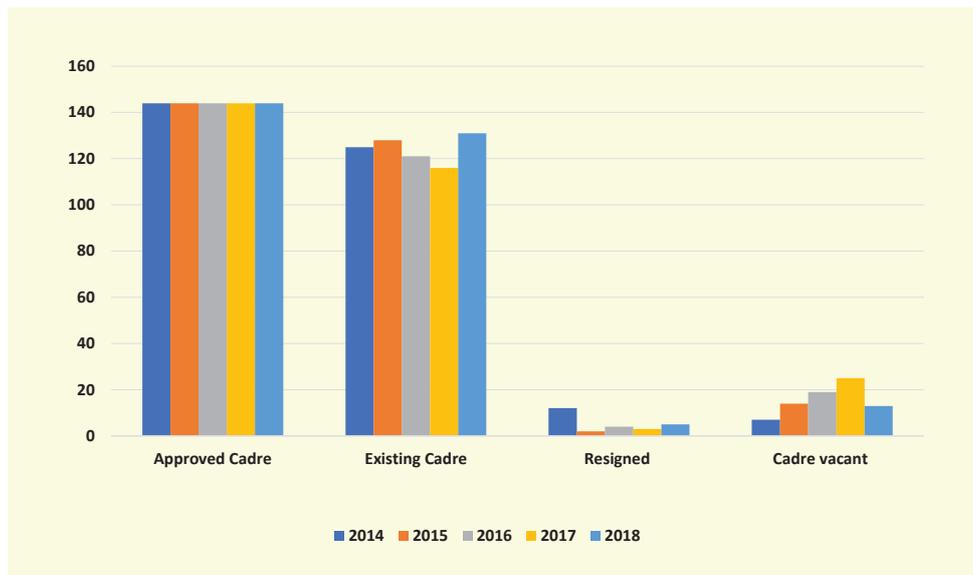
RG	- Research Grants	SSSME	- Support Scheme for Scientific Meeting and Events
TG	- Technology Grants	NTRP	- National Thematic Research Programme
EG	- Equipment Grants	SEPP	- Science Education and popularization Programme
RS	- Research Scholarships	ICRP	- PSF-NSF Collaborative Research Grants
TrG	- Travel Grants	OG	- Other Grants
OSTP	- Overseas Special Training Programme		
IPSAT	- International Partnership for Science and Technology		

Figure 5: Financial support provided under different grant schemes

Other Grants depicted in *Figure 5* include the grants awarded under Overseas Science Education Programme (OSEP) (Rs.1.520 million), Post Doctoral Research Scientist Grants (Rs. 1.397 million), Funding Scheme for Page Charges (Rs. 0.640 million) and Sparepart Grants (Rs. 0.320 million) where Rs. 3.88 million was spent.

- Sri Lanka Science, Technology & Innovation Statistical Handbook 2015 was published in June 2018.
- The total number of scientists and technologists registered in the Science and Technology Management Information System (STMIS) database was increased up to 6,200.
- The third place of the Grand award was won at the Intel International Science & Engineering Fair (ISEF) by a student for the science project titled “Isolation of a potential microbial agent for controlling dengue vector mosquitoes in Sri Lanka” mentored under the Science Research Project Competition (SRPC). Refer to page 91.
- Technology Grants outputs were recognized at national level competitions.
  - Grant output of the project, TG/2016/Tech-D/01 was awarded SLT Zero One Award for Digital Excellence, organized by the Sri Lanka Telecom.
  - The product was also recognized at the National ICT Awards, organized by the ICTA.
- The Technology Grant TG/2013/Tech-D/05 awarded to University of Moratuwa to develop a smart power device to detect sudden power failures and immediate restoration has led LECO to select the University of Moratuwa as the site for the development of a micro grid pilot project (350 kW) which is funded by the Asian Development Bank (ADB).
- “e-Health KIOSK”, an e-Health solution developed under the funding support for TG/2017/Tech-D/01 has culminated with eight e-Health KIOSK units set up at the government and private hospitals making internal processes faster. Refer to page 40.
- The Ubiquity Press, a United Kingdom-based open access publisher of peer reviewed academic journals, books and data has featured the progress of the Sri Lanka Journals Online (SLJOL) in its monthly newsletter (February 2018). SLJOL was being operated successfully with 81 journals of local origin. Refer to page 71.
- Fifteen (15) Institutions were covered in phase III of the National Digitization Project (NDP) and digitization work of 08 institutions was completed in 2017. Over 49% of the total volume, covering the rest of the other 07 institutional collections was processed in 2018 resulting a progress of 93% of the digitization work by the end of 2018.
- Journal of the National Science Foundation (JNSF) has shown an increase in its Impact Factor from 0.305 (2017) to 0.419 in 2018.
- Sri Lanka Journal of Social Sciences (SLJSS) has been indexed in Clarivate Analytics (Former Thomson Reuters) Emerging Sources Citation Index (ESCI) in 2018, beginning with Vol 41; Issue 01.
- The NSF celebrated its 50 years of dedicated service to the nation on 04<sup>th</sup> October 2018 at the BMICH with the presence of HE the President of Sri Lanka. Several publications were done, and a special newspaper supplement was issued marking the occasion. Refer to page 133.

- The NSF functioned with a staff of 116 at the beginning of 2018 and the figure increased to 131 by the 31<sup>st</sup> of December, 2018. (Table 1)



**Figure 6:** Staff status from 2014 - 2018



# Work under the Major Programmes

The NSF continued to perform its functions as mandated by the Act and carried out activities by implementing the following 6 major programmes

## Programme 1

Supporting basic and applied research in order to strengthen the scientific research potential, develop natural resources and support & facilitate technology development and product commercialization in order to enrich welfare of people

## Programme 2

Maintaining a current register of scientific and technical personnel, conduct surveys for determination of current and projected needs of S & T resources and provide a source of S, T & I information

## Programme 3

Fostering interchange of scientific information among scientists in Sri Lanka and abroad and promote the publication of one or more journals at the national level

## Programme 4

Popularizing Science amongst School Children and General Public

## Programme 5

Promoting and enhancing capacity building through liaising with individuals, associations or institutions locally and internationally and facilitating return of Sri Lankan scientists and technologists of distinction for S & T development

## Programme 6

Acquisition of capital assets and improve policies, processes and procedures of NSF together with managerial and technical competency of staff by international benchmarking, enhancing infrastructure facilities and improving working environment to create a happy and contented workforce





# Programme 1

Supporting basic and applied research in order to strengthen the scientific research potential, develop natural resources and support & facilitate technology development and product commercialization in order to enrich welfare of people



## Providing Grant Support & Recognition for S & T Development

Supporting basic and applied research in order to strengthen the scientific research potential, developing natural resources and facilitating research beyond the bench, the National Science Foundation focuses on promoting R&D and Innovation through various grant schemes and projects helping to create a knowledge-based economy by technology development and initiating startup businesses by all categories of people in the country.

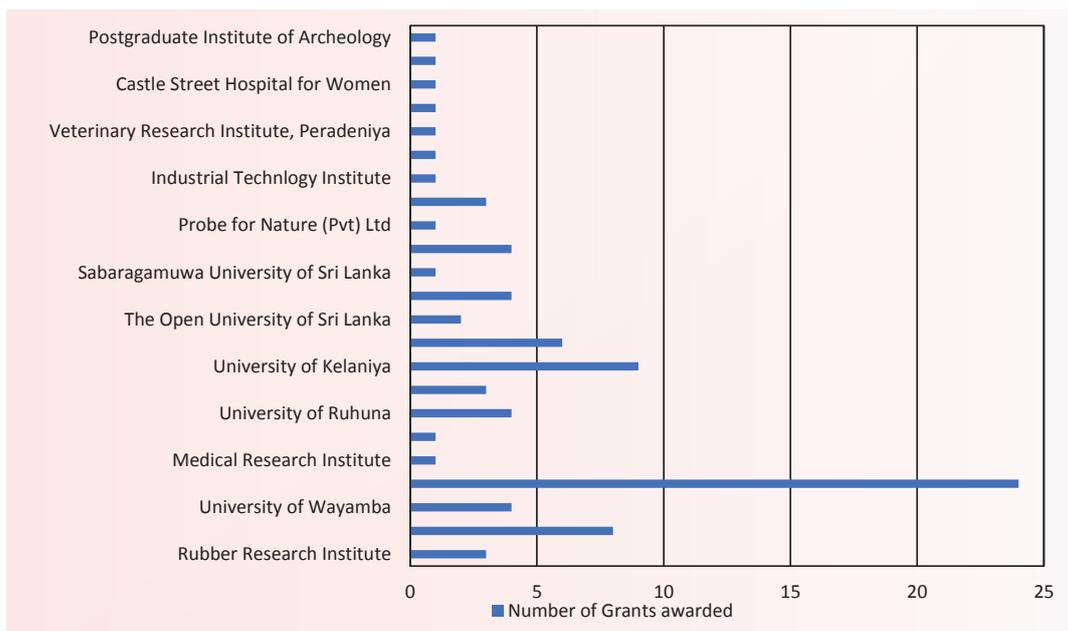
### Competitive Research Grants Scheme

The NSF Competitive Research Grants Scheme (CRG) 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 including the discipline Social Science.

As per the directive of the Board of Management, NSF entertained applications for competitive Research Grants (CRG) throughout the year in 2018. Fifteen (15) applications received in the latter half of 2017 and 18 applications received in the first half of 2018 were processed during the year and five new grants were awarded in 2018 (*Annex 01*). Nineteen (19) applications received in the latter part of 2018 were being processed to be awarded in 2019.

Eighty-four (84) projects were ongoing during the year and the progress of these projects was monitored for meaningful release of next instalments of funds based on positive progress and financial needs. The ongoing grants were awarded to 23 institutions including universities, research institutes and non-governmental organizations (*Figure 07*)

*The National Science Foundation focuses on promoting R & D and Innovation through various grant schemes and projects helping to create a knowledge-based economy by technology development and initiating start-up businesses by all categories of people in the country.*

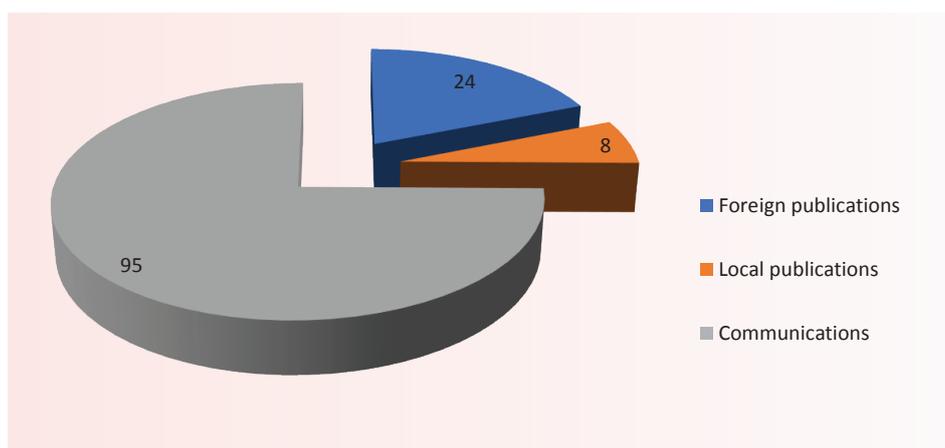


**Figure 07:** Distribution of ongoing grants among the institutions in 2018

A total of 171 researchers were benefitted during the year with the award of new grants as well as the supported ongoing grants.

A total of 18 grants were completed in 2018. Details are given in *Annex 02*. During the year, 16 Research Students registered for postgraduate degrees and 12 students completed their postgraduate degrees. The status of Competitive Research Grants as at 31<sup>st</sup> December 2018 is given in *Annex 03*.

A total of 127 publications were resulted from the projects funded in 2018 with 24 publications in foreign journals and 08 in local journals (*Figure 08*).



**Figure 08:** Publications arising from ongoing research grants in 2018

## International Collaborative Research Programme (ICRP)

### Pakistan Science Foundation (PSF) and NSF Collaborative Research

Funds were released for six collaborative research projects. The details are given in *Annex 04*.

### National Natural Science Foundation China (NSFC) and NSF Collaborative Research

According to the MoU signed between the NSF and the NSFC, the two countries are responsible for funding of scientific research, commercialization and popularization of research in the respective countries. Accordingly, the NSFC and NSF called for research proposals for joint Research & Development in the two mutually interested fields, Health and Water & Environment, with a major focus on the Chronic Kidney Disease of uncertain aetiology (CKDu) which is a national priority for both countries. Twenty-eight (28) applications were received and processed and seven research proposals were recommended by Sri Lanka. After discussions held jointly, 05 projects were approved for funding. The grants are to be awarded in 2019.

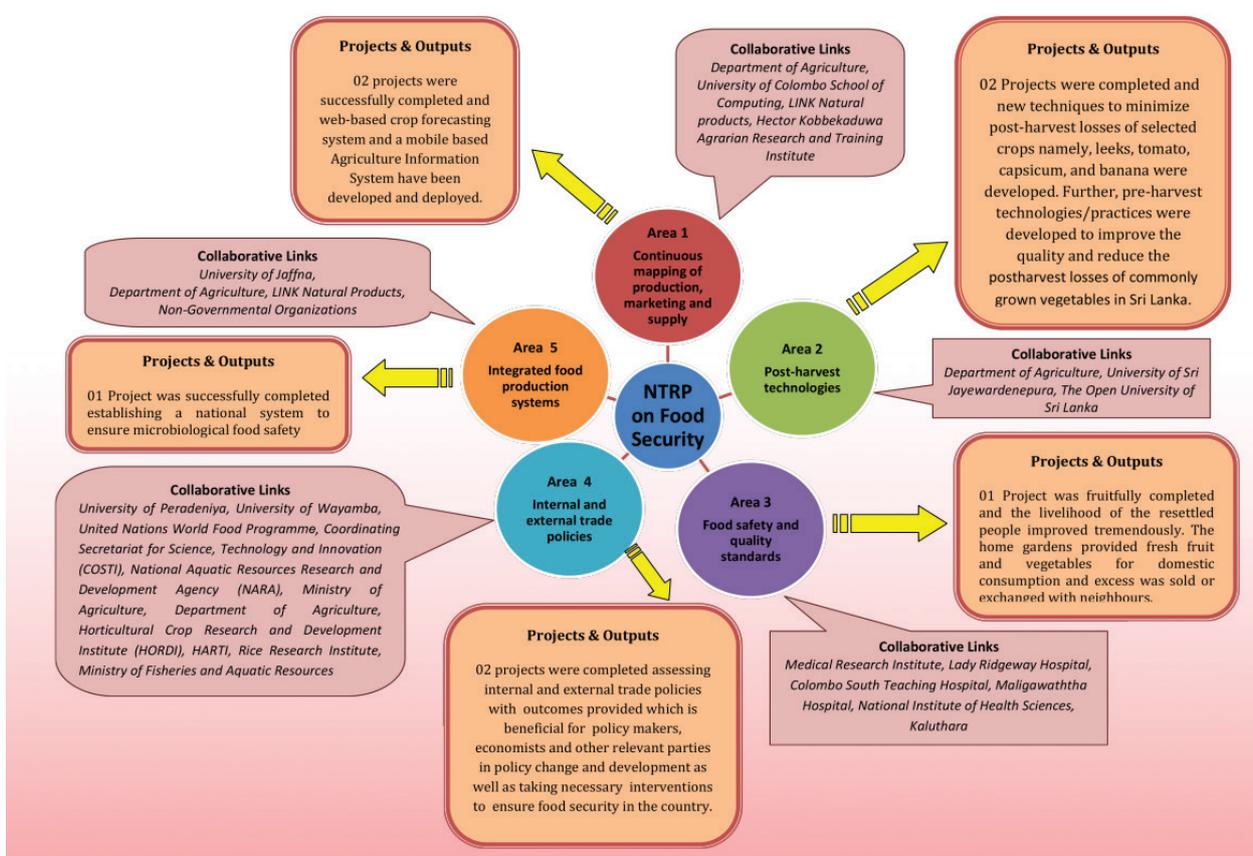
## National Thematic Research Programme (NTRP)

The NSF initiated the contract research programme to address immediate national needs for socio-economic development of the country under four themes; Food security, Climate Change & Natural Disaster, Water security, and Energy in 2010. The work on three themes; Food security, Climate Change & Natural Disaster and Water Security were initiated subsequently.

## ● NTRP - Food Security

The NTRP on Food Security was the first contract research initiated under NTRP. The first phase of the Food Security Programme was successfully concluded achieving most of its objectives. Some projects yielded significant outputs towards socio-economic development of the country. Several projects produced publications as well as conference presentations thus disseminating new knowledge to the S&T community. Nine projects were in progress focusing five specific areas during the span of the Food Security Programme. This was a successful collaborative effort of 70 scientists from 21 institutes.

The *Diagram 01* depicts the geographical areas of the country benefitted by the “Food Security” programme.



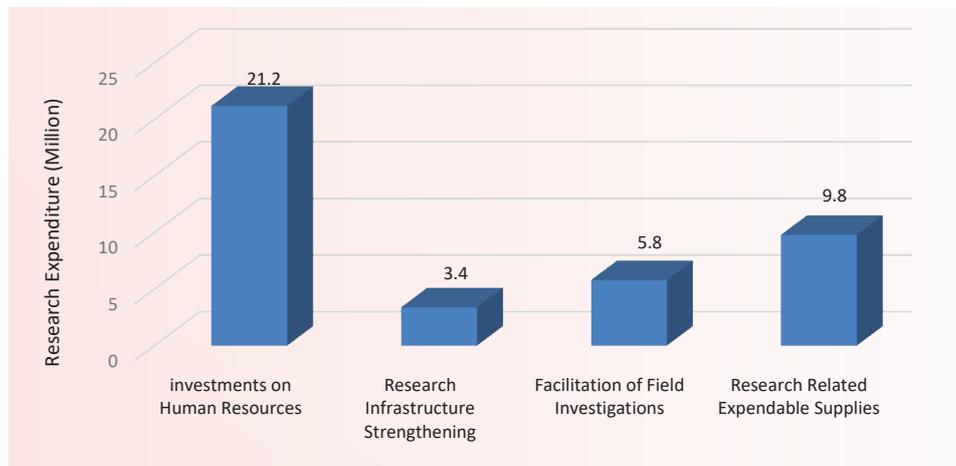
**Diagram 01 :** Food Security Programme at a glance through areas, projects, links and outputs

The summary of the completed grants are as follows.

Programme	Grant No	Project title
Area 1	NTRP/2012/FS/PG-01/P-01	Development of a web-based crop forecasting system in Sri Lanka
	NTRP/2012/FS/PG-01/P-02	A social Life Network to enable farmers to meet the varying food demands of the population, by providing needed information just in time (real time basis) and better monitoring and management of crop production

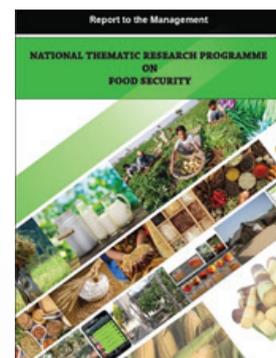
Programme	Grant No	Project title
Area 2	NTRP/2013/FS/PG-02/P-01	Application of novel techniques to minimize post-harvest losses of five selected fruit and vegetable varieties
	NTRP/2013/FS/PG-02/P-02	Food Security through Adoption of Pre-harvest Technologies: Improving Quality of Fresh Produce by soil application of Potassium and Silicon
Area 3	NTRP/2012/FS/PG-03/P-01	Establishing a national system for ensuring microbiological food safety
Area 4	NTRP/2012/FS/PG-04/P-02	Assessing internal and external trade policies and practices affecting food security in Sri Lanka, and identifying areas for improvement
	NTRP/2012/FS/PG-04/P-01	A study of supply and price behavior relating to selected crops and livestock products in Sri Lanka
Area 5	NTRP/2012/FS/PG-05/P-01	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
	NTRP/2012/FS/PG-054/P-02	Development of household food security models for poverty-stricken areas of Sri Lanka

The financial investment on different aspects is given in *Figure 09*.



**Figure 09:** Financial Analysis of NTRP Food Security Programme

A comprehensive final report on the NTRP (Food Security) includes the inception, theme paper, process of awarding, monitoring, outputs, recommendations and constraints faced during different phases of the Programme. It is expected that this report will serve as a guide to the future NTR Programmes of the NSF.



## Followup activities done to disseminate the outputs of the programme:

- Discussions with grantees to finalize the output dissemination plan.
- Planning to initiate the 2<sup>nd</sup> phase of the programme in 2019 was in progress. Accordingly, a discussion was held with the Food and Agriculture Organization (FAO) and a concept paper titled “Development of a Food Safety Monitoring System for Sri Lanka” was prepared for consideration.
- Stakeholder discussions with Hector Kobbekaduwa Agrarian Research and Training Institute (HARTI) and the Dept. of Agriculture and handing over the source code and the software developed by the University of Colombo School of Computing (UCSC).

This mobile App provides a unique opportunity to farmers on an individual basis, to cultivate and market the required crops in a cost-effective way in any desired geographical location. It can be installed on a smart phone which can provide real-time information for selecting crop varieties suitable for a given location, estimate the cost of production based on information on fertilizer and pesticide requirements and their present market price, view prices being offered to a particular crop in and around the site of cultivation, and even get advice from relevant authorities in case of a pest or a disease.



*Stakeholder discussions with the Dept. of Agriculture and HARTI*

## ● NTRP - *Climate Change and Natural Disasters*

The NTRP on Climate Change & Natural Disasters (CC & ND) was implemented to address major issues through research, with a view to minimizing hazards of Climate Change & Natural Disasters through mitigation and adaptation. Four projects were awarded in 2017 and continued during 2018. (*Annex 05*)

The Second Research Coordination Meeting (RCM) to monitor the progress of the four projects was held on 19<sup>th</sup> December 2018. The invitees represented the Climate Change Secretariat, National Planning Department, Department of Agriculture, Department of Forest Conservation, Department of Meteorology, Hector Kobbakaduwa Agrarian Research and Training Institute and Disaster Management Centre.



## ● NTRP - Water Security

The activities pertaining to the theme Water Security was initiated in the middle of 2018. An Expert Panel consisting of eminent scientists in water and related areas was appointed to work on the theme. Stakeholder discussions were conducted at Mahaweli Authority, Central Environmental Authority, Irrigation Department and Ministry of Irrigation. A proposal was developed to be submitted to the National Planning Department seeking funds to implement the NTRP Water Security programme.

## Technology Grants

As in previous years, the Technology Grant Schemes were in operation throughout the year supporting the researchers, scientists and individual inventors for making technological innovations. The support was extended under the following grant schemes.

1. Support for Technology Development
2. Support for start-up business based on novel technologies

Expressions of Interest (EoIs) were entertained throughout the year before calling for detailed technology grants proposals from the selected parties through the established procedure.

During the year, eleven (11) EoIs were processed out of which only four were subjected to technical evaluation after obtaining detailed grant proposals. However, at the end of the process, only 01 technology grant was qualified for the award in 2018. Together with the approved two technology projects processed in 2017, three technology grants worth of Rs. 5,171,653 were awarded in 2018 under "Individual" category. This was a significant drop compared to year 2017, where new grants worth of Rs. 28,239,213 were awarded under all three categories; state & non-state sector and individual category (Table 2).

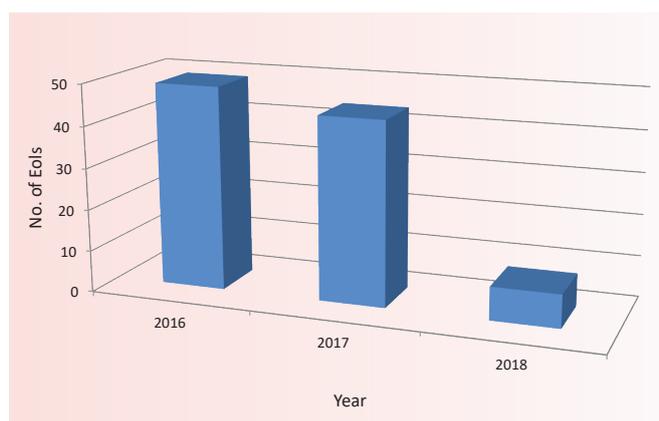


Figure 10: Number of EoIs received from 2016 - 2018

Table 2: Comparison of awards of technology grants in terms of financial support

Sector	Allocation	
	2018	2017
	Total Amount (Rs.)	Total Amount (Rs.)
State Sector		17,364,672.00
Non-state sector		999,309.00
Individual	5,171,653	9,875,232.50
<b>Total</b>	<b>5,171,653</b>	<b>28,239,213.50</b>

A total of Rs. 22 million was disbursed for all twenty-eight (28) new and ongoing projects during 2018 achieving the financial target, 100% utilizing the entire amount allocated for technology grants (Annex 06). Status of the on going technology grants in 2018 is given in Annex 07.

## Events Conducted Supporting Research and Technology Direct

A number of activities were conducted to evaluate progress of projects and disseminate project outputs.

**Table 3:** Details of activities conducted regarding research and technology projects

Activity	Number of events
Review seminars/ meetings to evaluate the progress of ongoing research & technology projects	32
Project monitoring field visits	12
Publicity via newspapers	07 articles were published in local newspapers
Number of new technologies developed	10
Patent applications filed	05
Grant outputs commercialized	03

## Significant Outputs Arising from Completed Technology Projects

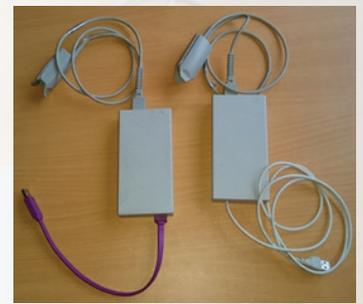
By the end of year 2018, nine new products/ processes arising from the Technology Grant Schemes were introduced to the market contributing to socio-economic development of the country. The details of the projects with industrial sectors benefited under various disciplines is depicted in *Figure 11*. The details of the research teams, institutions/company *etc* are given in *Annex 08*.

Industrial Sector	Product/ Process	Discipline
Health care	Non-invasive device for screening of patients	IT
	Locally developed ECG machine	IT
	E-Health KIOSK	IT
Automobile	Dash board mounted sleepiness and drowsiness detector	IT
Agriculture	Microbial inoculants for composting of rice straw	Agriculture
Education	m-Learning- online English language learning platform	IT
	Sinhala to sign language translation system for deaf people	IT
	Interactive class room learning "Student Response System"	IT
Printing	Locally made screen printing machine	Mechanical

**Figure 11:** The details of projects with industrial impact under various disciplines

### **Non-invasive device for screening of patients**

Unprecedented increase of patients suffering from diseases such as cancer, diabetes, CKDu is an immense burden to national economy. Early identification of such diseases will enable patients to take precautionary measures and at the same time will help to cut down huge costs invested in medicines. Non-invasive device which detects change of the endothelial function enables initial screening of such diseases. "JENDO" is a handheld, non-invasive, diagnostic medical prototype device engineered to monitor endothelial functionality in human blood vessels with the intention of predicting cardiovascular diseases. Ten prototypes were developed for measuring volumetric blood flow changes at the finger-tip and tested with patients in National Hospital, Colombo, Sri Jayewardenepura Hospital. Patent applications have been filed locally and internationally in view of commercializing the units locally and abroad. A MoU was signed between the Softlogic (Pvt) Ltd. and the grantee is to conduct further verification trials at the Asiri Hospital.



### **ECG machine and patient monitor**

A commercial level ECG machine was developed as an import substitute at a reduced cost compared to imported machines. Results generated from preliminary test trials with patients were promising and negotiations were in progress with the commercial partner for scaling up and industry level manufacturing of the machine.



### **E-Health KIOSK**

Health information systems and healthcare practices in Sri Lanka are largely relying on paper work and manual procedures that are often complicated and heavily time consuming. At present, regardless of a government or private healthcare facility, patients usually have to visit hospitals and stay long hours in queues to obtain a channel number and consult a doctor. "e-Health KIOSK" is an interactive self service system which automates routine activities of Sri Lankan healthcare sector covering patient check-in, doctor consultations through application of modern ICT. During the year 2018, Eight (8) machines were deployed at six hospitals. A unit is priced at a half of the cost of an imported machine. Accordingly, the grantee was able to contribute to the national economy by saving Rs 6.4 million foreign exchange.



### **Dash board-mounted sleepiness and drowsiness detector**

Number of accidents occur due to drowsiness exceed the number of accidents occur due to driving by drunken drivers. Anti Sleep Driver Alert System (ASDA) developed under the technology Grant Scheme is 90% accurate and makes drivers alert when they feel sleepy. The product uses both blinking rate of eyes and driving pattern (steering pattern) to detect drowsiness and create early warning. Device has inbuilt GPS system to detect speed and acceleration to adopt detection algorithms according to the situation. Further, the ASDA has the customized alerts system while existing products have static alert system.

ASDA is similar to a size of a mobile phone and is sold at an affordable price compared to existing ones in the market and gives high level of accuracy. During the year 2018, 100 units of ASDA were sold at a competitive price and was able to contribute to the national economy by saving Rs. 2.9 million foreign exchange.

### Microbial inoculants for composting of rice straw

This project addressed a major issue in paddy cultivation; continuous application of chemical fertilizers by farmers prospecting high yields. However, the repercussions are severe as it greatly affects reduction of soil fertility causing threat to sustainable production. The project links with national requirements of introducing "grow green" technologies and contributed to promote organic agriculture minimizing agrochemical-based adverse health hazards.

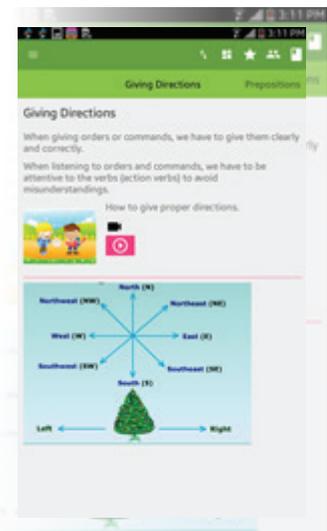
Microbial inoculum was developed under this project to decompose rice straw to make organic fertilizers in rice cropping systems. Paddy straw decomposing microbial inoculum packs were introduced among 600 farmer community in rice cropping areas; Polonnaruwa, Ampara, Gampola, Mahallupalama, Samanthurai *etc.* thus reducing chemical fertilizer usage while improving soil quality and increase yield. The product is unique in the sense for that it contains less chemicals and application would increase the crop yield.



### m-Learning- online English language learning platform

The project focuses on introducing m-learning platform for students in higher education sector in Sri Lanka. Different learning communities were identified, and their preferences were evaluated. m-learning lessons of this project were developed based on the 'English for all' curriculum targeting the identified learning communities. The lessons were developed for smart phones and standard GPRS enabled phones by considering the growing market for smart phones in Sri Lanka.

Mobil4E, mobile based English leaning applications (three versions-Primary, Intermediary, advanced and English learning game) for young generation/ adults are available in Google Play Store. These are open and free products available for download.



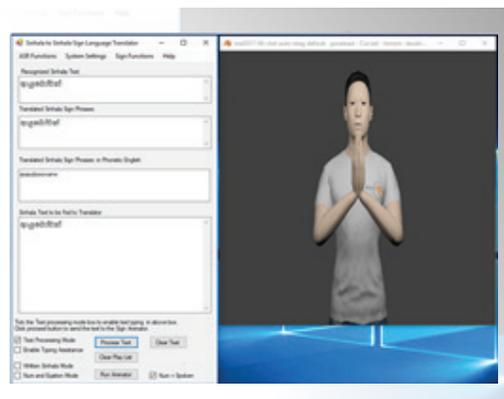
### Sinhala to sign language translation system for deaf people

Person who is born with aural disability does not have the capability to extract information from outside as the mother tongue of a deaf person is the sign language. Lack of teachers conversant in sign language to train aurally handicapped persons worsens the situation. This has resulted in the requirement for a human interpreter whenever a deaf person wants to convey a message to another healthy person or vice-versa.

To fill this void, a Sinhala to Sinhala Sign Language (SSL) translation software was developed. The framework for real time translation of spoken Sinhala language to sign language was designed in 3 stages.

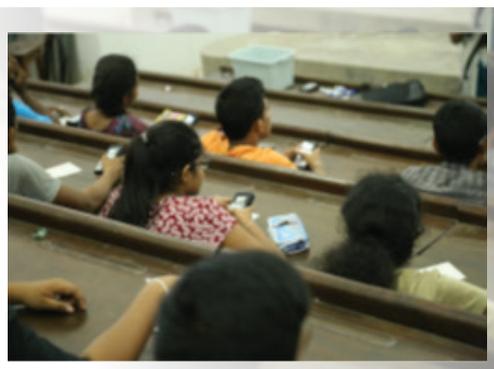
1. Voice recognitions - recognize the voice of a normal person by the computer
2. Machine translation - recognized voice is translated to a sign language
3. 3D motion capture and avatar animation - sign language gestures of the translation are accurately ordered and displayed using a 3D avatar.

Discussions are in progress with national authorities to implement and deploy the system in special schools.



### Interactive class room learning “Student Response System”

Many difficulties are faced in conducting quizzes with more than 100 students in a lecture theatre. Therefore, existing quiz mode system was upgraded to a multi-purpose response system to work in different modes; quiz mode, feedback mode and voting mode. Further, the two-way communication ability of the device is over 75 meters and it is rechargeable. The developed student response system is low cost and flexible for easy customization. During the project period 150 students hand held slave units (Clickers) with user friendly keypad and LCD display were successfully tested at University of Ruhuna.



### Locally made screen printing machine

Local screen-printing industry (small and micro level) faces challenges such as high cost of imported machines, high running cost (mainly high energy consumption) and maintenance problems. The machine developed under the technology grant has already been commercialized and the fabrication of the second machine was in progress by the grantee on his own. Patent is pending for this invention and the inventor claims that it can be produced at an affordable cost compared to imported machines having similar output (quantity and quality) with less energy consumption.

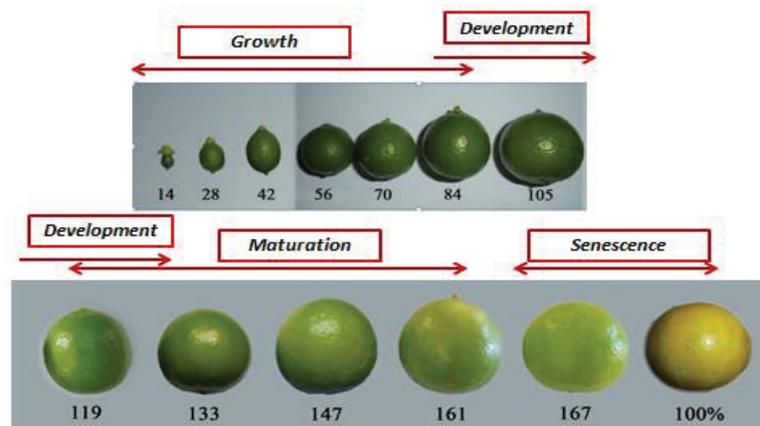


## Significant Outputs Arising from Completed Research Projects

### Investigation of fruit phenology and pre-harvest foliar treatment of growth regulators on fruit quality and post-harvest life of lime (*Citrus aurantifolia* Swingle)

There is a constant demand for fresh lime throughout the year as it is used for various domestic and industrial purposes as well as in indigenous medicine. A scientific study on this high priority crop has not been carried out to address pre and post-harvest issues of the crop. This research aimed at studying fruit phenology, maturity manipulation, fruit season and development of appropriate storage strategies for year-round marketing.

Post-harvest life of lime fruits were evaluated and the results showed significant differences in physiological weight loss (PWL), visual quality rating, peel lightness ( $L^*$ ) and hue (ho) values in maturity stages during the storage period. In conclusion, post-harvest life of lime fruits harvested at 119, 147 and 161 days after fruit set (DAFS) were 6, 7 and 3 days, respectively whereas marketable life of fruits harvested at 133 DAFS was 9 days under ambient storage conditions (30 - 34 °C, 70 - 75% Relative Humidity (RH)).



Variation in phenological stages of lime (*C. aurantifolia* Swingle) fruit (14, 28 etc. are days after fruit set)

Based on the experiments the research team developed a color chart that can be used by lime growers to identify the best harvesting maturity on the peel color.

### Screening, isolation and characterization of type II restriction enzymes from bacteria isolated from different regions of Sri Lanka

This study proposed isolation and characterization of restriction enzymes from bacteria isolated from different regions and habitats of Sri Lanka.

Screening of bacteria led to isolation of 09 restriction enzyme producing bacterial strains. Based on the isolation and characterization, two restriction enzymes were selected as suitable for further analysis. The putative genes for these restriction enzymes were identified. Further, analysis on large scale production of recombinant enzymes has to be explored and characterization of restriction enzymes from other bacterial isolates is to be done with a view of commercialization. The findings of this study have practical applications.

### Genetic diversity and management of cabbage white mold pathogen, *Sclerotinia sclerotiorum*, and feasibility of Anaerobic Soil Disinfestations (ASD) and Bio-Fumigation (BF) based disease management for upcountry vegetable production system

This project focused on determination of population genetic diversity and feasibility of Anaerobic Soil Disinfestation (ASD) in disease management in Sri Lanka. High genetic diversity was detected and ASD was effective in managing the pathogen survival structures.

The project generated new knowledge on pathogen genetics, behavior and introduced potential eco-friendly management strategies for the first time in Sri Lanka. This research also found a high potential of cross resistance development in Sri Lanka for commonly applied fungicides.

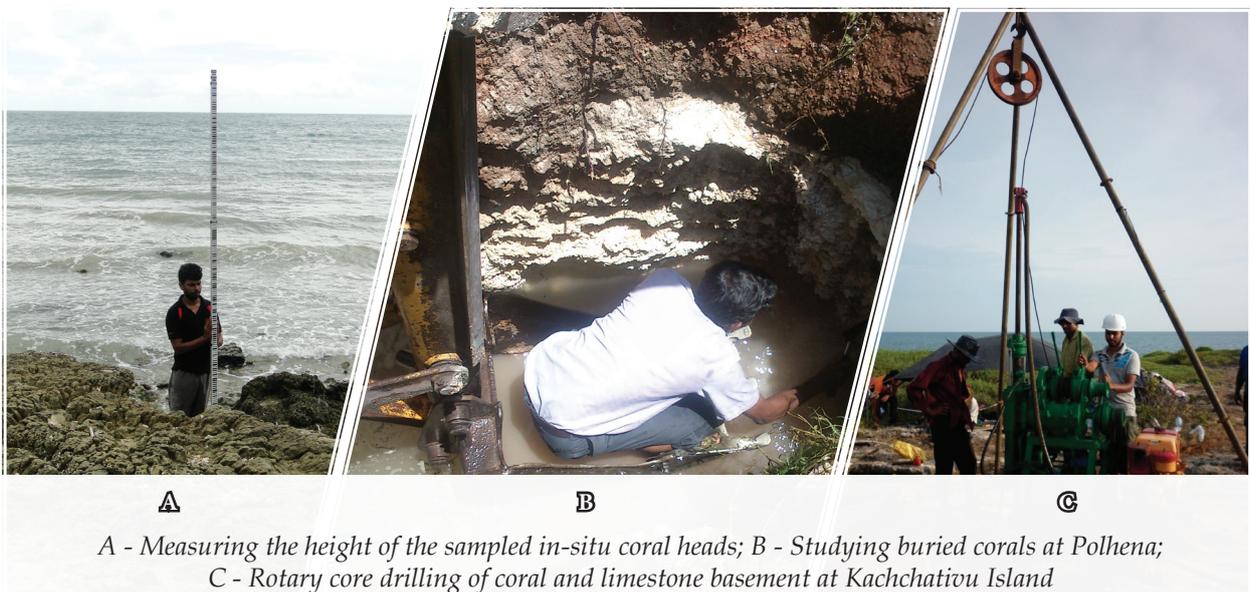


Infected cabbage with the head rot pathogen

## Constructing quaternary sea-level curve for Sri Lanka

Understanding long-term sea-level variability is the key to recognizing future variability. Main objectives of the research were to contribute to developing a long sea level record for the Central Indian Ocean and identification of forcing mechanisms.

According to the results, three phases of island formation during the Miocene, Pleistocene, and Holocene could be recognized in the Palk Strait area. Changes in sea level have resulted in these island formations. It was recognized that future anthropogenic sea level rise could submerge a large area of coastal lowlands in the south and in the Jaffna peninsula. This study also glimpsed the coastal landscape changes at the anthropogenic sea level rise. According to the gathered data, coastal lowlands including Jaffna peninsula will be at risk with the rising sea level. This information can be used for urban planning and coastal zone management. Modelling the coastal areas with accurate levelling data is essential to predict flooding areas at different levels of sea level rise in future.



A - Measuring the height of the sampled in-situ coral heads; B - Studying buried corals at Polhena; C - Rotary core drilling of coral and limestone basement at Kachchativu Island

## Identification of clinically significant Mycobacterium other than tuberculosis (MOTT) species, assessment of invitro drug susceptibility, development of a rapid ELISA based identification method

Non-tuberculosis Mycobacteria (NTM) causes pulmonary disease which is often chronic and occurs in older people or those with underlying lung diseases. More attention is always paid to the diagnosis of diseases caused by *M. tuberculosis* complex and not for NTM. However, there are increased numbers of reports of infections caused by NTM. Therefore, accurate identification of species is vital for individual patient management with the correct antibacterial treatment.

Seventy-eight NTM species were identified from the specimens collected during the study. Antibiotic susceptibility testing was also carried out and drug resistance was identified. Further work is being carried out to develop an assay for identification of NTM.

## Studies on prognostic markers of oxidative stress and its host genetic polymorphisms and endothelial dysfunction in severe dengue infection

This study was conducted to assess serum biomarkers for early detection of severe dengue infection and to understand the pathological mechanisms involved. Several potential biomarkers were identified through the study. Serum NO<sub>x</sub> levels in the early stages of the disease was identified as an important prognostic indicator.

## **Effect of endocrine disruptor Mancozeb on oviductal/ fallopian tube proteome and secretome**

Mancozeb is a fungicide which is very commonly used in Sri Lankan agriculture sector. Recently, based on scientific evidence, Mancozeb has been identified as an endocrine disrupting chemical. In Sri Lanka, Mancozeb use is very high and quite often the farmers misuse it and therefore, heavy doses of Mancozeb gets into the environment. Endocrine disruptors have been alleged as one of the causes of sub-fertility and infertility which is increasing all over the world. This study was conducted to find the effect of Mancozeb on the oviduct/ fallopian tube.

In vitro cell culture-based assays and in vivo mice studies were carried out and the data suggest a direct disruptive impact on oviductal functions. Hence, Mancozeb was found to cause the loss of pregnancy leading to sub-fertility and infertility.

## **Assessment of potential human and ecosystem health risk imposed by atmospheric particulates in Kandy, Sri Lanka**

This study focused on different types of pollutants, inorganic, organic and biological. The results indicated the level of pollution of Kandy city by heavy metals (HMs), microbes and polycyclic aromatic hydrocarbons (PAHs). There is a risk associated with children exposed to HMs. Further studies are required on how to mitigate and to control pollution due to these agents. Results of this study open avenues for policy makers and administrators to plan and implement pollution mitigation actions.

## **Purification of graphite of Sri Lanka as a high value addition**

The method of purification of graphite utilized in this project is called acid/alkali method. During the functions, impurities react with NaOH and H<sub>2</sub>SO<sub>4</sub> causing turning into soluble chlorides and sulphates which are washed with water for removal. This method needs less investment and is easy for implementation.

The purified graphite is widely applied in manufacturing of highly value-added materials such as graphite oxide and reduced graphene oxide. The value of graphene prepared from high purity graphite exceeds the value that is made out from natural graphite. Beneficiation of graphite concentrate to a 99%-plus purity level is essential for use in lithium-ion batteries and for other high technology applications. For example, semiconductor technology demands constant innovation and ultra-high-purity materials from suppliers. Products made from high-purity fine-grain graphite meet these requirements. Development of materials for wafer production processes and coatings enhance the purity of the next semiconductor generation, while extending the service-life of materials at the same time. The results will lead to technology transfer of the invention to natural graphite exporters in Sri Lanka and patent applications have been submitted for innovative materials and processes.

## **Research Equipment and Spare-parts Grants**

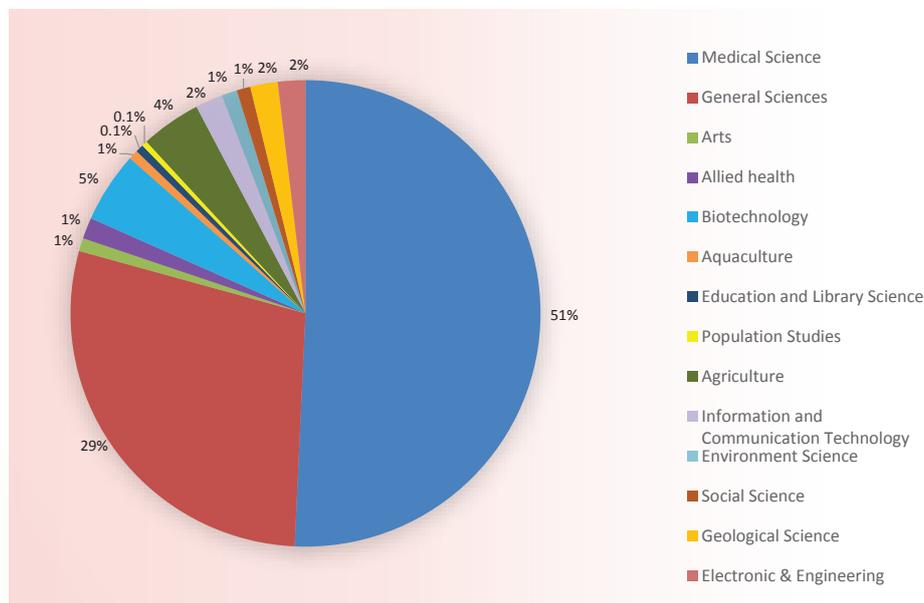
Laboratories with modern infrastructure facilities are needed to take the standards of local research to the standard of global S&T research. The two schemes intend to assist the acquisition of equipment and spare-parts for research equipment, that is in general too costly to be purchased by the Research Institutions and Universities. Further, these schemes facilitate and support infrastructure development of research laboratories maintaining research flow without interruption and creating a sustainable research culture. In 2018, 02 equipment grants worth of Rs. 1.3 million were awarded to the Open University of Sri Lanka under the NSF-PSF Collaborative Research Programme. Furthermore, fund transfers worth of Rs. 5.35 million and 0.32 million were made for 06 equipment grants and 01 spare-parts grant which were awarded in 2017. The details of these grants are given in *Annex 09*.

## Support Scheme for Scientific Meetings and Events

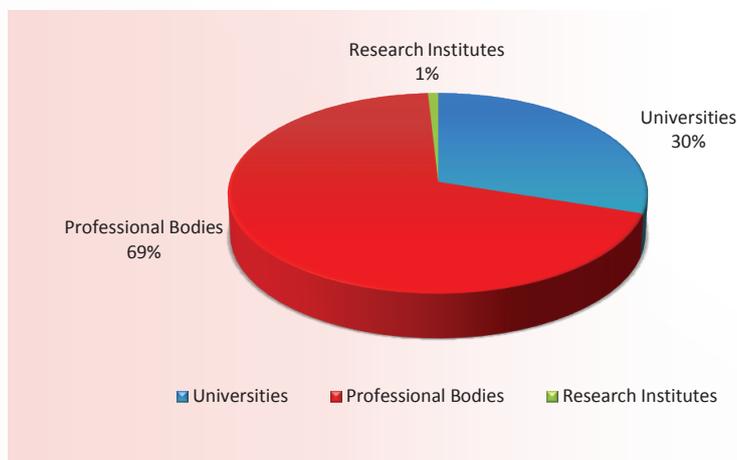
Support Scheme for Scientific Meetings and Events (SSSME) intends to provide assistance to both state and non-state Institutes to conduct scientific meetings, training programmes, workshops and conferences. This enhances opportunities for Sri Lankan scientists to interact with local and foreign scientists in their fields creating a platform to exchange and enhance their knowledge.

Twenty-eight institutes were supported financially to hold scientific meetings and during the year with a total of Rs. 16.19 million. This has facilitated more than 6000 individuals to participate in the events and enhance their knowledge while paving the way to initiate useful collaborations. Further, nearly 2000 scientists were able to publish their scientific research findings which ultimately resulted in communication of new knowledge to the public. Thirty-four events (*Annex 10*) were financially assisted through this scheme where the NSF co-organized 11 events out of the total, identifying the timely importance of the themes and the events of national importance.

The performance of the scheme is depicted in *Figures 12,13 & 14*.



**Figure 12:** Fund disbursement under different fields with SSSME



**Figure 13:** Fund disbursement according to sectors under SSSME

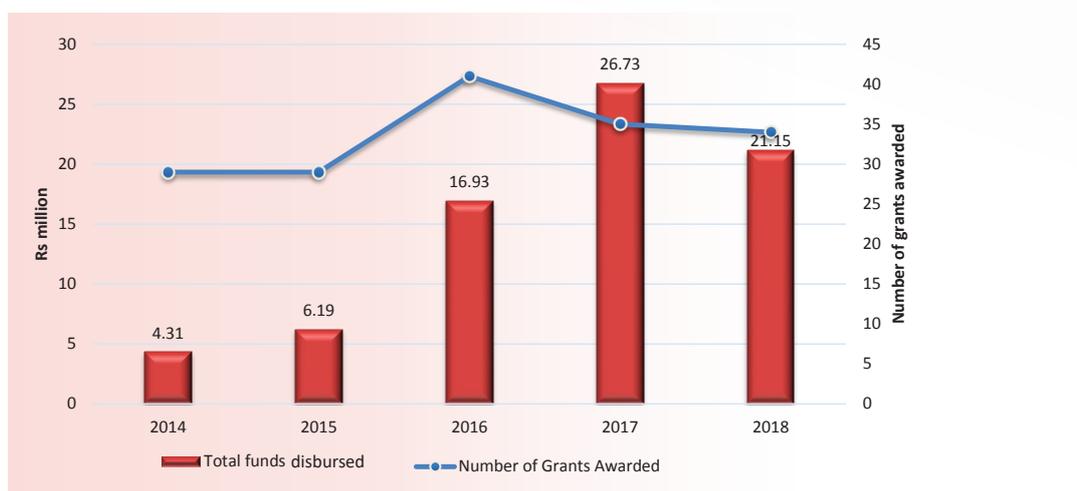


Figure 14: Support extended through 2014-2018 under SSSM

## Support Scheme for Publication of Research in Reputed International High Impact Journals

Research publications enable sharing of research findings, so that the local scientific community can disseminate their new knowledge which was generated through research carried out in the country with the global S&T community. It also allows that the research findings are critically evaluated and reproduced, thus gaining validity. The NSF initiated this funding scheme in 2016 to support the page charges of publications of Sri Lankan scientists whose papers were accepted by reputed journals. The scheme operates on reimbursement basis for publications in the journals indexed in the Science Citation Index, Science Citation Index Expanded or Social Science Citation Index.

Accordingly, page charges of 08 scientific publications were reimbursed in 2018 and details are given in *Annex 11*.

## Recognizing S&T Excellence

### National Awards for Science and Technology Achievements (NASTA Awards) - 2018

The NASTA Awards are presented biennially for scientists and technologists who have significantly contributed to the socio-economic development of the country through application of S&T. Introducing many improvements to the criteria and process of evaluation, the 2018 Awards were given for the most prominent and worthy achievements. The stringent evaluation process took a considerable time period and with the help of a distinguished Panel of Judges representing different fields. *Annex 12* lists the winners of NASTA Awards 2018. In contrast to 2016, where only a Merit Award was selected out of 28 applications received under 10 categories, 80 applicants/ teams contested for the NASTA Awards 2018 under 13 categories as given below:

1. Individual/ team/ institutional outstanding leadership in promoting & developing S&T
2. Excellence in multidisciplinary team efforts in the application of S&T
3. Excellence in public-private partnerships built in the application of S&T

4. Excellence in international collaboration for advancement of S&T
5. Adaptation of technologies to large industries
6. Transfer of technologies to SMEs
7. Harnessing S&T for sustainable development
8. Innovative applications of advanced technologies
9. Value addition to local natural resources (biological, earth & marine resources etc.)
10. Development of viable substitutes for imports and acquired or adapted technologies resulting in successfully exported products/ services
11. Outstanding S&T contributions having a significant impact on the nation
12. Mainstreaming indigenous knowledge for S&T development
13. Improvement of productivity, quality and competitiveness products/ processes/ services through application of S&T



*Prof. Ananda Jayawardane/ Director General of the NSF delivering the keynote speech at the Award Ceremony*



*The Award Ceremony of the NASTA Awards 2018 was held at the Presidential Secretariat on December 19<sup>th</sup>, 2018, HE Maithripala Sirisena the President of Sri Lanka, being the Chief Guest. The Secretary to the President, Mr Udaya Seneviratne also joined the Ceremony.*



*Prof. Athula Sumathipala, National Award winner under the Category "Individual/ Team/ Institutional outstanding leadership in promoting & developing S&T"*



*Under the Category "Value addition to local natural resources (biological, earth & marine resources etc.)" Dr (Mrs) G A Gunawardana, Dr M A R Priyanatha, Dr (Mrs) H G I K Hemamala, Dr (Mrs) K M S G Weerasooriya, Mr A A Vipulasiri, Mr S Rathakrishnan, and late Dr M C L de Alwis won the award for the project titled "Development and successful field application of a new vaccine against fowl cholera in poultry, Sri Lanka"*



*Under the Category “Excellence in international collaboration for advancement of S&T”, Dr (Ms) Ilmi G N Hewajulige Senior - Deputy Director, Dr (Ms) Shanthi Wilson Wijeratnam - Former Additiona Director, Mr Nisala Gunasekara, Research Scientist, Ms Yoga Milani, Research Scientist, Ms Shiranthi Perera, Senior Research Technologist, Mr Dineth Samarawickrama, Research Technologist, Mr Anura Sooriyaarachchi, Chief Engineer, Ms Manori Wijemanna, Senior-Deputy Director of the Industrial Technology Institute won the Award for the project titled “Developing and adapting new technology for adaptation and application in Sri Lanka to minimize postharvest losses”*

*Mike Biotech Asia, The National Award winner under the Category “Development of viable substitutes for imports (acquired or adapted) and acquired or adapted technologies resulting in successfully exported products/ services” for the project titled “Mass plant propagation by in vitro tissue culture technology”*



*National Award winners and the winners of Merit Awards of 2018 together with the Merit Award winner of 2016 posing for the picture with HE the President and the Secretary to the President Mr Udaya Seneviratne.*

## NSF Research & Technology Awards

The NSF Research Awards and Technology Awards are presented annually to the researchers or teams of technology developers who have made outstanding contributions for the advancement of science through NSF funded projects. The purpose of the awards is to bestow on researchers and technology developers the recognition they deserve for the contribution made towards 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 to conscientiously maintain high standards of research and development of technologies, while at the same time helping them to enhance their own career prospects as recognized scientists & technologists.



The annual awards ceremony, NSF Awards 2017, was held on 25<sup>th</sup> July 2018 at the Bandaranaike Memorial International Conference Hall (BMICH). The Hon. Minister of Science, Technology, Research, Skills Development & Vocational Training and Kandyan Heritage, Dr Sarath Amunugama graced the occasion as the Chief Guest. Dr Sanjiva Weerawarana, Founder, Chairman and Chief Architect of WSO<sub>2</sub> delivered the keynote address. The Secretary of the Ministry of Science, Technology, Research, Skills Development & Vocational Training and Kandyan Heritage, Mrs Sandhya Wijayabandara, also joined the ceremony as an invited Special Guest.

A total of 53 awards were conferred under the following schemes during the ceremony.

- Research Awards - 01
- Technology Awards - 02
- Certificates of Commendation for technology projects - 03
- The World Academy of Sciences (TWAS)/ NSF Young Scientist Award - 01
- Support Scheme for Supervision of Research Degrees (SUSRED) - 46 supervisory teams were successful in securing SUSRED awards for completing 23 PhD and 23 MPhil degrees during 2015 and 2016.

Planning for awards was in progress for NSF Research awards 2018. The details of research awards selected are given in *Annex 13*.

The details of technology awards presented are given in *Annex 14*.



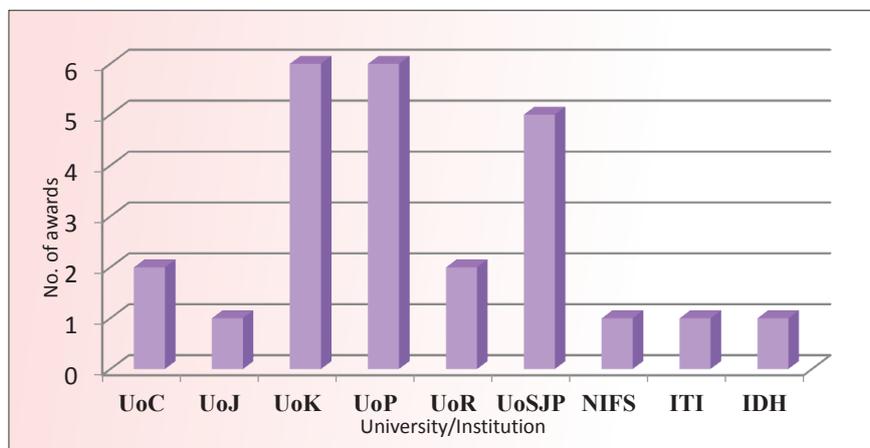
*Dr S Weerawarana delivering the Keynote speech*



### **Support Scheme for Supervision of Research Degrees (SUSRED Awards)**

The awards for the Support Scheme for Supervision of Research Degrees (SUSRED) was implemented in 2011 to motivate, support and recognize 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. Work was in progress to select twelve (12) supervisory teams

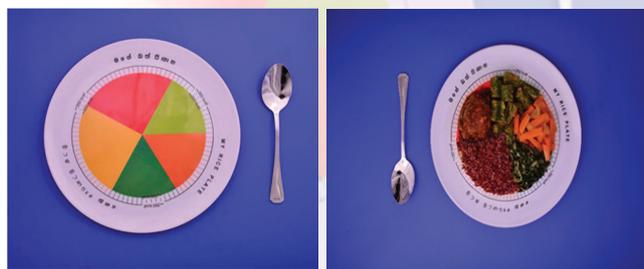
including 07 PhD and 05 MPhil degrees completed during 2016 and 2017 to present awards at the NSF Awards 2018 to be held in 2019. The details of the award winners are given in *Annex 15*. Supervisors of SUSRED Awards 2018 are distributed among 06 local universities and 03 research institutes (*Figure 15*).



**Figure 15:** SUSRED Awards in 2018

### TWAS/NSF Prize for Young Scientists

The NSF in concord with the World Academy Sciences (TWAS) has instituted a scheme of 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. Dr Ranil Jayawardane, Senior Lecturer, Department of Physiology, Faculty of Medicine, University of Colombo won the TWAS/NSF Prize for Young Scientist 2018 in the field of Biology. His research focused on treatment options on non-communicable diseases. A plate model “My rice plate”, as a modification in rice consumption is a culturally acceptable dietary strategy to lose body weight already reached to grass root level of the Sri Lankan society. In summary, his research findings on dietary habits and non-communicable diseases in Sri Lankan adults have contributed to change several national policies and clinical guidelines.



### Adding value

Number of workshops were conducted with the engagement of local and foreign resource persons to add valuable ideas/ suggestions to main R&D activities supported by the NSF.

#### *Identifying Research Gaps in Ocean & Marine Sciences*

Sri Lanka has a coastal belt of 1780 km and a continental shelf extending to approx. 30,000 km<sup>2</sup>. The shallow water above the continental shelf, the coastal ocean, is biologically the richest area of the sea. Further, Sri Lanka has an Exclusive Economic Zone (EEZ) of 517,000 km<sup>2</sup>.

The oceanographic knowledge on the Indian Ocean in general is sparse compared to the rest of the oceans. This is attributed to the lack of qualified oceanographers among the rim nations coupled with lack of financial resources. Marine research is immensely expensive and therefore,

conducting such research has become difficult for countries such as Sri Lanka. Hence, most of the marine research is done by wealthy nations.

Nevertheless, a fair amount of research has been carried out on the sea waters of Sri Lanka, of which the available information is sporadic. In addition, the knowledge on the oceanographic conditions of the Sri Lankan marine waters is very little.

The 14<sup>th</sup> Sustainable Development Goal (SDG) is “Conserve and sustainably use the oceans, seas and marine resources for sustainable development”. Some of the targets identified under that SDG are, increasing scientific knowledge, developing research capacity and transferring marine technology.

Considering the above, the NSF Board of Management granted approval to initiate a National Thematic Research Programme under the theme

“Ocean and Marine Sciences”. With the objective of developing a Theme Paper and Programme documents needed for the Thematic Research Programme on Ocean & Marine Sciences, the NSF Working Committee on Oceanography & Marine Resources organized a Stakeholder meeting on 24<sup>th</sup> August 2018 to meet the stakeholders and gather information to identify research gaps in Ocean & Marine Sciences. The meeting was successfully held with the participation of 50 resource persons with different expertise relevant to Ocean & Marine Sciences, representing universities, R&D institutions and the private sector.



Group discussions were held under 4 themes identified by the Committee: Biological Resources and Mariculture, Non-Biological Resources and Physical Aspects, Marine Pollution & Disaster Management and Climate Change – Impact on Ocean & Marine Resources and Socio-economic & Legal Aspects.

Gaps and priorities identified at the meeting were documented and the Working Committee decided to circulate the document among Research Institutes for awareness and to direct the research efforts in areas actually needed. Furthermore, actions on initiating a Thematic Research programme will be carried out in year 2019.

### ***Interactive Workshop on converting a draft manuscript to a ‘Ready to Publish’ manuscript***

Disseminating research results through publishing a scientific article is necessary for a research project. However, it was noted that only few completed NSF grants have publications in peer reviewed journals. Considering the importance of publishing research results, the Working Committee on Biotechnology of the NSF organized an interactive workshop on “Converting a draft manuscript to a ‘Ready to Publish’ manuscript”



in collaboration with Research Promotion and Facilitation Centre (RPFC), Faculty of Medicine, University of Colombo from 19-23 October 2018. The aim of this workshop was to support Research Students of NSF grants in the 2<sup>nd</sup> and 3<sup>rd</sup> year of their grant period and young academics, to develop scientific research writing skills with a view to finalizing a manuscript ready for publication.

The workshop supported 24 graduate Research Students of NSF grants and young academics. They received mentoring on their draft manuscripts. By the end of the second day the manuscripts were much improved.

A similar workshop was held in August 2017 with the participation of 27 Research Students and young academics. On follow up of the activity in 2018, 05 manuscripts that were mentored were published and 06 other were submitted to various journals for publication.



### *Seminar on "Fake or Predatory Journals: The impact on research and development"*

The accepted procedure of dissemination and validation of research outcomes is the publication through peer reviewed journals or presentations through well-recognized conferences. With the development of information and communication technology, "Online Journals" are becoming more convenient and effective in dissemination of knowledge. However, this has created an avenue for online "Fake or Predatory Journals", which are not following standard reviewing processes. Some Sri Lankan researchers, knowingly or unknowingly, have published research findings in such journals.

The NSF Working Committee on Basic Sciences initiated a discussion on this matter with the Heads of relevant Research Institutes and Universities in Sri Lanka with the objective of making



the Sri Lankan researchers aware of these Journals and the harm they cause to our research. Another objective was to formulate a mechanism to educate young researchers in Sri Lanka on this issue and to take precautionary action to protect them in their career advancement.

The seminar was successfully held on 16<sup>th</sup> November 2018 in the Auditorium of the NSF with the participation of 35 senior scientists/academics. The audience consisted of Vice Chancellors or their nominees, Heads of Research Institutes or their nominees, Chairpersons and Committee members of NSF Working Committees.

A document based on the discussion was prepared and circulated among all Universities and Research Institutes to make Sri Lankan scientists aware about this crisis.

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

The Man and the Biosphere (MAB) Programme is an Intergovernmental Scientific Programme aimed at setting a scientific basis for a healthy relationship between people and the environment globally. Launched in the early 1970s, the MAB Programme constitutes an interdisciplinary research agenda and capacity building that target and rectify the ecological, social and economic dimensions of biodiversity loss which often needs solutions from scientific, environmental, societal and developmental point of views. The MAB programme combines natural and social sciences, economics and education, to improve human livelihoods and safeguard natural ecosystems, thus, promoting innovative approaches to economic development that is socially and culturally appropriate and environmentally sustainable. Sri Lanka became a member of the UNESCO MAB programme in 1971. The NSF being the focal point, and the NSF National MAB Committee assisting to carry out relevant activities, further the goals of this programme at the national level with the help of relevant other government institutes.

### ***Focus on listing National MAB Reserves***

The National MAB Committee of the NSF was involved in identification of potential areas for declaring National MAB Reserves other than the four International Biosphere Reserves (Hurulu, Sinharaja, Kanneliya-Dediyagala-Nakiyadeniya (KDN) and Bundala) in Sri Lanka. Initially, criteria for national MAB reserves were developed. Two sites "Mahausakanda" and "Waga" were selected for the pilot study to verify the criteria. The NSF organized a visit with the support from the Probe for Nature (Pvt.) Limited, Forest Department and Institute of Fundamental Studies (by courtesy of Prof. Siril Wijesundara) on 27<sup>th</sup> March 2018 to inspect the potential for listing the site as a national MAB reserve. Discussion on the development of a business plan with two foreign experts (voluntary basis) and sample collections for taxonomic studies of the flora were conducted. Members of the MAB Committee, an officer of the NSF, officials of Forest Department, team members of the WPFL project and representative members of Community Based Organizations (CBOs) participated in this activity. Nomination dossiers were drafted in collaboration with Forest Department.

### ***Exploration of Natural Resources of Sri Lanka***

The Publication on Natural Resources of Sri Lanka: Conditions, Trends and Prospects is an upgraded and updated version of the two previous publications; Natural Resources of Sri Lanka: Conditions and Trends, and Natural Resources of Sri Lanka published by the NSF in the years of 1991 & 2000 respectively. The NSF launched the new edition on 4<sup>th</sup> October 2018 parallel to the Founders Day celebrations of the NSF.

The new edition focuses mainly on the current conditions and status of Sri Lanka's natural resources, especially in relation to factors affecting the resources in the context of their sustainable utilization. The projections for future development as well as challenges, threats and opportunities for nature conservation are also highlighted in the new edition.

### ***Development of Policy Directives for the Management of Human-Wildlife Conflict in Sri Lanka***

Considering the adverse impacts on human well-being and rural economies, the NSF, with the help of the National MAB Committee and the Sri Lanka Red Cross Society (SLRCS) worked on a technically sound long-term solution to address human-monkey conflict in Sri Lanka. Having submitted a Note to the Cabinet in 2018, the activity was being continued towards making a sound solution to manage human - wildlife conflict. Department of Wildlife Conservation leads the process of preparation of an umbrella policy in collaboration with the NSF and the Primatologist Society of Sri Lanka. A consultative meeting was held in December 2018 at the NSF to discuss the draft Policy directives.

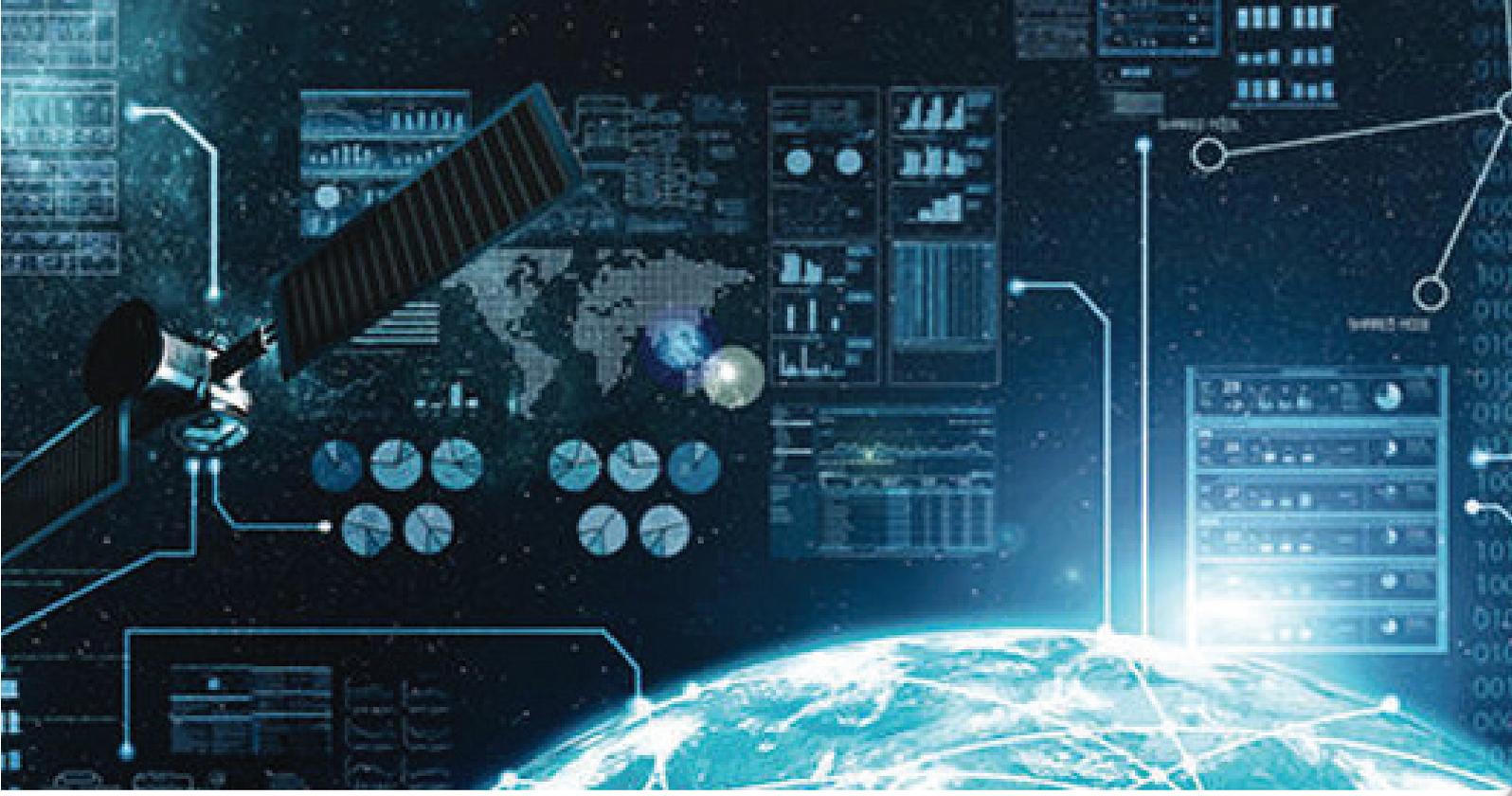
### ***MAB young scientist awards 2019***

Applications were called for the MAB Young Scientists' Awards and selected applications were forwarded to UNESCO, Paris for further processing.

### ***30<sup>th</sup> Session of the International Coordinating Council (ICC) of the Man and Biosphere (MAB)***

Mr Ravi Algama, member/ MAB Committee participated in the above meeting held in Palembang (South Sumatra Province of Indonesia) from 23 - 28 July 2018 representing Sri Lanka MAB Programme.





## Programme 2

Maintaining a current register of scientific and technical personnel, conduct surveys for determination of current and projected needs of S&T resources and provide a source of S, T&I information



## Science, Technology and Innovation (STI) Policy Research

The main focus was made in the following directions:

1. Undertaking science, technology and innovation (STI) policy research in the areas of importance to make recommendations for policy formulation.
2. Developing and improving databases relevant to all sectors of STI that will be useful for decision making.
3. Conducting public awareness programmes and public discourses on nationally important issues related to the areas of STI.
4. Investigating, collecting, securing and further researching Indigenous Knowledge (IK) that existed in ancient Sri Lanka and still being in practice.
5. Fostering capacity building of human resources, especially in the areas of Social Sciences and Indigenous Knowledge.

*Being the apex body to provide information on the S & T sector to the stakeholders, and to be updated and resourceful, the NSF continued with all the activities under this programme. Accordingly, the NSF conducted its regular R & D survey and other activities as explained here.*

## National Research, Development and Innovation (RDI) Survey

NSF has been conducting National Research, Development and Innovation (RD&I) Surveys biannually since 2004 and annually since 2013. This Survey measures and reports the status of science and technology sector in the country in terms of investment on Research & Development and Innovation (RD&I), engagement of Human Resources in the Science, Technology and Innovation (STI) sector, and the outputs of the STI sector in spheres of publications, patents, technologies, innovations *etc.*

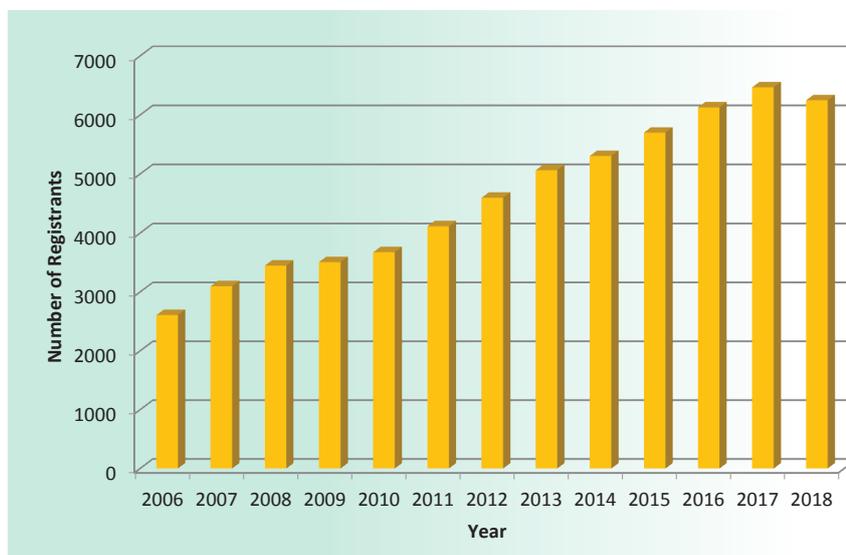
The Survey is conducted using international standards laid out by the United Nations Educational, Scientific and Cultural Organization (UNESCO) and Organization for Economic Cooperation and Development (OECD). The scope of the Survey encompasses higher education sector, S&T institutions, R&D institutions,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

Based on the Survey for the year 2015, "Sri Lanka Science, Technology & Innovation Statistical Handbook 2015" was published in June 2018. Data collection of (RD&I) Survey for the year 2016 was completed in December 2018 and the data collection of (RD&I) Survey 2017 which was initiated in June 2018 was in progress throughout 2018.



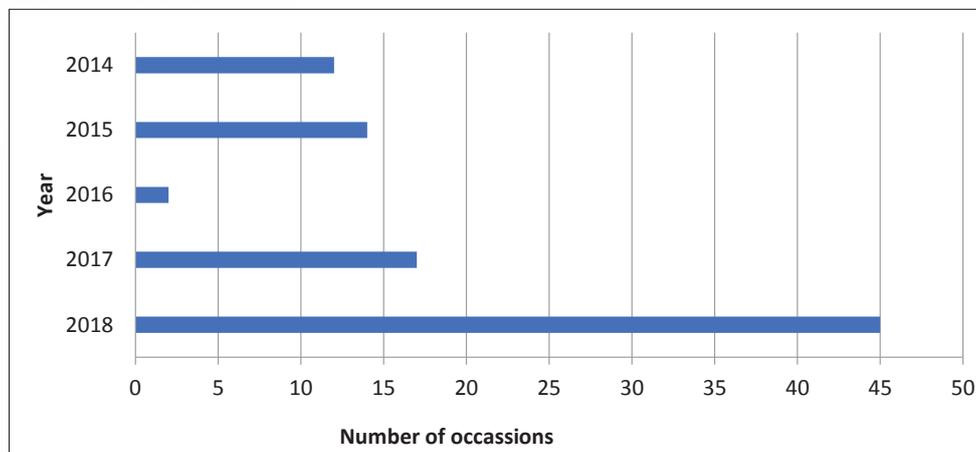
## Science and Technology Management Information System (STMIS)

Science and Technology Management Information System (STMIS) is a computerized information system developed and maintained by the NSF since 2004. The STMIS database contains information on S&T related institutions, S&T personnel, technical personnel, advanced scientific equipment available in the institutions, ongoing research activities, technologies developed and transferred by the institutions, services and training programmes offered by the S&T institutions for the general public and research publications done by the individual scientists. The STMIS database is updated regularly and the database contained information on more than 6,200 S&T personnel by the end of December 2018. In order to improve the STMIS to be more user-friendly with broader functionality, designing of a new System was in progress during the year. Parallel to designing the new System, several initiatives were taken to update and upgrade the data already fed to the System viz, profiles of registrants and cleansing duplicated entries.



**Figure 16:** Status of the STMIS from 2006 - 2018

STMIS was active during the year with providing information catering to the needs of the S&T community. Further, the STMIS was used as a network to disseminate information on important updates of the NSF and opportunities for the benefit of the scientific community (*Figure 17*).



**Figure 17:** Number of occasions of information dissemination through STMIS

## Activities Associating Indigenous Knowledge (IK)

Communities in Sri Lanka own a remarkable body of under-utilized, under-appreciated, and unidentified indigenous knowledge and skills, which mostly become obsolete or extinct due to various reasons. It is believed that economic independence and sustainability can be achieved through a hybrid system of development by amalgamating existing IK and modern technologies. The management of IK will revalidate the dying cultures and promote community-based involvement in development programmes of the country. Considering the importance of documenting indigenous knowledge in many vital areas such as agriculture, medicine, architecture, irrigation technologies etc. the NSF, with the assistance of the Working Committee on Indigenous Knowledge (WCIK) works toward identifying, collecting, preserving and disseminating IK existing in the country. Following programmes were conducted in 2018 promoting IK.

### Protecting IK Related Intellectual Property (IP)

A series of discussions were held to identify the existing laws and regulations related to protecting intellectual property rights (IPRs) of IK, gaps in the policies and areas that have been missed out and to develop a concept note with policy recommendations. The work on publishing the report titled “Intellectual Property Protection for Indigenous Knowledge-using and extending existing legal protections” was in progress.

### Data collection on “Social, cultural, and hydrological dimensions of ancient water civilization in Sri Lanka”

Having identified the importance of collecting information on indigenous knowledge relating to social, cultural and hydrological dimensions of ancient water civilization giving prominence to the areas facing high threat of obliteration, a series of discussions with resource persons working in the field of ancient irrigation system were conducted to identify areas to be explored, define the methodology, identify human resources and prepare a detailed proposal for implementation.



*Discussion with the resource persons on ancient irrigation systems*

### Technical report on Traditional Food Technologies in Sri Lanka

A series of data collection sessions were conducted with the help of the WCIK to gather information on traditional food practices in different areas in the country for three districts; Anuradhapura, Kandy and Kalutara with the participation of over 400 participants. Preparation of the report was in progress.

## Public lecture on “Spirituality and Sustainable Development: An Indigenous Knowledge Perspective”

With the assistance of the WCIK, the NSF organized a public lecture on 12<sup>th</sup> October 2018 at the NSF. Prof. Rohana Ulluwisheva, an expatriate living in New Zealand was the Guest Speaker. He has authored several award-winning publications related to spirituality and sustainable development which is a main aspect of the epistemology related to Indigenous Knowledge. More than 60 participants from different institutions together with interested individuals attended the lecture. The speech was followed by an active discussion between the speaker and the participants.



*Public lecture on “Spirituality and Sustainable Development” held at the NSF Auditorium*

## Public awareness programmes and discourses on nationally important issues

- A Panel Discussion on "Facilitating transition from using non-biodegradable to bio-degradable materials" was held on 30<sup>th</sup> November 2018. The following three presentations were made as a prelude to the discussion.
  - “National Policy on Transition from Non-biodegradable to Bio-degradable Material” by Mr Nimal Gamage, Central Environmental Authority
  - “Alternative Bio-Degradable Materials Available in Sri Lanka” by Ms M D Yoga Milani and Mr L D C Nayanajith, Industrial Technology Institute
  - “Challenges faced by the Industry in switching from Non-Biodegradable Materials to Bio-Degradable Materials” by Ms Deepa Gamage, Industrial Development Board.



This Panel Discussion brought together a varied group of experts, including professionals and officials engaged in the field to present their views on the transition towards biodegradable materials and to identify the issues and policy needs to meet the challenges.

- A public lecture on “Importance of Humanities Studies in Higher Education” was held on 26<sup>th</sup> September 2018. Around sixty participants attended the lecture. The objective of this lecture was to discuss the importance of Humanities and Social Sciences education as well as the importance of promoting Social Sciences and Humanities research in the country. This seminar was conducted by two eminent Professors; Prof. Saugatha Bhaduri from the Centre for English Studies, School of Language Literature



and Culture Studies, Jawaharlal Nehru University, New Delhi and Prof. Simi Malhotra, Director/Centre for North East Studies and Policy Research, Department of English, Jamia Millia Islamia (A Central University), New Delhi.

- Young Social Scientists Forum was established on the 26<sup>th</sup> January 2018 with the participation of around 160 young Social Scientists. Main objectives of establishing this forum were to; (i) increase the participation of young social scientists in research in relation to national development, (ii) capacity building of young social scientists, (iii) build up strong network among young and senior social scientists, (iv) create an international network among social scientists, (v) facilitate a common meeting place for young social scientists to share their experience and conduct public discourses on nationally important issues. The ultimate goal of establishing the Forum was to increase the scholarly research base and the capacity of young social scientists in the country.



- A workshop on “Social Sciences Research and Comprehensive Research Proposal Development” was conducted to increase the capacity of the researchers and academics to furnish successful competitive research proposals for securing grants in the field of social science. This Workshop was held on 26<sup>th</sup> January 2018, especially targeting the young social scientists as it was observed a declining trend in the recent past in conducting social science research.



- A Workshop on “Scientific Approach to Writing for Print and Electronic Media” was held on 26<sup>th</sup> September 2018 for the Journalists, Editors, Article Writers and Academia. Writing articles with a scientific approach, legal aspects of media publication, use of data, evidence and analysis for conclusions, guidelines to scientific writers on constructing sentences, how to make an article popular were the themes discussed at the workshop. The workshop provided hands-on-experience in writing an article with a scientific approach.



## Directory of Social Scientists

Directory of Social Scientists will provide a platform for its registrants to establish links with peers and research groups to conduct multi-disciplinary research and conduct relevant discourses about nationally important issues which require social science interventions. The Directory will help them to build links with industry and other organizations that need their services and expertise. The members get access to the social science information on current and previous research and updated information on both local and international training programmes, conferences, fellowships, etc. Further, the Social Scientists will receive due recognition among the scientific community and proper visibility to their research work. Currently, there are 210 Social Scientists who are registered in the Directory.

## Gender in Science

A Steering Committee on Gender in Science, Technology, Engineering and Mathematics (STEM) was appointed by the Board of Management of NSF for the purpose of encouraging the involvement of women in STEM sectors of Sri Lanka and at decision-making levels in STEM. The Steering Committee was appointed with effect from 3<sup>rd</sup> March 2018 comprising representatives from the Ministry of Women and Child Affairs, the University of Vocational Technology, the Institution of Engineering Sri Lanka, Ministry of Education, the University Grants Commission, Sri Lanka Association for the Advancement of Science, Central Bank of Sri Lanka and the Sri Lanka National Commission for UNESCO.

According to the recommendation from the Steering Committee, the NSF commenced a study on Gender in STEM fields of Sri Lanka. The study is aligned with the framework of the UNESCO STEM and Gender Advancement (SAGA) programme, which is a global UNESCO project that addresses the need to close the gender gap in STEM fields at all levels of education and research through measuring data and implementing policy solutions. NSF has established an in-kind relationship with UNESCO SAGA with relation to this study. Dr Kanchana Bulumulle was recruited as the post-doctoral research scientist to conduct the study at NSF. The study is expected to be carried out until February 2019.

Furthermore, Ms Thilinakumari Kandanamulla/ Scientific Officer represented the NSF in the Gender Working Group (GWG) of the Global Research Council (GRC), starting from May, 2018. The GWG is conducting activities to make aware the principles mentioned in its statement on "Equality and Status of Women in Research" and take into action by the research funding agencies.



## Programme 3

Fostering interchange of scientific information among scientists in Sri Lanka and abroad and promote the publication of one or more journals at the national level

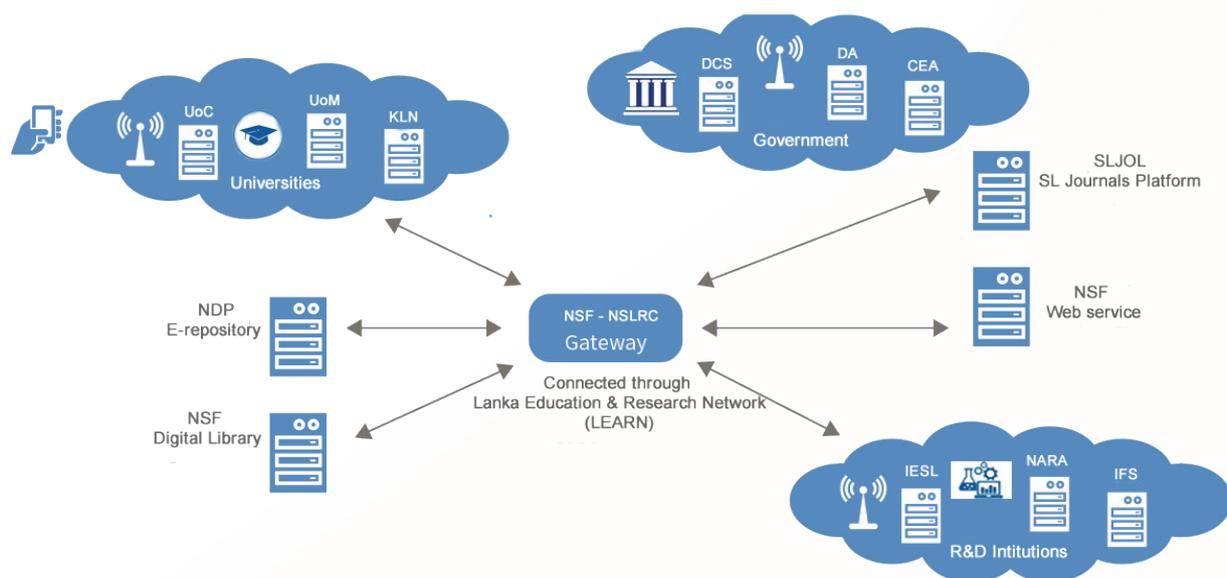


## S&T Information Gateway

The National Science Library and Resource Center (NSLRC) became the National Focal Point for collection & dissemination of Science & Technology information in the country with the establishment of Sri Lanka Scientific & Technical Information Network (SLSTINET) in 1977. Today, the SLSTINET is the strongest active S&T information network available in Sri Lanka. It is operated with a network of over 120 S&T libraries. NSLRC continued to provide with an efficient information dissemination service to the scientific community using modern information communication technologies. Strengthening of linkages and networks were done by carrying out necessary programmes to foster the interchange of scientific information among scientists in Sri Lanka and foreign countries. NSLRC has become the National Repository of Science & Technology Literature and National Focal Point for Science and Technology Information Services by providing technical assistance, training of library professionals, facilitating and delivering efficient service to scientific community. The following activities were conducted in 2018 to meet the requirements of the scientist and researchers for accessing S&T information.

NSLRC website ([nslrc.nsf.gov.lk](http://nslrc.nsf.gov.lk)) functions as the central hub providing access to a comprehensive collection of S&T information in the country and international full text, abstract & citation databases. National e-repository maintained by the NSLRC serves as a central portal (<http://dl.nsf.ac.lk/ohs>) providing full text access to the most of its digitized collections as well as the digital repositories of universities, research institutions etc.

*Fostering interchange of scientific information is one of the key functions of the NSF. Empowered by the S & T Development Act No. 11 of 1994, the NSF provides access to scientific and technological literature and related information to all the stakeholders, being the key gateway in the country for providing S & T information.*

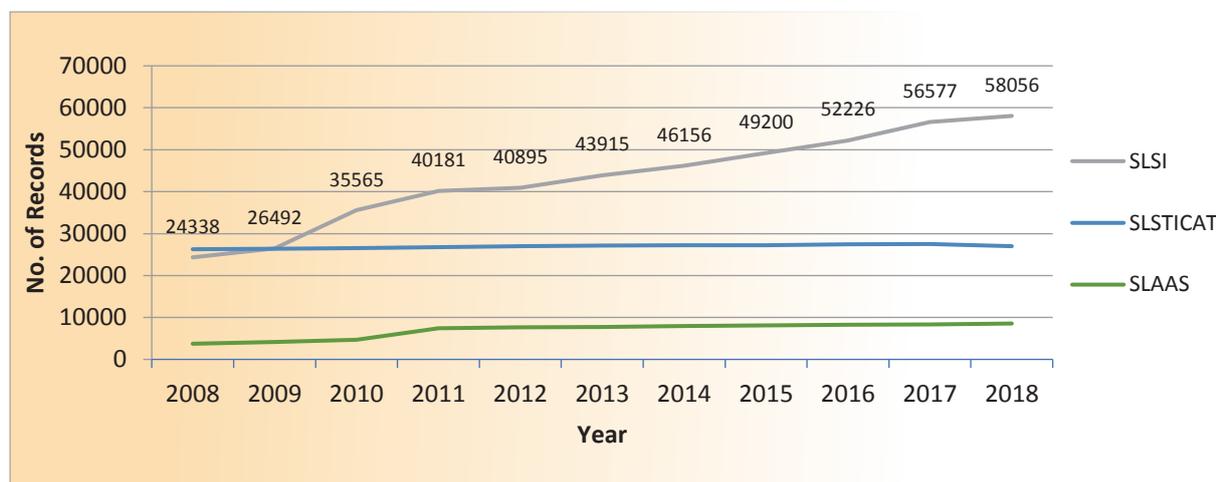


*National Gateway for S&T Information*

## Strengthening Resource Base

### ➤ National Level Databases available at NSLRC

The NSLRC maintains several national level databases to provide online access to Sri Lankan researchers, academia and general public the information on current and past research conducted in the country. Progress of the databases during the year under review is illustrated in *Figure 18*.



**Figure 18 :** Growth of Databases of the National Science Library & Resource Centre (2008-2018)

SLSI, SLSTICAT & SLAAS databases are now transferred to JISIS Platform (process continued from 2017) and available through Viduketha database (*viduketha.nsf.ac.lk*). Viduketha Database is an Integrated Information Storage & Retrieval System which provides easy access through any web browser through intranet or internet. This is considered a tremendous improvement as the users now can access the databases online without user credentials according to the Open Access policy implemented by the NSF.

### ➤ Sri Lanka Science Index Database (SLSI)

SLSI database currently accommodates 58,056 documents of which online access is provided to the full text over 66% of the items. SLSI database has shown a progress during the year 2018 with an addition of 1,479 records. Editing the full text field was done and the path of the full text file was edited in 6,960 records. Title field of the records on Sinhala publications which were previously entered in transliterated form were edited using UNICODE system enabling to display/search in Sinhala.

### ➤ Research Grants Database (RGRA)

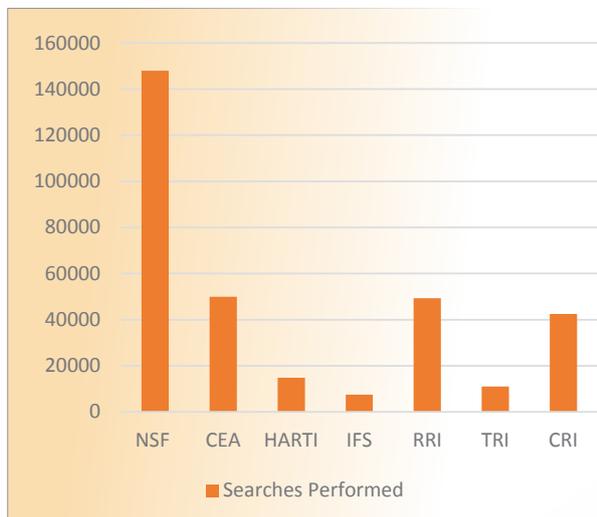
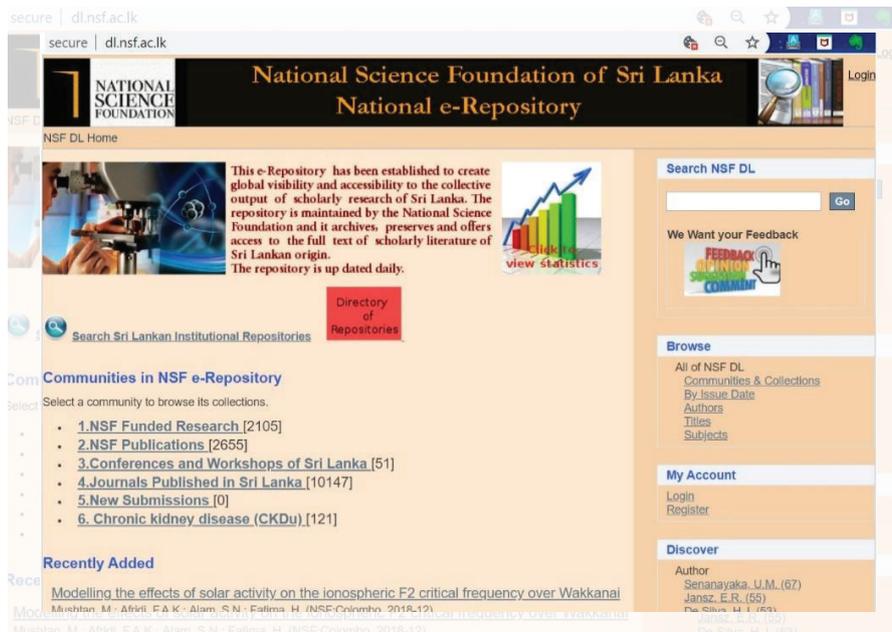
The database was updated with the incorporation of information on 14 final reports and post graduate theses resulting from NSF funded projects, received by the NSLRC during the year. The full text & abstract fields were edited in 500 records.

### ➤ SLAAS Database

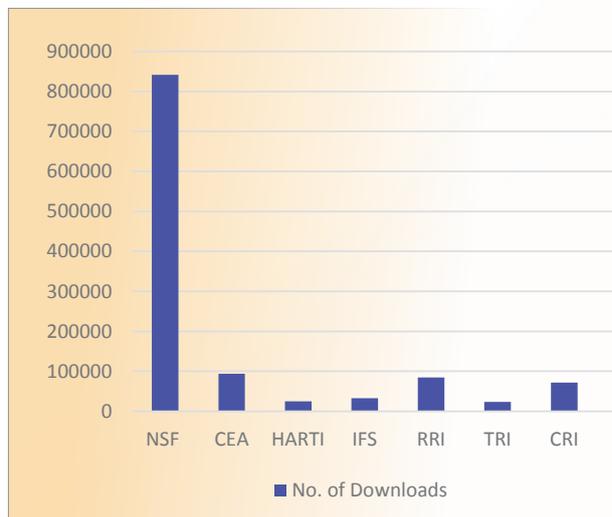
The SLAAS database includes complete references and abstracts of all papers presented at SLAAS Annual Sessions during the period from 1976 - 2018. The database has shown a growth of 191 records with the inclusion of information on the abstracts published in the proceedings of the SLAAS, 2017. The database can be searched, and abstracts can be downloaded/printed online.

➤ **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 database to the National e-repository launched in 2009 on D-space software was further continued. Total number of items transferred during the year from SLSI to national e-repository was 652. The total number of items recorded in the National e-Repository as at 31<sup>st</sup> December 2018 was 14,996. National e-Repository has recorded 841,908 article downloads during the year under review. <http://dl.nsf.ac.lk/>



**Figure 19a :** Use of e-Repositories hosted by the NSF during 2018 (No. of searches)



**Figure 19b :** Use of e-Repositories hosted by the NSF during 2018 (No. of downloads)

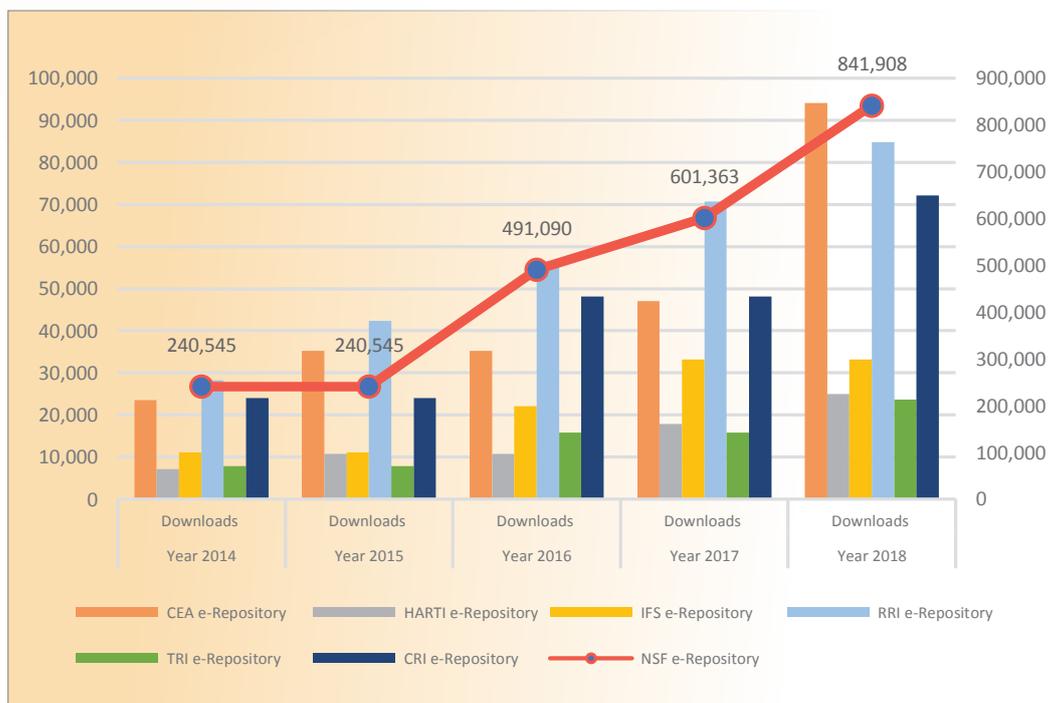


Figure 20 : Growth of e-repositories hosted by the NSF during 2014 - 2018

## Development of Collections

### ➤ Acquisition of new books & journals

24 new books were purchased, 17 books were received as donations and added to the collection to cater to the reference requirement of the scholarly community. The Centre continued to receive copies of new issues (17 titles) of scholarly journals published within the country and copies of new issues (13 titles) of foreign journals. Number of foreign journal titles subscribed this year was 07. Further, the Center received 02 annual reports, 08 theses and 07 final research reports and were added to the physical collection.

### ➤ Strengthening access to global literature

During the year 2018 access to the following subscribed international databases, a prime requirement of the research community was enabled within the NSF premises. The databases were utilized by the academics and researches for literature searches and for citation information in their publications.

- **SCOPUS Citation & Abstracting Database:** SCOPUS is a comprehensive information source for literature searches covering peer reviewed literature in over 22,000 journals from over 5,000 publishers with smart tools that track, analyze and visualize research. It is an ideal source to conduct literature searches. During 2018, 159 local research articles, 9254 citations, and 717 abstracts were downloaded from SCOPUS.
- **TEEAL (The Essential Agricultural Library):** TEEAL is a digital collection of research journals for agriculture and related sciences. It provides access to the full text articles in over 450 international peer reviewed journals from more than 80 major publishers from 1993 to 2016. This year 136 full texts were downloaded from TEEAL database.

- **HINARI (Access to Research in Health) full text journal Database:** HINARI together with major publishers provides online access to 15,000 journals and 60,000 e-books in the fields of biomedical and related social sciences. This year 33 full texts were downloaded from HINARI database.
- **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 13,700 key journals and 26,800 books. This year 17 full texts were downloaded from AGORA database.
- **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 30,000 Journals & e-Books and 100 other Information Resources.
- **OARE (Online Access to Research in the Environment):** OARE is led by the United Nations Environment Programme (UNEP) in partnership with major publishers. It provides access to one of the world's largest collections of environmental science research including 11,500 journals, 27,000 e-books and 40 other information resources.

## Maintenance and Upgradation of Library Software

2016 updates of TEEAL database was successfully installed enabling it's accessibility from the NSF network.

## Progress of the Sri Lanka Journals Online (SLJOL)

The Sri Lanka's primary journal platform, Sri Lanka Journals Online (SLJOL) is a member of the Journals Online (JOL) project established by International Network for the Availability of Scientific Publications (INASP) of the United Kingdom. The SLJOL operated by the NSLRC of the NSF in collaboration with Ubiquity Press, UK shares the local knowledge of the full range of academic disciplines from North to South and East to West by overcoming the great challenge faced by Sri Lankan researchers in disseminating their findings worldwide.

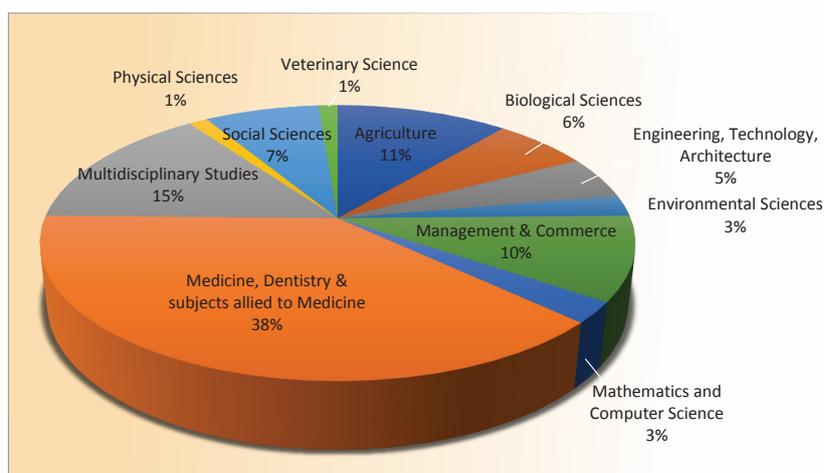


Figure 21 : Subject coverage of SLJOL

## Growth of the SLJOL

Since its inception in 2008 with 06 journals, SLJOL has matured considerably and currently covers 1172 issues of 81 Sri Lankan scholarly journals hosting 10,542 articles. In 2018, 1442 research articles of 166 journal issues were published on SLJOL following a verification of key parameters of each article in relation to publishing quality standards. Further, 05 new journals were setup on the SLJOL with the fulfillment of formal eligibility criteria to join with the system. During the year, 1421 articles of the 158 journal issues were offered Digital Object Identifiers by submitting batch files of required metadata to crossref.org. According to the statistics given on Google analytics, 204,973 users have been recorded as viewers of the SLJOL and 98,964 full text articles have been downloaded globally in 2018.



Figure 22 : Growth of SLJOL since its inception in 2018

## Usage of SLJOL

As shown in Figures 23 & 24, usage of the SLJOL has been tremendously increasing from 2015 to date following its movement to a new platform developed by Ubiquity Press with a major site upgrade that allows users to share the content of the SLJOL through their contacts on social media such as twitter, facebook & LinkedIn etc.

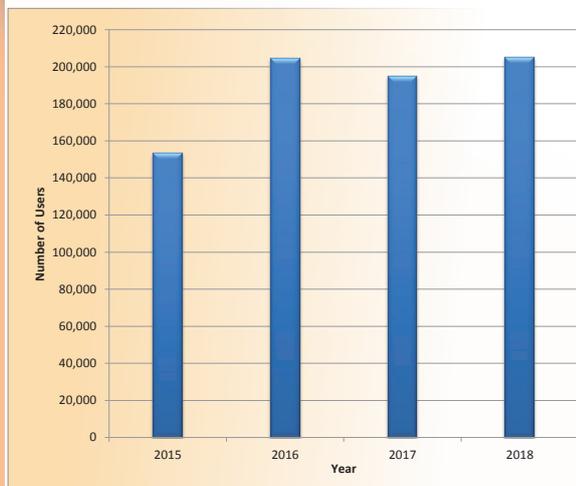


Figure 23 : Usage of SLJOL given on google analytics 2015-2018

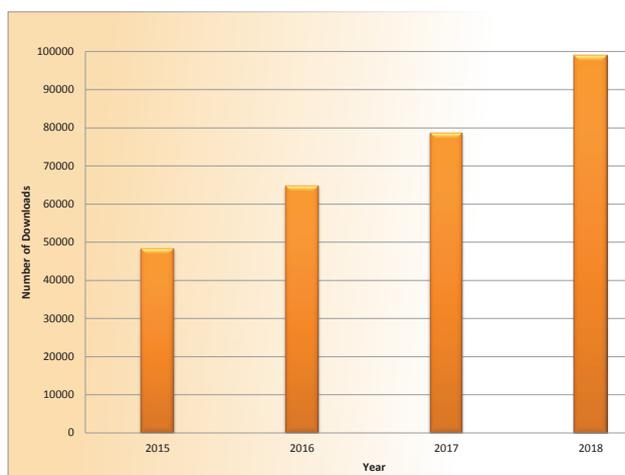


Figure 24 : Full text downloads of SLJOL given on google analytics 2015-2018

## Journal Publishing Practices and Standards (JPPS) Framework

According to the assessment against a detailed and transparent set of criteria of the Journal Publishing Practices and Standards (JPPS) framework made up of internationally recognized high standards of publishing and editorial best practices, 24 journals covered by SLJOL have been offered the one-star JPPS level. The journals have met the JPPS basic quality criteria for at least two years. Twenty two journals have successfully achieved the two-star JPPS level since they have been compliant with additional publishing JPPS quality criteria in addition to the criteria for a one-star journal. As a percentage, 56.7% from the total number of journals covered by SLJOL have been compliant with quality standards given by the JPPS.

The JPPS level is displayed for each journal on the SLJOL website, with a link to a document explaining what that means in terms of the publishing practices and standards that are being achieved by the journal at the time of assessment.

## Workshop on Sri Lanka Journals Online

A two-day workshop was jointly organized by the NSF and the INASP from 21<sup>st</sup> - 22<sup>nd</sup> March 2018 at the NSF for 44 editors who were not able to participate in the previous workshops. The objectives of the workshop were to obtain a better contribution of the editors to the success of the project and make them aware of JPPS standards to improve the quality of their journals.



Additionally, Thirty (30) editors were encouraged to comply with JPPS and obtain a suitable copyright license provided by Creative Commons (CC) Attribution 4.0 International Public License (<https://creativecommons.org/licenses/by/4.0/>) and e-ISSN to their journals as online journals must contain their own CC license and e-ISSN. Editors of 102 journal issues published on SLJOL in 2018 were supported to generate relevant machine-readable CC statements and incorporated those into each pdf version of the journal content in order to guide the readers how the content can be used. Requests were made to SLJOL editors to inform their authors to obtain a free personal, validated ORCID ID (<http://www.orcid.org>) to be displayed on the pdfs of their articles to ensure that their works are correctly attributed.

Thirty-two (32) editors whose journals covered by the SLJOL were guided to perfectly comply with the two-star rating category of the JPPS. Accordingly, the following sections of their journal home pages were updated informatively.

- Update with accuracy all the details about the Editor and Editorial Boards
- Clear and comprehensive guidelines to authors
- Details about editorial policies, data policies and peer reviewed processes
- Ethical responsibilities of research
- Review forms for peer online review process
- The formal copyright statements including an official licensing statement
- Statements related to membership of the Committee on Publication Ethics (COPE)

Ninety-two (92) announcements with relevant cover images were made on the SLJOL home page about publishing of new journal issues and forty-six (46) trouble shooting sessions were successfully attended with the support and guidance of Ms S Cumming, Program Manager INASP. Six (06) demonstrations were conducted for ten (10) editors to provide thorough knowledge of all the processes related to publishing a new issue on SLJOL.

The Promotional tools developed by the SLJOL team were distributed among the research and academic community in state universities and research institutions in order to publicize the SLJOL and obtain greater visibility to local research. This enabled developing trust that quality publications are locally available to submit research articles/manuscripts.

The Ubiquity Press, a United Kingdom-based open access publisher of peer reviewed academic journals, books and data has featured the progress of the SLJOL during the year 2018 in its monthly newsletter (February 2019).

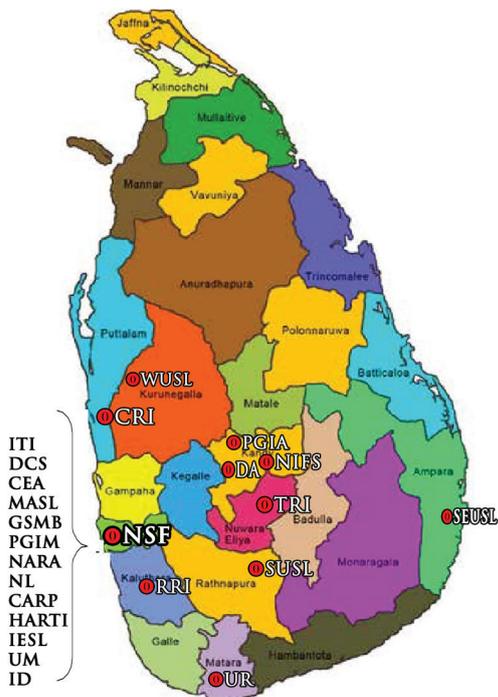


## National Digitization Project (NDP)

National Digitization Project was one of the major projects functioning during 2018 as a key task of the NSLRC. It was launched by the NSF in 2011 to be implemented in several phases, with the objective of digitizing local S&T literature available in research & academic institutions in the country to facilitate easy & quick online access through a national network of Institutional Repositories (IRs). Each phase comprised of three main activities, listed below.

- Digitization of local literature collections in selected libraries
- Establishment of Institutional Repositories (IRs) using DSpace software for each library
- Uploading of digitized documents into IRs

In 2018, phase III of the project was progressing successfully, covering following fifteen key institutions in the country.



ITI  
DCS  
CEA  
MASL  
GSMB  
PGIM  
NARA  
NL  
CARP  
HARTI  
IESL  
UM  
ID

Repositories established under the NDP

- DSC - Department of Census & Statistics
- ID - Irrigation Department
- NSF - National Science Foundation
- CEA - Central Environmental Authority
- GSMB - Geological Survey & Mines Bureau
- ITI - Industrial Technology Institute
- MASL - Mahaweli Authority of Sri Lanka
- NL - National Library
- CARP - Sri Lanka Council of Agricultural Research Policy
- IESL - Institution of Engineers of Sri Lanka
- CRI - Coconut Research Institute
- HARTI - Hector Kobbekaduwa Agrarian Research & Training Institute
- NARA - National Aquatic Resources Research & Development Agency
- NIFS - National Institute of Fundamental Studies
- RRI - Rubber Research Institute
- TRI - Tea Research Institute
- PGIA - Postgraduate Institute of Agriculture
- PGIM - Postgraduate Institute of Medicine
- SUSL - University of Sabaragamuwa
- SEUSL - South Eastern University of Sri Lanka
- UM - University of Moratuwa
- UR - University of Ruhuna

## Progress of Digitization

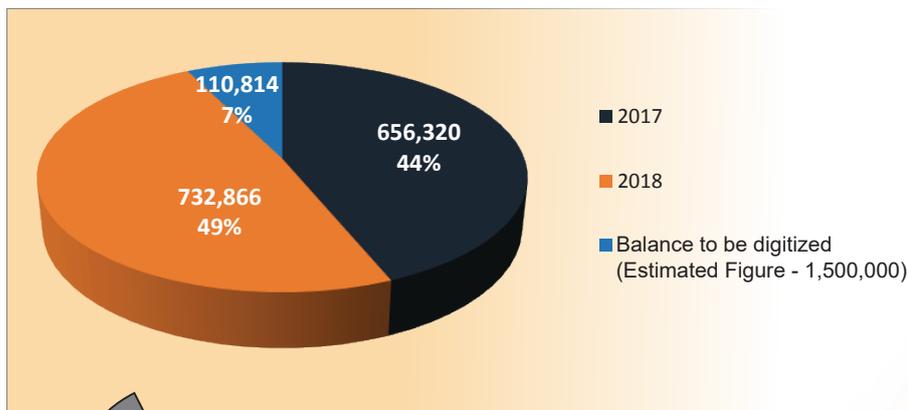


Figure 25 : NDP Phase III - Progress of Digitization (In Terms of No. of Pages digitized)

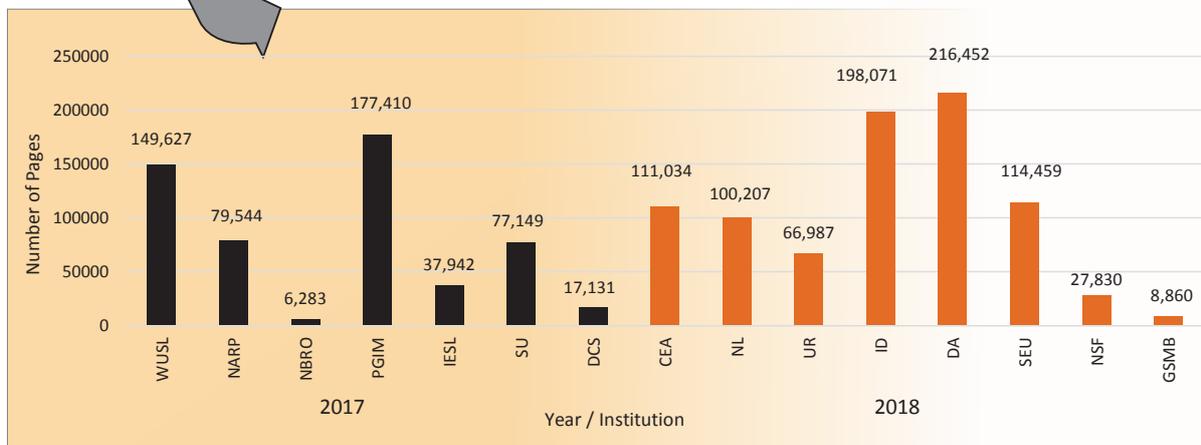


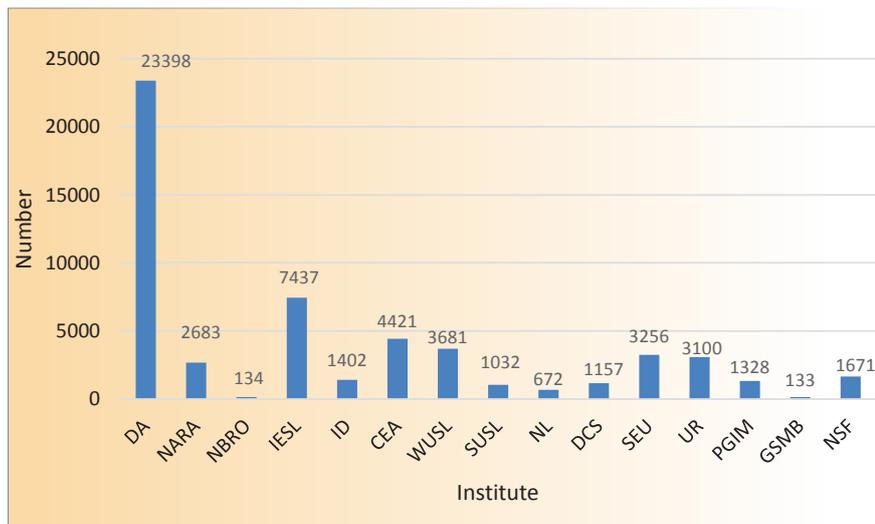
Figure 26 : NDP Phase III - Digitization of Institutional Collections

## Establishment of Institutional Repositories

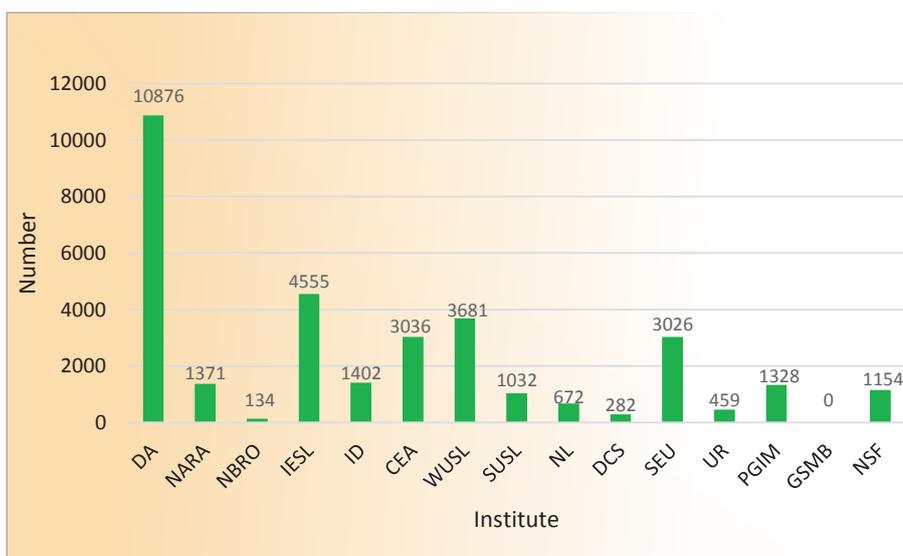
Developing Institutional Repositories (IRs) is one of the key tasks of the NDP. Institutional Repositories for seven institutions, namely DA, NARA, DCS, PGIM, IESL, SU & UR were established successfully in 2018 under Phase III of the project. Totally, 24 Institutional Repositories for 24 institutions were established during the seven years of the project period. Out of 24 IRs, 11 IRs are hosted by the NSF and the other 13 IRs are hosted by other institutions.

## Uploading of Documents to IRs / Recording of Information on Digitized Documents in Databases

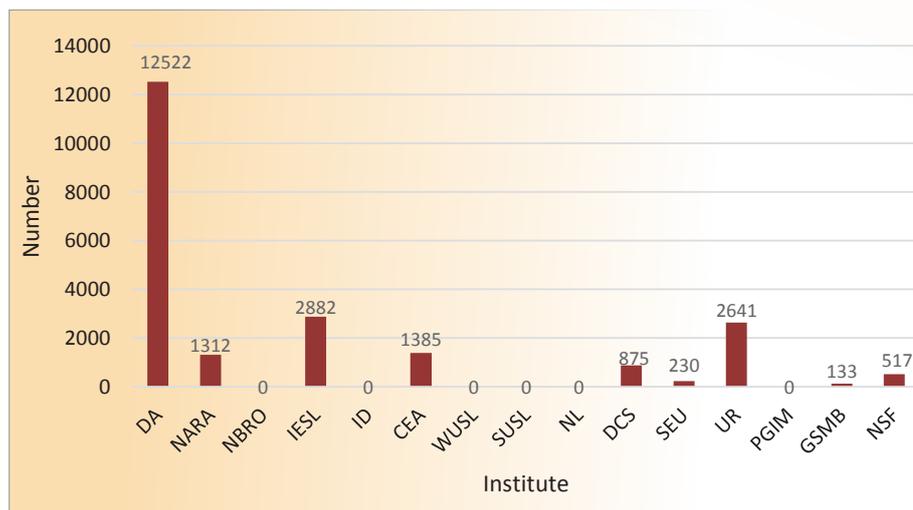
The repositories/databases showed a significant growth during the year under review as illustrated in *Figures 27, 28 and 29*.



**Figure 27 :** NDP Phase III - Number of documents digitized



**Figure 28 :** NDP Phase III - Number of documents uploaded to Dspace/ WINISIS



**Figure 29 :** NDP phase III - Number of documents to be uploaded to Dspace/ WINISIS

The National Digitization Project was reaching its target of setting up of a wide network of Institutional Repositories at the end of 2018. Twenty-four digital repositories have been established since the inception of the project and eleven repositories out of them have been integrated to the NSF digital repository through a central portal, <http://dl.nsf.ac.lk/ohs/> by the end of 2018. It enables searching all the repositories connected to the NSF digital repository through one single window paving the way for wider access to S & T literature output of the country.

### **Capacity Building of Library Professionals in Other S&T Libraries for Effective Dissemination of Information Services**

Providing 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 technical assistance was provided at 54 occasions to the libraries of the participating institutions of NDP and the libraries which use WINISIS, JISIS & DSpace for library automation & establishment of digital repositories. Further, technical support was provided to SLJOL related queries at 93 occasions.

### **Value addition to information dissemination**

- A two-day workshop was conducted on 21<sup>st</sup> & 22<sup>nd</sup> of March 2018 for Journal Editors of SL Journal Online Platform. INASP provided financial assistance worth of 2,500USD and a resource person to conduct this workshop. 42 participants from 32 journals were trained to handle Digital Objective Identifiers (DOIs), demonstrated online peer-review system, introduced Journal Publishing Practices and Standards (JPPS) process and the role of Crossref.
- A two-day workshop on “DSpace Software” was conducted on the 25<sup>th</sup> & 26<sup>th</sup> July 2018 at NSF for library professionals of the participating libraries covered in phase III of the National Digitization Project. 16 participants were trained for installation & configuration DSpace Digital Library Software.
- A Digital Library Awareness Programme was successfully conducted for Science & Technology Officers of Vidatha Centers on 26<sup>th</sup> October 2018. The programme contained the themes such as NSF & digital library environment, use of digital library for education and knowledge sharing, digital library development & its applications, how to build a digital library for an organization.

- A three-day 1<sup>st</sup> training workshop on Java CDS/ISIS (latest version of WINISIS) Digital Library Software was conducted from 1<sup>st</sup> to 3<sup>rd</sup> November 2018. 19 librarians and IT professionals were trained for installation & configuration of JISIS. The web based, multilingual Java based Digital Library software provides fast processing speed and economical storage management facility while enabling smooth migration from WINISIS databases to JISIS.
- Providing training on visits to NSLRC is conducted every year for different Library and Information Science training institutions to demonstrate digital library environment setup for open access by general public. This year, three groups of students from Sri Lanka Library Association, University of Kelaniya and Bhikshu University of Anuradhapura visited NSLRC and staff of the NSLRC demonstrated the facility and services provided to the public.
- In-house training was provided to two undergraduates of University of Kelaniya on NSLRC activities and services.

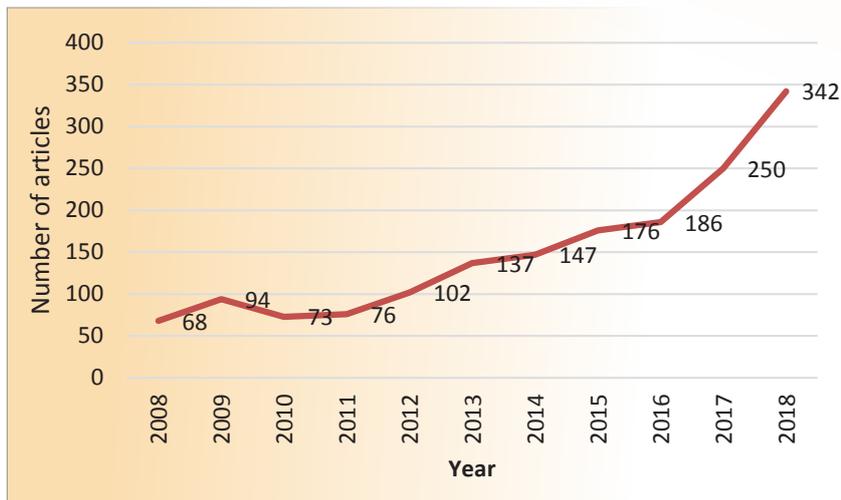
## Journal of the National Science Foundation of Sri Lanka (JNSF)

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, AGRICOLA and EBSCOhost. The journal is published both online and in print form. The full text of JNSF can be accessed through the Sri Lanka Journals Online (SLJOL) website free of charge.

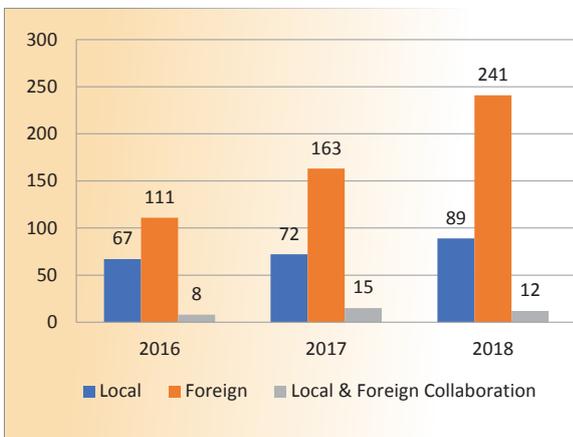
During 2018, all four issues of the JNSF volume 46 (issues 1, 2, 3 & 4) were published on time. The 04 volumes collectively published 54 full research articles and 02 research communications thus, positioning local research in the global arena. Further, 04 timely and eye-opening Editorials titled "Aligning research to the national development agenda", "dissemination of S&T findings, directions for future research", "Science communication" were also published, drawing the attention of researchers to the important aspects of research and communication of their findings.

Though the number of submissions to the JNSF increased exponentially during the last few years, the number of articles accepted for publication did not increase significantly, due to the thorough review process adopted by the NSF, to maintain the quality of the Journal.

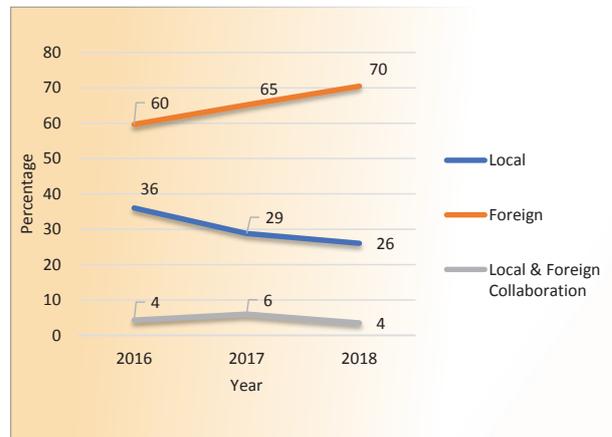




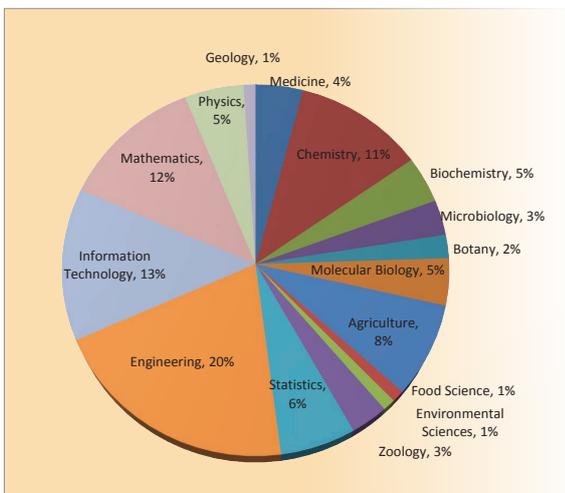
**Figure 30 :** Number of articles submitted to JNSF during 2008 - 2018



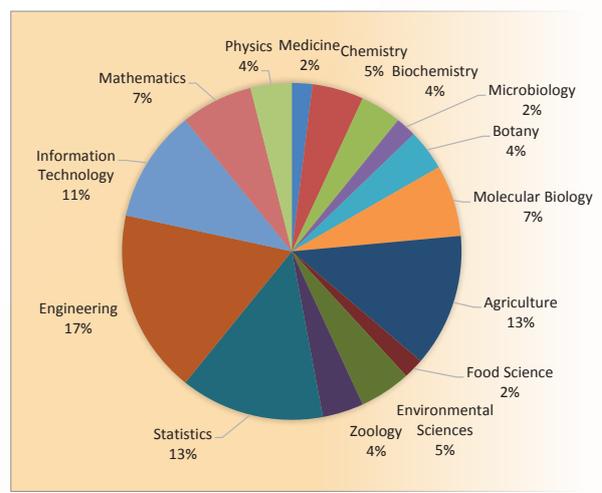
**Figure 31 :** Article submissions by the origin (2016 - 2018)



**Figure 32 :** Percentage increase/ decrease of submissions during 2016 - 2018



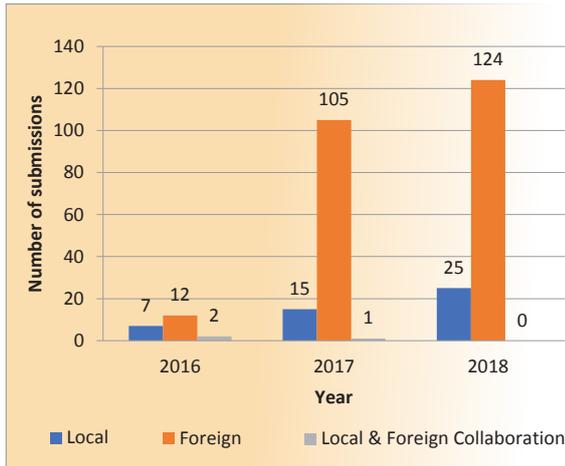
**Figure 33 :** Submission of articles by discipline in 2018



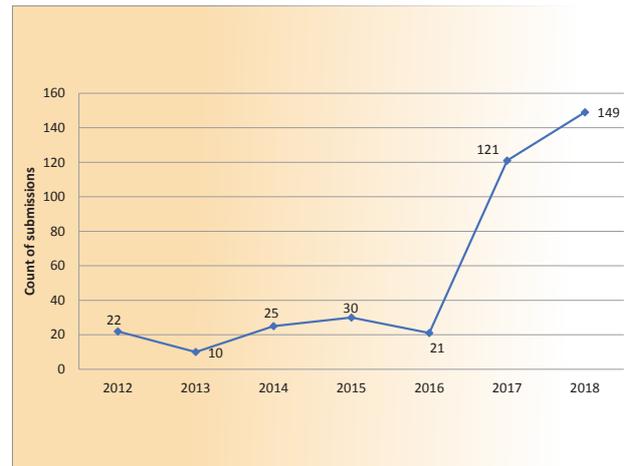
**Figure 34 :** Percentage of articles published by discipline in 2018

## Sri Lanka Journal of Social Sciences (SLJSS)

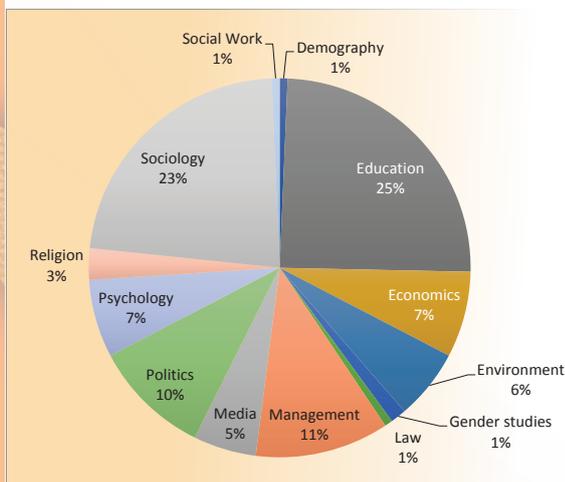
Sri Lanka Journal of Social Sciences (SLJSS) was launched in 1978 as a premier social science journal in Sri Lanka. It is published twice a year, in June and December, entertaining social science contributions in the form of research articles, review articles, work-in-progress articles, correspondence and invited book reviews. In general, the journal publishes social science articles in Sinhala, Tamil and English languages, on topics relevant to Sri Lanka and South Asia. All papers are subjected to double-blind peer review. The journal provides open access to all its articles through the Sri Lanka Journals Online (SLJOL) platform. All articles in the journal are published under the Creative Commons License "Attribution-No Derivatives-CC-BY-ND 4.0".



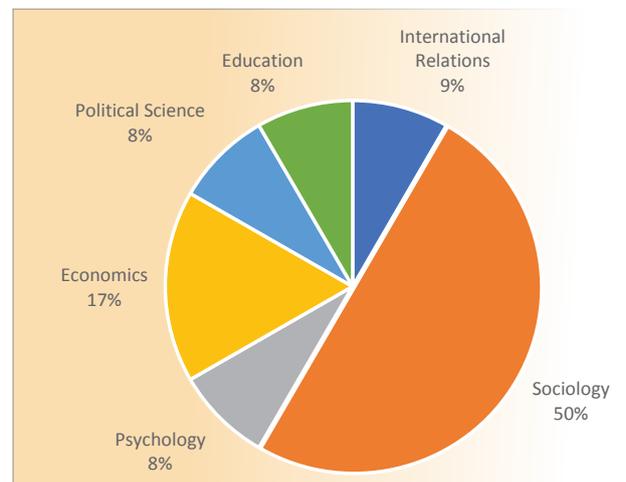
**Figure 35 :** Article submission by origin during 2016-2018



**Figure 36 :** Total number of articles submitted



**Figure 37 :** Submission of article by discipline in 2018



**Figure 38 :** Percentage of articles published by discipline in 2018

Sri Lanka Journal of Social Sciences (SLJSS) has stepped up on indexing by being included in the Clarivate Analytics (Former Thomson Reuters) Emerging Sources Citation Index (ESCI) since July 2018, beginning with Volume 41; Issue 01. Criteria such as English-language requirements, electronic format, evidence of peer review, evidence of ethical publishing practices and timely publication were considered for being indexed in the ESCI. The Journal Publication Unit of the NSF is working towards SLJSS's next step, which is to reach the Social Sciences Citation Index (SSCI). SLJSS is already indexed in Elsevier SCOPUS database.

In the event of improving the quality of SLJSS, the journal has adopted a few good practices. Since June 2018, SLJSS started publishing its articles under the Open Access Creative Commons License "Attribution-No Derivatives-CC-BY-ND 4.0". It has also upgraded its Author Guidelines and has introduced clear definitions of its submission categories.

SLJSS published 12 articles in total in 2018 (June & December). These include four review articles published on political science, international relations and sociology. These review articles were related to peace building, Sri Lanka's relations with India and China, Post-colonial sociology and the social and historical context of solar eclipses.

Six research articles on Education, Psychology, Sociology and Economics were published addressing stroke in learning and teaching, social capital under ethnic conflict in Sri Lanka, stress coping mechanisms of medical undergraduates in Sri Lanka, microcredit for women in Bangladesh, hegemony of international beauty pageants and labour force participation of Sri Lankan women. The June 2018 issue contained a book review done by C.R. de Silva on *Confrontations with Colonialism: Resistance, Revivalism and Reform under British Rule in Sri Lanka 1796-1920* (Volume 1) authored by P V J Jayasekera. Anton Piyarathne's *Constructing Commongrounds: Everyday Lifeworlds Beyond Politicized Ethnicities in Sri Lanka* was reviewed by Prof. Tudor Silva for the December 2018 issue.







# Programme 4

Popularizing Science amongst  
School Children and General Public



## Science Popularization by way of publications

### Publishing “Vidurava” Science Magazine

The “Vidurava” science magazine, which is published as a Science Bulletin since 1978 is one of the oldest science magazines in the arena. The magazine has been published 40 years up to 2018 and in three languages (Sinhala, Tamil and English) on quarterly basis in the areas of Science, Technology and Innovation. Accordingly, the magazine is published in January, April, and November. The November issue is generally published as a special issue aligning with the ‘World science day’ schools programme organized by the NSF. “Vidurava” is distributed among School Science Societies registered with the NSF, Vidatha Centers, University Science Societies, University Science Libraries, Zonal Science Directors, and Provincial Science Coordinators free of charge.

In 2018, the magazine was published in the following themes:

1. Solid Solution to Solid Waste (Vol. 35, No. 01) - January 2018
2. Science for Sustainable Living (Vol. 35, No 02) - May 2018
3. Taking the Country Forward through Science and Technology (Vol 35: No 03) - October 2018

The issues 2 & 3 were published as special issues in connection with the NSF School Science Day programme celebrated on the 7<sup>th</sup> May and NSF "Founders day" held on the 4<sup>th</sup> November to commemorate the 50<sup>th</sup> anniversary of National Science Foundation.

*Science popularization is one of the key mandates assigned to the NSF by the Science & Technology Development Act no 11 of 1994. Accordingly, the NSF planned to conduct science popularizing activities targeting all sectors including general public. There were many activities planned for 2018 specially focusing on school children.*



### Science booklets and books

NSF provides financial support to the authors to publish books or booklets in the areas of science, technology and innovation. The main objective of the Grant scheme is to increase scientific literacy among different strata of the general public specially among school children. The books or booklets are generally published on different concepts of science, natural phenomena, critical observations on current issues in the context of S&T.

In year 2018, the following three (03) manuscripts were in several stages of review & evaluation with editing.

1. Booklet on “Kidney Diseases”
2. Book on “Rice Production: Principles, Practices and Constrains in Sri Lanka”
3. Book on “Historical Review of Science Planning and Research in Sri Lanka (1812-2000)”

## Establishing a national platform for science popularization through secondary and tertiary education systems

### School Science Society Programme (SSSP)

The SSSP was started in 2005 with the objective of fostering school children to acquire knowledge on latest developments in various fields of STI, and to make them aware of the application of scientific knowledge in day-to-day activities. All schools under the categories 1AB, 1C, Type 2, Type 3 and private schools are encouraged to register with the NSF forming an island wide web of School Science Societies (SSS) which will act as focal points in popularizing science and engage in educational activities. At the end of 2018, the total number of registered SSSs was increased up to 935, marking a continuous yearly-based progress. Accordingly, the services of NSF are now stretched to 503 1AB schools and 432 other schools of different other types.

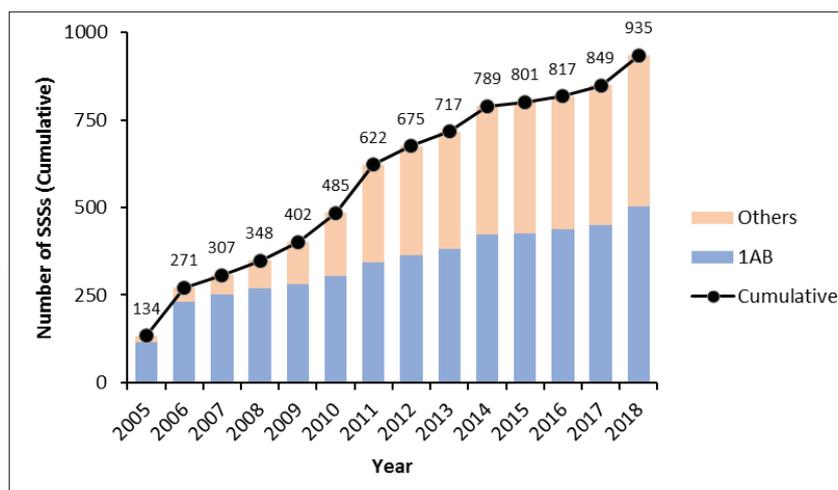


Figure 39 : The growth of School Science Societies registered with the NSF from 2005-2018

In 2018, 86 new SSSs were registered with the NSF. Majority out of 86 were 1AB schools having Advanced Level Science Stream Classes (Figure 40).

The awareness campaign conducted in Elpitiya Educational Zone along with the awareness campaigns conducted in Southern and Western provinces have caused positively in the increased number of registrations from the said regions.

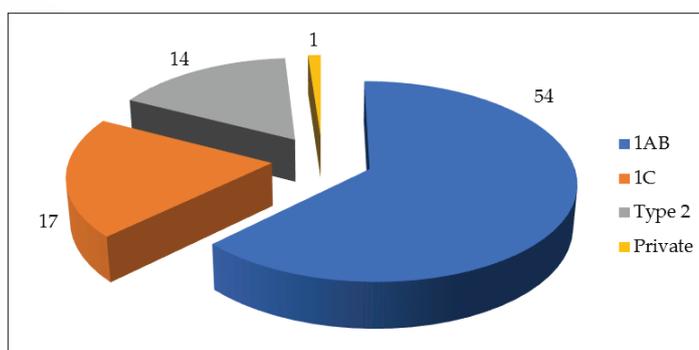


Figure 40 : School science Societies Registered in 2018

The NSF continued its support in conducting scientific activities organized by the SSSs as well as by the “Vidatha” Centres, targeting school community. Accordingly, several resource persons in various disciplines were provided to conduct guest lectures and training sessions at the several events organized by the SSSs during the year (*Annex 16*).

## Inter School Science Society Competition (ISSSC) 2018

The ISSSC 2018 included six (06) competitions namely, short science drama, role play, “Viridu”, science essay, manual posters and digital story-telling. All the Competitions were conducted under the theme: “Science for Sustainable Living”.

Some of the competitions such as short science drama, role play & “Viridu” competitions were held in two rounds. The first round was held as Regional Competitions conducted in Colombo, Kurunegala, Galle and Kegalle Districts. The winners at Regional level competed in the final rounds held at the Mahabodhi Society of Sri Lanka, Colombo 10. The winners were facilitated with training under the guidance of veteran Prof. Mangala Senanayake and Mr Rukman Thilakaratne of the University of Visual & Performance Arts to improve the quality of performance prior to dramatization at the NSF School Science Day held at the BMICH on 7<sup>th</sup> May 2018.

In addition to the above 06 Competitions, the performance of the registered School Science Societies was evaluated under the Star Ratings Competition based on the activities conducted during the year 2017. Accordingly, four (04) School Science Societies were awarded “5 Stars” as the best functioning School Science Societies in 2017 while 10 & 5 schools were awarded “4 stars” and “3 Stars” respectively, considering the efforts made by them in popularizing science amongst the school community as well as the general public. The “5 Stars” SSSs were presented with all-in-one computers appreciating the performance. The winning schools are given in *Table 4*.

**Table 4:** Star Ratings for the Best Performing School Science Societies in 2017

Performance Level	Names of the School
5 Stars	<ol style="list-style-type: none"> <li>1. Harischandra National School, Negombo</li> <li>2. Sirimavo Bandaranaike Vidyalaya, Colombo 07</li> <li>3. Vijaya Maha Vidyalaya, Chilaw</li> <li>4. Yashodara Devi Balika Maha Vidyalaya, Gampaha</li> </ol>
4 Stars	<ol style="list-style-type: none"> <li>1. Dudly Senanayake Vidyalaya, Colombo 05</li> <li>2. Gnanodaya Maha Vidyalaya, Kalutara</li> <li>3. Gurukula Vidyalaya, Kelaniya</li> <li>4. Miriswatta Maha Vidyalaya, Miriswatta, Bentota</li> <li>5. Paddiruppu MMV, Kaluwanchikudy</li> <li>6. Rajasinghe Central College, Ruwanwella</li> <li>7. Rathnavali Balika Maha Vidyalaya, Gampaha</li> <li>8. Sri Sangamitta Balika National School, Matale</li> <li>9. Swarna Jayanthi Maha Vidyalaya, Kegalle</li> <li>10. Udawela Sri Piyarathana Maha Vidyalaya, Agalawatta</li> </ol>
3 Stars	<ol style="list-style-type: none"> <li>1. Karukkuwa Sugathananda Maha Vidyalaya, Karukkuwa, Madampe</li> <li>2. Royal College, Polonnaruwa</li> <li>3. Sri Rathnapala Navodya Maha Vidyalaya, Mahauswewa, Anamaduwa</li> <li>4. St Joseph's Balika Maha Vidyalaya, Kegalle</li> <li>5. St. Mary's College, Kegalle</li> </ol>

The teacher, Mrs H A M Dilkushi of the Vijaya Maha Vidyalaya, Chilaw was conferred with the “NSF Award for Teachers in Promoting Science - 2018” recognizing her dedicated service to the school community in popularizing science.

All the winners were felicitated at the NSF School Science Day programme held on the 7<sup>th</sup> May 2018 at the BMICH.

## **University Science Society Programme (USSP)**

This programme was established in 2014 with the objectives of;

- Creating a platform for undergraduates to develop their knowledge and skills on national activities
- Enhancing the measures of science communication
- Improving writing skills
- Utilizing the knowledge to popularize science amongst school children and general public

The total number of University Science Societies registered with the NSF was 49 in the end of 2018.

## **NSF School Science Day 2018**

The programme, NSF School Science Day 2018 was one of the major events held in 2018 under science popularization marking the 50 years of dedicated service to the community. It was successfully organized on the 8<sup>th</sup> May 2018 at the BMICH, under the theme: "Science for Sustainable Living". The Deputy Minister of Science, Technology, Research, Skills Development & Vocational Training and Kandyan Heritage, Hon. Karunarathna Paranawithana graced the occasion as the Chief Guest of the event. The keynote speech of the event was delivered by Prof. Sarath Kotagama of the University of Colombo on the topic "Science for Sustainable Living". More than 1,200 students and teachers/principals representing SSSs including the award winners participated in the School Science day Programme 2018.

The NSF felicitated the winners of the following competitions at the NSF School Science day programme:

1. The Intel International Science & Engineering Fair (Intel ISEF 2017)
2. Sri Lanka Science & Engineering Fair (SLSEF, for the years of 2018 & 2017)
3. Science Research Projects Competition (SRPC, for the years of 2016 & 2017)
4. NSF Award for Teachers in Promoting Science
5. Star Rating Science Societies
6. Inter School Science Society Competition (ISSSC) 2017

**Table 5 :** The winners of the ISSSC 2017

Competition	School	Names of the winners
Short Science Drama	Ashoka Maha Vidyalaya, Rabukkana	-
Roleplay	Royal Central College, Polonnaruwa	U J C Akshamal Udugodage
Viridu	Vijitha Central College, Weerapokuna	N P Rajitha Lakruwan R D Udara Sithumini
Science Essay	Harischandra National College, Negombo	N G Gayathree Imasha Dilshani
Digital Storytelling	Sri Sangamitta Balika National School, Matale	M W A U K Madugalla
Manual Posters	PL/Royal Central College, Polonnaruwa	D M Vimukthi Rukmal Bandara Dissanayake

Altogether, one hundred and nineteen (119) award recipients were recognized at this event. The whole event was streamed on line and currently available on social media "YouTube". The special issue of "Vidurava" science magazine written on the theme "Science for Sustainable Living" was distributed among the participants.

## Grant schemes promoting "Science for All"

### Science Education and Popularization Programme (SEPP)

This scheme was implemented with a view to facilitating activities organized by the schools, universities and institutions to popularize science among all. The main objective is to uplift the science education and strengthen scientific knowledge of the population for application in the day-to-day activities and develop skills in the latest scientific and technological developments. The total amount approved under this scheme was Rs. 1,110,000/-. The details of awards are given in *Annex 17*.

### Overseas Science Education Programme (OSEP)

Providing international exposure to students and teachers/national coordinators/team leaders on trends in modern science, technology, research and innovation, the grant scheme OSEP was initiated by the NSF in 2018.

Out of twenty-seven applications received in 2018, sixteen applicants were supported to take part in the scientific events held abroad. A total amount of Rs. 2,390,879.72/- was approved under this scheme and a total amount of Rs. 1,391,354.55/- was released in 2018. The details of the grant recipients are given in *Annex 18*.

## Inculcating a research culture amongst the school children

### Science Research Projects Competition (SRPC)

The NSF organizes the Science Research Projects Competition (SRPC) as an annual event starting from 2008 with the objective of enhancing the innovative thinking, creativity and the investigative ability amongst the school children in the country. Schools registered with the NSF are entitled for this competition. Students from Grade 9 - 12 are eligible to participate at this competition.

The projects registered for this competition undergo constant monitoring and progress reviews conducted by the NSF. The competition is conducted in two steps; STEP 1 to select 20 best projects based on Multi Media Presentations and STEP II to select 10 best projects based on poster presentations out of the 20 selected at STEP 1 (*Annex 19*).

In 2018, 572 applications were received expressing interest to take part in the competition. Three introductory workshops were conducted in Colombo, Kandy and Batticaloa with the participation of 486 school children and teachers to write project proposals. The participants came up with 126 science research project proposals and 79 were selected for the Competition after a thorough evaluation. Each project was assigned a senior scientist to mentor the students.

The SRPC 2018 was in progress from 01<sup>st</sup> August and concluded on 28<sup>th</sup> December. Two Progress Review Workshops were conducted during this period. The STEP I and STEP II of the competition were held from 17<sup>th</sup> - 18<sup>th</sup> January and 31<sup>st</sup> January 2019 respectively.



### Sri Lanka Science and Engineering Fair (SLSEF)

Sri Lanka Science & Engineering Fair (SLSEF) 2018 was conducted on 19 February 2018 at the Institution of Engineers Sri Lanka (IESL) with the 10 best science projects selected from the SRPC 2017 and the best ten inventions selected from the Junior Inventor of the Year 2017 organized by IESL. The winners (listed below) out of 20 competitors were felicitated at the NSF School Science Day Programme.

1. K R R Induwara - Ananda National School, Chilaw
2. L S Sasipriya Silva - De Mezenode College, Kadana
3. K M G Kavinda Bandara - St` Anthony`s College, Kandy
4. K G Wijayawardana - St` Anthony`s College, Kandy



*From left to right; L S Sasipriya Silva - De Mezenode College, Kadana, K R R Induwara, Ananda National School, Chilaw, K M G Kavinda Bandara - St` Anthony`s College, Kandy, K G Wijayawardana - St` Anthony`s College, Kandy*

### **Intel International Science and Engineering Fair (Intel ISEF)**

The Intel international Science & Engineering Fair (Intel ISEF) 2018 held at Pittsburgh, Pennsylvania, United States from 13<sup>th</sup> - 19<sup>th</sup> May 2018 was represented by Master K R R Induwara of Ananda National School, Chilaw as the national winner of the SLSEF 2018 and won the third place under the category, Microbiology. He was felicitated at the Grand Award Ceremony of the Intel ISEF 2018 for his winning project titled "Isolation of a potential microbial agent for controlling dengue vector mosquitoes in Sri Lanka" which was carried out under the SRPC 2017. Kavindra Wijayawardana & Gajindu Bandara, of St. Anthony's College, Katugasthota and L S Sasipriya Silva of De Mezenode College, Kadana, the winning competitors of JIY, were the other two participated at the Intel ISEF 2018.



*K R R Induwara, Ananda National School, Chilaw - Grand award winner of Intel ISEF 2018*





## Programme 5

Promoting and enhancing capacity building through liaising with individuals, associations or institutions locally and internationally and facilitating return of Sri Lankan scientists and technologists of distinction for S&T development



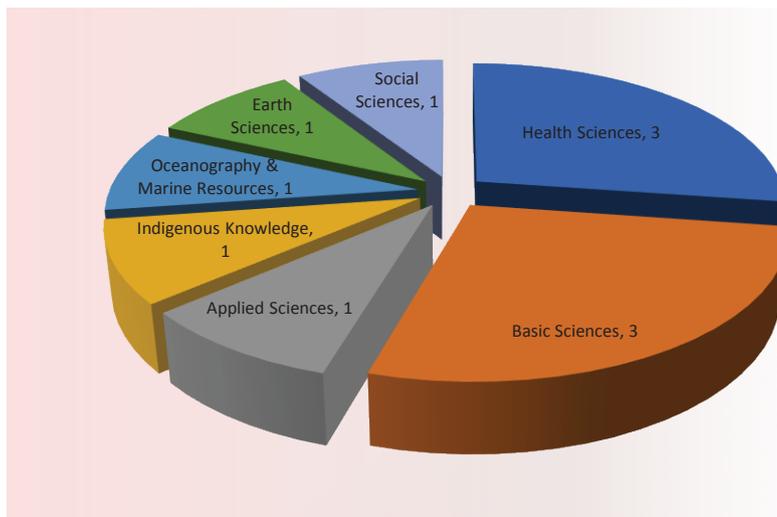
In the global system of innovation, Sri Lanka cannot stay isolated from the world leading scientific organizations, research institutes and universities. Aiming at strengthening Sri Lanka’s RDI, scientists and researchers are encouraged to keep track with rapidly developing RDI of the globe. Accordingly, the NSF maintains international S&T cooperation and builds partnerships with the S&T community abroad. There are many programmes and schemes established under Programme 5 to support the Sri Lankan scientists and researchers to take part at international scientific events sharing their research outputs and to obtain S&T expertise at laboratories abroad where such facilities and expertise are not available locally.

*Besides fostering RDI initiatives, the NSF has been continuously engaged in multifaceted tasks supporting S&T capacity building in the country and building & strengthening partnerships with the globe for S&T development in Sri Lanka.*

## Research Scholarships

It is considered that the output of postgraduate research degrees by the Sri Lankan universities is not adequate to deliver the S&T output required for the socio-economic upliftment. As such, it is important to attract and encourage science/engineering graduates to conduct full-time research leading to research degrees. The programme, “Research Scholarships” provides financial support to Sri Lankan science and engineering graduates to conduct full-time research (within Sri Lanka) leading to MPhils and PhDs.

Eleven (11) new Research Scholarships were awarded in the year 2018 (*Annex 20*) for Research Students to pursue their higher studies in multidisciplinary areas as indicated in *Figure 41*. Thirty (30) ongoing Research Scholarships were monitored and five scholarships were completed in 2018 (*Annex 21*).



**Figure 41** : Research Scholarships awarded in 2018: Distribution in different study disciplines

## Postdoctoral Research Scientist Grant

Postdoctoral Research Scientist grants are awarded to scientists/ engineers with good research records and recent doctoral degrees to carryout full-time research in the country up to two years in all fields of Science & Technology. As is done with the other schemes, this scheme is operational with the objective of attracting postdoctoral scientists/ engineers through appropriate incentive schemes to support postdoctoral research locally after a thorough evaluation of research proposals.

One grant was awarded in July 2018 to Dr Chamindra Lakmali Vithana of the Department of Geology & Postgraduate Institute of Science (PGIS), University of Peradeniya, to work on a project on “Characterization and hazard assessment of acid sulphate soil (ASS) materials in Muthurajawela wetland in Sri Lanka: A preliminary study”. This study will create knowledge on the current status of the ASS in Sri Lanka, the potential of acidity production and an estimation of the acidity risk by ASS materials and trace metals behaviour in Muthurajawela. The findings on ASS geochemistry and the mineralogy would be of immense value in planning agricultural, construction and other anthropogenic activities in Muthurajawela.

## Grant Support for knowledge sharing

### NSF International Travel Grants

The purpose of awarding Travel Grants is to provide an opportunity to Sri Lankan scientists and technologists to present their research findings at scientific events take place abroad and to acquire scientific knowledge on new discoveries, achievements and developments and to experience global moves. The grantees are encouraged to establish new collaborations that enrich and enhance their research activities and to acquire new scientific knowledge through new developments that has happened across the globe.

The NSF awarded 58 Travel Grants in 2018 and the details are given in *Annex 22*.

Analysis of Travel Grants awarded in 2018 is based on the following criteria; type of presentation (Oral/poster/ invited speaker/ lecturer), subject field and the applicant’s affiliation

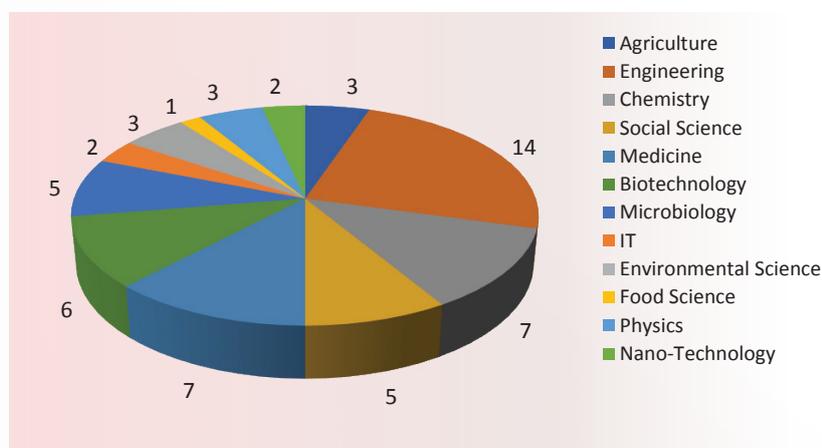
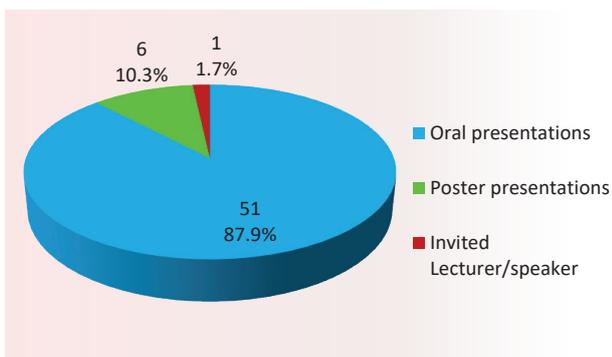
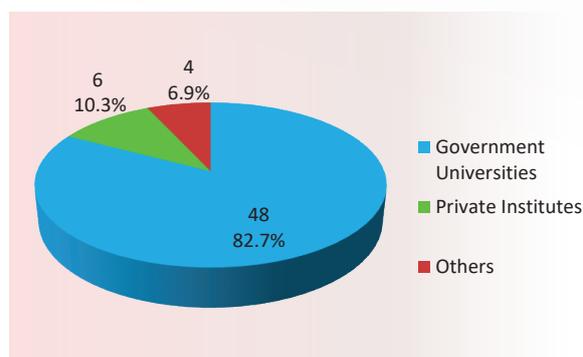


Figure 42 : Travel support under subject fields



**Figure 43 :** Travel support based on type of presentation



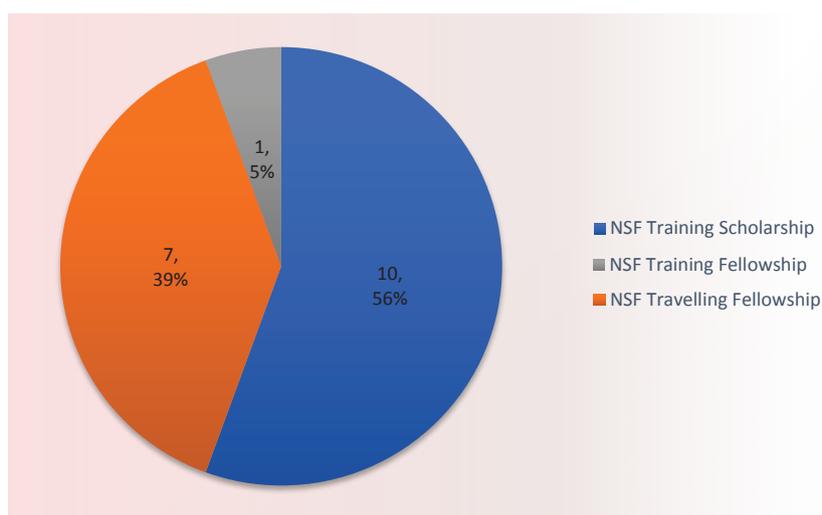
**Figure 44 :** Travel support based on affiliation of the applicant

## Overseas Special Training Programme (OSTP)

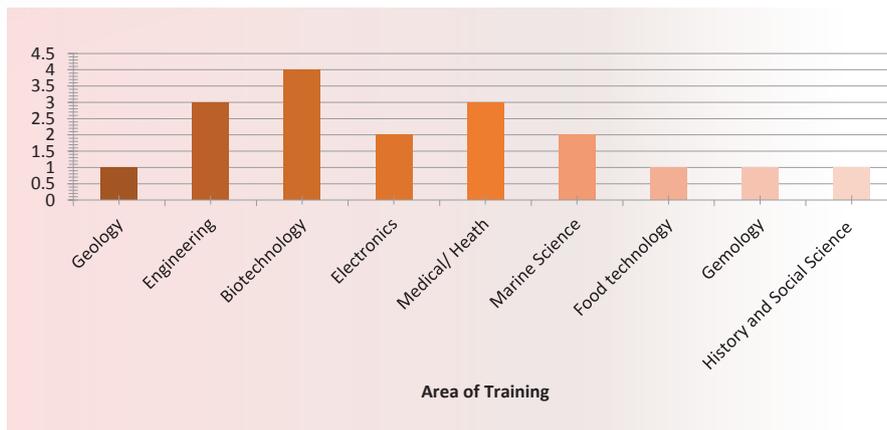
The purpose of awarding OSTP grants are to enhance national capacities of Sri Lankan scientists by providing training opportunities at centers of excellence abroad. This will enable to build S&T expertise in scarcely available fields locally.

Under the OSTP grant scheme, 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 special 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 are not available in Sri Lanka currently or in the foreseeable future.

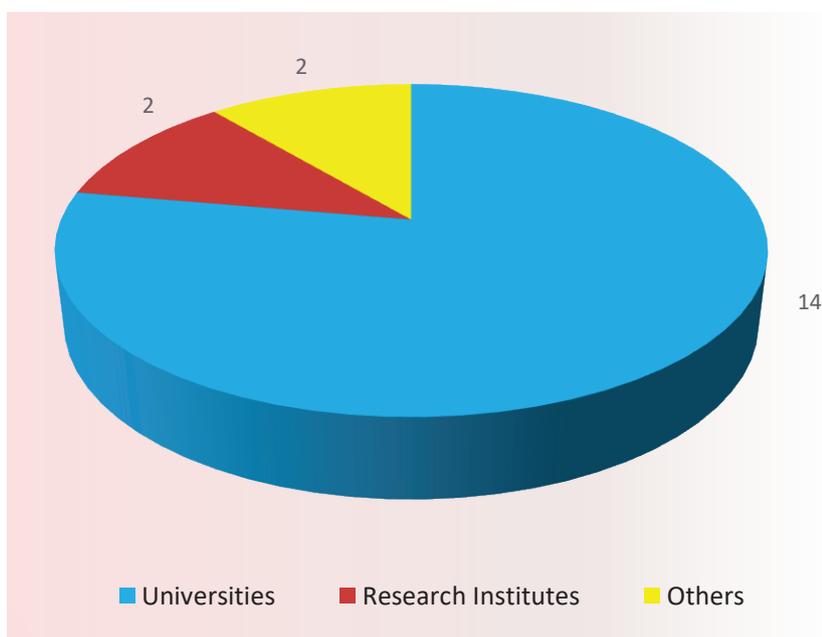
The NSF awarded 18 OSTP Grants in 2018. The details are given in *Annex 23*. The analysis of OSTP Grants awarded in 2018 is given in *Figures 45, 46 & 47* based on the type of the grant, area of the training and the applicant's affiliation



**Figure 45 :** OSTP Grant awarded based on the type



**Figure 46 :** OSTP Grant awarded based on the area of the training



**Figure 47 :** OSTP Grant awarded based on the affiliation of the applicant

## International Partnerships for Science and Technology (IPSAT)

### Global collaborations for local problems

The International Partnerships for Science and Technology (IPSAT), is a scheme set out to obtain services of high caliber scientists and technologists working abroad. It is directed at promoting international research collaborations, technology transfer, and obtaining expertise towards developing a globally-engaged community of scientists and technologists in Sri Lanka. Accordingly, this programme will assist public sector institutions, universities, research institutions and industry to bring down foreign-based scientists, engineers, science and technology policy makers and research personnel, and offer service assignments for a stipulated period in Sri Lanka.

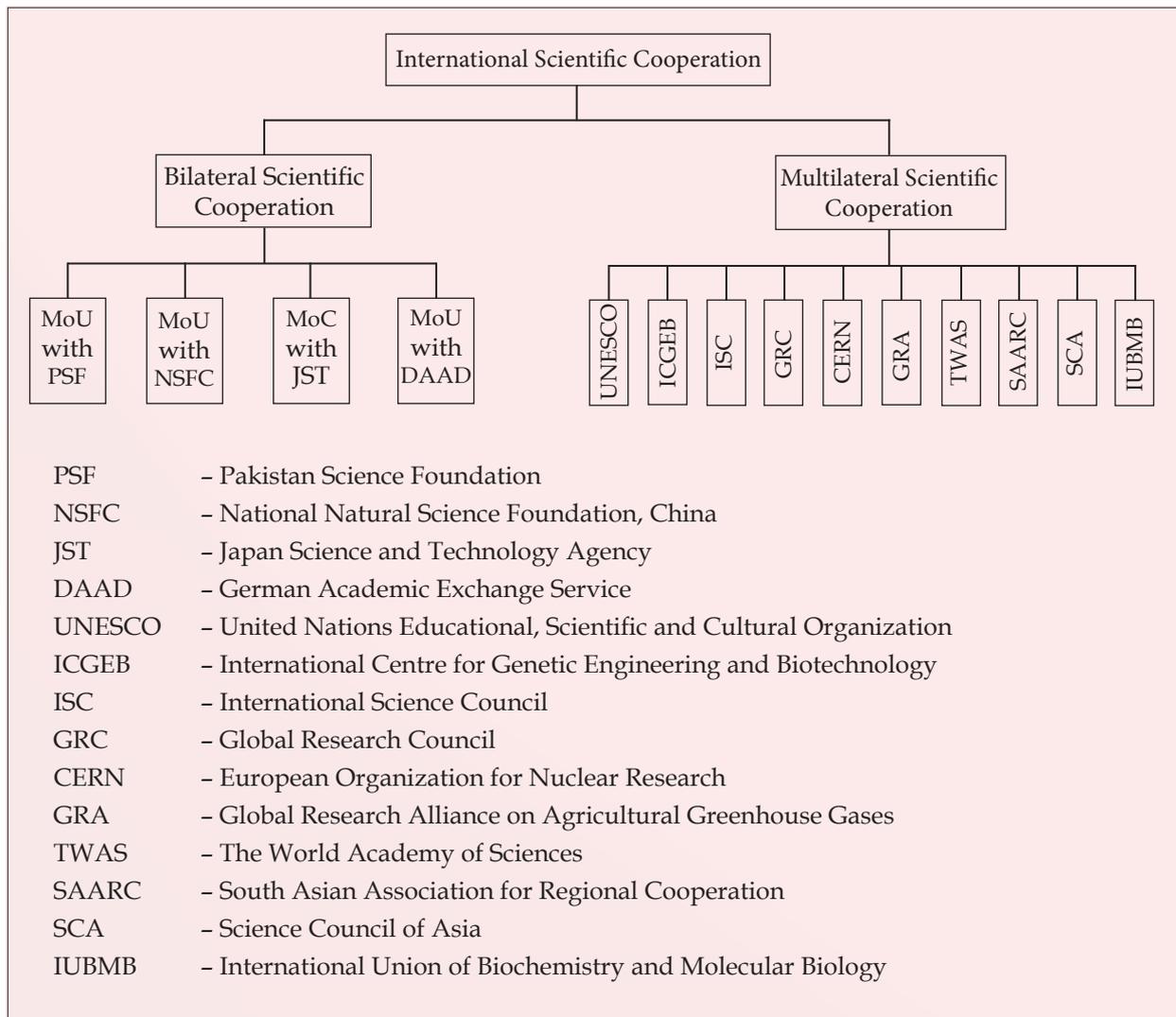
The NSF awarded 8 IPSAT Grants in 2018. The details are given in *Annex 24*. The names of experts visited Sri Lanka with other details are given in *Table 6*.

**Table 6 :** The NSF awarded 8 IPSAT Grants in 2018

No.	Resource person/s and Affiliation	Specialized Academic Discipline
01	<b>Prof. Joseph Daniel Ortiz</b> Kent State University, USA	Geology
02	<b>Prof. Shireen Assem</b> Agricultural Genetic Engineering Research Institute, Egypt <b>Prof. Liyanage C De Silva</b> University Brunei Darussalam <b>Dr Girish Nath Jha</b> Jawaharlal Nehru University, India	Genetic Engineering  Smart Grid Technologies, Smart Home Research  Computational Linguistics
03	<b>Dr D D Samarasekera</b> National University of Singapore <b>Prof. Andrew Dawson</b> Royal Prince Alfred Hospital, Sydney <b>Prof. Ravi Silva</b> Surrey University <b>Prof. Andrew McBain</b> The University of Manchester	Medical and Health professional education  Pharmacology & Toxicology  Nanotechnology, Nano-Electronics  Microbiology
04	<b>Prof. Virander Singh Chauhan</b> International Centre for Genetic Engineering and Biotechnology, New Delhi <b>Prof. Subhra Chakraborty</b> Jawaharlal Nehru University Campus, New Delhi <b>Prof. Sarman Singh</b> All India Institute of Medical Sciences, New Delhi <b>Prof. Andrew B Holmes</b> Australian Academy of Science, Melbourne Laureate	Malaria parasite biology and vaccine development  Plant Genome Research  Clinical Microbiology & Molecular Medicine  Chemistry, Polymer chemistry, Biotechnology
05	<b>Prof. Shaheen Mehtar</b> Faculty of Medicine & Health Sciences Cape Town, South Africa <b>Ms Yvonne Iroegbu</b> University Hospital Lewisham, London <b>Dr John M Stelling</b> Harvard Medical School, USA <b>Ms Amy Kolwaite</b> Centres for Disease Control and Prevention USA	Infection control, Infectious diseases  Antimicrobials: antimicrobial stewardship, antibiotics, antifungals  Public health  Public health and Nursing
06	<b>Dr Prashanth N. Suravajhala</b> Birla Institute of Scientific Research, India	System biology, Functional generation sequencing

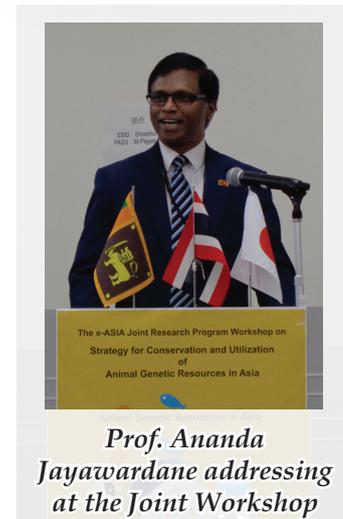
No.	Resource person/s and Affiliation	Specialized Academic Discipline
07	<p><b>Prof. M G Dissanayake</b> Lakeland College, Canada</p> <p><b>Prof. M A Huffman</b> Kyoto University Inuyama, Japan</p> <p><b>Prof. Sudipta Chatterjee</b> TERI University, India</p>	<p>Air pollution prevention and control; energy and environment; sustainable development</p> <p>Plant science, Anthropological science, Ethnobiology, Primate specialist</p> <p>Biodiversity and protected area management</p>
08	<p><b>Prof. D K M L Bhugra</b> King's College, London</p> <p><b>Prof. K T Donald Li</b> World Organization of Family Doctors, Hong Kong</p>	<p>Psychiatry, sociology, social anthropology</p> <p>Family medicine</p>

## Bilateral and Multilateral International Scientific Cooperation



## Japan Science and Technology Agency (JST)

The first joint workshop, “Strategy for Conservation and Utilization of Animal Genetic Resources in Asia” between the NSF and JST was held on 10<sup>th</sup> October, 2018 in Tokyo with the participation of thirty Seven (37) participants representing three (03) countries; Japan, Sri Lanka and Thailand. A team consisting of sixteen participants; Prof. Ananda Jayawardane/Director General, Mr Wasantha Anuruddha/ Principal Scientific Officer and Ms Thilinakumari Kandanamulla/ Scientific Officer from NSF, three senior and ten young scientists from Sri Lanka attended this event. The event enabled a discussion platform leading to the formation of the next theme of the 08<sup>th</sup> call of the e-Asia Joint Research Programme (e-Asia JRP) on Agriculture to be launched in 2019. NSF will be partnering in this joint programme.



## German Academic Exchange Service (DAAD)

NSF partnered with the German Academic Exchange Service (DAAD) under the bilateral cooperation with a view to facilitating Sri Lankan scientists and researchers to grasp cutting edge knowledge and skills in their respective research fields for advancement of the local innovation ecosystem. First Joint call for proposals on Project Based Personnel Exchange Programmes (PPPs) was open from 14<sup>th</sup> June - 30<sup>th</sup> August, 2018. The NSF conducted a series of awareness sessions under this programme at the NSF as well as at Universities of Moratuwa, Peradeniya and Colombo from 03<sup>rd</sup> - 05<sup>th</sup> July, 2018 with the participation of the officials from DAAD and NSF. This programme will facilitate selected scientists and researchers to make two visits to Germany per research project during a period of two years enabling them to work in the state-of-the art laboratories in Germany.



*DAAD partners with NSF & other organization*

## **National Natural Science Foundation, China (NSFC)**

The proposals received under the 1<sup>st</sup> Joint call between the NSF and NSFC were evaluated for award of grants. The NSF received 28 research proposals at this call and 05 projects were selected for joint funding.

## **Collaboration in research and higher education activities between Sri Lanka and Sweden**

A team of Sri Lankan Vice-Chancellors with NSF representatives visited Sweden to have a direct dialogue with Swedish counterparts to work out a sustainable and effective mechanism for collaboration in research and higher education. The Swedish Foundation, with prior consultation with the NSF, arranged a three-day program. Accordingly, the Team visited several universities, research institutes and funding agencies in Sweden to realize the intended objectives through bilateral cooperation between the two countries. In association with the Swedish Foundation for International Cooperation in Research & Higher Education (STINT), the Sri Lankan Team had a series of discussions on bilateral cooperation with the primary focus on;

1. Establishing new collaborations between universities, research institutes in two countries.
2. Strengthening and consolidating existing collaborations to harness the maximum benefit in potential areas.
3. Exploring possible funding mechanism to uplift the collaborative research system between Sri Lanka and Sweden.
4. Observing and sharing the experiences in setting up and maintenance of laboratories.
5. Understanding the Swedish system for innovations.
6. Evaluation of impacts of collaborative research between two countries for completed as well as ongoing projects.
7. Exploring the possibilities in making use of Swedish research facilities

The STINT with prior consultation with the NSF had programmed visits to identified institutes facilitating the Sri Lankan Team to accomplish its mission in an effective way. Thus, the Team was able to have in-depth discussions during the visits to Uppsala University, Chalmers University of Technology, University of Gothenburg, Stockholm University, Karolinska Institute, The Sahlgrenska Academy, Swedish Foundation for International Cooperation in Research and Higher Education (STINT), Swedish Research Council and Swedish Innovation Agency (Vinnova). The NSF was finally able to fruitfully identify possible areas for collaboration, potentially available resource persons for newly proposed faculties of several Sri Lankan universities specially for Sri Lanka Institute of Biotechnology (SLIBTEC), possible funding opportunities to strengthen collaborative research work and experts willing to work with NSF thematic programmes.

The Universities of Colombo, Sri Jayewardenepura and Moratuwa identified 9, 8 and 10 projects respectively for collaboration.



### **Global Research Council (GRC)**

The 7<sup>th</sup> Annual Meeting of the Global Research Council (GRC) was held from 14<sup>th</sup> -16<sup>th</sup> May in Moscow, Russia and in parallel, the meeting of the Gender Working Group of the GRC was held on 14<sup>th</sup> May 2018. The Chairperson, Director General and a Scientific Officer from the NSF attended the programme. The two discussion themes of the Annual Meeting were; "Peer Review" and "Science Diplomacy". The discussions of the GRC Gender Working Group was based on the theme "Equality and status of women in research".

### **International Union of Biochemistry and Molecular Biology (IUBMB)**

Dr Gowry Moorthy/ Principal Scientific Officer participated at the General Assembly of the International Union of Biochemistry and Molecular Biology (IUBMB) on 6<sup>th</sup> June 2018 in Seoul Republic of Korea. This gave an opportunity to learn the activities conducted by the IUBMB and opportunities available or offered by them. IUBMB provides financial support to organize international symposia and workshops and short-term fellowships to young biochemists and molecular biologists. This can be facilitated by formalizing the link between the NSF and IUBMB. The Sri Lankan scientists can be benefited from the sponsorships and fellowships offered by the IUBMB.

### **International Science Council (ISC)**

The Chairperson/NSF participated at the General Assembly of the International Science Council (ISC) held from 3<sup>rd</sup> - 5<sup>th</sup> July 2018 in Paris, France as an ordinary member of the Board of Governors. At the meeting, it was proposed to establish a platform to link professional bodies of Sri Lanka with the Unions of ISC. A concept note on "Organizing Urban Forum" was developed to plan for the "Urban Forum" in collaboration with ISC.

### **CERN Summer Students Programme**

The CERN Summer Student Programme offers a unique opportunity to undergraduate students in the fields of physics, computing and engineering to join with the Research Teams at the European Organization for Nuclear Research (CERN) in Geneva, Switzerland. Top Scientists around the world join this programme to deliver lectures on a wide range of topics relating to theoretical and experimental particle physics and computing. During the entire period (8-13 weeks), based on the type of membership, the students take part in a variety of activities such as visiting accelerators & experimental areas, attending workshops & discussion sessions and making poster presentations.

The Government of Sri Lanka and CERN established this unique collaboration in 2015. Being a non-member, Sri Lanka can accommodate four students annually under the CERN Summer Student Programme on merit basis. Out of the four selected students, the NSF annually sponsors the participation of two students and the costs of the other two students are borne by the CERN. Since 2016, the NSF has sponsored six students for this programme.



*Participants of CERN Summer Student Programme 2018, CERN Geneva, Switzerland*



*Ms Dhulakshi Kumari (left) and Ms Harshani Sri Kanthi (right) - Participants from Sri Lanka in 2018*

Ms Harshani Sri Kanthi and Ms Dhulakshi Kumari from the Universities of Sri Jayewardenepura and Jaffna respectively were able to secure support from the NSF to attend the CERN programme which was held from 26<sup>th</sup> June to 18<sup>th</sup> August, 2018 in CERN, Geneva, Switzerland.

### **Science and Technology in Society Forum (STS) Kyoto, Japan**

Dr Ranil Jayawardane, Senior Lecturer, Department of Physiology, Faculty of Medicine, University of Colombo and Prof. Ananda Jayawardane, Director General/NSF participated at the STS Forum held from 7<sup>th</sup> – 9<sup>th</sup> October in Kyoto, Japan. It provided opportunity to collaborate with several local and international technical expertise, policy makers, and industrial personalities. With that the participants had close discussions with several local ministers and few other local officers from important research bodies regarding future research prospective.

### **International Centre for Genetic Engineering and Biotechnology (ICGEB)**

Three-member team comprising the Chairperson, Senior Scientific Officer and a Scientific Officer of the NSF represented Sri Lanka at the 24<sup>th</sup> Session of the ICGEB Board of Governors from 10<sup>th</sup> - 11<sup>th</sup> May 2018 at the Area Science Park, Trieste, Italy.



The meeting was attended by over 110 participants representing more than 47 Member States of the ICGEB. Sri Lanka presented the proposal on “Establishing ICGEB Regional Research Centre (RRC): Sri Lanka Institute of Biotechnology (SLIBTEC)” during the Session.

It is expected to sign the Memorandum of Understanding between the ICGEB and Sri Lanka this year. Further, already developed technologies on biologicals are to be transferred to Sri Lanka by the ICGEB opening up the path for local industries to invest in their areas of interest. Some discussions in line with promoting ICGEB Collaborative Research Programme (ICGEB-CRP) was also discussed at this meeting.





## Programme 6

Acquisition of capital assets and improve policies, processes and procedures of NSF together with managerial and technical competency of staff by international benchmarking, enhancing infrastructure facilities and improving working environment to create a happy and contented workforce



## Administrative support

General administration, human resource development, assets management and attending to logistics requirements are the key functions of the Admin Division of the NSF. During the year under review the Admin Division had been continuously supporting the other Divisions of the NSF to carry out core functions of the NSF.

## Financial support

The Finance Division manages all the financial activities in order to execute all planned and approved work under the specified schemes within the prevailing financial regulations approved by the Government Treasury. The following work was carried out during the year under review using up-to-date mechanisms and tools.

*Core functions of the NSF under programmes 1-5 are supported by the programme 6 keeping in line with the government AR & FR and PED Guidelines. Staff motivation and skills development were attended using all available opportunities across the sphere.*

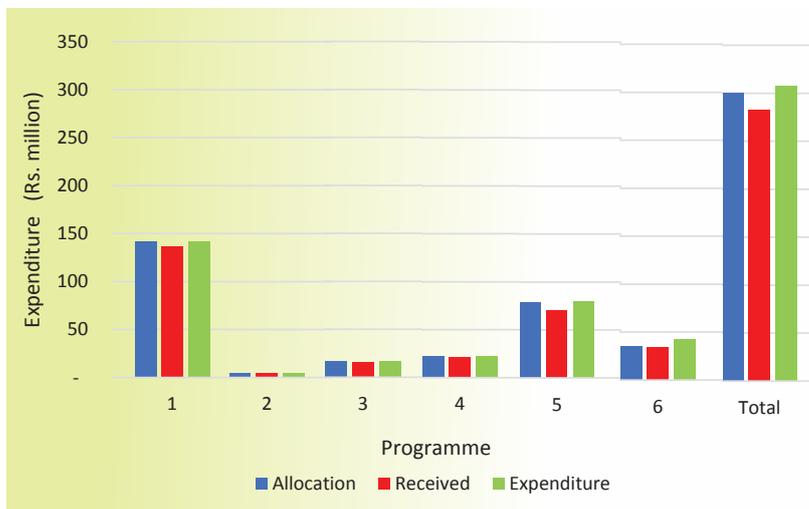


Figure 48 : Financial performance under major programmes

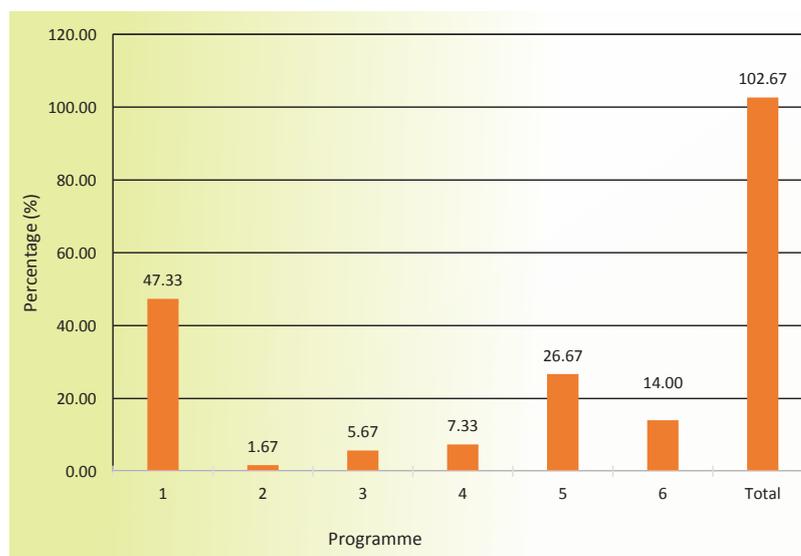


Figure 49 : Expenditure under major programmes as a percentage against the total allocation Rs. 300 million

- Maintenance of Books of Accounts, Fixed Asset Register, General Ledger, Grants Ledger & Stock Books.
- Preparation of financial reports including annual financial statements.
- Preparation of financial forecasts and requirements for specific periods and submitting to relevant authorities for release of funds to carry out core functions of the NSF.
- Release of funds on approval to the relevant stakeholders for the activities conducted by the Divisions/Units
- Making general payments such as salaries, overtime *etc.*
- Maintenance of the Store with accessories required for smooth execution of work.

Financial performance for the year is depicted in *Figures 48 & 49*. Quality the statement for over expenditure.

## Information Technology support

The Information Technology Unit is responsible for the maintenance of the IT infrastructure of the NSF and to provide the end-user IT support for smooth functioning of the entire institute with no interruption.

During 2018, the Unit took initiatives to lay the foundation to transform the NSF into a paperless office environment by migrating to popular cloud services. The outdated internal analogue voice communication platform was also replaced with an IP-based communication system with a backbone Voice Over IP (VOIP) technology. The aim of the replacement was to cut down the extensive operational costs on communication with the expansion of communication facilities and features. The state-of-the-art interactive touch panels were also installed in the meeting rooms to maximize the usage of modern multimedia facilities. Adhering to the national and international property rights laws, number of proprietary software applications were also purchased with original licenses.

## Printing support

The Printing Unit was continuously engaged with the printing activities fulfilling the printing requirement of the Scientific Divisions. Accordingly, the following work was completed with quality outputs in order to attract the stakeholders to printed new scientific information. 25 different types of publications were printed during the period under review. The details are given in *Table 07*.

**Table 07 :** Variety of publications printed

	Publication	Quantity
1.	“Vidurava” Science Magazine - November 2017 (Sinhala)	1700
2.	JNSF - December 2017 & Off prints	180 +20
3.	“Vidurava” Science Magazine - November 2017 (English)	1300
4.	Vidya Newsletter January - April	300
5.	Vidurava November 2017 (Tamil)	700

	<b>Publication</b>	<b>Quantity</b>
6.	Vidurava April - June 2018 (Sinhala)	1500
7.	Vidurava April - June 2018 (English)	400
8.	Journal of NSF - March 2018 & Off prints	180+20
9.	Vidurava April - June 2018 Repeated (Sinhala)	1400
10.	Vidurava April - June 2018 Repeated (English)	1200
11.	Vidya Newsletter May 2018	300
12.	Vidurava April - June 2018 (Tamil)	700
13.	Vidya Newsletter May 2018 Repeated	140
14.	Journal of NSF - June 2018 & Off prints	180+20
15.	Journal of Social Science - June 2018 & Off prints	100+20
16.	Statistical Hand book 2015	250
17.	Vidya Newsletter July 2018	550
18.	Vidurava January - March 2018 (Sinhala)	1800
19.	Vidurava January - March 2018 (English)	1500
20.	Journal of NSF - September 2018	230
21.	Vidurava January - March 2018 (Tamil)	750
22.	Vidurava October - December 2018 (English)	1450
23.	Vidya Newsletter Vo 3 & 4	600
24.	Vidya Newsletter Special Issue 2018	400
25.	Vidya Newsletter Special Issue - Edited 2018	80

In addition, the Printing Unit covered all other printing requirements of the NSF by attending to 74 other print jobs during the period under review.

## **Improving Processes & Procedures**

According to the provisions of the Public Enterprise Circular No. PED 55 of 14<sup>th</sup> December, 2010, four Audit & Management Committee meetings were conducted during the year and the minutes of these meetings were submitted to the NSF Board of Management. All the work during the year was conducted in accordance with the Action Plan prepared and approved in December of the previous year. Mid-year revisions were taken place to re-allocate the capital budget within the approved allocation based on the progress made under different mandatory activities. Financial and Physical Progress of the NSF was reported monthly, quarterly and mid yearly to the NSF Management and other relevant authorities.

In keeping with the scope as per the Public Enterprise Guidelines for Good Governance, the Senior Management Committee (SMC) strived to provide the necessary guidance contributing to the productivity of the Institution. The SMC provided a regular platform facilitating decision making with regard to carrying out administrative functions and thereby paving the way for making timely recommendations to Board of Management. Eight meetings of the SMC were held during the year under review.

12 Regular Board meetings were also held during the year.

## Implementation of 5S

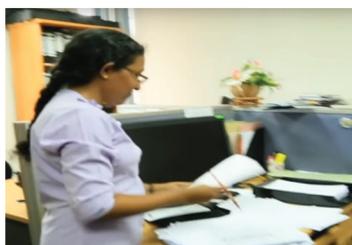
Productivity is almost everything in the long run which is attributed to the ratio of output per worker. Accordingly, the performance of an institution depends on the standard of all the processes through which the activities are taken place and the ability to raise the effectiveness by all the workers involved in the processes. Being the nation's premier driving force in promoting Science, Technology & innovation for the economic and social prosperity of Sri Lanka, the NSF has an obligation to contribute to uplifting the living standards of people of the country by enhancing the efficiency and effectiveness of all the activities carried out by the NSF. As such, the NSF took an initiative to implement 5S as the first phase before stepping into phase 2 where quality & productivity improvement take place.

Main emphasis in this endeavour was to specifically identify how resources of the institute can be used more efficiently and productively. Accordingly, plans were made to implement several programmes to achieve the said mainly focusing on the following:

1. Increasing quality and efficiency of the services provided by the NSF utilizing minimum resources and decreasing wastage
2. Increase capacity of the Staff by providing training for professional development, staff motivation and attitude development
3. Create a pleasant and orderly environment at the NSF

With the assistance of Ms Senani Dharshika Kumari/Consultant of the National Productivity Secretariat, the following activities were carried out starting from November 2018.

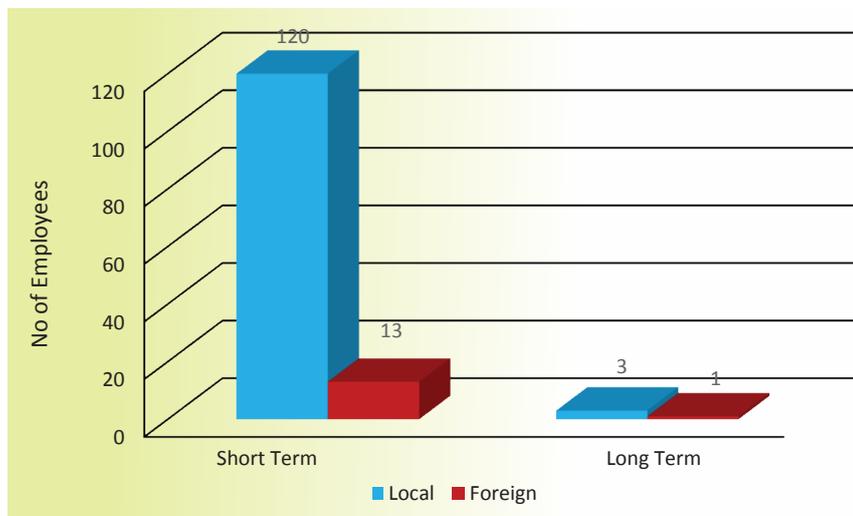
1. Provided a training to all Staff Members on 5S concept & productivity on 14<sup>th</sup> November 2018.
2. The Staff organized a "Seiri day" on 20<sup>th</sup> November 2018
3. The progress made by the Divisions/Units was regularly monitored by the 5S Audit Team and this work continued until the end of 2018 aiming at widening the scope and completing the entire productivity improvement process by the end of 2019.



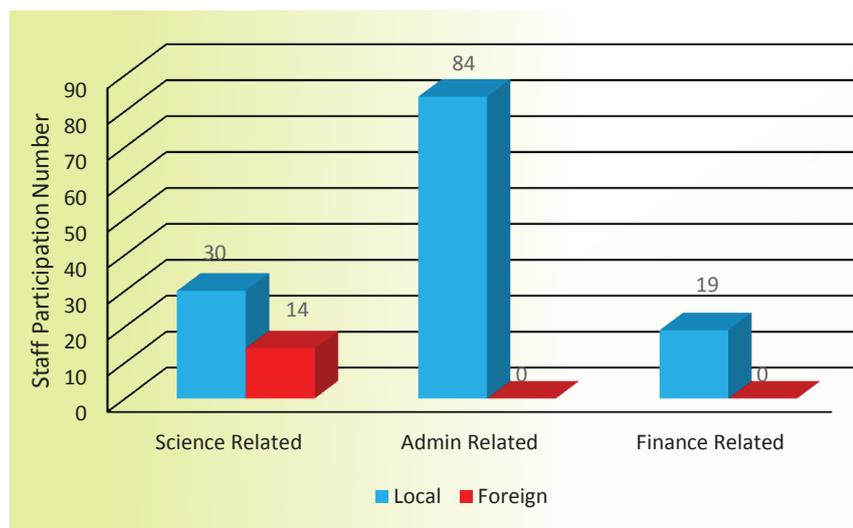
## Improving Technical Competency of Staff

### Staff training

The NSF as in previous years and recognizing the need for improving its resource base and technical capability of the staff, continued with providing useful and timely needed short, medium and long term training in order to enhance competency of the staff of the NSF. Further, the scientific staff attended scientific meetings, seminars, workshops and conferences held locally and abroad under different subject fields updating their knowledge and upgrading the capabilities throughout the year. The aim was to achieve excellence in providing the services to the scientific community. The NSF staff engagement in different activities outside the NSF enhancing their knowledge base and capabilities are graphically depicted in *Figures 50 & 51*. The details are given in *Annexes 25 & 26*.



**Figure 50:** Staff involvement in activities based on period



**Figure 51 :**Staff participation in activities based on the subject field

## Building Knowledge, Skills and Attitudes of Staff

Dynamic and productive organization always see that a competent, skilled and motivated workforce as an asset. Therefore, working towards building their knowledge, skills and attitudes is a common phenomenon that most organizations are adopting today. Following this concept, the NSF conducted its Annual Productivity Improvement Session at Heritance, Ahungalle on the 10<sup>th</sup> November 2018.

With a warm welcome by the Heritance, the staff assembled in the Conference Hall of Heritance to follow the productivity improvement session. Prof. Ananda Jayawardane, the Director General of the NSF began the session with an informative presentation titled “Seven Habits of Highly Effective People”. Following his presentation, a documentary video on leadership skills was shown to equip the staff with necessary leadership skills; a soft skill needed by all Managerial staff of different layers.

Mr Charitha Bandara from the Life Skill Academy was the resource person of the programme. The Staff was divided into eight teams and several team building activities were carried out. These activities helped the Staff in enhancing leadership skills, interpersonal relationships, quick decision making, team spirit building, improving communication skills and open minds to think and act efficiently and effectively in different situations. The group activities carried out also helped the Staff to enhance their planning skills, problem solving abilities and fare delegation of authority to others and time management. Thereafter, the staff was released for recreational activities.

It was the opinion of the Staff that this productivity improvement session helped them produce a highly motivated and contented staff, which couldn't accomplish through monetary rewards.





# Special Projects



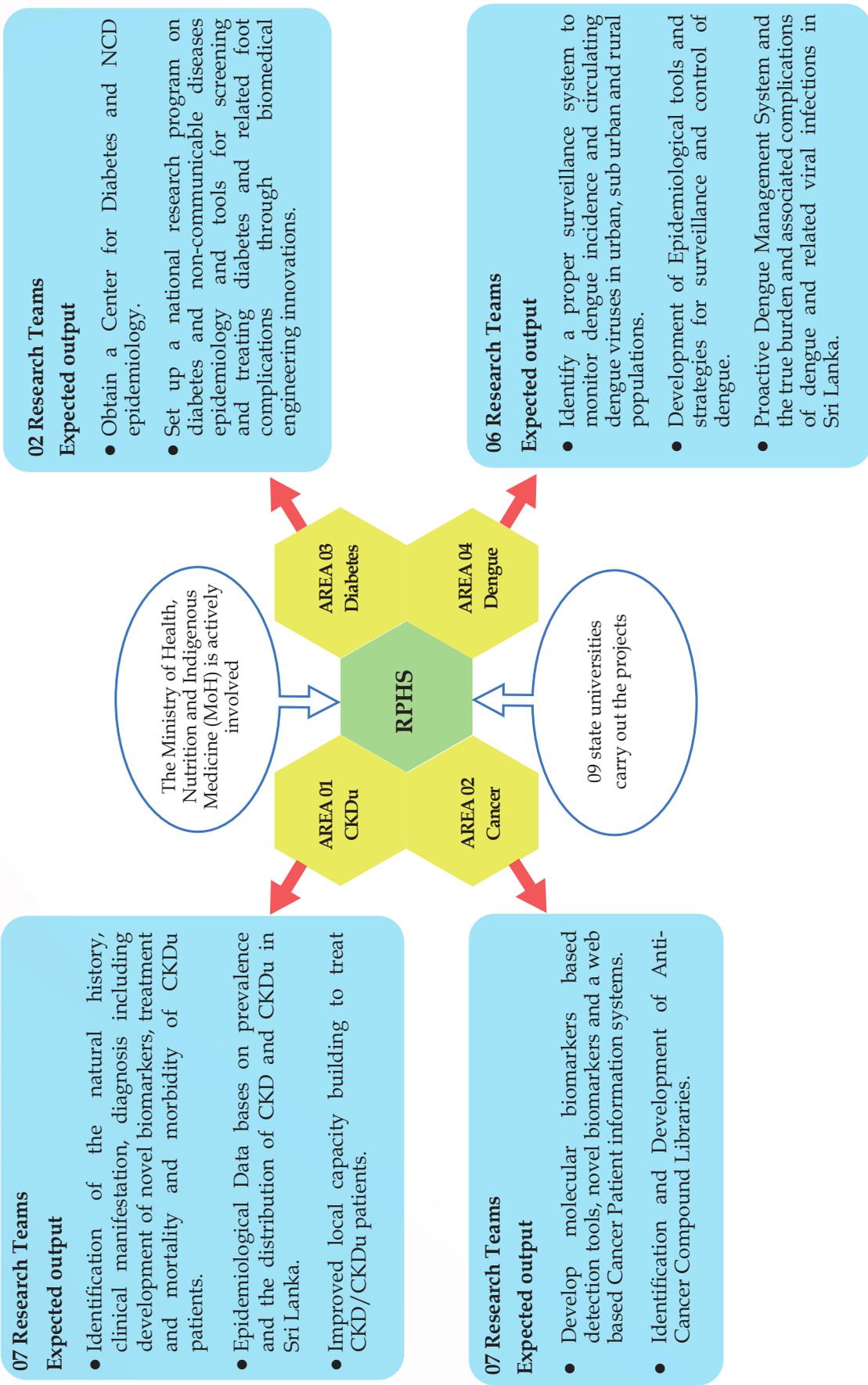


## Research Programme on Health Sciences (RPHS)

*The NSF participates in short-term projects that complement its mandate and routine technology transfer activities. These projects are of special interest to all the stakeholders coming under different organizations. In 2016, the NSF was entrusted with carrying out special projects of national importance relating to the health science and minor export crops (Cinnamon).*

Considering the critical importance of research and development in health sector, the government of Sri Lanka allocated to the NSF Rs. 250 million in 2016, Rs. 100 million in 2017 and Rs. 75 million in 2018 to support research in key national health priority areas; Diabetes, Dengue, Chronic Kidney Disease of unknown aetiology (CKDu) and Cancer. Accordingly, NSF initiated a Special Research Programme on Health Science (RPHS) in 2016 and the main objective of this programme was to support health and allied research with national importance and to undertake co-funding to establish and maintain Research Collaborating Centers dedicated to a specialized topic.

However, the NSF received Rs. 50 million in 2016, Rs. 100 million in 2017 and Rs. 42.5 million in 2018 out of the total allocation and by the 31<sup>st</sup> of December 2018, a total of Rs.173.86 Million was disbursed to carry out 22 projects under the above mentioned four areas and all projects are currently in progress. Altogether these projects will deliver the following at the end of the project period.



**07 Research Teams**

**Expected output**

- Identification of the natural history, clinical manifestation, diagnosis including development of novel biomarkers, treatment and mortality and morbidity of CKDu patients.
- Epidemiological Data bases on prevalence and the distribution of CKD and CKDu in Sri Lanka.
- Improved local capacity building to treat CKD/CKDu patients.

**02 Research Teams**

**Expected output**

- Obtain a Center for Diabetes and NCD epidemiology.
- Set up a national research program on diabetes and non-communicable diseases epidemiology and tools for screening and treating diabetes and related foot complications through biomedical engineering innovations.

**07 Research Teams**

**Expected output**

- Develop molecular biomarkers based detection tools, novel biomarkers and a web based Cancer Patient information systems.
- Identification and Development of Anti-Cancer Compound Libraries.

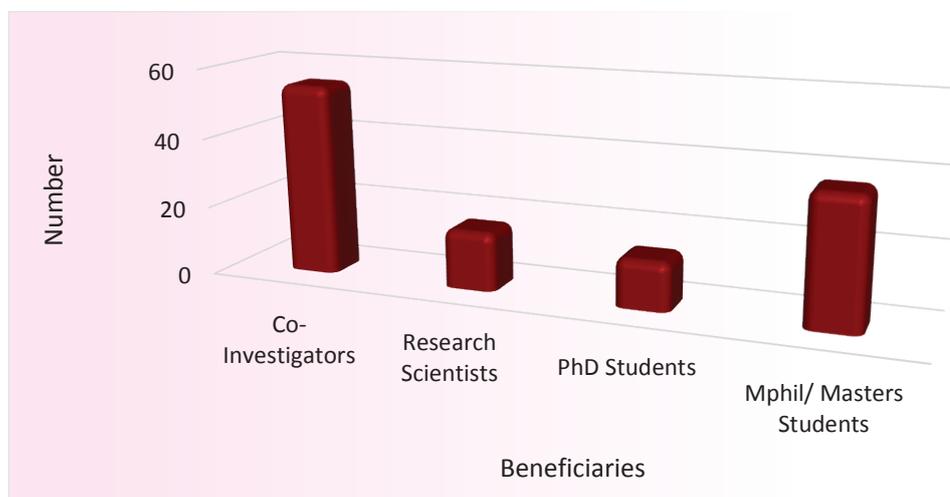
**06 Research Teams**

**Expected output**

- Identify a proper surveillance system to monitor dengue incidence and circulating dengue viruses in urban, sub urban and rural populations.
- Development of Epidemiological tools and strategies for surveillance and control of dengue.
- Proactive Dengue Management System and the true burden and associated complications of dengue and related viral infections in Sri Lanka.

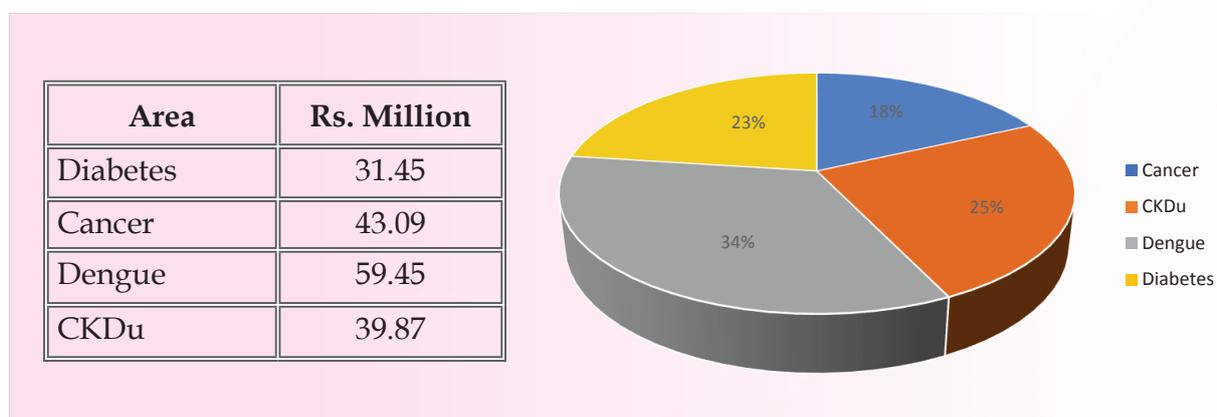
The description of the research grants is given in *Annex 27*.

A total of 12 research institutes and 123 Research Scientists are benefitted from this programme: 55 Co-Investigators, 14 Research Scientists, 17 PhD students and 37 Mphil/Masters Students recruited as at 31<sup>st</sup> December, 2018.

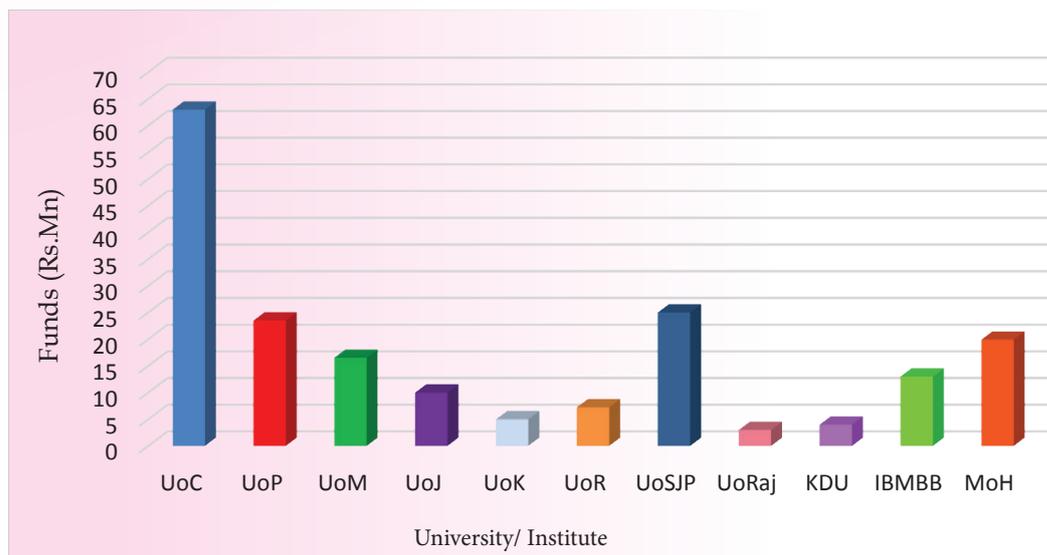


**Figure 52 :** Number of beneficiaries under the RPHS programme in 2018

Through this research programme, the NSF was able to extensively reach out to universities and research institutes across the country with funding as shown in *Figures 53 and 54*.



**Figure 53 :** Fund disbursement under four areas of health research



IBMBB - Institute of Biochemistry, Molecular Biology and Biotechnology  
 MoH - Ministry of Health

**Figure 54 :** Allocation of funds to Universities and Research Institutes

The progress of these research projects is monitored continuously by visiting the project sites and conducting review sessions periodically by the RPHS Unit located at the NSF.



## Summary of achievements by the end of the year 2018

- 01 Cross-sectional survey on CKDu was completed. A seminar was conducted at the Epidemiology Unit, Ministry of Health, Nutrition and Indigenous Medicine to disseminate results. The final report titled "Prevalence of chronic kidney disease of unknown aetiology and its risk factors in the district of Anuradhapura - 2017" is available at the following link for reference.  
[http://www.epid.gov.lk/web/index.php?option=com\\_content&view=article&id=141&Itemid=465&lang=en](http://www.epid.gov.lk/web/index.php?option=com_content&view=article&id=141&Itemid=465&lang=en)
- Cohort study on CKDu was initiated upon completion of the cross-sectional survey.
- Four research databases on "Cancer" (03 being executed in Apeksha hospital, 01 with the MoH), 01 database on the Dialysis burden of CKDu and few databases on "Dengue" were developed. Updating is in progress.
- Medical devices related to Diabetic foot research (a pressure mat, hydrogel insole and fingertip temperature sensing device) were fabricated. Improvements are in progress.
- 07 publications, 03 abstracts and 02 newspaper articles available.
- 18 International Collaborations were established.

## International Collaborations Established under RPHS

### Diabetic Research;

1. University of Colombo with the Monash University, Australia.
2. University of Colombo with the University of Oxford, UK.

### Dengue Research;

3. Epidemiology Unit, Ministry of Health with the University of North Carolina, USA.
4. University of Sri Jayewardenepura with the Medical Research Council, UK.
5. University of Sri Jayewardenepura with the University of Oxford, UK.
6. University of Sri Jayewardenepura with the Translational Health Science and Technology Institute, New Delhi.
7. University of Colombo with the Institute of Mathematics, Vietnam academy of Science and Technology, Vietnam.
8. University of Colombo with the University of Koblenz – Landau, Germany.
9. University of Colombo with the School of Mathematical Sciences, USM, Malaysia.
10. University of Colombo the Gandhigram Rural Institute, India.
11. University of Ruhuna with the Duke University, North Carolina.
12. University of Jaffna with the UNC School of Medicine, North Carolina.

### **Cancer Research;**

13. University of Peradeniya with the Michigan State University, USA.
14. University of Peradeniya with the University of Pittsburgh, Pennsylvania.

### **CKDu Research;**

15. University of Colombo with the University of Antwerp, Belgium.
16. University of Peradeniya with the Hokkaido University, Japan.
17. Rajarata University of Sri Lanka with the University of Antwerp, Belgium.
18. Institute of Biochemistry, Molecular Biology and Biotechnology with the University of Karachchi, India.

### **Establishment of National Science Foundation- Research Collaboration Centres (NSF- RCCs)**

Meanwhile the proposal titled “Establishment of National Science Foundation- Research Collaboration Centres (NSF- RCCs)” submitted to the Ministry of Finance was approved by the National Planning Department and Rs. 1,925.00 million was recommended to implement the project.

Mind map for the establishment of RCCs, RCC grant award process and the screening criteria for RCCs were developed. Presently, NSF is waiting for funds to initiate the process to establish RCCs under the above mentioned areas.

The proposed scheme of establishing RCCs will ensure that significant amount of the research funds are diverted to the areas of national importance and will promote need-based results oriented research. This will also enable creating dedicated research teams and enhancing a vibrant research culture entrenching international best practices in Sri Lanka supported by world class research infrastructure and skills enriched with strong partnerships and collaborations. Further, the identification of NSF - RCCs is expected to enhance the research ethics of the country.

## Special Project on Cinnamon



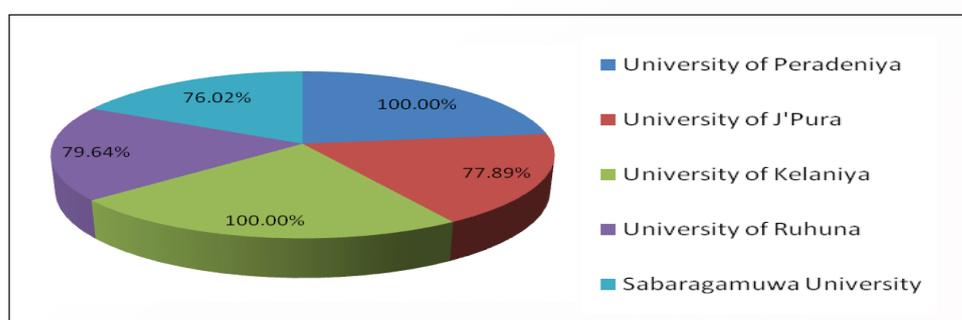
Sri Lanka has a great potential for leveraging its socio-economic development by harnessing full potential of the global cinnamon market through exportation of value-added cinnamon products, especially pharmaceuticals related Ceylon cinnamon products. However, a systematic research is yet to be carried out in associated fields such as clinical trials, chemical characterization and value chain analysis leading to value added products. Major challenges in introducing value added cinnamon products to the global market are maintaining quality consistency, traceability and repeatability.

The Ministry of Primary Industries and the National Science Foundation collaboratively implemented the Special Project on Cinnamon addressing these issues. Accordingly, 05 projects were funded under three thematic areas in order to better reach the global market. The progress of the five projects is being monitored continuously and systematically in order to obtain the envisaged deliverables.

Commenced in 2016, and with the disbursement of funds through 2017 and 2018, five projects under three themes were in operation throughout 2018. Fund allocation for the projects is depicted in *Table 8* and *Figure 57*. Details of the Special Project on Cinnamon is given in *Annex 28*.

**Table 08:** Fund utilization by project teams

Project site	Amount of funds released (Rs)	Amount of funds utilized (Rs)
University of Peradeniya	34.2	34.2
University of J'Pura	8.2	6.5
University of Kelaniya	10.3	10.3
University of Ruhuna	7.3	5.8
Sabaragamuwa University	14.5	11.09
Total	74.7	67.9



**Figure 57 :** Fund utilization as a % by the project teams in different organizations





# Addressing Sustainable Development Goals



The Sustainable Development Goals (SDGs) which are officially known as “*Transforming our world: the 2030 Agenda for Sustainable Development*” were adopted by the 194 Member States of the United Nations (UN). The Government of Sri Lanka anticipates achieving the SDGs by 2030. Accordingly, the country is working towards providing the basic needs of the people, progressive alleviation of poverty, elimination of all forms of discrimination and inequalities, and establishing a society based on social justice and human security. The Economic Policy of the Government outlines the vision “Setting the Stage for a Sustainable Development Journey”. The Policy aims at developing an economy that will promote the development, provisions for a friendly and beneficial environment to all paving the way for sustainable development.

The United Nations 2030 Agenda recognizes 17 SDGs and 169 targets to realize its vision on sustainable development. These 17 SDGs fall within three (03) main domains.

1. Economic (growth, efficiency, and stability)
2. Social (equity, social cohesion, social mobility, participation and cultural identity)
3. Environmental (green environment, rational use of renewable resources, and conservation of non-renewable natural resources)

Abiding by the Mandate, the NSF carried out its activities in accordance with the SDGs and relevant targets. *Table 9* shows how the activities described under the 6 different programmes align with the SDGs.

**Table 09 :** SDGs and NSF activities

SDG	Activity / Programme
 <p><b>Goal 2:</b> End hunger, achieve food security and improved nutrition and promote sustainable agriculture</p>	<p>NTRP – Food security Competitive Research Grants in Agriculture sector</p>
 <p><b>Goal 3:</b> Ensure healthy lives and promote well-being for all at all ages</p>	<p>Competitive Research Grant Scheme, International Collaborative Research Programmes, Research Programme on Health Science Facilitating Policy Development on Social Sciences</p>
 <p><b>Goal 4:</b> Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all</p>	<p>"Science for All" the science popularization programme</p>
 <p><b>Goal 6:</b> Ensure availability and sustainable management of water and sanitation for all</p>	<p>NTRP – Water Security MAB Programme Competitive Research Grants in water sector International Hydrology Programme</p>

SDG	Activity / Programme
 <p><b>Goal 9:</b> Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</p>	<p>Technology Grant Schemes Support Intellectual Property (IP) Protection</p>
 <p><b>Goal 11:</b> Make cities and human settlements inclusive, safe, resilient and sustainable</p>	<p>Facilitating Policy Development – Indigenous Knowledge</p>
 <p><b>Goal 13:</b> Take urgent action to combat climate change and its impacts</p>	<p>NTRP – Climate Change &amp; Natural Disaster</p>
 <p><b>Goal 15:</b> Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss</p>	<p>National Man &amp; the Biosphere (MAB) Programme</p>
 <p><b>Goal 16:</b> Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels</p>	<p>Entire programme 6 ensuring good governance</p>
 <p><b>Goal 17:</b> Strengthen the means of implementation and revitalize the global partnership for sustainable development</p>	<p>Bilateral and Multilateral Cooperation International Grant Schemes</p>



# 50 Years of Service to the Nation





*His Excellency the President being escorted to the Golden Jubilee Ceremony by Hon. Dr Sarath Amunugama, Minister of Science, Technology, Research, Skills Development & Vocational Training and Kandyan Heritage, Prof. Sirimali Fernando, Chairperson/NSF and Prof. Ananda Jayawardane, Director General/NSF*

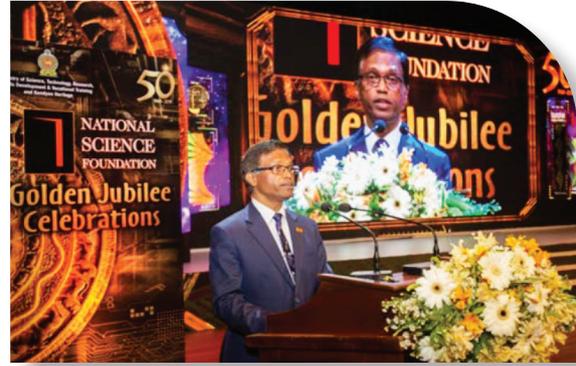
The NSF, the nation's premier funding organization and the driving force in promoting Science, Technology and Innovation for social and economic prosperity of Sri Lanka, celebrated 50 years of dedicated service to the country in 2018. His Excellency Maithripala Sirisena, the President of Sri Lanka graced the occasion as the Chief Guest. Minister of Science, Technology, Research, Skills Development & Vocational Training and Kandyan Heritage, Hon. Dr Sarath Amunugama, together with his Deputy and State Ministers and the Minister of Posts, Postal Services and Muslim Religious Affairs, Hon. A H M Haleem, former Ministers of Science, Technology & Research, Hon. (Prof.) Tissa Vitarana and Hon. Susil Premajayantha participated in this grand celebration. Secretary to the President, Mr Udaya R Seneviratne, Secretary to the Ministry Mrs Wasantha Perera, past NSF Chairpersons, Directors General, Directors past and present NSF staff members, scientists and other distinguished guests participated in this historic event.



*Demonstrating 50 years of dedicated service to the country, the ceremony started with the digital illumination of the map of Sri Lanka by nine distinguished invitees*



*Prof. Sirimali Fernando, Chairperson/NSF welcoming the gathering*



*Prof. Ananda Jayawardane, Director General/NSF addressing the gathering*

The Chairperson of the NSF, Prof. Sirimali Fernando welcomed the gathering. She expressed her gratitude to the Chief Guest, HE the President for his presence. She gratefully thanked the current and past members of the Management who contributed to the success of the NSF during the long journey of 50 years. Prof. Fernando acknowledged and appreciated the support extended to the National Science Foundation by Hon. Dr Sarath Amunugama, Minister of Science, Technology, Research, Skills Development & Vocational Training and Kandyan Heritage and all previous Ministers as well as Mrs Wasantha Perera, the Secretary to the Ministry and all past Secretaries.

Prof. Ananda Jayawardane, the Director General mapped out the way forward for the NSF beyond 50 years. Prof. Jayawardane further stated that the NSF is humbly proud of the achievements and inroads made in many directions, capacity building, research and development, knowledge acquisition & dissemination, technology transfer, popularization of science, international collaborations, maintaining data repositories, gateway to scientific information and implementing pioneering activities to harness science and technology for wealth creation.



*Live performance of the NSF song by the Staff of the National Science Foundation*

The members of the NSF Staff, colourfully attired in the orange and black NSF colours captivated the audience with a live performance of the NSF song.



*Dr R A Mashelkar delivering the Keynote Address*



The Keynote address at this grand ceremony, titled “Changing Landscape of Indian Science, Technology and Innovation” was delivered by Dr R A Mashelkar, National Research Professor and Chairman, National Innovation Foundation of India. He is presently also the President of the Global Research Alliance, a network of publicly funded R & D institutes from Asia-Pacific, Europe and USA with over 60,000 scientists.



The Philatelic Bureau of Sri Lanka issued a special commemorative cover with a personalized stamp to honour the NSF’s immense contribution to the Science, Technology and Innovation sector in the country. The Ministry of Posts, Postal Services and Muslim Religious Affairs and the Department of Posts reiterated the valuable contribution made by the NSF by issuing the commemorative stamp at the anniversary celebrations.



Cancellation of the postage stamp was carried out and handed over to Mr Shantha Kumara Meegama, Director, Philatelic Bureau and he in turn handed it over to Hon. MH A Haleem, Minister of Posts, Postal Services and Muslim Religious Affairs. Hon. Minister handed over the commemorative cover to HE the President.



*Hon. M H A Haleem, Minister of Posts, Postal Services and Muslim Religious Affairs handing over the 50<sup>th</sup> commemorative cover to HE the President*



*Hon. M H A Haleem, handing over the cover to Minister of Science, Technology, Research, Skills Development & Vocational Training and Kandyan Heritage, Hon. Dr Sarath Amunugama*



The ballet on the History of Science produced by Dr Channa Wijewardane was another item in the Agenda. The script of the ballet was written by Mr Bandula Nanayakkarasam. Renaissance Man was the key figure in this unique ballet and he cogitated the history of science and finally predicted the direction of the ultimate development of science and technology in relation to the human being.



*Snapshots of the ballet on the History of Science*

## Launching of the NSF Publications

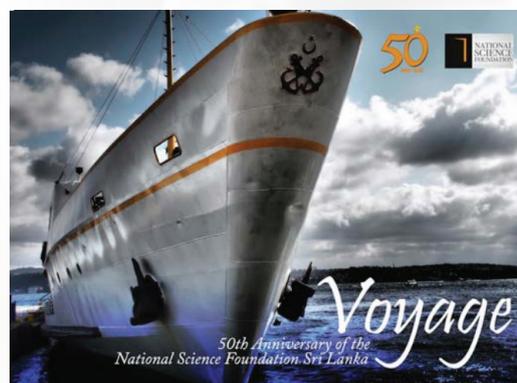
The NSF publications, Reflections, NSF 50 years Voyage, Souvenir Booklet, special issue of the Journal of the National Science Foundation, 'Vidurava' and the book on 'Natural Resources' were launched and copies were given to the distinguished invitees.

### *NSF 50 years Voyage*

NSF Voyage depicts the journey of 50 years from the establishment of the National Science Council in 1968 and its evolution to NARESA and the NSF.

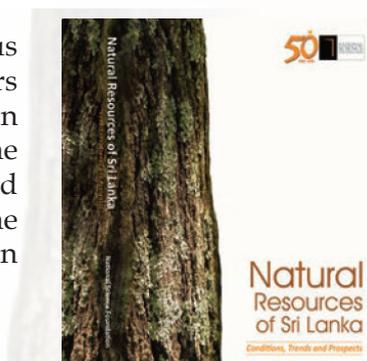
It also presents information about past Boards of Management and landmark events which contributed to the betterment of the Science, Technology & Innovation sector and socio-economic development of the country. This publication also provided common grounds to share memories of some of the past and present employees including the first Chief Executive Officer of the National Science Council. The Voyage highlights the important role played by the NSF over 50 years in fostering science, technology and innovation in Sri Lanka and enhancing the global presence of Sri Lanka's STI landscape.

It further highlights momentous milestones along the 50 years journey of the NSF including its physical enhancement namely the evolution of the six Scientific Divisions and many other improvements which have contributed in furtherance of science, technology and innovation in Sri Lanka.



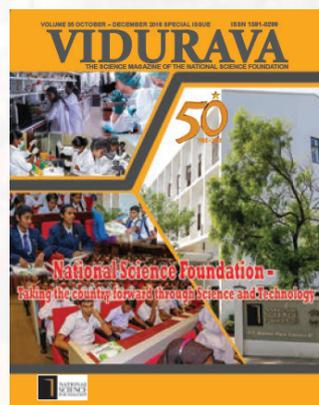
## Natural Resources of Sri Lanka: Conditions, Trends and Prospects

This publication focuses mainly on the current conditions and status of Sri Lanka's natural resources, especially in relation to factors affecting the resources in the context of their sustainable utilization for economic and development activities. The projections for the future development scenario, as well as challenges, threats and opportunities for nature conservation, are also highlighted. The key projection of the publication is the dissemination of information for national development.



## Vidurava

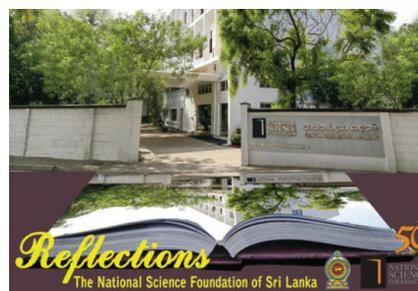
NSF publishes "Vidurava" Science Magazine as a quarterly publication and is distributed free-of-charge among School Science Societies, Vidatha Centres, University Science Societies, University Science Libraries, Provincial Science Coordinators and Zonal Science Directors. The theme of the special issue (Volume 35: October - December 2018) targeting the NSF 50<sup>th</sup> anniversary celebration is: "National Science Foundation: Taking the country forward through science and technology".



This issue contains information on the history of the NSF, the activities of the six Scientific Divisions and the Journal Publication Unit. Further, it contains the success story of a dedicated school teacher who won the teacher's award at the World Science Day 2010, organized by the Science Popularization Division.

## Reflections

"Reflections", the colourful Coffee Table book mainly focuses on the NSF Journey of Discovery and Innovation by highlighting the achievements of the NSF funded Grants. It also highlights the Awards and Accolades received by the NSF for Scientific Excellence.



## Special issue of the Journal of the National Science Foundation

The Journal of the National Science Foundation of Sri Lanka (JNSF) publishes the results of research in Science and Technology. The journal is released four times a year, in March, June, September and December. A Special issue with 20 articles and the Editorial titled "Dissemination of S & T Findings" was launched targeting the NSF 50<sup>th</sup> anniversary celebrations. Full text of the journal can be accessed through the Sri Lanka Journals online (SLJOL) website <http://jnsfsl.sljol.info>.



The JNSF provides immediate open access to its content on the principle that making research freely available to the public supports a greater global exchange of knowledge. The JNSF is the only Journal in Sri Lanka, indexed in the Science Citation Index Expanded.

## *Souvenir Booklet*

The Souvenir Booklet includes messages of HE the President, the Hon. Prime Minister, the Hon. Minister, Dr Sarath Amunugama, the Hon. State Minister, Mr Lakshman Senawiratne, the Deputy Minister, Mr Karunarathna Paranawithana, the Secretary, Mrs Wasantha Perera, the Chairperson and Director General of the NSF. The booklet also includes a summary of the NSF Golden Jubilee Celebration events and descriptions on the Keynote Speaker and the two NSF Lifetime Award Winners.



## *A Presentation of Lifetime Awards*

The NSF, identified the need to recognize and honour eminent scientists who have made outstanding contributions to Sri Lanka, in the fields of science and technology by presenting once-in-a-Lifetime Awards at the Golden Jubilee celebrations. Accordingly, nominations were invited from Faculties of recognized Universities, Institutions/ Organizations/ Professional Bodies. Two winners were selected. Accordingly, Emeritus Professor Vidya Jyothi C B Dissanayake from the University of Peradeniya and Emeritus Professor Vidya Nidhi M A K L Dissanayake from the National Institute of Fundamental Studies were honoured by HE the President on this occasion.



*receiving the Lifetime Award  
Professor Vidya Jyothi C B Dissanayake receiving the  
Lifetime Award*



*Professor Vidya Nidhi M A K L Dissanayake*



The Golden Jubilee Celebrations were concluded with the vote of thanks proposed by Dr Thamara F. Dias, Additional Director of the NSF. She acknowledged the services of all the Staff since the inception of the institution and also the stakeholders who helped the NSF to deliver its services to the nation during the five decades. Her speech ended by thanking all the Staff and external associates who directly and indirectly engaged in helping many ways to organize the golden jubilee celebrations and make the event a success.



*Dr Thamara F. Dias, Additional Director/ NSF delivering vote of thanks*



*The Board of Management of the National Science Foundation. From left to right (standing) Dr Gotabhaya Ranasinghe, Dr T A R J Gunasekera, Eng. Jayavilal Meegoda, Prof. Vasanthi Arasaratnam, Prof. Thakshala Seresinhe, Mr H C D L Silva, Prof. Manjula Vithanapathirana, Prof. Upul Dissanayake. Seated : Prof. Ananda Jayawardane, Prof. Sirimali Fernando*



*The Staff of the NSF - 2018*



# Financial Review



## Observations of the Accounting Officer on Performance 2018

NSF is a funding organization which is solely dependent on government funds. Amounts recommended by the Department of National Budget under "Recurrent" and "Capital" expenditure for NSF for the year 2018 were Rs. 140 Mn and Rs. 298.97 Mn respectively. Only Rs. 139.5 Mn and Rs. 283.3 Mn were released by the Department of Treasury Operations as "Recurrent" and "Capital" expenditure in installments during the year. The details of expenditure is given in *Table 10*.

**Table 10:** Recurrent and Capital expenditure in 2018

Expenditure	Rs.'000	
	Estimate	Expenditure
<b>Recurrent Expenditure</b>		
Personal Emoluments	100,125	100,209
Other Recurrent	39,785	40,575
<b>Total</b>	<b>140,000</b>	<b>140,784</b>
<b>Capital Expenditure</b>	<b>300,000</b>	<b>308,382</b>

The details of Capital Expenditure for 2018 is given in *Table 11*.

**Table 11:** Details of Capital expenditure in 2018

	Description	Expenditure 2018 Rs.'000
1.	Strengthening scientific research potential	142,278
2.	Conducting science & technology policy research	5,048
3.	Creating national gateway to S&T information	17,230
4.	Science Popularization	21,417
5.	Capacity building and international cooperation	80,113
6.	Resource improvement and system administration	42,296
	<b>Total</b>	<b>308,382</b>

### Management Issues

Research Grants as was done in the past, were carried out under the supervision of the respective Heads of Departments of the respective Research Institutes and Universities. In spite of strong terms & conditions in force, it was noted that, timely implementation of projects was adversely affected by the procedures and systems applied by the grantees' institutions and universities. However, with appropriate management approaches in place the NSF achieved significant success by completing the activities as planned for the year.

## Statement of Financial Position as at 31<sup>st</sup> December, 2018

	2018	2017	2016
<b>ASSETS</b>			
<b>Current Assets</b>			
Cash & Cash Equivalents	11,084	40,705	22,680
Receivables	7,934	6,080	5,905
Stocks	1,916	1,343	2,274
Pre Payments	1,322	1,331	1,492
Other Current Assets	3,407	3,407	3,408
<b>Total Current Assets</b>	<b>25,663</b>	<b>52,866</b>	<b>35,759</b>
<b>Non-Current Assets</b>			
Receivables	9,575	3,504	3,507
Property, plant & Equipment	443,448	440,806	450,800
Intangible Assets	7,380	357	-
Investments	857,070	748,129	698,129
<b>Total Non-current Assets</b>	<b>1,317,473</b>	<b>1,192,796</b>	<b>1,152,436</b>
<b>Total Assets</b>	<b>1,343,136</b>	<b>1,245,662</b>	<b>1,188,195</b>
<b>Liabilities</b>			
<b>Current Liabilities</b>			
Accrued Charges	16,066	6,909	6,091
Creditors	3,643	24,444	7,274
	<b>19,709</b>	<b>31,353</b>	<b>13,365</b>
<b>Non-Current Liabilities</b>			
Provision for Retiring Gratuity	34,765	29,969	25,405
Deffered Revenue	49,398	37,185	44,286
	<b>84,163</b>	<b>67,154</b>	<b>69,691</b>
<b>Total Liabilities</b>	<b>103,872</b>	<b>98,507</b>	<b>83,056</b>
<b>Net Assets</b>	<b>1,239,264</b>	<b>1,147,155</b>	<b>1,105,139</b>
<b>Equity and Reserves</b>			
Accumulated Fund	(38,654)	(21,823)	(13,839)
Revaluation Reserve	420,849	420,849	420,849
Government Grant	857,070	748,129	698,129
<b>Total Equity</b>	<b>1,239,264</b>	<b>1,147,155</b>	<b>1,105,139</b>

## Statement of Financial Position as at 31<sup>st</sup> December, 2018

As at 31.12.2017		Note	Rs.	Rs.
	<b>Assets</b>			
	<b>Current Assets</b>			
40,704,860.86	Cash & Cash Equivalents	14	11,083,507.73	
6,080,330.30	Receivables	15	7,934,188.30	
1,342,959.78	Stocks	16	1,916,566.68	
1,330,851.20	Pre Payments		1,321,758.49	
3,407,615.20	Other Current Assets	17	3,407,615.20	
52,866,617.34	Total Current Assets			25,663,636.40
	<b>Non-Current Assets</b>			
3,504,629.00	Receivables	15	9,574,779.00	
440,806,120.74	Property, Plant & Equipment	18	443,447,800.33	
357,326.97	Intangible Assets	19	7,380,391.61	
748,128,852.00	Investments	20	857,069,645.00	
1,192,796,928.71	Total Non-current Assets			1,317,472,615.94
1,245,663,546.05	<b>Total Assets</b>			1,343,136,252.34
	<b>Liabilities</b>			
	<b>Current Liabilities</b>			
6,909,619.43	Accrued Expenses	21	16,065,694.04	
24,444,676.34	Creditors	22	3,643,028.82	
31,354,295.77				19,708,722.86
	<b>Non-Current Liabilities</b>			
29,968,923.70	Provision for Retiring Gratuity	23	34,765,095.17	
37,185,596.06	Deffered Revenue	24	49,398,431.74	
67,154,519.76				84,163,526.91
98,508,815.53	<b>Total Liabilities</b>			103,872,249.77
<b>1,147,154,730.52</b>	<b>Net Assest</b>			<b>1,239,264,002.57</b>
	<b>Equity and Reserves</b>			
	<b>Accumulated Fund</b>			
(3,832,377.35)	NSF Fund		(7,261,356.75)	
(17,990,479.77)	Add: Excess of Expenditure over Income		(31,393,021.32)	
(21,822,857.12)	<b>Total Accumulated Funds</b>			(38,654,378.07)
420,848,735.64	Revaluation Reserve			420,848,735.64
748,128,852.00	Government Grant			857,069,645.00
<b>1,147,154,730.52</b>	<b>Total Equity</b>			<b>1,239,264,002.57</b>

## Statement of Financial Performance for the Year Ended 31<sup>st</sup> December 2018

As at 31.12.2017		Rs.	Rs.	Rs.
115,588,500.00	<b>Grants from Treasury - Recurrent</b>			139,501,000.00
	<b><u>Income for the year</u></b>			
367,574.82	Interest received	595,047.46		
1,640.00	Sundry Income	127,290.00		
(112,510.04)	Net Profit/(Loss) Sale of Publications - <b>(Note 12.1)</b> <i>(Printed to disseminate Information)</i>	731,312.54		
4,980.00	Photocopy receipts	3,510.00		
2,250.00	NSLRC Income	2,125.00		
55,894.68	Profit/(Loss) Disposal of Fixed Assets	4,739.87		
319,829.46	<b><u>Other</u></b>		1,464,024.87	
13,219,369.19	Deffered Income (Assets)	13,123,937.90		
243,000,000.00	Deffered Income (Capital)	283,306,700.00		
3,292,516.20	Income form Projects	-		
-	Income form Workshops	1,004,905.50		
259,511,885.39			297,435,543.40	
259,831,714.85				298,899,568.27
<b>375,420,214.85</b>				438,400,568.27
	Less; Expenditure for the year			
	<b><u>Recurrent Expenditure</u></b>			
	<b><u>Office Expenditure</u></b>			
577,500.00	Traveling & Allowances for Board Members	565,595.00		
152,985.31	Refreshments for meetings	158,800.40		
-	Printing & Publications	-		
730,485.31			724,395.40	
	<b><u>Staff Emoluments</u></b>			
63,163,160.04	Salaries & Allowances	76,763,014.43		
8,363,549.38	Employees Provident Fund	10,213,817.06		
1,657,359.14	Employees Trust Fund	2,037,112.92		
-	Transport & Fuel Allowances	6,474,640.00		
6,349,007.70	Provision for Retiring Gratuity	7,059,011.47		
1,160,542.33	Overtime	2,374,806.68		
59,853.63	Holiday Payment	82,047.45		
354,833.40	Uniforms	297,005.00		
81,108,305.62			105,301,455.01	
	<b><u>Office Administration</u></b>			
3,673,394.23	Travelling - Office	3,943,473.49		
1,728,513.94	Stationery & Consumables	1,639,301.36		
3,720,564.75	Electricity	4,057,605.48		
2,485,860.48	Telephone/ Fax	3,084,747.98		
111,830.00	Postal charges	164,973.00		
160,000.00	Audit fees - Auditor General's Department	160,000.00		
78,105.00	Bank charges	80,715.00		
78,021.89	Medical Expenses	74,799.76		
1,470,539.50	Advertising	1,171,321.00		
2,371,864.21	Fuel Expenses	2,022,270.62		
1,023,497.16	Maintenance of Motor Vehicles	1,437,483.18		
2,227,205.49	Maintenance of Office Equipment & Furniture	2,432,909.43		
1,670,224.71	Maintenance of Building	6,411,094.14		

		Rs.	Rs.	Rs.
134,262.50	Maintenance of Land	-		
876,981.71	Insurance	898,880.29		
530,913.89	Water Consumption charges	528,496.55		
1,832,249.46	Security Services	1,661,601.42		
15,689,354.59	Depreciation	14,755,809.99		
34,337.73	Amortisation of intangible assets	903,667.23		
681,612.08	Sundry Expenses	763,669.57		
1,173,891.74	Janitorial Services	1,581,582.63		
454,489.50	Translation charges	280,342.50		
950.00	Stamp duty	1,725.00		
-	Debtors Written off	26,667.00		
289,354.53	Stock of Magazines & Journals written off	144,550.00		
42,498,019.09			48,227,686.62	
	<b>Others</b>			
63,020.12	National Science Library & Resource Centre- <b>Note 12.2</b>	44,196.73		
2,001,191.23	Printing Division - <b>Note 12.3</b>	1,590,457.41		
5,754,866.90	Subscription for Internet Services	5,523,346.68		
7,819,078.25			7,158,000.82	
	<b>Capital Expenditure</b>			
153,356,223.14	Mandate 01 - <b>Note 13.1</b>	142,277,575.82		
4,688,667.14	Mandate 02 - <b>Note 13.2</b>	5,047,951.76		
11,746,722.26	Mandate 03 - <b>Note 13.3</b>	17,229,792.09		
12,617,686.23	Mandate 04 - <b>Note 13.4</b>	21,417,557.73		
69,036,315.97	Mandate 05 - <b>Note 13.5</b>	80,112,908.49		
9,809,191.61	Mandate 06 - <b>Note 13.6</b>	42,296,265.85		
261,254,806.35			308,382,051.74	
393,410,694.62				469,793,589.59
<b>(17,990,479.77)</b>	Excess of Expenditure over income			<b>(31,393,021.32)</b>

## Statement of Financial Performance for the Year Ended 31<sup>st</sup> December, 2018

			Rs.000
<b>Revenue</b>	<b>2018</b>	<b>2017</b>	
Government Grant	139,501	115,588	
<b>Other Income</b>			
Interest received	595	367	
Sundry Income	127	2	
Profit/(Loss) Sale of Publications	731	(112)	
Photocopy receipts	4	5	
NSLRC Income	2	2	
Profit/(Loss) Sale of Fixed Assets	5	56	
Exchange Gain/(Loss)	-	-	
Other Income	284,312	246,293	
Differed Revenue	<u>13,124</u>	<u>13,219</u>	
	438,400	375,420	
<b>Expenditure</b>			
<b>Personal Emoluments</b>			
Salaries & allowances	76,763	63,163	
Employees Provident Fund	10,214	8,363	
Employees Trust Fund	2,037	1,657	
Transport & Fuel Allowances	6,474	-	
Provision for retiring gratuity	7,059	6,349	
Overtime	2,375	1,161	
Holiday payment	82	60	
Uniforms	<u>297</u>	<u>355</u>	
	<b>105,301</b>	<b>81,108</b>	
Travelling	3,943	3,673	
Supplies	3,662	4,100	
Maintenance	10,281	5,055	
Contractual Service	11,978	10,732	
Others	11,490	11,798	
Depreciation	14,756	15,689	
Capital Expenditure	<u>308,382</u>	<u>261,255</u>	
	<b>364,492</b>	<b>312,302</b>	393,410
Surplus Deficit over the income			
before extraordinary items		(31,393)	(17,990)
Extraordinary items (Net Profit or loss)		<u>-</u>	<u>-</u>
<b>Net Surplus/ (Deficit) for the period</b>		<b><u>(31,393)</u></b>	<b><u>(17,990)</u></b>

## Statement of Changes in Net Assets/Equity

### Summary

	Contributed Capital	Revaluation Reserve	Other Reserve	Other Capital Fund	NSF Fund	Total Accu. Fund	Total
<b>Balance as at 01.01.2018</b>	-	420,848,735.64	857,069,645.00	-	(21,822,857.12)	(21,822,857.12)	1,256,095,523.52
Changes in accounting Policy	-	-	-	-	-	-	-
Prior year adjustments	-	-	-	-	14,561,500.37	14,561,500.37	14,561,500.37
<b>Restated balance</b>	-	420,848,735.64	857,069,645.00	-	(7,261,356.75)	(7,261,356.75)	1,270,657,023.89
<b>Change in net asset/equity for 2018</b>							
Revaluation Reserve on Dispose Vehicles	-	-	-	-	-	-	-
Foreign operations	-	-	-	-	-	-	-
<b>Grants From Treasury</b>							
Capital	-	-	-	-	283,306,700.00	283,306,700.00	283,306,700.00
Recurrent	-	-	-	-	139,501,000.00	139,501,000.00	139,501,000.00
Other operations	-	-	-	-	15,592,868.27	15,592,868.27	15,592,868.27
<b>Expenditure during the year</b>							
Capital	-	-	-	-	(308,382,051.74)	(308,382,051.74)	(308,382,051.74)
Recurrent	-	-	-	-	(161,411,537.85)	(161,411,537.85)	(161,411,537.85)
<b>Total recognised revenue and expenses . for the period</b>	-	-	-	-	(31,393,021.32)	(31,393,021.32)	(31,393,021.32)
<b>Balance as at 31st December 2018</b>	-	420,848,735.64	857,069,645.00	-	(38,654,378.07)	(38,654,378.07)	1,239,264,002.57

## Statement of Cash Flow

	2018	2017	Rs'000
<b><u>Cash flows from operating Activities</u></b>			
Net excess of expenditure over income	(31,393)	(17,990)	
Add: NSF fund prior year adjustments	14,562	10,007	
	<b>(16,831)</b>	<b>(7,983)</b>	
<b><u>Adjustments for</u></b>			
Depreciation	14,756	15,689	
Amortisation of Intangible assets	904	34	
Gratuity paid during the year	(2,263)	(1,785)	
Provision for Gratuity	7,059	6,349	
Disposal of Fixed Assets	(5)	(56)	
Over Provision of Doubtfull Debtors	-	-	
Revaluation Reserve of Disposal Vehicles	-	-	
Deffered Revenue	(13,124)	(13,219)	
Debtor Written off	-	-	
Operating profit/loss before working capital changes	<b>(9,504)</b>	<b>(971)</b>	
Net increase/decrease in trade other receivables	(7,915)	(11)	
Net increase/decrease in inventories	(573)	931	
Net decrease/increase in trade payables	(11,646)	17,989	
Cash generated from operations	<b>(20,134)</b>	<b>18,909</b>	
Net cash from operating activities		<b>(29,638)</b>	<b>17,938</b>
<b><u>Cash flows from Investing Activities</u></b>			
Proceed of Disposal of Fixed Assets	17	87	
Purchase of assets	(17,410)	(5,727)	
Net cash used in investing activities		<b>(17,393)</b>	<b>(5,640)</b>
<b><u>Cash Flows from Financial Activities</u></b>			
Contribution from Government	17,410	5,727	
Foreign Aid	-	-	
	<b>17,410</b>	<b>5,727</b>	
Net cash from financing activities	(29,621)	18,025	
Cash & cash equivalent at beginning period	40,705	22,680	
<b>Cash &amp; cash equivalent at end of period</b>	<b>11,084</b>	<b>40,705</b>	

# Notes on Accounting Policies for the Year Ended 31<sup>st</sup> December, 2017

## 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.

## 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. After completion of the project unutilized balance to be refunded to NSF. Hence we treat the funds transferred to the Institution as expenditure. At the end of the project a debtor is created for the unutilized funds.

## 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%

### Intangible Assets

The Company measures intangible assets at cost less any accumulated amortisation and any impairment losses.

#### Amortisation

The depreciable amount of an intangible asset in amortised on a straight line basis over the estimated useful life and is recognized as an expense. Depreciation Rates as Follows

Computer Software	20%
-------------------	-----

## 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 occasions publications have to be given free of charge to schools & other relevant various organisations specially as prizes/ awards for science related activities with the Director General 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 15<sup>th</sup> 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 12<sup>th</sup> 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 13<sup>th</sup> August 2015.

## **5 Presentation of Grants related to assets and income**

### **Grants related to assets**

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

### **Grants related to income**

Grants reletaed to income are presented as a credit in the statement of comprehensive income and alternatively they are deducted in reporting the related expense.

**6 INVESTMENT** - Investment of Rs. 857,069,645 represents the NSF investment in SLINTEC

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

## **8 Employees Benefit**

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

## **9 Retiring Gratuity**

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

	<b>Rs.</b>	<b>cts</b>
Amount paid for the year	<u>2,262,840.00</u>	
Provision for the year	<u>7,059,011.47</u>	

10 NSF owns 07 vehicles as at 31.12.2018

11 **Funds Drawn from the Treasury during - 2018**

	Rs.	
Consolidated Funds	Rs. <u>283,306,700.00</u>	<b>Note A</b>
Recurrent Funds	Rs. <u>139,501,000.00</u>	

**Note A**

**Capital Funds Allocation to Relevent Mandates**

1 Mandate 01	136,706,700.00
2 Mandate 02	5,100,000.00
3 Mandate 03	16,500,000.00
4 Mandate 04	21,000,000.00
5 Mandate 05	70,000,000.00
6 Mandate 06	34,000,000.00
	<u>283,306,700.00</u>

**Funds drawn from the Treasury from 1968 to 2018**

	Rs.
Consolidated funds	Rs. <u>2,421,443,826.45</u>
Foreign Aids	Rs. <u>338,908,549.60</u>

## Note No 13

### 13 Mandate 01

To Support basic and applied research in order to strengthen the scientific research potential, develop natural resources and support & facilitate technology development and product commercialization in order to enrich welfare of people.

	2018	2017
	Rs.	Rs.
1 Research Grants	91,201,702.58	109,126,239.10
2 Technology Grants	29,397,185.70	17,444,908.03
3 International Liasion Division	2,860,165.82	403,624.57
4 Director's Office Vote	18,818,521.72	26,381,451.44
	<b>142,277,575.82</b>	<b>153,356,223.14</b>

### 13.2 Mandate 02

To maintain a current register of scientific and technical personer, conduct surveys for determination of current and projected needs of S & T resources and provide a source of S T & I informations.

	2018	2017
	Rs.	Rs.
1 Science & Technology Policy Research Division	5,047,951.76	4,688,667.14
	<b>5,047,951.76</b>	<b>4,688,667.14</b>

### 13 Mandate 03

To foster interchange of scientific information among scientists in Sri Lanka and abroad and promote the publication of one or more journals at the national level.

	2018	2017
	Rs.	Rs.
<b>National Library and Resource Center</b>		
1 SLJOL Databse	5,365,023.38	5,485,170.21
2 Library Books	38,545.00	27,745.00
3 National Digitization	9,293,599.41	4,755,225.61
4 Seminars & Workshops	56,375.27	35,450.00
5 Subscriptions & Periodicals	563,310.00	75,933.92
6 Honararium for Committee Meeting	27,500.00	-
	<b>15,344,353.06</b>	<b>10,379,524.74</b>
<b>Journal Publication Unit</b>		
1 Journal of National Science Foundation - ( JNSF)	1,482,874.46	1,066,745.54
2 Sri Lanka Journal of Social Sciences - ( SLJSS)	402,564.57	300,451.98
	<b>1,885,439.03</b>	<b>1,367,197.52</b>
	<b>17,229,792.09</b>	<b>11,746,722.26</b>

### 13 Mandate 04

To Popularize science amongst schools and general public

	2018	2017
	Rs.	Rs.
1 Science Popularization Division	21,417,557.73	12,617,686.23
	<b>21,417,557.73</b>	<b>12,617,686.23</b>

### 14 Mandate 05

To Promote and enhance capacity building through liasing with individuals, associations or institutions locally and internationally and facilitate return of Sri Lankan scientists and technologists of distinction for S & T development.

1 Research Scholarship & Fellowships	28,191,631.00	14,956,002.00
2 International Contacts - Travel Grants	26,822,106.94	26,972,534.40
3 International Contacts - CERN	925,125.21	3,573,648.48
4 International Contacts - OSTP	11,728,974.27	14,649,877.26
5 International Contacts - IPSAT	4,178,532.76	4,220,893.85
6 International Liasion Division	7,363,186.76	3,439,427.31
7 Subscription to International Scientific Organizations	903,351.55	1,223,932.67
	<b>80,112,908.49</b>	<b>69,036,315.97</b>

### 14 Mandate 06

Acquisition of Capital Assets and improve policies, proceses and procedures of NSF together with managerial and technical competency of staff by international benchmarking, enhance infrastructure facilities and improve working environment to create a happy and contended workforce.

1 Office Equipment & Furniture	4,562,169.41	1,077,611.87
2 Building	1,515,478.25	-
3 Motor Vehicles	-	-
4 Information Technology	19,193,391.93	4,931,767.20
5 Accessories & Miscellaneous	33,380.00	32,899.00
6 Staff Development Local	2,387,539.14	1,252,852.16
Foreign	685,897.44	2,514,061.38
7 Director's Office Vote	1,044,495.00	-
8 Women in Science Programme	12,500.00	-
9 NSF 50 <sup>th</sup> Anniversary	12,861,414.68	-
	<b>42,296,265.85</b>	<b>9,809,191.61</b>

## Note No 12

### 12.1 Net Profit/(Loss) Sale of Publications

	<b>2018</b>
	<b>Rs.</b>
1 Other Publications	23,160.00
2 Sri Lanka Journal of Social Sciences	500.00
3 Sri Lanka Journal of Social Sciences Vol No. 38	400.00
4 Sri Lanka Journal of Social Sciences Vol No. 39	1,250.00
5 Sri Lanka Journal of Social Sciences Vol No. 40	20,324.00
6 Sri Lanka Journal of Social Sciences Vol No. 41	6,500.00
7 Vidurava	700.00
8 Posters	300.00
9 Journal of National Science Foundation Vol No. 44	26,105.00
10 Journal of National Science Foundation Vol No. 45	46,996.00
11 Journal of National Science Foundation Vol No. 46	415,527.54
12 Vidurava Vol. 33-2 (T)	(350.00)
13 Vidurava Vol. 33 Special (E)	(2,900.00)
14 Vidurava Vol. 33 Special (T)	(600.00)
15 Vidurava Vol. 34-1 (E)	(100.00)
16 Vidurava Vol. 34-1 (S)	200.00
17 Vidurava Vol. 34-2 (E)	(300.00)
18 Vidurava Vol. 34-2 (S)	200.00
19 Vidurava Vol. 34 Special (E)	1,500.00
20 Vidurava Vol. 34 Special (S)	1,000.00
21 Vidurava Vol. 34 Special (T)	2,000.00
22 Vidurava Vol. 35-1 (E)	15,100.00
23 Vidurava Vol. 35-1 (S)	4,600.00
24 Vidurava Vol. 35-1 (T)	5,700.00
25 Vidurava Vol. 35-2 (E)	9,900.00
26 Vidurava Vol. 35-2 (S)	6,800.00
27 Vidurava Vol. 35-2 (T)	1,600.00
28 Vidurava Vol. 35 Special (E)	145,100.00
29 Vidurava Vol. 35 Special (T)	100.00
	<hr/> <hr/> <b>731,312.54</b> <hr/> <hr/>

**12.2 National Science Library & Resource Centre**

	2018	2017
	Rs.	Rs.
1 Maintenance & Repairs	13,021.73	1,170.82
2 Consumables	31,175.00	61,849.30
	<b>44,196.73</b>	<b>63,020.12</b>

**12.3 Printing Unit**

	2018	2017
	Rs.	Rs.
1 Consumables & Chemicals	1,745,975.07	1,695,144.42
2 Paper & Boards	(211,726.46)	79,076.12
3 Maintenance & Repairs	56,208.80	226,970.69
	<b>1,590,457.41</b>	<b>2,001,191.23</b>

**Note No 14 - Cash and Cash Equivalents**

	2018	2017
	Rs.	Rs.
<b>Bank Accounts</b>		
1 BOC - 0002323269	3,699,353.59	29,668,486.15
2 BOC - 0002323270	1,756,774.65	68,867.41
3 BOC - 0002322471	195,404.91	104,141.37
4 BOC Savings - 80771519	2,566,939.86	9,547,115.46
5 Special cash imprest	100,000.00	50,000.00
6 Petty cash	5,000.00	5,000.00
7 Cash & Cheques in hand	2,760,034.72	1,261,250.47
	<b>11,083,507.73</b>	<b>40,704,860.86</b>

**Note A : Capital Cash Balance as at 31.12.2018**

Treasury Funds - Capital	56,324.77	5,223,819.81
Health Science Project	22,625.84	1,514,630.04
Cinemon Project	3,620,402.98	22,930,036.30
	<b>3,699,353.59</b>	<b>29,668,486.15</b>

**Note No 15 - Receivables****Cash Advances**

1 Miscellaneous	<b>Schedule - 1</b>	106,781.33	1,086,781.33
2 Research	<b>Schedule - 1</b>	-	-
<b>3 Loans to Staff</b>			
i. Distress loan - 01	<b>Schedule - 2</b>	4,115,281.00	5,204,019.00
ii. Distress loan - 02	<b>Schedule - 3</b>	8,667,006.00	-
iii. Combined loan	<b>Schedule - 4</b>	-	76,880.00
4 Festival Advance	<b>Schedule - 5</b>	10,000.00	12,500.00
5 Staff Debtors	<b>Schedule - 6</b>	129,671.61	151,705.41
6 Sundry Debtors	<b>Schedule - 7</b>	4,480,227.36	3,053,073.56
		<b>17,508,967.30</b>	<b>9,584,959.30</b>

**Note 15.1 - Staff Loan Payments**

	<b>Amount</b>	<b>Settlements With in one Year</b>	<b>Settlements After one year</b>
Distress Loan - 01	4,115,281.00	1,284,828.00	2,830,453.00
Distress Loan - 02	8,667,006.00	1,922,680.00	6,744,326.00
	<b>12,782,287.00</b>	<b>3,207,508.00</b>	<b>9,574,779.00</b>

**Note No 16 - Stocks**

1 Stationery and Consumables	<b>Schedule - 8</b>	1,512,502.93	1,176,046.03
2 Publications	<b>Schedule - 8</b>	404,063.75	166,913.75
		<b>1,916,566.68</b>	<b>1,342,959.78</b>

**Note No 17 - Other Current Assets**

1 Treasury Deposit		3,298,965.20	3,298,965.20
2 Refundable Deposit	<b>Schedule - 9</b>	108,650.00	108,650.00
		<b>3,407,615.20</b>	<b>3,407,615.20</b>

**Note No 20 - Investments**

1 SLINTEC	<b>Note - B</b>	857,069,645.00	748,128,852.00
		<b>857,069,645.00</b>	<b>748,128,852.00</b>

**Note - B : Investments Breakup**

	<b>No of Shares</b>		
Ordinary Shares	34,291,636	304,907,331.00	258,848,126.00
Preference Shares	56,678,832	552,162,314.00	489,280,726.00
		<b>857,069,645.00</b>	<b>748,128,852.00</b>

		2018	2017
		Rs.	Rs.
<b>Note No 21 - Accrued Expenses</b>			
1 Accrued Expenses	<b>Schedule - 10</b>	16,065,694.04	6,909,619.43
		<b>16,065,694.04</b>	<b>6,909,619.43</b>

**Note No 22 - Creditors**

Creditors amounting to Rs 3,643,028.82 represents monies held by NSF as given below,

1 Staff Creditors	-	10.00
2 Health Science Project	22,625.84	1,514,630.04
3 Cinemon Project	3,620,402.98	22,930,036.30
	<b>3,643,028.82</b>	<b>24,444,676.34</b>

**Note No 23 - Provision for Retiring Gratuity**

<b>Balance as at 01.01.2018</b>	29,968,923.70	25,405,162.00
(+) Provision for the year	7,059,011.47	6,349,007.70
	37,027,935.17	31,754,169.70
(-) Paid during the year	(2,262,840.00)	(1,785,246.00)
<b>Balance as at 31.12.2018</b>	<b>34,765,095.17</b>	<b>29,968,923.70</b>

**Note No 24 - Deffrede Revenue**

1 Deffred Revenue - Assets	<b>Note - C</b>	49,398,431.74	37,185,596.06
		<b>49,398,431.74</b>	<b>37,185,596.06</b>

**Note C : Deffered Revenue - Assets**

<b>Balance as at 01.01.2018</b>	37,185,596.06	44,286,442.18
(+) Assets Capitalized	25,336,773.58	6,118,523.07
	62,522,369.64	50,404,965.25
(-) Depreciation Deffered	(13,123,937.90)	(13,219,369.19)
<b>Balance as at 31.12.2018</b>	<b>49,398,431.74</b>	<b>37,185,596.06</b>

## Property Plant and Equipment as at 31<sup>st</sup> December, 2018

### Note No 18

Description	Balance as at 01.01.2018 (Rs.)	Additions	Disposals	Balance as at 31.12.2018 (Rs.)
<b>Assets - (Cost &amp; Revaluation)</b>				
Land	370,000,000.00	-	-	370,000,000.00
Building	57,653,800.00	1,515,478.25	-	59,169,278.25
Office Equipment & Furniture	98,132,400.24	15,823,638.46	5,048,278.24	108,907,760.46
Motor Vehicles	35,014,750.00	-	-	35,014,750.00
Accessories & Miscellaneous	1,333,572.55	33,380.00	-	1,366,952.55
Library Books	5,590,932.66	37,545.00	-	5,628,477.66
Documentation Equipment	16,098,661.85	-	31,050.00	16,067,611.85
	<b>583,824,117.30</b>	<b>17,410,041.71</b>	<b>5,079,328.24</b>	<b>596,154,830.77</b>
<b>Accumulated Depreciation</b>				
Building	19,155,092.01	2,915,488.69	-	22,070,580.70
Office Equipment & Furniture	76,711,533.76	8,801,935.18	5,035,726.11	80,477,742.83
Motor Vehicles	26,225,797.97	2,784,500.00	-	29,010,297.97
Accessories & Miscellaneous	1,266,925.62	31,806.35	-	1,298,731.97
Library Books	3,565,106.28	216,958.84	-	3,782,065.12
Documentation Equipment	16,093,540.92	5,120.93	31,050.00	16,067,611.85
	<b>143,017,996.56</b>	<b>14,755,809.99</b>	<b>5,066,776.11</b>	<b>152,707,030.44</b>
<b>Net Value</b>	<b>440,806,120.74</b>			<b>443,447,800.33</b>

### Note No 19 - Intangible Assets

	<u>2018</u>	<u>2017</u>
<u>Cost</u>	Rs.	Rs.
Balance at the beginning of the year	391,664.70	391,664.70
Additions	7,926,731.87	-
Transfers	-	-
<b>Balance as at the end of the year</b>	<b>8,318,396.57</b>	<b>391,664.70</b>
<b>Accumulated amortisation</b>		
Balance at the beginning of the year	34,337.73	34,337.73
Charge for the year	903,667.23	-
<b>Balance as at the end of the year</b>	<b>938,004.96</b>	<b>34,337.73</b>
<b>Carrying amount as at the end of the year</b>	<b>7,380,391.61</b>	<b>357,326.97</b>

\* Intangible assets include computer software and software licenses purchased.

## Schedules for Accounts for the Year Ended 31<sup>st</sup> December, 2018

### Miscellaneous cash advances as at 31.12.2018

Schedule 1

Date	V. No.	File No.	Name	Amount - Rs.
24-02-2016	O - 168	AG - 96	SLIDA	106,781.33
				<u>106,781.33</u>

### Loan Balance as at 31.12.2018

Schedule - 2

#### Distress Loan - 01

	Rs.	Rs.
1 Mrs.H.Siriwardana	97,416.00	
2 Mr.M.D.Vajira	130,452.00	
3 Mr.A.A. Dias	196,416.00	
4 Mr.R.P.D.T. Rajapakse	22,220.00	
5 Mrs.Monika Wijayamanne	208,300.00	
6 Mr.K.A.D.P.N. Nanayakkara	148,344.00	
7 Mrs.D.M.R. Ippalawatte	120,155.00	
8 Mrs..A.J.N. Silva	124,652.00	
9 Mr.M.L. Gunapala	24,976.00	
10 Ms.K.N.R.H.D.Mahapitiya	20,056.00	
11 Mrs.J.A.C.H Samarasinghe	84,896.00	
12 Mrs.Dilani Jayaweera	124,830.00	
13 Mrs.S.V.P.M.Rukshani	32,279.00	
14 Mr.Chandrasiri Perera	159,792.00	
15 Mr.T.D.K.Gunasekara Zoysa	114,532.00	
16 Mr.W.P.S.Sammani Weerasingha	137,063.00	
17 Mrs.Chani M De Silva	179,465.00	
18 Mrs.Kanchana Sewwandhi	158,766.00	
19 Mrs.J.A.C.G.Samarasinghe	133,720.00	
20 Mr.Umeka Samaranayake	94,248.00	
21 Mrs.K.D.Nimali Keeragala	133,065.00	
22 Mr.E.M.D.C.B Ekanayaka	139,460.00	
23 Mrs.R.M.M Jayajeewani	207,116.00	
24 Mrs.D.M Nadeesha Sirangi	17,892.00	
25 Mrs.B.V.I.D Wimalarathna	61,830.00	
26 Mr.Asanga Indrajith Ahangama	203,232.00	
27 Mrs.Saroja Udayangani	67,106.00	
28 Mr.Ranil Kumara de Silva	86,394.00	
29 Mrs.P.H.Hasni	101,972.00	
30 Mrs.D.M.W Sadari Dematagolla	135,669.00	
31 Mrs.K.A.T.K.G.Kadanamulla	120,056.00	
32 Mr.S.A.Jayasinghe	129,260.00	
33 Mrs.W.A.H Vinoli Chandi	166,355.00	
34 Mrs.M.N Thasneem	233,296.00	
		<u>4,115,281.00</u>

**Distress Loan - 02**

Schedule - 3

1	Mr.M.L.Cooray	212,220.00
2	Mr.M.D.Vajira	88,284.00
3	Miss.N.Paranavidana	237,462.00
4	Mrs.V.R.Priyanganie	216,632.00
5	Mrs.N.S.Liyanage	233,296.00
6	Mrs.N.S.S Silva	233,296.00
7	Mrs.Hemamali Priyadarshani	229,130.00
8	Mr.Saman Sujeewa	216,632.00
9	Mrs.R.K.D.U Medhavi	216,632.00
10	Mr.B.S.Cooray	216,632.00
11	Mr.H.P.L Caldera	216,632.00
12	Mrs.D.M.N Prishathi	216,632.00
13	Mrs.I.C.Ramani	216,632.00
14	Mrs.W.A.D.A Perera	229,130.00
15	Mr.K.G.J Karunasena	216,632.00
16	Mrs.D.N.Wickramarachchi	245,794.00
17	Mrs.Dilani Jayaweera	112,575.00
18	Mrs.R.A.A.R Ranathunga	245,794.00
19	Mrs.M.A.R.L Millavithana	245,794.00
20	Mrs.T.D.P.P Samaranayake	225,792.00
21	Mrs.B.T.Wickramasingha	233,296.00
22	Mr.S.N.P.K Sapumohotti	250,000.00
23	Mrs.Dilrukshi Ekanayake	237,462.00
24	Mr.P.D Gunamuditha	188,925.00
25	Mr.K.K.Yohan Chandeeera	216,632.00
26	Mrs.Chani M De Silva	34,210.00
27	Mrs.Maduka Senarathna	237,462.00
28	Mrs.H.K.C Priyadarshanie	202,072.00
29	Mr.Sajeewa Pannala	245,794.00
30	Mrs.M.Shamila	215,376.00
31	Mrs.Pushpa Ellapallage	216,632.00
32	Mrs.Priyanka Bamunendra	216,632.00
33	Mrs.G.G.K.P.Sumudu Kumari	216,632.00
34	Mrs.A.N.L Perera	221,502.00
35	Mr.W.Ajantha Sanjeewa	216,476.00
36	Mr.Asanga Indrajith Ahangama	38,164.00
37	Mrs.H.H.S.M.R Wijenayaka	216,632.00
38	Mr.S.C.S Fernando	198,880.00
39	Mr.Sandun Fernando	180,596.00
40	Mr.Sanjaya Amarathunga	198,880.00
41	Mrs.Irosha Edirisingha	199,992.00
42	Mrs.J.K Harsha Shamini	213,136.00

**8,667,006.00**

*Schedule - 4*

## Combined Loan as at 31.12.2018

	Rs.	Rs.
1 Mrs.H Siriwardene	-	
		<u>0.00</u>

*Schedule - 5*

## Festival Advance Balances as at 31.12.2018

Name	Rs.
1 Mr.K.A.D.P.N. Nanayakkara	10,000.00
<b>Total</b>	<u><u>10,000.00</u></u>

*Schedule - 6***Staff Debtors Schedule**

1 Mr.Buddhika Wijayamunige	44,647.66
2 Mrs.Viraji Yasapalitha	5,062.00
3 Mr.Janaka Karunasena	5,710.00
4 Mrs.H.A.Kanthi	9,682.58
5 Mr.D.P.N Nanayakkara	8,083.91
6 Mr.M.L.Gunapala	3,105.29
7 Mrs.Cristine Dasanayaka	11,523.87
8 Mr.C.A.B Wickramasingha	4,734.97
9 Mrs.Dilrukshi Ekanayaka	960.32
10 Dr.H.I.Sandanayaka	748.80
11 Mrs.K.D.Nimali Keeragala	4,027.74
12 Mr.Indrajith Ahangama	4,432.29
13 Mr.Ajantha Sanjeewa	402.93
14 Mrs.P.L.L Abeyagunawarana	736.77
15 Mrs.W.G.P Sakunthala	22,911.61
16 Dr.G.Yapa	988.19
17 Mrs.Priyanka Bamunendra	1,119.00
18 Mrs.H.H.S.M.R.Wijenayaka	579.68
19 Mr.Ranil Kumara	214.00
	<u><u>129,671.61</u></u>

Sundry Debtors Schedule**Sundry Debtors Balances as at 31/12/2018**

Date	V.No	Grant No.	Grantee	Amount	
				Rs.	cts.
29-12-2017	J/659	NTRP/2012/FS/PG 03/P 01	Dr.Sugath Pathirage Medical Research Institute Colombo - 08.	84,500.00	
29-12-2017	J/659	RG/2016/EQ/03	Dean, Faculty of Science, University of Kelaniya, Kelaniya.	110,000.00	
31-12-2018	J/618	RG/2015/BT/02	Dr.Nimanthi Jayathilaka Faculty of Science, University of Kelaniya, Kelaniya.	40,696.76	
31-12-2018	J/619	RG/2015/HS/04	Dr.K.Gajapathy Faculty of Science, University of Jaffna, Jaffna.	61,494.52	
31-12-2018	J/620	RG/2015/EA & ICT/02	Prof.Rangika Halwatura University of Moratuwa Moratuwa.	121,500.00	
31-12-2018	J/621	TG/2016/Tech-D/01	Mr.Isuru Rajakaruna Thalavitiya, Parakaduwa	875.00	
31-12-2018	J/622	TG/2014/Tech-D/07	Prof.R.M.C.P Rajapaksha Faculty of Agriculture University of Peradeniya.	300,090.32	
31-12-2018	J/624	NSF/SCH/2015/04	Ms.A.M.Piyumali Sandar Faculty of Medical Science University of Sri Jayawardanapura	48,850.20	
31-12-2018	J/632	TG/2015/Tech-D/04	Prof.Kanthi K.A.S Yapa Faculty of Science University of Moratuwa	14,093.95	
31-12-2018	J/636	RG/2014/BS/02	Prof.U.L.B Jayasingha Institute of Fundamental Studies Kandy.	20,000.00	
31-12-2018	J/638	TG/2014/Tech-D/02	Prof,R.G.N Meegama Department of Statistic & Computer Science University of Sri Jayawardanapura	257,777.18	

Date	V.No	Grant No.	Grantee	Amount
31-12-2018	J/640	RG/2015/HS/05	Dr.S.Wijethunga Faculty of Medicine University of Peradeniya.	973,870.00
31-12-2018	J/641	RG/2015/AG/01	Dr.W.A.H Champa Institute of Post harvest Technology Anuradhapura.	491,446.04
31-12-2018	J/642	RG/2015/EB/03	Prof.R.K.Sriyani Dias University of Kelaniya, Kelaniya.	161,274.39
31-12-2018	J/643	RG/2015/HS/03	Dr.K.M.G Prasanna Premadasa Faculty of Medicine General Sir John Kothelawala Defence University.	1,748,759.00
31-12-2018	J/648		Bank of Ceylon - Head office Training Department 15 <sup>th</sup> Floor, Colombo - 01.	45,000.00
				<b>4,480,227.36</b>

*Schedule - 8*

<u>Stocks</u>	Rs.	Rs.
1 Stationary & Consumables - Stores	688,159.88	
- Printing	819,493.05	
- Building	4,850.00	
		1,512,502.93
2 Coral Reef Posters		15,220.00
3 Horton Plains Vedio Cassettes		8,043.75
 <u>Books &amp; Periodicals</u>		
4 Sri lanka Journal of Social Science Vol No 41		6,500.00
5 Vidurawa 34 Special (Sinhala)		1,000.00
6 Vidurawa 34 Special (English)		1,500.00
7 Vidurawa 34 Special (Tamil)		2,000.00
8 Vidurawa 35-1 (English)		15,100.00
9 Vidurawa 35-1 (Sinhala)		4,600.00
10 Vidurawa 35-1 (Tamil)		5,700.00
11 Vidurawa 35-2 (English)		9,900.00
12 Vidurawa 35-2 (Sinhala)		6,800.00
13 Vidurawa 35-2 (Tamil)		1,600.00
14 Vidurawa 35 Special (English)		144,900.00
15 Journal of National Science Foundation Vol No. 45		32,400.00
16 Journal of National Science Foundation Vol No. 46		148,800.00
<b>Total</b>		<b>1,916,566.68</b>

**Prepayments**

	Rs.
1 Database	8,033.42
2 Insurance	250,842.42
3 Maintenance of Motor Vehicles	13,627.37
4 Maintenance of Office Equipments	997,308.28
5 Postage	51,947.00
	<b>1,321,758.49</b>

**Deposits**

	Rs.
1 Felix Perera & Sons	65,000.00
2 Director of Telecommunication	450.00
3 Telecom	5,000.00
4 Ceylon Electricity Board	10,000.00
5 Telecom - IDD facilities	5,000.00
6 Car Smile - Rent a car services	15,000.00
7 Laugh Holdings	8,200.00
	<b>108,650.00</b>

**Accrued Charges****Recurrent**

1 Audit Fees	630,000.00	
2 Advertisements	54,579.00	
3 Overtime	270,745.18	
4 Electricity	644,999.86	
5 Stationary & Consumables	335,855.00	
6 Office Travelling	437,777.67	
7 Sundry Expenses	12,250.00	
8 Medical Expenses	13,250.00	
9 Telephone	65,618.15	
10 Fuel	308,313.40	
11 Maintenance of Motor Vehicles	74,250.00	
12 Maintenance of Office Equipments	12,705.45	
13 Maintenance of Buildings	2,370,402.15	
14 Water	47,647.41	
15 Security Charges	142,542.96	
16 Janitorial Charges	115,159.27	
17 Translation Charges	280,342.50	
18 Mobile Internet Charges	10,101.79	
19 Subscription for Internet Charges	875,346.40	6,701,886.19

**Capital**

1 Building	6,001.15	
2 Office equipments & Furniture	136,866.70	
3 Information Technology	5,710,500.00	
4 NSF 50th Anniversary	1,707,350.00	
5 Intergrated Software Programme	1,803,090.00	9,363,807.85

**Total****16,065,694.04**-----  
Schedule - 10

## Reconciliation of Financial Position

	Audited Balance as at		Adjusted Balance as at
Note	31 December 2017	Adjustments	31 December 2017
<b>ASSETS</b>			
<b>Current Assets</b>			
Cash & Cash Equivalents	40,704,861		40,704,861
Receivables	6,080,330		6,080,330
Stocks	1,342,960		1,342,960
Pre Payments	1,330,851		1,330,851
Other Current Assets	3,407,615		3,407,615
<b>Total Current Assets</b>	<b>52,866,617</b>	-	<b>52,866,617</b>
<b>Non-Current Assets</b>			
Receivables	3,504,629		3,504,629
Property, plant & Equipments	440,806,121		440,806,121
Intangible Assets	357,327		357,327
Investments	748,128,852		748,128,852
<b>Total Non-current Assets</b>	<b>1,192,796,929</b>	-	<b>1,192,796,929</b>
<b>Total Assets</b>	<b>1,245,663,546</b>	-	<b>1,245,663,546</b>
<b>Liabilities</b>			
<b>Current Liabilities</b>			
Accrued Charges	6,909,619		6,909,619
Creditors	24,444,676		24,444,676
	31,354,296	-	31,354,296
<b>Non-Current Liabilities</b>			
Provision for Retiring Gratuity	29,968,924		29,968,924
Deffered Revenue	37,185,596		37,185,596
	67,154,520	-	67,154,520
<b>Total Liabilities</b>	<b>98,508,816</b>	-	<b>98,508,816</b>
<b>Net Assets</b>	<b>1,147,154,731</b>	-	<b>1,147,154,731</b>
<b>Equity and Reserves</b>			
<b>Accumulated Funds</b>			
NSF Fund	(21,822,857)		(21,822,857)
Revaluation Reserve	420,848,736		420,848,736
Government Grant	748,128,852		748,128,852
<b>Total Equity</b>	<b>1,147,154,731</b>	-	<b>1,147,154,731</b>

## Notes to Financial Statements

### Note - A

technology Development act no 11 of 1994 and the previous year figures were restated accordingly.

Expenditure for Staff Development is reported under Mandate 06 - Acquisition of Capital Assets and improve policies.

As per the audit observations of 2017, the payment appropriations approved under the Special Training Program (OSTP) had been recorded in the International Contacts (Travel Grants) account under Mandate - 05. It has been corrected in the year for the preparation of the accounts.

	<u>Balance</u>	<u>Correction</u>	<u>Actual Balance</u>
International Contacts - Travel Grants	30,546,182.88	(4,262,382.00)	26,283,800.88
International Contacts - OSTP	14,649,877.26	4,262,382.00	18,912,259.26
	<u>45,196,060.14</u>	<u>-</u>	<u>45,196,060.14</u>

Expenditure for Subscription to International Scientific Organizations is reported under Mandate 05 - International Cooperation

### Reconciliation of Comprehensive Income

Year ended 31 December 2017			
	<u>2017</u>	<u>Adjustments</u>	<u>2017</u>
<b>Revenue</b>			
Government Grant	115,588,500		115,588,500
<b>Other Income</b>			-
Interest received	367,575		367,575
Sundry Income	1,640		1,640
Sale of Publications	(112,510)		(112,510)
Photocopy receipts	4,980		4,980
NSLRC Income	2,250		2,250
Profit/(Loss) Sale of Fixed Assets	55,895		55,895
Exchange Gain/(Loss)	-		-
Other	246,292,516		246,292,516
Differed Revenue	13,219,369		13,219,369
	<u>375,420,215</u>		<u>375,420,215</u>
<b>Expenditure</b>			
<b><u>Office Expenditure</u></b>			
Traveling & Allowances for Board Members	577,500		577,500
Refreshments for meetings	152,985		152,985
Printing & Publications	-	730,485	-
	<u>-</u>		<u>-</u>
<b><u>Staff Emoluments</u></b>			
Salaries & Allowances	63,163,160		63,163,160
Employees Provident Fund	8,363,549		8,363,549
Employees Trust Fund	1,657,359		1,657,359
Provision for Retiring Gratuity	6,349,008		6,349,008

Overtime	1,160,542		1,160,542	
Holiday Payment	59,854		59,854	
Uniforms	354,833		354,833	
		81,108,306		81,108,306
<b><u>Office Administration</u></b>				
Travelling - Office	3,673,394		3,673,394	
Stationary & Consumables	1,728,514		1,728,514	
Electricity	3,720,565		3,720,565	
Telephone/ Fax	2,485,860		2,485,860	
Postal charges	111,830		111,830	
Audit fees - Auditor General's Dept.	160,000		160,000	
Legal fees	-		-	
Bank charges	78,105		78,105	
Medical Expenses	78,022		78,022	
Advertising	1,470,540		1,470,540	
Maintenance of Motor Vehicles	3,395,361		3,395,361	
Maintenance of Office Equipment & Furniture	2,227,205		2,227,205	
Maintenance of Building	1,670,225		1,670,225	
Maintenance of Land	134,263		134,263	
Entertainment	-		-	
Insurance	876,982		876,982	
Water Consumption charges	530,914		530,914	
Security Services	1,832,249		1,832,249	
Depreciation	15,689,355		15,689,355	
Amortisation of intangible assets	34,338		34,338	
Sundry Expenses	681,612		681,612	
Janitorial Services	1,173,892		1,173,892	
Translation charges	454,490		454,490	
Stamp duty	950		950	
Debtors Written off	-		-	
Stock of Magazines & Journals written off	289,355	42,498,019	289,355	42,498,019
<b><u>Others</u></b>				
National Science Library & Resource Centre	138,954	(75,934)	63,020	
Printing Division	2,001,191		2,001,191	
Subscription to International Scientific Organizations	1,223,933	1,223,933	-	
Subscription for Internet Services	5,754,867	9,118,945	5,754,867	7,819,078
<b><u>Capital Expenditure</u></b>				
Awards & Grants : Mandate 01	153,356,223		153,356,223	
Science & Tec Policy Research : Mandate 02	4,688,667		4,688,667	
National Gateway S & T Infrmtion : Mandate 03	11,670,788	75,934	11,746,722	
Science popularization programmes : Mandate 04	12,617,686		12,617,686	
International cooperation : Mandate 05	71,579,297	(2,542,981)	69,036,316	
Capital Assets, Maintenance & Admin : Mandate 06	6,042,278	3,766,914	9,809,192	
		259,954,940		261,254,806
<b>Excess of Income over expenditure</b>		<b>(17,990,480)</b>		<b>(17,990,480)</b>

## Reconciliation of Statement of Cash Flow

<u>Reconciliation of Statement of Cash Flow</u>	Rs'000	
	2017	2017
<b><u>Cash flows from operating Activities</u></b>		
Net excess of expenditure over income	(17,990)	(17,990)
Add; NSF fund prior year adjustments	<u>10,007</u>	<u>10,007</u>
	<b>(7,983)</b>	<b>(7,983)</b>
<b><u>Adjustments for</u></b>		
Depreciation	15,689	15,689
Amortisation of Intangible assets	34	34
Gratuity paid during the year	(1,785)	(1,785)
Provision for Gratuity	6,349	6,349
Disposal of Fixed Assets	(56)	(56)
Over Provision of Doubtfull Debtors	-	-
Revaluation Reserve of Disposal Vehicles	-	-
Deffered Revenue	(13,219)	(13,219)
Debtor Written off	<u>-</u>	<u>-</u>
Operating profit/loss before working capital changes	<b>(971)</b>	<b>(971)</b>
Net increase/decrease in trade other receivables	(11)	(11)
Net increase/decrease in inventories	931	931
Net decrease/increase in trade payables	17,989	17,989
Cash generated from operations	<u>18,909</u>	<u>18,909</u>
Net cash from operating activities	<b>17,938</b>	<b>17,938</b>
<b><u>Cash flows from Investing Activities</u></b>		
Proceed of Disposal of Fixed Assets	87	87
Purchase of assets	(5,727)	(5,727)
Proceeds from sale of books	<u>-</u>	<u>-</u>
Net cash used in investing activities	<b>(5,640)</b>	<b>(5,640)</b>
<b><u>Cash Flows from Financial Activities</u></b>		
Contribution from Government	5,727	5,727
Foreign Aid	<u>-</u>	<u>-</u>
	<b>5,727</b>	<b>5,727</b>
Net cash from financing activities	18,025	18,025
Cash & cash equivalent at beginning period	<u>22,680</u>	<u>22,680</u>
<b>Cash &amp; cash equivalent at end of period</b>	<b><u>40,705</u></b>	<b><u>40,705</u></b>

## Budget & Actual Expenditure 2018

### Capital Expenditure

Rs.000'

	<i>Estimate 2018 - Original</i>	<i>Estimate 2018 - Revised</i>	<i>Actual Expendituer</i>	<i>Surplus/(Var einces)</i>
Mandate - 01	186,000	142,280	142,277	3
Mandate - 02	5,700	5,050	5,048	2
Mandate - 03	10,000	17,265	17,230	35
Mandate - 04	17,800	21,420	21,418	2
Mandate - 05	46,500	79,245	80,113	(868)
Mandate - 06	34,000	34,740	42,296	(7,556)
<b>Total</b>	<b>300,000</b>	<b>300,000</b>	<b>308,382</b>	<b>(8,382)</b>

### Recurrent Expenditure

Rs.000'

	<i>Estimate 2018 - Original</i>	<i>Estimate 2018 - Revised</i>	<i>Actual Expendituer</i>	<i>Surplus/(Var einces)</i>
Personal Emoluments	96,880	100,215	100,209	6
Travelling Expenses	8,000	3,950	3,943	7
Supplies	3,600	3,965	3,958	7
Maintenance Expenditure	6,100	9,455	10,281	(826)
Contractual Services	12,280	11,990	11,978	12
Others	13,140	10,425	10,415	10
<b>Total</b>	<b>140,000</b>	<b>140,000</b>	<b>140,784</b>	<b>(784)</b>

### Note

#### Capital Expenditure

The variance is for the purchases of computers & 50<sup>th</sup> anniversary expenses (accruals) due to this Mandate - 06 is Exceeded.

#### Recurrent Expenditure

Recurrent Exceeded due to painting of the building for 50<sup>th</sup> anniversary.

	<i>Estimate 2018 - Original</i>	<i>Estimate 2018 - Revised</i>	<i>Actual Expenditure</i>	<i>Surplus/(Var iances)</i>
<b><u>Staff Emoluments</u></b>				
Salaries & Allowances	73,000	76,765	76,763	2
Employees Provident Fund	9,000	10,215	10,214	1
Employees Trust Fund	1,800	2,040	2,037	3
Payment for unutilized leave	3,000	-	-	-
Fuel & Transport Allowance	7,580	6,475	6,475	-
Retiring Gratuity	1,300	2,263	2,263	-
Overtime	1,100	2,375	2,375	-
Holiday Payment	100	82	82	-
	<b>96,880</b>	<b>100,215</b>	<b>100,209</b>	<b>6</b>
<b><u>Traveling</u></b>				
Office Traveling	8,000	3,950	3,943	7
	<b>8,000</b>	<b>3,950</b>	<b>3,943</b>	<b>7</b>
<b><u>Supplies</u></b>				
Uniforms	500	300	297	3
Stationary & Consumables	1,500	1,640	1,639	1
Printing & Publications	100	-	-	-
Fuel & Lubricants	1,500	2,025	2,022	3
	<b>3,600</b>	<b>3,965</b>	<b>3,958</b>	<b>7</b>
<b><u>Maintenance</u></b>				
Maintenance of Motor vehicle	800	1,440	1,437	3
Maintenance of Office equipment & furniture	1,800	2,440	2,433	7
Maintenance of Building	3,000	5,575	6,411	(836)
Maintenance of Land	500	-	-	-
	<b>6,100</b>	<b>9,455</b>	<b>10,281</b>	<b>(826)</b>
<b><u>Services</u></b>				
Electricity	4,000	4,060	4,058	2
Postage	1,000	165	165	-
Telephone/ Fax	2,000	3,085	3,085	-
Insurance charges for vehicles & Building	1,200	900	899	1
Water consumption	700	530	528	2
Security Services	1,630	1,665	1,662	3
Janitorial Services	1,750	1,585	1,581	4
Leasing	-	-	-	-
	<b>12,280</b>	<b>11,990</b>	<b>11,978</b>	<b>12</b>

	<i>Estimate 2018 - Original</i>	<i>Estimate 2018 - Revised</i>	<i>Actual Expenditure</i>	<i>Surplus/(Variances)</i>
<b><u>Other Recurrent</u></b>				
Advertising	750	1,175	1,171	4
Allowances to Board members				
Audit Committee & travelling	800	568	566	2
Audit fees - Auditor General's Dept.	175	160	160	-
Bank charges	85	81	81	-
Entertainment	50	-	-	-
Legal fees	50	-	-	-
Medical scheme	150	75	75	-
NSF Committees	300	-	-	-
Refreshments for committee meetings	300	160	159	1
National Science Library & Resources Centre	400	44	44	-
Printing unit	1,300	1,590	1,590	-
Stamp duty	40	2	2	-
Sundry Expenses	600	765	764	1
Translation charges	250	280	280	-
Internet membership fees	5,600	5,525	5,523	2
Subscription for S/W Licence Renewal	2,290	-	-	-
	<b>13,140</b>	<b>10,425</b>	<b>10,415</b>	<b>10</b>
<b>Total</b>	<b>140,000</b>	<b>140,000</b>	<b>140,784</b>	<b>(784)</b>
<b>Provision &amp; other</b>				
Gratuity Provision	-	-	7,059	-
Depreciation	-	-	14,756	-
Amortitation of Intangible Assets	-	-	904	-
Debtors Write off	-	-	27	-
Stock Magazines & Journals Written off	-	-	145	-
<b>Total Other Recurrent</b>	<b>-</b>	<b>-</b>	<b>22,891</b>	<b>-</b>
<b>Total</b>	<b>140,000</b>	<b>140,000</b>	<b>163,675</b>	<b>-</b>





# Auditor General's Report





# ජාතික විගණන කාර්යාලය

## தேசிய கணக்காய்வு அலுவலகம்

### NATIONAL AUDIT OFFICE



මගේ අංකය  
எனது இல. }  
My No. }

ඔබේ අංකය  
உமது இல. }  
Your No. }

දිනය  
திகதி }  
Date }

31 May 2019

Chairman  
National Science Foundation

### Report of the Auditor General on the Financial Statements and Other Legal and Regulatory Requirements of the National Science Foundation for the year ended 31 December 2018 in terms of Section 12 of the National Audit Act, No. 19 of 2018.

## 1. Financial Statements

### 1.1 Qualified Opinion

The audit of the financial statements of the National Science Foundation for the year ended 31 December 2018 comprising the statement of financial position as at 31 December 2018 and the statement of financial performance, statement of changes in equity and cash flow statement for the year then ended, and notes to the financial statements, including a summary of significant accounting policies, 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 provisions of the National Audit Act No. 19 of 2018 and Finance Act No. 38 of 1971. My report to Parliament in pursuance of provisions in Article 154 (6) of the Constitution will be tabled in due course.

In my opinion, except for the effects of the matters described in the basis for Qualified Opinion section of my report, the accompanying financial statements give a true and fair view of the financial position of the Foundation as at 31 December 2018, and of its financial performance and its cash flows for the year then ended in accordance with Sri Lanka Public Sector Accounting Standards.

### 1.2 Basis for Qualified Opinion

- In terms of Section 69 of Sri Lanka Public Sector Accounting Standard 7, depreciation of intangible assets should be computed when they are made available for use. Nevertheless, depreciation of the Microsoft Office and Project 365 software worth Rs.5,786,158 purchased on 23 August 2018 had been commenced from the date of purchasing. This software had been used from 28 March 2019. Accordingly, provision for depreciation of the year under review had been overstated by Rs.415,335.
- Although the amount that remained receivable to the National Science Foundation from a research project grant amounted to Rs.163,500 as at 31 December 2018, it had been brought to account as Rs.121,500 and as such, the receivable account balance had been understated by Rs.42,000.

අංක 306/72, පොල්දූව පාර, බත්තරමුල්ල, ශ්‍රී ලංකාව.

இல. 306/72, பொல்தூவ வீதி, பத்தரமுல்லை, இலங்கை.

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I conducted my audit in accordance with Sri Lanka Auditing Standards (SLAuSs). My responsibilities, under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of my report. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my qualified opinion.

### **1.3 Responsibilities of Management and Those Charged with Governance 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 management determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the National Science Foundation's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the National Science Foundation or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the National Science Foundation's financial reporting process.

As per Section 16(1) of the National Audit Act No. 19 of 2018, the National Science Foundation is required to maintain proper books and records of all its income, expenditure, assets and liabilities, to enable annual and periodic financial statements to be prepared of the National Science Foundation

### **1.4 Auditor's Responsibilities for the Audit of the Financial Statements**

My objective is to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Sri Lanka Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Sri Lanka Auditing Standards, I exercise professional judgment and maintain professional scepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit 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 National Science Foundation's internal control.



- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the management.
- Conclude on the appropriateness of the management's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the National Science Foundation's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. However, future events or conditions may cause the entity to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

I communicate with those charged with governance regarding, among other matters, significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

## 2. Report on Other Legal and Regulatory Requirements

National Audit Act, No. 19 of 2018 include specific provisions for following requirements.

- Except for the effect of the matters described in the Basis for Qualified Opinion paragraph, I have obtained all the information and explanation that required for the audit and as far as appears from my examination, proper accounting records have been kept by the Foundation as per the requirement of section 12 (a) of the National Audit Act, No. 19 of 2018.
- The financial statements presented is consistent with the preceding year as per the requirement of section 6 (1) (d) (iii) of the National Audit Act, No. 19 of 2018.
- The financial statements presented includes all the recommendations made by me in the previous year as per the requirement of section 6 (1) (d) (iv) of the National Audit Act, No. 19 of 2018.

Based on the procedures performed and evidence obtained were limited to matters that are material, nothing has come to my attention;

- to state that any member of the Board of Management of the National Science Foundation has any direct or indirect interest in any contract entered into by the National Science Foundation which are out of the normal cause of business as per the requirement of section 12 (d) of the National Audit Act, No. 19 of 2018.
- to state that the National Science Foundation has not complied with any applicable written law, general and special directions issued by the Board of Management of the National Science Foundation as per the requirement of section 12 (f) of the National Audit Act, No. 19 of 2018.



Reference to law/ direction	Description
(a) Financial Regulations of the Democratic Socialist Republic of Sri Lanka. F.R.757(1)	The Board of Survey had not certified the accuracy of the inventory registers after doing verification.
(b) Paragraph-5 of the Guidelines for Research Projects.	<p>i Even though the final financial report should be presented within one month from the completion of the project, action had not been taken accordingly in relation to 03 projects and as such, a balance totalling Rs.596,512 had not been settled even by 31 March 2019.</p> <p>ii Although research and financial progress should be presented on 15 June and 15 December of each year, it was observed according to the audit test check conducted in the year under review that expenditure reports on 07 projects totalling Rs.13,988,789 had not been obtained within the prescribed period.</p>
(c) Section 3.5 of the Public Finance Circular No.PED/2015 dated 25.05.2015.	An officer entitled to an official vehicle or transport allowance shall not use another vehicle of the institute. Nevertheless, it was observed at the audit test check that an officer who is paid transport allowances had used a vehicle of the Foundation in 05 instances.
(d) Science and Technology Development Act, No.11 of 1994.	
<p>i Paragraph 03 of Section 10 (a)</p>	Out of 18 projects worth Rs.46,768,435 completed under the research grants during the year under review, 16 projects valued at Rs.41,980,228 had not been used for economic and social development activities even by 31 March 2019.
<p>ii Section 10</p>	An Action Plan had been prepared for the year under review under 06 key functions to be implemented in keeping with the objectives of the Foundation and provisions of Rs.260 million had been made thereon. Nevertheless, estimated provisions for sub-activities identified relating to the said key functions had not been separately indicated. As such, financial progress of those sub-activities could not be evaluated separately.
<p>iii Section 10</p>	Since the number of targets expected to be achieved during the year under review relating to 21 sub-activities had not been stated in the performance indicators, it could not be ascertained as to whether the expected targets of the Foundation had been achieved.



- to state that the National Science Foundation has not performed according to its powers, functions and duties as per the requirement of section 12 (g) of the National Audit Act, No. 19 of 2018.
- to state that the resources of the National Science Foundation had not been procured and utilized economically, efficiently and effectively within the time frames and in compliance with the applicable laws as per the requirement of section 12 (h) of the National Audit Act, No. 19 of 2018.

Since a sum of Rs.3,298,965 stated as Treasury Deposits under the other current assets in the financial statements for more than a period of 05 years had not been invested in useful purpose, it had been credited to the Government Revenue on 01 March 2019.

### 03. Other Observations

The contribution of the National Science Foundation for a technology grant project initiated on 01 October 2013 amounted to Rs.3,642,990 and the project was scheduled to be completed on 30 June 2016. Approval of the Board of Management had been received to extend the project period up to 18 months in 3 instances and accordingly the last date scheduled for the completion of project was 02 October 2018. The objective of this project was to create a nerve- reviving arm for the patients, whereas necessary steps had not been taken to examine whether the above hand was suitable for the requirements of the patients even as at 31 March 2019, the date of audit.

- (a) Two posts of Accounting Officer and two posts of Book Binder remained vacant for more than a period of 05 years.
- (b) Eighteen months had been taken to make recruitment for the post of Management Assistant for which applications had been invited in February 2017.
- (c) Although the final report should be submitted within three months from the completion of a research, the final report of the RG/2011/AG/06 research commenced on 09 May 2012, the Grant value of which amounted to Rs.1,914,250 and completed on 27 April 2016, had been submitted on 24 March 2017, after a delay of one year.
- (d) In respect of 6 equipment grants worth Rs.5,353,815 awarded to the researchers in July 2017, funds had been released in February and October 2018 and the delay had ranged from 7 months to 15 months.
- (e) The main objective of awarding technology assignments by the National Science Foundation is to provide financial assistance to create new businesses based on modern technology, out of 40 grants worth Rs.82,700,248 completed by the technology grants awarded from the year 2011 to 2017, twenty projects worth Rs.40,643,471 had not been developed up to the level for obtaining social and economic benefits.

W.P.C.Wickramarathne  
Auditor General





# NSF feedback on the Auditor General's Report



Reference to the report of the National Audit Office on the Financial Statements of the National Science Foundation for the year ended 31st December 2018 in terms of section 12 of the National Audit Act No.19 of 2018. Our comments for the above audit report are given below.

## **1. Financial Statements**

### **1.2 Observations on Financial Statements**

#### **1.2.1 Accounting Deficiencies**

RG/2015/EA&ICT/02

Partially agreed with the Audit Observation.

Grantee had sent three final financial reports.

1. According to the final financial statement received on 17.10.2018, the balance was Rs.121,500/-.
2. According to the final financial statement received on 19.10.2018 the balance was Rs.203,500/-.
3. According to the final financial statement received on 13.3.2019 the balance was Rs.163,500/-

During the grant period, the NSF had increased the allowance of the TA. As per the increased rates which was imposed as of 1.6.2018 Grantee could pay the TA the increased amounts. Accordingly, the correct final balance is Rs. 163,500/- as per the financial statement as at 31.12.2018 which was received on 13.3.2019. The ledger balance was corrected as Rs.163,500/-. The refund Rs.163,500/- was also received by the NSF on 26.03.2019. Accordingly, there was no erroring reporting.

#### **1.2.2 Sri Lanka Public Accounting Standards**

Agreed with the Audit Observation.

Suitable actions have been taken to correct this in 2019 accounts.

#### **1.2.3 Lack of Evidence for Audit**

Agreed with the Audit Observation.

The relevant invoices have been received from Department of Printing on 14.05.2019.

### **1.3 Responsibilities of Management on Financial Statements**

### **1.4 Responsibility of Auditor on Financial Statements**

## **2. Report on other legal and regulatory requirement**

### **2.1 Non compliances to the written Laws, Rules & Regulations or Decisions of the Board of Management**

a) Financial Regulations of the government of the Democratic Socialist Republic of Sri Lanka

- i. F.R. 754 –  
Agreed with the Audit Observation.

Before submitting the final accounts, action was taken to balance the inventory registers as at 31.12.2018 and the balances were brought forward for the year 2019.

- ii. F.R. 757 (1) –  
Agreed with the Audit Observation.

The Committee on Board of Survey had certified the list of items extracted from the inventory registry provided to them after verification. However, the Committee had not certified same in the inventory registry itself. Proper instructions to sign the inventory registry after the verifications will be provided to the Committees for Board of Survey in future.

b) Guidelines for Competitive Research Grants

- i. Partially agreed with the Audit observation.

Out of the balance of Rs.1,067,062 the NSF had collected 470,549.50, viz the balance amount for 05 grants, Rs. 470,549.50 had been received as at 21.5.2019. The balance for the other 03 grants, Rs. 596,512.50 will be collected on or before 30.06.2019.

- ii. Agreed with the Audit observation.

However, for some grants the interim financial reports had been received with some delay. The Grantees were strongly advised to adhere to the terms and conditions of the grant contractual agreement.

Grant No	Reasons for the delay in obtaining interim financial statements
RG/2017/BS/01	Grantee had submitted the advance financial statement on 17.01.2019 which was due by 15 <sup>th</sup> December 2018. With the reporting of the progress, the original financial statement for the period from Jan. 2018 - December 2018 was submitted on 12.03.2019.
RG/2017/HS/03	Although the financial statement was due by 15.12.2017, two financial statements as at 30.06.2018 and 31.01.2019 were submitted on 21.08.2018 and 07.03.2019 respectively with some delay.
RG/2017/EB/03	After several reminders 02 financial statements as at 31.12.2017 and 10.08.2018 were submitted on 17.08.2018. Another financial statement as at 12.12.2018 was submitted on 31.01.2019.
RG/2017/EB/04	Interim financial statements as at 15.12.2017 and 15.06.2018 were submitted on 17.12.2017 & 20.06.2018 respectively. Final financial statement which was due on 01 <sup>st</sup> November 2018 was also submitted on 23 <sup>rd</sup> January 2019. Balance was refunded to the NSF on 01.02.2019
TG/2013/Tech-D/11	Final financial statement was received on 10.09.2018 and balance money was refunded on 26.03.2019

Grant No	Reasons for the delay in obtaining interim financial statements
TG/2017/Tech-D/04	Financial statements as at 03.08.2018 was submitted on 17.08.2018 and as at 31.12.2018 was submitted on 25.1.2019
TG/2017/Tech-D/02	Interim financial statements as at 02.02.2018 and 21.09.2018 were submitted on 26.09.2018

c) Public Enterprises circulars

Agreed with the Audit Observation.

An officer was on official duty outside the NSF. The Head of the same Division was also on duty at the same place at the same time. As per the item 3.5 of the PED circular, 1/2015 preventive action was taken to avoid repetition of same.

d) Science & Development Act, No.11 of 1994

i) 3<sup>rd</sup> para of 10 (a) sentence -

Disagree with the Audit Observation.

The National Science Foundation is mandated by the Science and Technology Development Act, No. 11 of 1994, to initiate, support & facilitate Basic and Applied research. It takes longer durations to deliver socio-economic impact with basic and applied research. However, the NSF contributes to the socio-economic development of the country indirectly by various means through supporting basic & applied research. The main target to contribute to the S & T development by capacity building, infrastructure development and knowledge creation is achieved. The description is given below.

No	Grant No	Potential contribution for socio-economic development
1	RG/2011/AG/06	Based on results there is a potential to produce biofertilizers for cinnamon and pepper. Field trials is required. The results also can be used as a baseline to produce liquid P fertilizer from rock phosphate.  Capacity Building = 1 PhD
2	RG/2015/AG/01	Major findings are directly beneficial to lime growers in Sri Lanka which can enhance the development of lime-based agribusiness leading to generation of employment opportunities.  Capacity Building = 1 MPhil
3	RG/2014/AG/02	The sustainable approach introduced can minimize the chemical application of pesticides saving foreign exchange and ensuring the supply of uncontaminated food delivered to the society.  Capacity Building = 1 MPhil

No	Grant No	Potential contribution for socio-economic development
4	RG/2014/BT/02	<p>Restriction enzymes have had a tremendous impact on rDNA technology, particularly molecular cloning. Currently, all restriction enzymes required in the country are imported. In this study, researchers have identified and isolated nine bacterial strains producing restriction enzymes. The isolated and purified enzymes/cloned recombinant enzymes have the potential for commercialization.</p> <p>Capacity Building = 1 MPhil</p>
5	RG/2015/BT/04	<p>The results indicated that early detection of the disease is important and due to high potential of cross resistance development, farmers should be careful in choosing fungicides. Deep plowing helps reducing the pathogen survival. Maintaining anaerobic conditions with easily degradable C source will further reduce the pathogen survival. Accordingly, the methodology revealed has economic impact.</p> <p>Capacity Building = 1 MPhil</p>
6	RG/2014/EB/01	<p>Value added form of graphite partially replaces exporting raw graphite in bulk.</p> <p>Exporting small scale of highly value-added products instead of large-scale raw graphite suppresses deep mining more than 1000 meters deep and prevents environmental issues such as earth slips and erosion.</p> <p>Purified graphite is a value-added form of graphite. High quality graphene which is extremely expensive can be made from purified graphite.</p> <p>HR capacity building in the area of advanced materials will be beneficial for the development of the country.</p> <p>High purity graphite is used worldwide in many applications.</p> <p>Accordingly, the purification method developed under this project will be useful to purify other useful minerals such as quartz and feldspar.</p>
7	RG/2014/EB/03	<p>The study shows how the heavy metals and polycyclic aromatic hydrocarbons are present in Kandy atmosphere. The pollution conditions are always suppressing the national/ socio-economic development. As the Kandy City having historical and religious importance, the pollution status will affect tourism industry. Revealing of pollution status to make necessary action for mitigation of pollution status will significantly help national/ socio-economic development.</p> <p>Capacity Building = 2 MPhils</p>

No	Grant No	Potential contribution for socio-economic development
8	RG/2011/ES/01	<p>Present study shows that <i>Pinus</i> facilitate the expansion of forest cover through enhanced natural succession under the <i>Pinus</i> canopy when they border forest patches in the wet zone. <i>Pinus</i> also can act as a screen to avoid any plant invasions into forest interior. The present study confirms the importance of establishing <i>Pinus</i> plantations as buffer zones to protect forest remnants like Moraella, in the wet zone of the country.</p>
9	RG/2015/EB/01	<p>Results will contribute to improvement of the scientific evaluation of phenoxy and sulfonylurea herbicides effects on soil organisms. It will yield tools that may be useful for the assessment of such side effects.</p> <p>Results may help Sri Lankan authorities making decisions on further reducing the usage of pesticides and increase sustainable agriculture.</p> <p>Capacity Building = 1 MPhil</p>
10	RG/2011/NRB/08	<p>Research produced valuable information for production of seedlings at appropriate time for restoration activities. This information could be used for restoration of mangrove ecosystems in Sri Lanka which are in degraded state. Current research has bridged the knowledge gap between mangrove restoration and its benefits to human community.</p>
11	RG/2012/HS/02	<p>The research produced a method for differentiation of Mycobacterium species prior to treatment. Antibiotic resistance to certain antimicrobials were also studied. Transfer of information resulting from this research to the national tuberculosis programme and chest disease control programme will benefit tuberculosis disease control in the country.</p> <p>Capacity Building = 1 PhD</p>
12	RG/2012/HS/03	<p>Results indicated that remission and relapse rates of schizophrenia in first episode and relapsing patients are comparable to other Asian countries. Significant cognitive impairments and metabolic dysfunction was observed in females. These results will be used in development of national guidelines for cognitive rehabilitation and metabolic monitoring in Sri Lankan patients.</p> <p>Capacity Building = 1 MD</p>
13	RG/2014/HS/04	<p>This study generated results related to changes in reactive nitrogen species (RNS) and reactive oxygen species (ROS) production in dengue patients in different status. The high specificity and sensitivity of NO<sub>x</sub>, Ang-1 and Ang-2 assays were established. Cost-effective biomarkers for early detection of severe dengue infection were identified which could be used in clinical settings after validation.</p> <p>Capacity Building = 1 PhD</p>

No	Grant No	Potential contribution for socio-economic development
14	RG/2014/HS/06	The study resulted in the first evidence of the effect of a commonly used fungicide, Mancozeb on gene expression of hormones. Cell culture models and animal models were established for the analysis of receptors for Mancozeb mediating endocrine disruption in the female reproductive system. The results would be useful for preparation of national guidelines.  Capacity Building = 1 MSc
15	RG/2015/HS/03	An immune compromised rodent model useful for cancer drug research was established using drug regimens and altered environmental conditions. This will eliminate the high cost of importing animal models.
16	RG/2014/OMR/01	This information can be used for urban planning and coastal zone management and modeling the coastal areas with accurate levelling. Data is essential to predict flooding areas at different levels of sea level rise in future.  Capacity Building = 1 MPhil
17	RG/2014/IK/01	Outlined a scheme both temporally and culturally to explain the adaptations of the Holocene Hunter-gatherers in Sri Lanka. Clearly illustrated one of the viable geographies to investigate the protohistoric development in the country.  Capacity Building = 2 MPhil
18	RG/2014/SS/02	Identifying the factors which affect the happiness of married employed women would enable policy makers to formulate policies addressing the factors to mitigate negative outcomes.  Capacity Building = 1 PhD

ii) 10<sup>th</sup> sentence -

Disagree with the Audit Observation.

Sub activities are identified to support the main activity and track the progress to achieve the main objectives under each mandate. Accordingly, the budgets are identified for the main activities only. While reporting progress, all the activities and sub-activities were taken into consideration during progress reviews. Financial progress was reviewed on monthly basis to spend the funds as planned.

iii) 10<sup>th</sup> sentence-

Disagree with the Audit Observation.

Quantitative KPIs had been identified where possible to achieve the expected objectives. In some occasions only qualitative KPIs were applicable. However, possible KPIs had been introduced wherever possible. Therefore, measuring progress quantitatively may not be possible always. However, during progress reviews proper assessments have been done to ensure that the expected targets were achieved.

## 2.2 Operational & Management Inefficiencies

### a) Disagree with the Audit Observation

Technology Grants are awarded for two purposes; Support for Technology Development and Support Start - up businesses based on novel technologies. As such, the two schemes differ with the purpose. Out of 40 grants, only two grants were supported under Startup Business scheme whereas the other 38 grants were under Support for Technology Development which were focused on developing technologies at different levels through commercialization value chain; from concepts to prototypes, prototypes to product/ process development, fine tuning of product/ processes towards marketable products.

Reason for not commercializing outputs of some projects was due to that the original objectives of those projects were set only to develop prototype or products / process development during the grant period and not for commercialization of the final output.

However, NSF constantly advised the Grantees to further develop the grant outputs and to take actions to commercialize the project outputs. Measures were taken to advise the grantees to include the component of commercialization of their final outputs at planning stage in future. Individual applicants were advised to identify an industrial partner for their projects at the very beginning and include their names in the Application / Express of.

### b) TG/2013/Tech- D/ 03

Agree with the Audit Observation

Despite repeated reminders made since June 2016, the Grantee had submitted the application for Ethical Clearance on 29th February 2019 and had obtained Clearance on 07<sup>th</sup> May 2019. As such, the testing component with the patient was delayed.

Even though the grant was awarded in October 2013, the first installment was released in April 2014. Accordingly, project completion was due in April 2017. Considering the importance of the outcome of the project, four six-month extensions were granted from April 2017 - April 2019. Accordingly, the first unit, the rehabilitation arm is now developed and is available for testing.

### c) Agree with the Audit Observation

A case has been filed at the Department of Labor about the appointment of two Accounts Officers. When the case is closed, and the decision is received the vacancies will be filled.

Two Book Binder positions were vacant for a long time and the applications were called several times to fill these positions. However, it was not possible to attract applications aligned to the required NVQ Level qualification for this position. Accordingly, a request has been made to the DMS to revise the requirement in the SOR for the post. Response is pending.

### d) Agree with the Audit Observation

NSF received more than 2500 applications for this post. As such, it was required a considerable time slot to shortlist the applications. As such, the recruitment got delayed. Action will be taken to avoid such delays in future.

e) RG/2011/AG/06

Agree with the Audit Observation

Although NSF had sent several reminders to the Grantee requesting to submit the final report, it was delayed nearly one year. Actions implemented by the Research Division to get the final reports on time (for this grant, from 01.01.2019).

f) Disagree with the Audit Observation

On 24.8.2018, Rs. 805,669/- was transferred to A/C 2323270 from A/C 80771519 and the following Distress Loans were paid.

		Rs.
Ms. Harsha Shamini	-	228,400.00
Ms. Buddhi Wickremasinghe	-	250,000.00
Ms. N S S Silva	-	181,621.00
Ms. N S. Liyanage	-	145,648.00
		<u>805,669.00</u>

Secondly, on 31.8.2018, Rs.348,239/- was transferred to A/C 2323270 from A/C 80721519 two Distress Loans were processed as follows.

	Rs.
Miss. M Sharmila	230,780/-
Ms. Thasneem	117,459/- (This was deposited to A/C 80771519 on 5/9/2018)
	<u>348,239/-</u>

Subsequent to the second processed, on 26.11.2018, Rs.1,250,000/- was transferred from A/C 80771519 to A/C 2323270 to pay the following Distress Loans.

		Rs.
Ms. N Wickremarachchi	-	250,000.00
Mr. P. Sapumohotti	-	250,000.00
Ms. A . Ranatunga	-	250,000.00
Ms. S. Pannala	-	250,000.00
Ms. R. Millavithana	-	250,000.00
		<u>1,250,000.00</u>

Accordingly, the entire total of Rs.2,403,908 was transferred to A/C 2323270 from A/C 80721519 was utilized to pay distress loans amounting to Rs.2,403,908 at the above three occasions and there was no excess money remained or withdrawn to transfer to the Savings account no. A/C 80721519.

g) Partially agree with the Audit Observation

The said Equipment Grants were awarded in 2017. However, the capital received by the NSF was not sufficient to meet all the grant awards requirements after attending to the priority grant requirements. In order to make sure that such delays will not occur in future, the two schemes NSF Research Equipment and Spare Parts grants were kept on hold in 2018 with the approval of Board of Management until all pending fund requirements for grants were met and cleared.

**2.3 Inefficiencies in Fund Management**

Agreed with the Audit Observation.

Treasury was informed as of 01.03.2019 to transfer the total remaining under Treasury deposits, Rs. 3,298,965/-, to Government Revenue Account as the relevant project was complete and funds were no more required.

**2.4 Systems and Controls**

1. Agreed with the Audit Observation.

Fixed asset register is maintained on yearly basis as at now including the details of item, cost and depreciation. However, action will be taken to rearrange the inventory register depicting all the items and item balances under in each category.

2. Agreed with the Audit Observation.

Revised procurement plan of 2018 had been approved by the Board of Management on 14.02.2019. Considering the progress, a revision had to be brought in the procurement plan. However, the Board was dissolved, and the new Board of Management was appointed in February 2019. As such, it was not possible to obtain the Board approval for the revised procurement plan. Action will be taken to improve the process in future.

Chairman  
National Science Foundation





# Financial highlights in the preceding 5 years

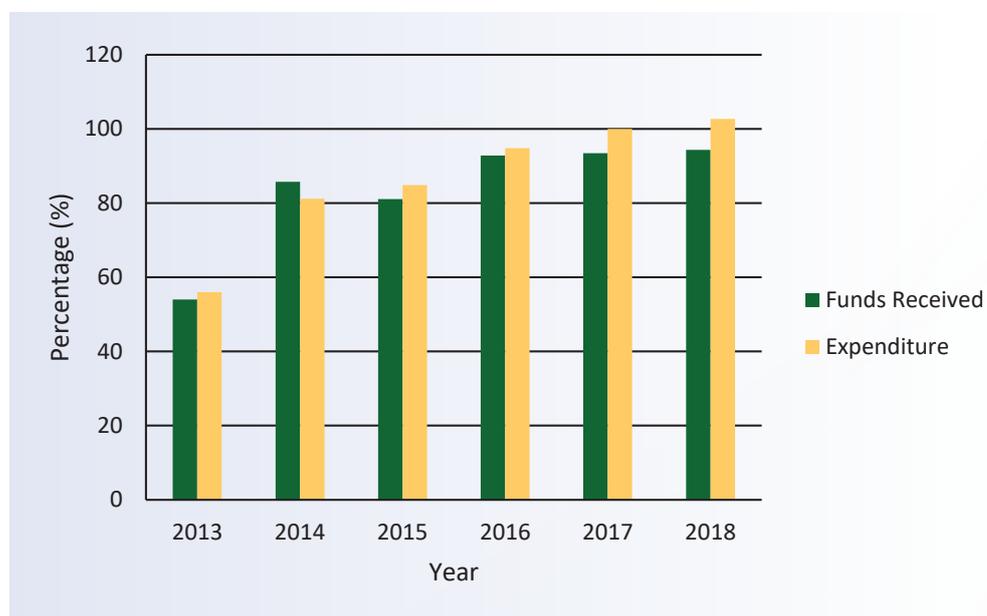


The NSF keeps records of all performance and review frequently for better investment in the priority areas for Science Technology & Innovation development, thus, reminding to be Know Your Customer (KYC) norms compliance. This analysis together with the information given in page 118, provides current and future financial health at the NSF.

The investments for the preceding five years are given in Table 12 and depicted in Figures 58, 59 & 60.

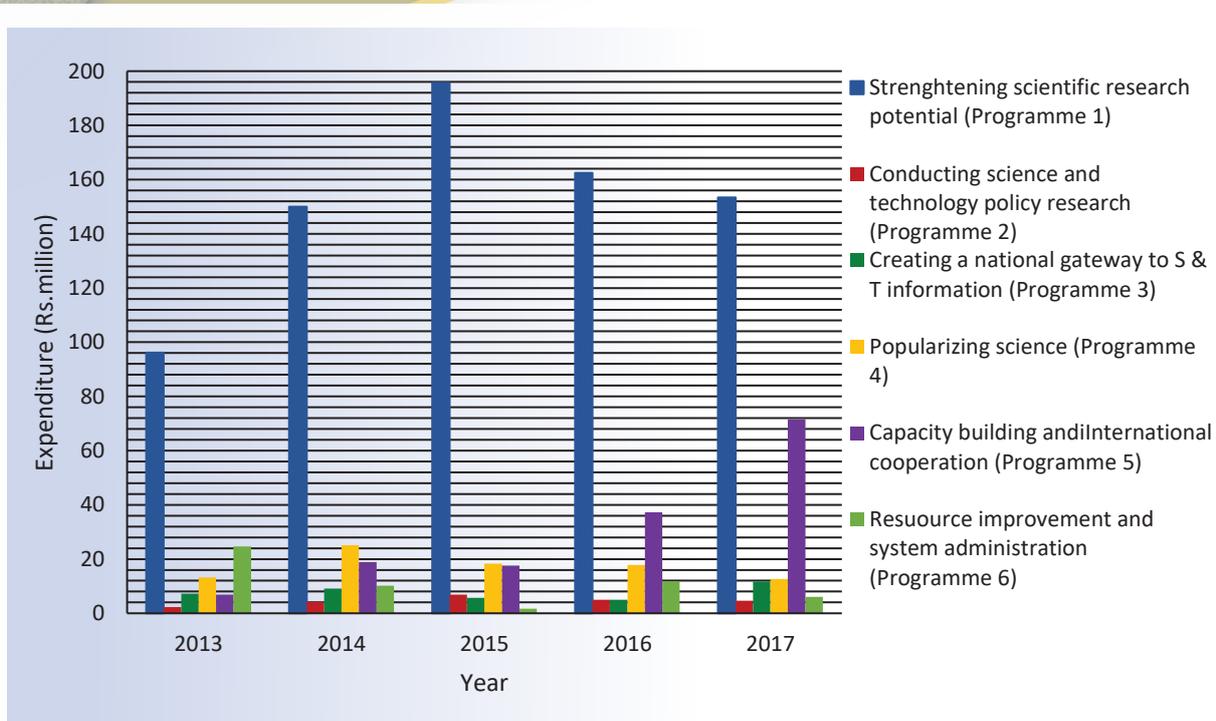
**Table 12:** Financial review for the preceding five years

Year	Financial Details (Rs. million)		
	Allocation	Funds Received	Expenditure
2013	250	135	140
2014	260	223	211
2015	290	235	246
2016	250	232	237
2017	260	243	259.97
2018	300	283	308

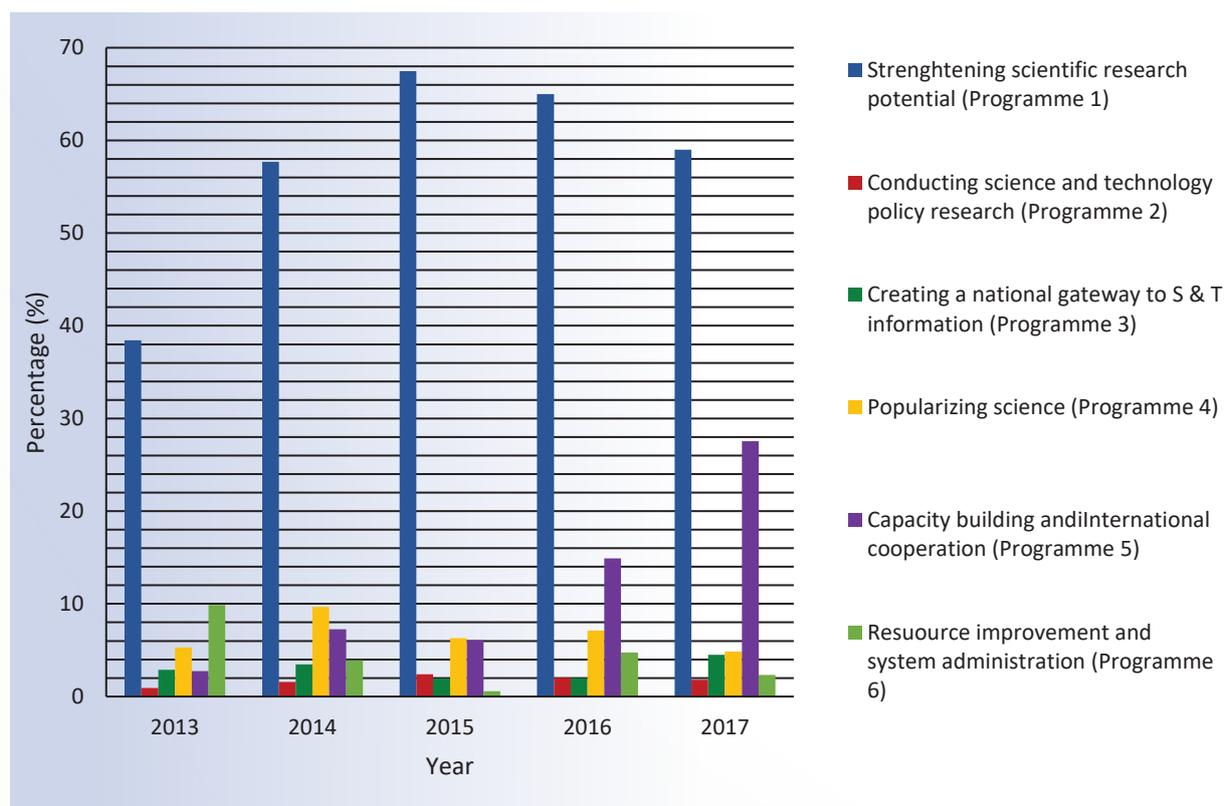


**Figure 58 :** Financial performance for 2013 - 2018: % against allocation

**Note :** For comparison, the figures for 2018 is also included in the graph.



**Figure 59:** Expenditure under major programmes



**Figure 60:** Expenditure under major programmes as a % against the total allocation

*Note:* The figures for 2018 are given in page 183

## Principal Staff - As at 31<sup>st</sup> December, 2018

### Chairperson

Prof. Sirimali Fernando

*MBBS (Colombo), Dip.Med.Micro (Colombo), M.Sc. (London), FNASSL*

### Director General

Prof. Ananda Jayawardane

w.e.f. 18.01.2018

*BSc Eng. Hons (Moratuwa), M.Sc. (UK), Ph.D. (UK),*

*C Eng. IntPE (SL), FIE (SL), FIPM (SL), FNAS (SL), GSLID*

### Additional Director

Dr Thamara F Dias, *M.Sc. (Hons) (Moscow), Ph.D. (Moscow)*

### Research Division (RD)

Dr C G Yapa, *B.Sc. Special (Hons) (Colombo), Ph.D. (Colombo)*

Principal Scientific Officer/  
Head up to 30.11.2018

Dr S A V Moorthy, *B.Sc. (Jaffna), M.Sc. (Colombo),  
Ph.D. (Colombo)*

Principal Scientific Officer/  
Head w.e.f. 01.12.2018

Ms W L C Dasanayake, *B.Sc. Agric. (Hons) (Peradeniya),  
M.Sc. (Peradeniya), M.Sc. (Japan), M.Eng (Germany)*

Senior Scientific Officer  
w.e.f. 07.12.2018

Dr P V S Panawala, *B.V.Sc. (Peradeniya), M.Phil. (Peradeniya)*

Scientific Officer

Ms H D N Jayaweera, *B.Sc. (Hons) (Sri Jayewardenepura)*

Scientific Officer

Ms Amali Ranasinghe, *B.Sc. (Hons) (Bangalore),  
M.Sc. (Food & Nutrition) (Peradeniya)*

Scientific Officer

Ms Sarani K Meneripitiya, *B.Sc. Special (Hons) (Kelaniya)*

Scientific Officer

Mrs G G K P S Kumari, *B.Sc. Special in Agric. (Peradeniya)*

Scientific Officer

Ms S S Ediriweera, *B.Sc. Special (Kelaniya), M.Phil. (Colombo)*

Scientific Officer

Eng. Sureshinie Warnasooriya, *B.Sc. Special Eng. (Hons)  
(Moratuwa), M.Sc. (Moratuwa)*

Scientific Officer

Ms. M S Weerasooriyagedara, *B.Sc. Special (Uva Wellassa)*

Scientific Officer  
w.e.f. 20.03.2018

### Science and Technology Policy Research Division (STPRD)

Dr P R M P Dilrukshi, *B.Sc. Special (Hons) (Peradeniya),  
Ph.D. (Peradeniya)*

Principal Scientific Officer/  
Head up to 30.11.2018

Mr S M A W Anuruddha, *B.Sc. (Hons) (Colombo),  
M.Sc. (Colombo)*

Principal Scientific Officer/  
Head w.e.f. 01.12.2018

Ms Chamika Dharmasena, *B.Sc. Special (Hons) (Colombo)*

Scientific Officer

Ms W M U K Rathnayake, *B.Sc. Special (Hons) (Wayamba)*

Scientific Officer

Ms M A D D Munasinghe, *B.Sc. Special (Agric.),  
(Hons) (Peradeniya), M.Sc. (Peradeniya)*

Scientific Officer

Mr P G I P Ariyadasa, *B.Sc. Agric. (Hons) (Peradeniya),  
M.Sc., Financial Economics (Colombo)*

Scientific Officer  
w.e.f. 09.04.2018

### **International Liaison Division (ILD)**

Mr S M A W Anuruddha, <i>B.Sc. (Hons) (Colombo), M.Sc. (Colombo)</i>	Principal Scientific Officer/ Head up to 30.11.2018
Mr J G Shantha Siri, <i>B.Sc. (Hons) (Colombo), M.Sc. (Kelaniya)</i>	Principal Scientific Officer/ Head w.e.f. 01.12.2018
Dr A M N S Nadugala, <i>B.Sc. Agric. (Hons) (Peradeniya), M.Sc. (Asian Institute of Technology), Ph.D (Sir John Kothalawala Defence University)</i>	Senior Scientific Officer w.e.f. 25.10.2017
Ms E M D C K Ekanayake, <i>B.Sc. Agric. (Hons) (Peradeniya), M.Sc. (Peradeniya)</i>	Senior Scientific Officer w.e.f. 25.10.2017
Ms K A T K G Kandanamulla, <i>B.Sc. Agric. (Hons) (Ruhuna), M.Sc. (Colombo)</i>	Scientific Officer
Ms N L Muhandiram, <i>B.Sc. (Hons) (Uva Wellassa)</i>	Scientific Officer w.e.f. 05.04.2018

### **Technology Division (TD)**

Mr J G Shantha Siri, <i>B.Sc. (Hons) (Colombo), M.Sc. (Kelaniya)</i>	Principal Scientific Officer/ Head up to 30.11.2018
Mr. K G J Karunasena, <i>B.Sc. Agric. (Hons) (Peradeniya) M.Phil. Agric. (Peradeniya)</i>	Principal Scientific Officer/ Head Technology Division w.e.f. 01.12.2018
Dr P S Warakagoda, <i>B.Sc Agric. (Hons) (Ruhuna), M.Phil. (Ruhuna), Ph.D. (Ruhuna)</i>	Scientific Officer
Ms D N Wickramarachchi, <i>B.Sc. (Hons) (The Open University), M.Sc. (Sri Jayewardenepura)</i>	Senior Scientific Officer
Ms R N N Gamage, <i>B.Sc. (Hons) (Asian University)</i>	Scientific Officer w.e.f. 19.03.2018

### **Science Popularization Division (SPD)**

Mr K G Janaka Karunasena, <i>B.Sc. Agric. (Hons) (Peradeniya), M.Phil. Agric. (Peradeniya)</i>	Principal Scientific Officer/ Head up to 30.11.2018
Dr P R M P Dilrukshi, <i>B.Sc. Special (Hons) (Peradeniya), Ph.D. (Peradeniya)</i>	Principal Scientific Officer / Head w.e.f. 01.12.2018
Ms M D Senarathne, <i>Graduateship in Chemistry (I. Chem.) M.Sc. Polymer Science (Sri Jayewardenepura)</i>	Scientific Officer
Mr D M Dilan Rasika, <i>B.Sc. Special Agric. (Hons) (Peradeniya), M.Sc. (Kyushu, Japan)</i>	Scientific Officer
Mr W A D L R Warnakula, <i>B.Sc. Special Agric. (Hons) (Wayamba)</i>	Scientific Officer w.e.f. 09.04.2018
Ms H M A J Herath, <i>B.Sc. Special, Food Science &amp; Nutrition (Wayamba)</i>	Scientific Officer w.e.f. 21.05.2018

### **Journal Publication Unit (JPU)**

Dr S A V Moorthy, *B.Sc. (Jaffna), M.Sc. (Colombo), Ph.D. (Colombo)*

Principal Scientific Officer/Head up to 30.11.2018

Dr C G Yapa, *B.Sc. Special (Hons) (Colombo), Ph.D. (Colombo)*

Principal Scientific Officer / Head w.e.f. 01.12.2018

Ms Uthpala Karunaratne, *B.Sc. Special (Hons) (Kelaniya) M.Sc. (Colombo)*

Senior Scientific Officer w.e.f. 25.10.2017

Ms R A A R Ranatunga, *B.Sc. Special (Hons) (Colombo)*

Scientific Officer

Dr H I Sandanayake, *B.V.Sc. (Peradeniya)*

Scientific Officer

Mrs S Samarasekera, *B.Sc. Special (Hons.) (Sri Jayewardenepura) B.Sc. (Economic & Mgt.) (Uni. of London)*

Scientific Officer

### **Chairperson's Office**

Dr K B Hasanthi, *B.V.Sc. (Peradeniya)*

Scientific Officer w.e.f. 01.06.2018

### **Director's Office**

Ms G R P I Abeysiri, *B.Sc Agric. Special (Wayamba)*

Scientific Officer

### **National Science Library and Resource Centre (NSLRC)**

Mr Manuja Karunaratne, *B.Sc. (Kelaniya), M.Sc. (Kelaniya)*

Principal Information Officer/Head

Ms A Tennakoon, *B.Sc. (Kelaniya)*

Senior Information Officer

Ms R P Sugathadasa, *B.Sc. (Sri Jayewardenepura)*

Senior Information Officer

Mr Pujitha D Hewawasam, *B.Com. (Swinburn University)*

Information Officer

Ms M Niyas Thasneem, *B.Sc. (Southern University)*

Information Officer

Mr P K B A S M Pannala, *B.Sc. (Hons.) (National Uni. of Ireland) M.Sc. (MIS) (Colombo)*

Information Officer

Ms K N Samanthi, *M.A (Kelaniya), B.A (Peradeniya)*

Information Officer

Ms N A H Priyadarshani, *Diploma in Library & Information Science*

Junior Information Officer

### **Printing Unit**

Mr K P Senanayake, *M.SL.IOP*

Printing Manager

### **Administration Division**

Mr Johnson Solomon (*AMA, MCPM, AIH*)

Head / Administration & Finance

Mr P Sapumohotti, *B.Sc. (Peradeniya), MPM (SLIDA)*

Senior Administrative Officer

Ms B T Wickremasinghe, *B.Sc. (Sri Jayewardenepura)*

Procurement & Transport  
Officer

Mr Saman Sujeewa, *ANDHRM, Diploma in Public Mgt.*

Human Resource  
Development Officer  
w.e.f. 21.11.2017

### Finance Division

Ms T D P P Samaranayake, *Professional Part II of ICASL*

Senior Accountant

Ms E M P Bamunendra, *B.Com. (Sri Jayewardenepura)*  
*Licentiate Certificate of ICASL*

Accountant

### Internal Audit Unit

Ms M M Jayajeewani, *B.Sc., B.Ad. Special (Sri Jayewardenepura)*

Internal Auditor

Ms D L Sirimathie

Internal Audit Officer  
w.e.f. 21.11.2017

### IT Unit

Mr H M M Perera, *MBCS*

IT Manager

Mr W A B Fernando, *B.Sc. (Networking) (Wolverhampton)*

### Confidential Secretaries

Ms Sobitha Wijenayake, *B.Com. Special (Sri Jayewardenepura)*

(Chairperson's Office)

Ms Ayomi Palihawadana

### Recruitments during the year 2018

Dr L M N S Nadugala	Senior Scientific Officer	From 25.10.2017
Ms U T Karunaratne	Senior Scientific Officer	From 25.10.2017
Ms E M D C K Ekanayake	Senior Scientific Officer	From 25.10.2017
Ms W L C Dasanayake	Senior Scientific Officer	From 07.12.2018
Ms D L Sirimathie	Internal Audit Officer	From 21.11.2017
Mr Saman Sujeewa	Human Resource Development Officer	From 21.11.2017
Mr S M Pannala	Information Officer	From 05.03.2018
Ms Nishanthi Sivasubramaniam	Scientific Officer	From 07.03.2018 to 07.09.2018
Ms Sureshinie Warnasooriya	Scientific Officer	From 08.03.2018
Ms R N N Gamage	Scientific Officer	From 19.03.2018
Ms M S Weerasooriyagedara	Scientific Officer	From 20.03.2018
Ms N L Muhandiram	Scientific Officer	From 05.04.2018
Ms Nilanka Samanthi	Information Officer	From 05.04.2018
Mr W A D L R Warnakula	Scientific Officer	From 09.04.2018
Mr P G I P Ariyadasa	Scientific Officer	From 09.04.2018
Ms H M A J Herath	Scientific Officer	From 21.05.2018
Dr K B Hasanthi	Scientific Officer	From 01.06.2018

Mr Johnson Solomon	Head/ Administration & Finance	From 01.06.2018
Mr M D Pushpakumara Perera	Office Aide	From 18.06.2018
Mr B Mohamed Rihas	Office Aide	From 18.06.2018
Mr K Malith D De Silva	Office Aide	From 18.06.2018
Ms K W D M Madhushani	Management Assistant	From 01.08.2018
Mr U G N Nishantha	Driver	From 02.08.2018
Mr H K A S Fernando	Management Assistant	From 06.08.2018
Ms N M Wickramasinghe	Management Assistant	From 06.08.2018
Ms C N G Moragoda	Management Assistant	From 13.08.2018
Ms M S Fathima Samra	Management Assistant	From 13.08.2018

### **Resigned during the year 2018**

Mr Krishantha Thennakoon	w.e.f. 23.02.2018
Ms M W W D V Perera	w.e.f. 31.05.2018
Ms H U S Randima	w.e.f. 07.08.2018
Ms Nishanthi Sivasubramanium	w.e.f. 07.09.2018
Ms Priyadarshani Samarasinghe	w.e.f. 28.11.2018

### **Retired during the year 2018**

Mrs G G Kusumalatha	w.e.f. 09.03.2018
Ms L S P Fernando	w.e.f. 19.06.2018





# Annexures



## Research Grants Awarded

### Basic Sciences

No	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
1.	RG/2018/BS/01	<b>Dr Chamanei Sandamali Perera</b> Department of Physics Faculty of Science University of Peradeniya	Synthesis of colloidal quantum dots for infra-red photo detection and solar cells  01 Year	885,000/-
2.	RG/2018/BS/02	<b>Dr R Senthilnithy</b> Department of Chemistry Faculty of Natural Sciences Open University of Sri Lanka	Computational studies on inhibition of epigenetic modifications of cancer codes  03 Years	3,093,000/-
3.	RG/2018/BS/03	<b>Prof. G R A Kumara</b> National Institute of Fundamental Studies Kandy	Development of highly efficient and environmentally stable perovskite solar cells and perovskite solar panels by industrially viable methods for power generation  03 Years	5,257,000/-

### Engineering, Architecture & ICT

No	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
1.	RG/2018/EA&ICT/01	<b>Dr M P B Ekanayake</b> <b>Dr G M R J Godaliyadda</b> <b>Prof. J B Ekanayake</b> Department of Electrical and Electronic Engineering Faculty of Engineering University of Peradeniya	Development of a novel predictive based Smart Distribution Management System (S-DMS) to maximize the rooftop PV absorption capacity of last mile networks  02 Years	2,183,289/-

### Environment & Biodiversity

No	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
1.	RG/2018/EB/01	<b>Prof. Deepthi Yakandawala</b> Department of Botany Faculty of Science University of Peradeniya  <b>Dr Kapila Yakandawala</b> Department of Horticulture & Landscape Gardening Faculty of Agriculture & Plantation Management Wayamba University of Sri Lanka	Taxonomic study of the Sri Lankan species, belonging to Family <i>Elaeocarpaceae</i>  03 years	5,552,492/-

## Research Grants Completed

### Agriculture & Food Science

No	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
1.	RG/2011/AG/06	<b>Dr C M Nanayakkara</b> Department of Plant Sciences Faculty of Science University of Colombo  <b>Dr H A Sumanasena</b> <b>Dr D N Samaraweera</b> Department of Export Agriculture Thihagoda	Development of phosphate bio-fertilizer for some selected export agricultural crops  03 Years	1,914,250/-
2.	RG/2015/AG/01	<b>Dr W A Harindra Champa</b> R & D Centre Institute of Postharvest Technology  <b>Dr B M K S Tilakaratne</b> Institute of Postharvest Technology	Investigation of fruit phenology and preharvest foliar treatment of growth regulators on fruit quality and postharvest life of lime ( <i>Citrus aurantifolia</i> Swingle)  02 Years	1,849,513/-
3.	RG/2014/AG/02	<b>Dr K S Hemachandra</b> University of Peradeniya  <b>Mr U G Anura Indrajith Sirisena</b> Department of Agricultural Biology University of Peradeniya	Biological control of mealy bugs and whitefly populations using locally available coccinellid predators through augmentation and release  02 Years	1,941,864/-

### Biotechnology

No	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
1.	RG/2014/BT/02	<b>Dr G H C M Hettiarachchi</b> Department of Chemistry Faculty of Science University of Colombo  <b>Dr N V Chandrasekharan</b> Department of Chemistry Faculty of Science University of Colombo	Screening, isolation and characterization of type II restriction enzymes from bacteria isolated from different regions of Sri Lanka  03 Years	3,292,640/-
2.	RG/2015/BT/04	<b>Dr Renuka Attanayake</b> Department of Botany University of Kelaniya  <b>Mr K P Somachandra</b> Regional Agricultural Research & Development Centre Bandarawela  <b>Dr C S K Rajapakse</b> Department of Chemistry University of Kelaniya	Genetic diversity and management of cabbage white mould pathogen, <i>Sclerotinia sclerotorum</i> , and feasibility of Anaerobic Soil Disinfestations (ASD) and Bio-Fumigation (BF) based disease management for upcountry vegetable production system.  02 Years	2,444,552/-

## Environment & Biodiversity

No	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
1.	RG/2011/ES/02	<b>Prof. M M Pathmalal</b> Department of Zoology Faculty of Applied Science University of Sri Jayawardenepura	Effect of catchment's characteristics, anthropogenic activities and industrial discharges on ground water quality in Kelani river basin  03 Years	4,116,880/-

## Health Sciences

No	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
1.	RG/2012/HS/02	<b>Prof. Jennifer Perera</b> Department of Microbiology Faculty of Medicine University of Colombo  <b>Dr N V Chandrasekharan</b> Department of Chemistry University of Colombo	Identification of clinically significant Mycobacterium other than tuberculosis (MOTT) species, assessment of in-vitro drug susceptibility, development of a rapid ELISA based identification method  03 years	3,908,807/-
2.	RG/2012/HS/03	<b>Prof. Varuni de Silva</b> <b>Dr Raveen Hanwella</b> <b>Dr Madhubashini Dayabandara</b> Department of Psychiatry Faculty of Medicine University of Colombo	Outcome of patients with schizophrenia: A prospective follow up study of an incidence and a prevalence cohort  03 Years	751,000/-
3.	RG/2014/HS/04	<b>Prof. Sunil Premawansa</b> Department of Zoology Faculty of Science University of Colombo  <b>Dr Shiroma Handunnetti</b> IBMBB University of Colombo  <b>Dr Dharshan De Silva</b> GeneTech Research Institute  <b>Dr Gayani Premawansa</b> North Colombo Teaching Hospital Ragama	Studies on prognostic markers of oxidative stress and its host genetic polymorphisms and endothelial dysfunction in severe dengue infection  03 Years	4,440,140/-
4.	RG/2014/HS/06	<b>Dr Suranga Kodithuwakku</b> Department of Animal Science Faculty of Agriculture University of Peradeniya	Effect of endocrine disruptor Mancozeb on oviductal/Fallopian tube proteome and secretome  01 year 06 months	1,270,000/-
5.	RG/2015/HS/03	<b>Dr K M G Prasanna Premadasa</b> KDU-CARE Faculty of Medicine General Sir John Kotelawala Defence University	Sustained delivery of anti-tumor agents encapsulated by biocompatible polymer  01 Year	2,123,209/-

## Oceanography & Marine Resources

No	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
1.	RG/2014/OMR/01	<p><b>Dr Pradeep Nalaka Ranasinghe</b> Department of Oceanography &amp; Marine Geology University of Ruhuna</p> <p><b>Dr W K B N Prame</b> Geological Survey and Mines Bureau Pitakotte</p> <p><b>Dr Terney Pradeep Kumara</b> General Manager/Chief Executive Officer Marine Environmental Protection Authority Colombo 09</p> <p><b>Commodore Y N Jayaratne</b> Sri Lanka Navy C/O NHQ PO Box 593 Colombo 01</p>	<p>Constructing quaternary sea level curve for Sri Lanka</p> <p>02 Years</p>	3,612,500/-

## Indigenous Knowledge

No	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
1.	RG/2014/IK/01	<p><b>Prof. Raj Somadeva</b> Postgraduate Institute of Archaeology Buddhaloka Mawatha Colombo 07</p>	<p>Climate change and the human adaptations in the early and the middle Holocene in Sri Lanka</p>	3,826,079/-

## Social Sciences

No	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
1.	RG/SS/2014/02	<p><b>Prof. Sunil Chandrasiri</b> Faculty of Graduate Studies University of Colombo</p>	<p>The Subjective Well-being of Married Women In &amp; Out of the Workforce in Sri Lanka</p> <p>03 years</p>	2,331,200/-

## Status Summary of Research Grants Scheme

		Agriculture & Food Science	Basic Sciences	Biotechnology & Bioethics	Environment & Biodiversity	Engineering, Architecture & ICT	Health Sciences	Indigenous Knowledge	Social Sciences	Science Education	S & T Policy Studies	Oceanography & Marine Sciences	Total
01	Total no. of ongoing grants as at 31.12.2018	09	17	08	17	11	20	01	-	-	-	01	84
02	CRG applications received in 2018	04	05	06	04	08	07	01	03	-	-	-	38
03	CRG Grants awarded	-	03	-	01	01	-	-	-	-	-	-	05
04	ICRP Grants awarded	PSF	-	-	-	04	02	-	-	-	-	-	06
		NSFC	-	-	-	-	-	-	-	-	-	-	-
05	Grants completed	03	-	02	05	-	05	01	01	-	-	01	18
06	Grants withdrawn	-	-	-	-	-	-	-	-	-	-	-	-
07	Grants terminated	-	-	-	-	-	-	-	-	-	-	-	-
08	RSs appointed/to be appointed	01	04	-	01	03	05	02	-	-	-	-	16
09	RSs registered for postgraduate degree/ to be registered for postgraduate degree	01	04	-	03	03	03	02	-	-	-	-	16
10	TAs appointed/to be appointed	-	-	-	01	01	01	-	-	-	-	-	03
11	Post graduate degrees obtained	PhD	01	-	-	-	01	-	01	-	-	-	03
		MPhil	01	01	01	02	-	-	02	-	-	-	07
		MSc	-	-	-	-	-	01	-	-	-	-	01
		MD	-	-	-	-	-	01	-	-	-	-	01
12	No. of publications arising from grants												
	Foreign publications	01	03	03	06	02	05	02	02	-	-	-	24
	Local publications	-	01	02	01	-	-	02	01	-	-	01	08
	Communications	06	16	21	24	07	20	-	-	-	-	01	95
15	Patents arising from grants	-	-	-	-	-	-	-	-	-	-	-	-

## NSF-PSF Collaborative Research Grants

### Engineering, Architecture & ICT

No	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
1.	NSF-PSF/ICRP/2017/EA & ICT/01	<b>Dr Kandasamy Vignarooban</b> <b>Mr Senthuran Sivasubramaniam</b> <b>Mr Prashanthan Karunanantharajah</b> Department of Physics Faculty of Science University of Jaffna	Novel materials for secondary sodium ion batteries and proton exchange membrane fuel cells  03 Years	3,255,000/-
2.	NSF-PSF/ICRP/2017/EA & ICT/02	<b>Prof. L B D R P Wijesundera</b> <b>Prof. W P Siripala</b> <b>Dr K M D C Jayathilaka</b> <b>Dr W T M A P K Wanninayake</b> Department of Physics Faculty of Science University of Kelaniya	Optimization of donor and acceptor materials for fabrication of efficient organic solar cell  02 Years	2,898,500/-
3.	NSF-PSF/ICRP/2017/EA & ICT/03	<b>Dr Nanda Gunawardhana</b> International Research Centre University of Peradeniya  <b>Dr Buddhika S Dassanayake</b> Department of Physics Faculty of Science University of Peradeniya	Novel electrode material based on layer by layer assembly of metal oxide nanoparticle / graphene composite for lithium ion batteries and solar cells  02 Years	3,069,000/-
4.	NSF-PSF/ICRP/2017/EA & ICT/04	<b>Prof. M A K L Dissanayake</b> <b>Dr G K R Senadeera</b> National Institute of Fundamental Studies, Kandy	Development of carbon based nonomaterial for counter electrodes in dye sensitized solar cells  03 Years	3,100,000/-

### Health Science

No	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
1.	NSF-PSF/ICRP/2017/HS/01	<b>Dr Dhammika N Magana-Arachchi</b> Senior Research Fellow National Institute of Fundamental Studies (NIFS), Kandy  <b>Dr Dushantha Madegedara</b> Consultant Respiratory Physician Teaching Hospital & Respiratory Disease Unit William Gopallawa Mw, Kandy	Genetic characterization of drug resistant <i>Mycobacterium tuberculosis</i> isolation from Sri Lankan and Pakistani TB patients and identification of associated biomarkers  03 Years	3,056,650/-

2.	NSF-PSF/ICRP/2017/ HS/02	<p><b>Prof. G M Kamal B Gunaherath</b> Deputy Vice Chancellor The Open University of Sri Lanka Nawala, Nugegoda</p> <p><b>Dr K Hector Jayawardena</b> Department of Zoology The Open University of Sri Lanka</p> <p><b>Dr Chandani Ranasinghe</b> Department of Chemistry The Open University of Sri Lanka</p>	<p>Preparation of cost effective synthetic skin grafts for the treatment of burns and chronic ulcer wounds: bioactivity directed investigation of angiogenic and cell-migration potentials of plant extracts</p> <p style="text-align: right;">03 Years</p>	3,040,000/-
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## NTRP - Climate Change and Natural Disasters

Four projects were awarded in 2017 and continued during 2018.

No	Project Leader/ Institution	Title	Expected Outcomes
1.	<b>Prof. J C Edirisinghe</b> Department of Agribusiness Management Faculty of Agriculture and Plantation Management Wayamba University of Sri Lanka	Assessment of Spatial Impacts of Climate Change on Geographic, Economic and Social Vulnerability on the Plantation Sector in Sri Lanka	<ul style="list-style-type: none"> <li>● Vulnerability Profiles to show the expected revenue losses expected productivity / efficiency losses due to climate change for Tea, Rubber and Coconut in a geographical context will be provided using vulnerability ratings and GIS maps at Division Secretariat (DS) level (i.e. Identify important variables for a given crop for vulnerability using spatial explicit approach).</li> <li>● Vulnerability Profiles from (1) and (2) above in terms of size distribution of plantations (smallholder versus corporate/estate) will be available for use.</li> <li>● Set of the most feasible climate change adaptation strategies and management protocols that are based on the vulnerability rating for each growing region/agro-ecological zone will be available for use.</li> <li>● An increased resilience of the plantation sector in Sri Lanka (tea, rubber, coconut, sugarcane) to the potential impacts of climate change</li> </ul>
2.	<b>Prof. W A J M De Costa</b> Department of Crop Science Faculty of Agriculture University of Peradeniya	Quantification of the response of tropical rain forests of Sri Lanka to varying atmospheric temperature for prediction of the impact of future climate change on their carbon balance and biodiversity	<ul style="list-style-type: none"> <li>● Quantified response of forest biomass, carbon sequestration and biodiversity of tropical rainforests and montane forests of Sri Lanka (TRFSL &amp; TMFSL) to temperature changes and its mechanistic basis</li> <li>● Process-based simulation model to predict the impacts of future temperature variation on TRFSL &amp; TMFSL</li> <li>● Vegetation indices to estimate historical and future impacts of temperature variation on TRFSL &amp; TMFSL</li> <li>● Permanent sampling plots for long-term monitoring of future changes in TRFSL &amp; TMFSL and their environment</li> </ul>
3.	<b>Prof. G L L Pradeepa Silva</b> Department of Animal Science Faculty of Agriculture University of Peradeniya	Comparative Analysis of Climate-Resilient Biodiversity of Home garden ecosystems in different Agro-ecological Regions of Sri Lanka	<ul style="list-style-type: none"> <li>● Inventory of different components of biodiversity within HG systems in selected agro-ecological regions</li> <li>● Analytical report on changes in biotic and abiotic factors and land use in HG systems under changing climates, including extreme climate events, especially during the past decade and over 30 years.</li> <li>● Indices for assessing ecosystem services and climate resilience of HG ecosystems based on Functional connectivity of HG to natural areas</li> </ul>

No	Project Leader/ Institution	Title	Expected Outcomes
			<ul style="list-style-type: none"> <li>● Categorization of HG system in different climatic conditions based on level of resilience of existing biodiversity</li> <li>● Protocol to assess vulnerability, climate-resilience and biodiversity under different climatic conditions</li> <li>● Recommendations/ guidelines to enhance climate resilience by the biodiversity in HG systems</li> <li>● Guidelines for structural and precision-management for Climate-smart/Climate-resilient HGs</li> <li>● Change of input and output operations and related functions in HG systems under changing and variable climate</li> <li>● Conceptual and empirical models to assess the contribution of climate resilient biodiversity in HG systems</li> </ul>
4.	<b>Dr P Nalaka Ranasinghe</b> Department of Oceanography and Marine Geology Faculty of Fisheries and Marine Sciences & Technology University of Ruhuna	Understanding the long-term influence of Indian Ocean Warm Pool and Indian Ocean Dipole on the monsoon variability of Sri Lanka	<ul style="list-style-type: none"> <li>● Understanding the long-term relationship between Indian Ocean Warm pool and the Monsoon in Sri Lanka</li> <li>● Understanding the long-term relationship between Indian Ocean Dipole and Monsoon in Sri Lanka</li> <li>● Identifying the deviations from the normal variability patterns</li> <li>● Understanding the forcing factors caused such deviations</li> <li>● Modelling the future variability considering normal deviations.</li> </ul>

## Technology Grants Awarded

No	Grant No./ Category	Grantee	Project Title & Duration	Total Budget (Rs.)
1.	TG/2018/Tech-D/01	Dr Nanda Senanayake	Amelioration of acid sulphate conditions in paddy tracks of Nilwala ganga flood protection and drainage project area through manipulation of water table. A pilot study 36 months	4,919,600/-
2.	TG/2018/Tech-D/02	Mr M A Gamini Athula	Manufacturing of bakery dough mixing machine 12 months	253,250/-
3.	TG/2018/Tech-D/03	Mr Nihal D Rajapaksha	Hybrid cooking stove as a solution to increasing gas price 06 months	106,826/-

## Ongoing Technology Grants Status

No	Grant No.	Grantee/Affiliation	Duration	Total Budget (Rs.)
1.	TG/2013/Tech-D/03	Dr Jayathu Samarawickrama University of Moratuwa	03 years	4,145,540/-
2.	TG/2013/Tech-D/11	Dr Nuwan Dayananda University of Moratuwa	03 years	3,950,000/-
3.	TG/2014/Tech-D/04	Prof. R M G Rajapaksha Department of Chemistry University of Peradeniya	03 years	7,201,000/-
4.	TG/2015/Tech-D/03	Dr W S Botheju Tea Research Institute	02 years	6,409,284/-
5.	TG/2015/Tech-D/05	Dr Neelika Malavige Faculty of Medical Sciences University of Sri Jayewardenepura	18 months	4,770,000/-
6.	TG/2015/Tech-D/08	Samson Compounds (Pvt) Ltd.	02 years	3,964,500/-
7.	TG/2016/Tech-D/02	Dr D G G P Karunaratne Department of Chemical Engineering University of Peradeniya	03 years	20,019,355/-
8.	TG/2016/Tech-D/04	Mr S K Seneviratne Suriyagoda, Kiribathkumbura	12 months	1,940,000/-
9.	TG/2016/Tech-D/05	Dr Prashan Francis Gem and Jewellery Research & Training Institute	36 months	8,975,088/-
10.	TG/2016/Tech-D/06	Mr Sunil Rodrigo Lili Cheese (Pvt) Ltd.	18 months	3,742,000/-
11.	TG/2016/Tech-D/07	Mr Shantha Kumara	09 months	188,720/-
12.	TG/2016/Tech-D/08	Mr T M Nihal Dharmasiri	06 months	972,300/-
13.	TG/2017/Tech-D/02	Dr Udayanga Galappaththi	18 months	4,510,340/-
14.	TG/2017/Tech-D/03	Prof. N M M G S B Navaratne	24 months	3,417,232/-
15.	TG/2017/Tech-D/04	Dr Gayan Yasantha Piyasena	12 months	1,114,100/-
16.	TG/2017/Tech-D/05	Mr G G N Gunawardhana	18 months	10,764,225/-
17.	TG/2017/Tech-D/06	Prof. Jayasundera Bandara Institute of Fundamental Studies	36 months	8,323,000/-
18.	TG/2017/Tech-D/07	Mr M Susantha Priyadarshana	12 months	2,189,250/-
19.	TG/2017/Tech-D/08	Mr Nilan Mihindukulasooriya	13 months	1,354,000/-
20.	TG/2018/Tech-D/01	Dr Nanda Senanayake	36 months	4,919,600/-
21.	TG/2018/Tech-D/02	Mr M A Gamini Athula	12 months	253,250/-
22.	TG/2018/Tech-D/03	Mr Nihal D Rajapaksha	06 months	106,826/-

## Technology Grants Completed

No	Grant No./ Category	Grantee	Project Title/Duration
1.	TG/2013/Tech-D/02	Dr K P Hewagamage	Enhance english language learning through m-learning in different learning communities
2.	TG/2014/Tech-D/07	Prof. R M C P Rajapaksha	Scaling up production of microbial inoculants for composting of rice straw and promote its use in rice cropping systems
3.	TG/2015/Tech-D/01	Dr Maduka de Lanerolle	Scaling up, stability testing and product testing of blood glucose strips
4.	TG/2015/Tech-D/10	Mr S P C Ashok Kumara	Off the shelf, dashboard mounted sleepiness and drowsiness detect device for automobile for 7,500 lkr
5.	TG/2016/Tech-D/01	Mr Isuru Rajakaruna	Cloud based software and hardware platform for early detection of kidney diseases and severe stages of dengue by non-invasive monitoring of endothelial function
6.	TG/2014/Tech-D/02	Prof. R G N Meegama	Real time translation of sinhala to sign language
7.	TG/2015/Tech-D/04	Prof. Kanthi K A S Yapa	Design and development of the new product, "student response system" for classroom/ audience
8.	TG/2017/Tech-D/01	Mr Ajith Indikadulla	e-Health KIOSk
9.	TG/2016/Tech-D/07	Mr Shantha Kumara	Making an improved screen printing machine
10.	TG/2013/Tech-D/11	Dr Nuwan Dayananda	Medical device development for commercialization

## Research Equipment Grants

(Under the NSF-PSF Collaborative Research Programme)

No	Grant No.	Grantee/Designation & Institute	Responsible Officer for the Equipment	Equipment	Approved Amount (Rs.)
1.	RG/2018/EQ - PSF /01	Dean Faculty of Natural Sciences The Open University of Sri Lanka	Prof. G M K B Gunaherath Department of Chemistry The Open University of Sri Lanka	Mini Ultra - low freezer (-80 oC upright)	862,500/-
2.	RG/2018/EQ - PSF /02	Dean Faculty of Natural Sciences The Open University of Sri Lanka	Prof. G M K B Gunaherath Department of Chemistry The Open University of Sri Lanka	Recirculating Cooler	437,000/-

## Grants Awarded Under Support Scheme for Scientific Meetings and Events

	<b>Applicant and the Event</b>	<b>Organization</b>	<b>Category</b>	<b>Date of the event</b>
1.	<b>Prof. G Y Jayasinghe</b> International Symposium on Agriculture and Environment (ISAE) 2018	University of Ruhuna	Agriculture	17 <sup>th</sup> January, 2018
2.	<b>Prof C M B Dematawewa</b> Agriculture Undergraduate Research Symposium (FAuRS) - 2017	University of Peradeniya	Agriculture	12 <sup>th</sup> January 2018
3.	<b>Dr (Mrs) R M N A Wijewardane</b> National Post Harvest Research Symposium 2018	Institute of Postharvest Technology	Agriculture	18 <sup>th</sup> - 19 <sup>th</sup> October 2018
4.	<b>Dr Rasika Illeperuma</b> International Nursing Congress 2018	University of Peradeniya	Allied health	06 <sup>th</sup> - 07 <sup>th</sup> April 2018
5.	<b>Archt. Ashley de Vos</b> 11 <sup>th</sup> Annual Research Conference of the Royal Asiatic Society of Sri Lanka	Royal Asiatic Society of Sri Lanka	Arts	22 <sup>nd</sup> - 24 <sup>th</sup> March 2018
6.	<b>Dr A M Mubarak</b> South Asian Biotechnology Conference 2018 (SABC 2018)	The National Academy of Science of Sri Lanka	Biotechnology	28 <sup>th</sup> - 30 <sup>th</sup> March 2018
7.	<b>Mr W J Jeyaraj</b> International Symposium on Emerging Trends in Education and Library and Information Science 2018 (LibSym 2018)	Eastern University of Sri Lanka	Education and Library Science	09 <sup>th</sup> -10 <sup>th</sup> August 2018
8.	<b>Eng. (Prof.) (Mrs) N Ratnayake</b> National Engineering Conference 2018	Institute of Engineers Sri Lanka	Engineering	31 <sup>st</sup> August 2018
9.	<b>Dr H M N Dilum Bandara</b> Moratuwa Engineering Research Conference 2018 (MERCon 2018)	University of Moratuwa	Engineering	29 <sup>th</sup> - 31 <sup>st</sup> May 2018
10.	<b>Prof. A L T Hewawasam</b> International Conference on Climate Change, Disaster Risk Reduction and Sustainable Development through Geospatial Technologies (CDCGeo 2018)	University of Peradeniya	Environment Science	24 <sup>th</sup> -25 <sup>th</sup> November 2018
11.	<b>Dr (Mrs) W M D N Wijeyaratne</b> 24 <sup>th</sup> Annual Scientific Sessions of the Sri Lanka Association for Fisheries and Aquatic Resources (SLAFAR)	Sri Lanka Association for Fisheries and Aquatic Resources	Fisheries and Aquatic Resources	8 <sup>th</sup> June 2018
12.	<b>Dr N W B Balasooriya</b> 34 <sup>th</sup> Annual Sessions of the Geological Society of Sri Lanka	Geological Society of Sri Lanka	Geology	23 <sup>rd</sup> February 2018
13.	<b>Dr K W S N Kumari</b> International Research Symposium 2018, Uva Wellassa University of Sri Lanka (IRSUWU 2018)	Uva Wellassa University of Sri Lanka (IRSUWU 2018)	General Sciences	25 <sup>th</sup> -27 <sup>th</sup> January 2018
14.	<b>Dr Jinasena Hewage</b> 5 <sup>th</sup> Ruhuna International Science and Technology Conference 2018	University of Ruhuna	General Sciences	15 <sup>th</sup> February 2018

	<b>Applicant and the Event</b>	<b>Organization</b>	<b>Category</b>	<b>Date of the event</b>
15.	<b>Dr Sidath R Liyanage</b> SLAYS Open Forum 2018	Sri Lanka Academy of Young Scientists	General Sciences	23 <sup>rd</sup> - 24 <sup>th</sup> April 2018
16.	<b>Prof. K P S Chandana Jayaratne</b> 74 <sup>th</sup> Annual Sessions of the Sri Lanka Association for the Advancement of Science (SLAAS)	Sri Lanka Association for the Advancement of Science (SLAAS)	General Sciences	02 <sup>nd</sup> - 08 <sup>th</sup> December 2018
17.	<b>Prof Hemanthi Ranasinghe</b> 5 <sup>th</sup> International Conference on Multidisciplinary Approaches 2018	University of Sri Jayawardenepura	General Sciences	31 <sup>st</sup> August and 1 <sup>st</sup> September 2018
18.	<b>Prof. Y P R Dharshana Yapa</b> 6 <sup>th</sup> Conference on Sri Lanka Japan Collaborative Research - SLJCR 2018	University of Peradeniya	General Science	31 <sup>st</sup> August and 1 <sup>st</sup> September 2018
19.	<b>Prof. (Mrs) L D Amarasinghe</b> International Research Symposium on Pure and Applied Sciences - 2018	University of Kelaniya	General Sciences	26 <sup>th</sup> October 2018
20.	<b>Prof. S S N Fernando</b> International Conference on Health Sciences	University of Sri Jayawardenepura	Medical Sciences	7 <sup>th</sup> - 9 <sup>th</sup> October 2018
21.	<b>Prof. Rezvi Sheriff</b> General Sir John Kotelawala Defence University - Mayo Clinic USA : International Nephrology, Dialysis, Transplant and Oncology Medicine Conference	General Sir John Kotelawala Defence University	Medical Sciences	7 <sup>th</sup> - 10 <sup>th</sup> February 2018
22.	<b>Dr Sameera Jayasinghe</b> 47 <sup>th</sup> Annual Academic Sessions of the College of Surgeons of Sri Lanka and Joint International Conference with the Royal College of Surgeons of Edinburgh and the SAARC Surgical Care Society	College of Surgeons of Sri Lanka	Medical Sciences	15 <sup>th</sup> - 18 <sup>th</sup> August 2018
23.	<b>Dr (Mrs) Renuka Jayathissa</b> 3 <sup>rd</sup> Clinical Nutrition Annual Academic Sessions - 2018 of Sri Lanka Medical Nutrition Association	Sri Lanka Medical Nutrition Association	Medical Sciences	01 <sup>st</sup> December 2018
24.	<b>Prof. Shiroma Handunneththi</b> ICGEB Course on "Monoclonal Antibody Production: Applications in immunodiagnosics"	University of Colombo	Medical Sciences	05 <sup>th</sup> - 06 <sup>th</sup> August 2018
25.	<b>Dr Ruvaiz Haniffa</b> 131 <sup>st</sup> Anniversary International Medical Congress of Sri Lanka Medical Association 2018 in partnership with National Science Foundation	Sri Lanka Medical Association	Medical Sciences	26 <sup>th</sup> - 29 <sup>th</sup> July 2018
26.	<b>Dr Kushlani Jayatilleke</b> International Conference on Infectious Diseases and Antimicrobial Resistance	Sri Lanka College of Microbiologists	Medical Sciences	08 <sup>th</sup> - 11 <sup>th</sup> August 2018
27.	<b>Dr P M Atapattu</b> Annual Academic Sessions of Menopause Society of Sri Lanka	Menopause Society of Sri Lanka	Medical Sciences	09 <sup>th</sup> September 2018
28.	<b>Dr Palitha Ratnayake</b> Annual Academic Sessions of College of Pathologists of Sri Lanka	College of Pathologists of Sri Lanka	Medical Sciences	07 <sup>th</sup> - 08 <sup>th</sup> September 2018

	<b>Applicant and the Event</b>	<b>Organization</b>	<b>Category</b>	<b>Date of the event</b>
29.	<b>Dr Tharanga Thoradeniya</b> Annual Scientific Sessions of Sri Lanka Association for Laboratory Animal Science (SLALAS)	Sri Lanka Association for Laboratory Animal Science	Medical Sciences	25 <sup>th</sup> - 26 <sup>th</sup> January 2018
30.	<b>Mr G K A Dias</b> 18 <sup>th</sup> International Conference on Advances in ICT for Emerging Regions (ICTer 2018)	University of Colombo School of Computing	IT	27 <sup>th</sup> - 28 <sup>th</sup> September
31.	<b>Dr Manori K Weerathunga</b> 20 <sup>th</sup> Annual Scientific Sessions and Annual General Meeting of Population Association of Sri Lanka	Population Association of Sri Lanka	Population Studies	09 <sup>th</sup> June 2018
32.	<b>Prof. Ananda Jayawickrama</b> Research Congress of the Post Graduate Institute of Humanities and Social Sciences	Post Graduate Institute of Humanities and Social Sciences	Social Science	03 <sup>rd</sup> April 2018
33.	<b>Dr V Kanagasingam</b> Glocalization: Unleashing Potential, Harnessing Opportunities and Embracing Change	Eastern University of Sri Lanka	Social Science	16 <sup>th</sup> - 17 <sup>th</sup> August 2018
34.	<b>Mr Harin de Silva Wijeratne</b> Asian Symposium on Medicinal Plants, Spices and other Natural Products XVI	Sri Lanka Institute of Nano Technology (SLINTEC)	Natural Products Chemistry	12 <sup>th</sup> - 17 <sup>th</sup> December 2018

## Support Scheme for Publication of research in reputed international high impact journals

	Name of the Applicant/ Institution	Title of the manuscript/ Date published	Name of the Journal/ 2016/2018 Impact Factor	Indexed in (source: Clarivate Analytics Master list)	Page Charge (Rs.)
1.	<b>Prof. Charitha L Goonasekara</b> Faculty of Medicine General Sir John Kotelawala Defence University	Natural antibody responses to the capsid protein in sera of Dengue infected patients from Sri Lanka  June 2017	PLOS ONE 2.766	SCI expanded	77,300/- (500 USD)
2.	<b>Dr Sudarshanee Geekiyange</b> Department of Agricultural Biology Faculty of Agriculture University of Ruhuna	Photoperiod driven days to flowering variation affects vegetative growth and yield in Sri Lankan traditional rice ( <i>Oriza sativa</i> L) Ma wee  April 2017	Pakistan Journal of Botany 0.75	SCI expanded	77,295/- (500 USD)
3.	<b>Dr Nimanthi Jayathilaka</b> Department of Chemistry Faculty of Science University of Kelaniya	Effect of three edible oils on the intestinal absorption of caffeic acid: An in-vivo and in-vitro study  June 2017	PLOS ONE 2.766	SCI expanded	77,295/- (500 USD)
4.	<b>Mr D K G Madusanka</b> Department of Mechanical Engineering University of Moratuwa	Hybrid vision based reach- to-grasp task planning method for trans-humeral prostheses  June 2017	IEEE Access 3.557	SCI expanded	135,712.50/- (875 USD)
5.	<b>Prof. Deepika Fernando</b> Department of Parasitology Faculty of Medicine University of Colombo	Response of imported malaria patients to antimalarial medicines in Sri Lanka following malaria elimination  Nov 2017	PLOS ONE 2.766	SCI expanded	77,725/- (500 USD)
6.	<b>Dr B K Ranga Rodrigo</b> Department of Electronic and Telecommunication Engineering Faculty of Engineering University of Moratuwa	Combined static and motion features for deep-networks based activity recognition in videos  Oct 2017	IEEE Transactions on Circuits and Systems for Video Technology 3.558	SCI expanded	117,720/- (750 USD)
7.	<b>Mr M A V J Muthugala</b> Department of Electrical Engineering University of Moratuwa	A review of service robots coping with uncertain information in natural language instructions  Feb 2018	IEEE Access 3.557	SCI expanded	137,742.50/- (875 USD)
8.	<b>Mr Kuddithamby Gunaan</b> Department of Fisheries Faculty of Science University of Jaffna	Application of geospatial techniques for ground water quality and availability assessment: A case study in Jaffna Peninsula, Sri Lanka  Jan 2018	International Journal of Geo- Information 1.723	SCI expanded	141,611.66/- (900 Swiss Franc)

## NASTA Awards

No	Award Category	Winner	Award winning Title
1.	Individual/ Team /Institutional outstanding leadership in promoting & developing S & T	<b>Prof. Athula Sumathipala</b>	Individual outstanding leadership in promoting and developing science & technology
2.	Excellence in international collaboration for advancement of S & T	<b>Dr (Mrs) Ilmi G N Hewajulige</b> <b>Dr (Mrs) Shanthi Wilson</b> Team of ITI	Developing and adapting new technology for adaptation and application in Sri Lanka to minimize postharvest losses
3.	Value addition to local natural resources (Biological, earth and marine resources <i>etc.</i>	<b>Dr (Mrs) G A Gunewardena</b> Team of VRI	Development and successful field application of a new vaccine against fowl cholera in poultry, Sri Lanka
4.	Development of viable substitutes for imports (Acquired or adapted) and acquired or adapted technologies resulting in successfully exported products/ services	<b>Mike Biotech (Pvt) Ltd.</b>	Mass plant propagation by in vitro tissue culture technology

### NASTA Awards 2018 - Merit Awards

No	Award Category	Winner	Award winning Title
1.	Individual/ Team /Institutional outstanding leadership in promoting & developing S&T	<b>Prof. Rohana Chandrajith</b> <b>Prof. C B Dissanayake</b> Department of Geology University of Peradeniya	Pioneering studies on medical geology in Sri Lanka – Application of geology to health, disease and socio-economic development
2.	Excellence in international collaboration for advancement of S&T	<b>Institute for Research and Development</b>	Excellence in international collaboration
3.	Harnessing S&T for sustainable development	<b>Dr M T D R Perera</b> <b>Dr N Senanayake</b> Department of Agriculture	Mass rearing of parasitoids of major pests of crops of Brassicaceae family, diamond black moth, for sustainability and commercialization in Sri Lanka

## NSF Research Awards

No	Grant No.	Project title	Grantee/s & Institution
1.	RG/2011/HS/19	Studies on comparing immunodiagnostic methods and immune status of leptospirosis patients in Colombo and Gampaha Districts	<p><b>Prof. Shiroma Hadunnetti</b>, IBMBB, University of Colombo</p> <p><b>Prof. Senaka Rajapakse</b>, Department of Clinical Medicine, Faculty of Medicine, University of Colombo</p> <p><b>Prof. Sunil Premawansa</b>, Department of Zoology, Faculty of Science, University of Colombo</p> <p><b>Prof. Janaka De Silva</b>, Faculty of Medicine, University of Kelaniya</p> <p><i>Research Student</i></p> <p><b>Ms Roshan Niloofa</b> (PhD)</p>
2.	RG/2012/NRB/01	Isolation of antimicrobial compounds from endophytic fungi of endemic flora of Sri Lanka	<p><b>Prof. E D De Silva</b> <b>Dr C D Wijayarathne</b> Department of Chemistry, University of Colombo</p> <p><b>Prof. R L C Wijesundera</b> Department of Plant Sciences, University of Colombo</p> <p><i>Research Student</i></p> <p><b>Mr Ranga Dissanayake</b> (PhD) <b>Mr Asiri Senevirathne</b> (MPhil)</p>

### Certificate of Commendation

No	Grant No.	Project title	Grantee/s & Institution
1.	RG/2012/AG/03	Growth responses of <i>Ophiopogon japonicus</i> (Silver dragon or Mondo grass) for differential potting media, plant growth hormones and fertilizer treatment	<p><b>Dr J W Damunupola</b> <b>Dr W A M Daundasekara</b> Department of Botany, Faculty of Science, University of Peradeniya</p> <p><b>Dr S A Krishnarajah</b> <b>Dr D S A Wijesundara</b> Royal Botanical Gardens</p> <p><i>Research Student</i></p> <p><b>Ms KH Wijayabandara</b> (MPhil)</p>
2.	RG/2011/BT/02	Molecular mapping for improved salinity tolerance in rice	<p><b>Dr N S Kottearachchi</b> Department of Biotechnology, Faculty of Agriculture and Plantation Management Wayamba University</p> <p><b>Dr Gamini Samarasinghe</b> Biotechnology Unit, RRDI, Batalagoda</p> <p><i>Research Student</i></p> <p><b>Ms Buddhika A Dahanayake</b> (MPhil)</p>
3.	RG/2011/BT/03	Characterization of mutations and sequence variants of Growth Hormone (GH) and Growth Hormone Releasing Hormone Receptor (GHRH-R) in a cohort of Sri Lankan children with GH deficiency	<p><b>Prof. Kamani Tennekoon</b> IBMBB, University of Colombo</p> <p><b>Dr Shanya de Silva</b>, Department of Paediatrics, Faculty of Medicine, University of Colombo</p> <p><i>Research Student</i></p> <p><b>Ms T Sundaralingam</b> (PhD to be completed)</p>

## NSF Technology Awards

### Technology Awards

No	Name & Affiliation of the Award Winner	Grant No.	Title
1.	<p><b>Prof. Ranil S Dassanayake</b> University of Colombo Scientific Co-Founder of CeyGen Biotech (Pvt) Ltd</p> <p><b>Dr Jagathpriya Weerasena</b> Institute of Biochemistry Molecular biology and Biotechnology University of Colombo</p> <p><b>Prof. Nilmini Silva Gunawardene</b> Faculty of Medicine University of Kelaniya Scientific Co-Founder of CeyGen Biotech (Pvt) Ltd.</p> <p><b>Prof. Aresha Manamperi</b> Faculty of Medicine University of Kelaniya Consultant Molecular Biologist at CeyGen Biotech (Pvt) Ltd.</p> <p><b>Mr Upul Tudawe</b> CeyGen Biotech (Pvt) Ltd. Executive Vice President of Ceylon Hospitals PLC (Durdans Healthcare Group).</p>	TG/2012/Tech-D/06	Further development, quality upgrade of Nucleic Acid Extraction Kits (Viral RNA and Human Genomic DNA) and recombinant enzymes for commercialization
2.	<p><b>Mr K M S Bandara</b> A R A Engineering, Eheliyagoda</p>	TG/2015/Tech-D/06	Development of an efficient coconut de-husking machine for industry

### Certificate of Commendation

No	Name & Affiliation of the Award Winner	Grant No.	Title
1.	<p><b>Dr A T Dharmaratne</b> University of Colombo School of Computing</p> <p><b>Dr K D Sandaruwan</b> University of Colombo School of Computing</p> <p><b>Prof. M Vidanapathirana</b> Faculty of Medicine University of Sri Jayawardanapura</p> <p><b>Dr D D Karunaratna</b> University of Colombo School of Computing</p>	TG/2013/Tech-D/04	Face ID: Computer based forensic facial reconstruction using 3D graphics
2.	<p><b>Dr K T M U Hemapala</b> University of Moratuwa</p>	TG/2014/Tech-D/05	Fault detection, isolation and restoration using a multi-agent based distribution automation system
3.	<p><b>Eng. Nalin D Karunasinghe</b> University of Moratuwa</p> <p><b>Mr Isuru Seneviratne</b> Mason Hill Advisors, Inc.</p> <p><b>Mr B A Nimal Sripali</b> E-NET Solution (Pvt) Ltd.</p>	TG/2013/Tech-D/08	Wireless pad-based vehicle weigh system

## SUSRED Awards

### - MPhil -

No	Names and affiliations of Supervisory Team	Title of the thesis	Student & awarding University
1.	<b>Dr H M V G Herath</b> <b>Dr K K D V Jayatilake</b> Department of Agricultural Biology Faculty of Agriculture University of Peradeniya	Functional and comparative genomics of grain number, plant height and heading date 7 ( <i>Ghd 7</i> ) in Sri Lankan rice varieties and its role in conferring abiotic stress tolerance	<b>Mr I M A D Nagalla</b> University of Peradeniya
2.	<b>Prof. Neelika Malavige</b> Department of Microbiology Faculty of Medical Sciences University of Sri Jayewardenepura  <b>Dr Ananda Wijewickrama</b> National Institute of Infectious Diseases, Angoda	Investigation of factors that lead to liver injury in acute dengue infection	<b>Dr B S M Fernando</b> University of Sri Jayewardenepura
3.	<b>Prof. Neelika Malavige</b> Department of Microbiology Faculty of Medical Sciences University of Sri Jayewardenepura	Investigating the mechanisms by which cytokines, chemokines and lipid mediators modulate cellular immune responses in dengue infection	<b>Ms H E Jayaratne</b> University of Sri Jayewardenepura
4.	<b>Dr T D C P Gunasekara</b> <b>Prof. S S N Fernando</b> <b>Dr M M Weerasekera</b> Department of Microbiology Faculty of Medical Sciences University of Sri Jayewardenepura	The association of HLA alleles, cytokines and selected host factors with <i>H. pylori</i> infection and disease severity	<b>Ms A M P S Arachchi</b> University of Sri Jayewardenepura
5.	<b>Prof. H A Hemachandra Jayasena</b> Department of Geology University of Peradeniya  <b>Prof. Deepthi Yakandawala</b> Department of Botany University of Peradeniya  <b>Prof. R L Rohana Chandrajith</b> Department of Geology University of Peradeniya	Palynological investigations on Gondwana flora from Sri Lanka: Palaeoenvironmental and palaeogeographical implications	<b>Mr W A P Weerakoon</b> University of Peradeniya

### - PhD -

No	Names and affiliations of Supervisory Team	Title of the thesis	Student & awarding University
1.	<b>Prof. N A K P J Seneviratne</b> <b>Prof. Nimanthi Jayathilaka</b> Department of Chemistry Faculty of Science University of Kelaniya	Development of commercially important plant-based antioxidant preparations to stabilize and improve the nutritional quality of selected foods	<b>Dr C M Senanayake</b> University of Kelaniya
2.	<b>Prof. S H P P Karunaratne</b> <b>Prof. S N Surendran</b> Department of Zoology Faculty of Science University of Peradeniya	DNA barcoding, genetic diversity, genetic structure and age structure of selected mosquito species of Sri Lanka	<b>Dr T C Weeraratne</b> University of Peradeniya

No	Names and affiliations of Supervisory Team	Title of the thesis	Student & awarding University
3.	<p><b>Dr Radhika Samarasekera</b> Additional Director General Research &amp; Development Industrial Technology Institute Colombo 07</p> <p><b>Dr O V D S Jagathpriya Weerasena</b> <b>Prof. Shiroma Handunnetti</b> Institute of Biochemistry, Molecular Biology and Biotechnology, University of Colombo</p>	Isolation, characterization and <i>in vitro</i> bioactivity studies on the constituents of <i>Dipterocarpus zeylanicus</i> and <i>Vateria copallifera</i>	<b>Dr S P Samaradivakara</b> University of Colombo
4.	<p><b>Dr D S M De Silva</b> <b>Prof. K A S Pathiratne</b> Department of Chemistry Faculty of Science University of Kelaniya</p>	Development of electrodeposition protocols for growth of CdS, CdTe semiconductor thin films and fabrication of low cost CdS/CdTe solar cells	<b>Dr H Y R Atapattu</b> University of Kelaniya
5.	<p><b>Prof. Mangalika Hettiarachchi</b> <b>Prof. U P K Epa</b> Department of Zoology and Environmental Management Faculty of Science University of Kelaniya</p>	Sustainable export oriented shrimp ( <i>Penaeus monodon</i> ) culture through disease prevention, compliance to food safety regulations	<b>Dr K R P S Kumara</b> University of Kelaniya
6.	<p><b>Dr Sudarshanee Geekiyana</b> Department of Agricultural Biology Faculty of Agriculture University of Ruhuna</p> <p><b>Prof. Gamini Senanayake</b> Vice Chancellor University of Ruhuna</p> <p><b>Prof. Saman Seneweera</b> Director National Institute of Fundamental Studies, Kandy</p>	Investigation of genetic basis for variation in flowering time among Sri Lankan traditional rice varieties	<b>Dr E U U Rathnathunga</b> University of Ruhuna
7.	<p><b>Prof. R G N Meegama</b> Department of Computer Science Faculty of Applied Science University of Sri Jayewardenepura</p>	Real time translation of Sinhala to Sinhala sign language	<b>Dr M Punchimudiyanse</b> University of Sri Jayewardenepura

## Support provided to the SSSs

No	School/ "Vidatha" Centre	Nature of support provided by NSF	Event or field /Month
1.	Holy Cross College Gampaha	<i>Provided Resource person</i> <b>Dr Rohini De Silva</b> Lecturer University of Colombo	Lecture on Nanotechnology
2.	Sirimavo Bandaranaike Vidyalaya Colombo 07	Provided DVDs of "Mihimadala" Video series Phase - I	Telecasted Mihimadala videos at the Science, Technology and Educational Exhibition-2018
3.	Madduma Bandara Maha Vidyalaya, Weliweriya	<i>Provided Resource persons</i> <b>Dr D M Suratissa</b> Museum curator University of Colombo  <b>Dr Neranga Abeyasinghe</b> Lecturer University of Colombo	Lectures on Importance of a Science Career & Nanotechnology at Science Day on 05 <sup>th</sup> April 2018
4.	Yashodara Devi Balika Vidyalaya Gampaha	<i>Provided Resource persons</i> <b>Dr D M Suratissa</b> Museum curator University of Colombo	Lecture on Scientific Method at Science Day on 18 <sup>th</sup> May 2018
5.	Yashodara Devi Balika Vidyalaya Gampaha	<i>Provided Resource persons</i> <b>Prof. Devaka Weerakoon</b> University of Colombo	Lecture on Science & Technology for tomorrow at Science Day on 22 <sup>nd</sup> June 2018
6.	Nochchiyagama Zonal Education Office	<i>Provided Resource persons</i> <b>Dr Kumudu Kopyawattage</b> Lecturer Rajarata University of Sri Lanka	Session to motivate students to select science-related streams at Science Day on 2 <sup>nd</sup> July 2018
7.	Karandeniya Central College Karandeniya	<i>Provided Resource persons</i> <b>Dr Inoka C Perera</b> Senior Lecturer University of Colombo	Lecture on Evolution at Science Day on 6 <sup>th</sup> July 2018
8.	Defense Services College Colombo 02	<i>Provided Resource persons</i> Dr Jayantha Wattavidanage Lecturer Open University of Sri Lanka	Lecture on Power of Science at Science Day on 19 <sup>th</sup> October 2018
9.	Wadduwa Central College Wadduwa	<i>Provided Resource persons</i> Dr Jayantha Wattavidanage Lecturer Open University of Sri Lanka	Lecture on Apocalypse at Science Day on 25 <sup>th</sup> October 2018
10.	Ananda Central College Elpitiya	<i>Provided Resource persons</i> Dr Rohini De Silva Lecturer University of Colombo	Lecture on Nanotechnology at Teacher Training Workshop on 16 <sup>th</sup> November 2018

## Grants awarded for Science Education and Popularization Programme (SEPP)

No	Grant Number	School/ University/ Institute	Event/ Programme	Amount (Rs.)
1.	SEPP/2018/01	Electronics Club (E-Club), University of Morartuwa	Sri Lankan Robotics Challenge, January to April 2018	200,000/-
2.	SEPP/2018/02	Zonal education office, Wattegama	Science Students Camp for Grade 6, 7, 8 and 9 January to September, 2018	200,000/-
3.	SEPP/2018/03	Astronomical Society, University of Colombo	"Star Quest" Interschool Astronomy Quiz Competition	200,000/-
4.	SEPP/2018/04	Science Society, Yasodara Devi Balika Maha Vidyalaya	Science Day 2018, 28 <sup>th</sup> June 2018	55,000/-
5.	SEPP/2018/05	Science Society, Weliveriya Madduma Bandara Maha Vidyalaya	School Science Day	55,000/-
6.	SEPP/2018/06	Biotechnology Society, Wayamba University of Sri Lanka	Biotechnology Day 2018	139,307.29/-
7.	SEPP/2018/07	Chemical Society, University of Colombo	SAHAS 2018 - Scholarly access in helping the advancement of science	200,000/-
8.	SEPP/2018/08	Institute of Biology	Biology Quiz Competition for University Undergraduates 2018	200,000/-

## Grants Awarded under Overseas Science Education Programme (OSEP)

No	Grant No.	Name of the grantee	Event	Achievements/Outcome
1.	OSEP/ GRN/2018/01/01	<b>Mr Shanika Warnakula Ediriweera</b> University of Moratuwa	11 <sup>th</sup> Language Resources and Evaluation Conference	Research paper was published in conference proceedings
2.	OSEP/ GRN/2018/02/02	<b>Dr R V Cooray</b> University of Colombo	International Olympiad Physics	Honorable mention at the competition
3.	OSEP/ GRN/2018/02/03	<b>Mr D M N P Dassanayake</b> Maliyadewa College, Kurunegala		
4.	OSEP/ GRN/2018/02/04	<b>Mr Y S Ginige</b> Richmand College, Galle		
5.	OSEP/ GRN/2018/02/05	<b>Mr M N Witharama</b> R/ Eheliyagoda Central College		
6.	OSEP/ GRN/2018/03/06	<b>Mr K A Iroshan</b> University of Moratuwa	40 <sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society	Research paper was published in conference proceedings
7.	OSEP/ GRN/2018/04/07	<b>Prof. M J S Wijerathne</b> University of Kelaniya	International Olympiad Biology	One student won a bronze medal at the competition
8.	OSEP/ GRN/2018/04/08	<b>Prof. Hiran Amarasekara</b> University of Sri Jayewardenepura.		
9.	OSEP/ GRN/2018/04/09	<b>Ms U N Samaranayake</b> Mahamaya Girl's College, Kandy		
10.	OSEP/ GRN/2018/04/10	<b>Mr G A H G Gunasinghe</b> St. Joseph Vaz College, Wennappuwa		
11.	OSEP/ GRN/2018/04/11	<b>Mr C M Edirisinghe</b> Ananda College, Colombo 10		
12.	OSEP/ GRN/2018/05/12	<b>Ms P I Samarawickrama</b> St. Anthony's College, Katugasthota	International Earth Science Olympiad Competition	Sri Lankan team obtained one Bronze medal from the written and practical test.
13.	OSEP/ GRN/2018/05/13	<b>Mr Sujith Uthsara Kalansuriyaarachchi</b> Nalanda College, Colombo	International Earth Science Olympiad Competition	One Gold, one Silver and one Bronze medal in the International Team Field Investigation (ITFI).
14.	OSEP/ GRN/2018/05/14	<b>Mr W H M S U B Senanayake</b> St. Anthony's College, Katugasthota.	International Earth Science Olympiad Competition	One Gold medal in the Earth System Project (ESP)
15.	OSEP/ GRN/2018/06/15	<b>Mr W N D Perera</b> University of Moratuwa	45 <sup>th</sup> Computing in Cardiology Conference	Research paper was published in conference proceedings
16.	OSEP/ GRN/2018/09/16	<b>Ms Shalini Thiruchittampalam</b> University of Colombo	2018 Asia-Pacific 3MT competition	

## Ten Best Projects of SRPC

No	Name	School	Project Title
1.	<b>J Indusara Dharmarathne K A Akila Sadil Dulsara M Dinera Susiriwardana</b>	Nalanda College, Colombo 10	Project title: Optimizing the Extracted amount of Coconut Milk using Different Sample Arrangements and Determination of Nutritional Characteristics
2.	<b>G Lahiru Sandaruwan</b>	S De S Jayasinghe Central College, Dehiwala	Potential Toxic Arsenic Removal from Water Using a Novel Composite
3.	<b>M A M Amjad</b>	S De S Jayasinghe Central College, Dehiwala	Development of Superhydrophobic Coating Using Waste Polystyrene Foams and Diatomaceous Earth
4.	<b>M M T Deepaloka Munasinghe</b>	Rahula College, Matara	Developing a Filter to Purify Poisonous Gases Produced by Combusted Polythene
5.	<b>A M Pasindu Sudanthaka L K Tharukee Amaya W A Disna Maduwanthi</b>	Lihiniyawa Junior School, Meegahathenna	Development of larvicide using Cashew Nut Shell Liquid (CNSL)
6.	<b>M W Hansaji Lalithya</b>	Janadipathi Balika Vidyalaya, Galle	A Studies of Bee Attracting Properties of <i>Sandorieum koetjape</i> (Donga) Wood as a Raw Material for Production of Beehives in Beekeeping
7.	<b>W A S Sahashraka Bandaranayaka</b>	Rathnavali Balika Vidyalaya, Gampaha	Assessment of Coconut shell charcoal as an energy source in Sri Lanka: Comparison with coal energy
8.	<b>K R R Induwara</b>	Ananda National school, Chilaw	Different isolates of bacterium and biological agents for controlling <i>Aedes aegypti</i> (Linnaeus) larvae in Sri Lanka
9.	<b>M Shenali Ambegoda Y Shakya Wekadapola</b>	Sirimavo Bandaranayake Vidyalaya, Colombo 07	Isolation of polythene degrading bacteria that assimilate polythene into environmentally benign monomers
10.	<b>N Aathavan</b>	Jaffna Hindu College	Study of Adolescents' Introversion and Extraversion Traits and the effect of these traits in Social Media Usage

## Research Scholarships Awarded

No	Grant No. & Duration	Scholar and Institution	Supervisors	Title
1.	NSF/SCH/2018/01 02 years	<b>Ms Sathees Sasrubi</b> Department of Biochemistry Faculty of Medicine University of Jaffna	<b>Prof. V Arasaratnam</b> Department of Biochemistry Faculty of Medicine University of Jaffna  <b>Dr (Mrs.) M G Sathiadas</b> Department of Pediatrics Faculty of Medicine University of Jaffna	Growth, neurodevelopment and behavioral outcome of pre-term babies born at a tertiary care centre, Jaffna
2.	NSF/SCH/2018/02 03 years	<b>Ms V Umayangana Godakanda</b> Department of Chemistry Faculty of Science University of Colombo	<b>Prof. K M Nalin de Silva</b> Department of Chemistry Faculty of Science University of Colombo  <b>Dr Rohini M de Silva</b> Department of Chemistry Faculty of Science University of Colombo	Smart fabrics for healthcare
3.	NSF/SCH/2018/03 02 years	<b>Mr H M I Chandralal Herath</b> Industrial Technology Institute	<b>Dr T D C M K Wijayasiriwardene</b> Industrial Technology Institute  <b>Dr G A S Premakumara</b> Industrial Technology Institute	Pharmacognostical investigation of <i>Curcuma albiflora</i> Thw. (Harankaha)
4.	NSF/SCH/2018/04 03 years	<b>Mr Jaseetharan Thillainathan</b> National Institute of Fundamental Studies	<b>Prof. M A K L Dissanayake</b> National Institute of Fundamental Studies Kandy  <b>Prof. G K R Senadeera</b> National Institute of Fundamental Studies Kandy	Semiconductor quantum dots for applications in solar cells and infra-red detectors
5.	NSF/SCH/2018/05 02 years	<b>Dr Sivarangini Sivagnanam</b> Unit of Siddha Medicine University of Jaffna	<b>Prof. Vasanthy Arasaratnam</b> Department of Biochemistry Faculty of Medicine University of Jaffna  <b>Prof. Mangala Gunatilake</b> Department of Physiology Faculty of Medicine University of Colombo	<i>In vitro</i> lithontriptic effect of selected Siddha drugs on urinary calculi occurring in various locations of urinary system with and without different <i>Anupaanam</i> and the predisposing factors
6.	NSF/SCH/2018/06 02 years	<b>Ms H M K Madhushani Premaratne</b> Postgraduate Institute of Science University of Peradeniya	<b>Dr R L R Chandrajith</b> Department of Geology University of Peradeniya  <b>Prof. N P Ratnayake</b> Department of Earth Resources Engineering Faculty of Engineering University of Moratuwa	Millennial and sub-millennial-scale variability of northeast monsoon and its impact on terrestrial ecosystems in Sri Lanka

No	Grant No. & Duration	Scholar and Institution	Supervisors	Title
7.	NSF/SCH/2018/07 01 year	Mrs K A A Dilhari University of Sri Jayawardenapura	<b>Dr Manjula M Weerasekera</b> Department of Microbiology University of Sri Jayawardenapura  <b>Dr T D C P Gunasekara</b> Department of Microbiology University of Sri Jayawardenapura  <b>Prof. S S N Fernando</b> Department of Microbiology University of Sri Jayawardenapura	Molecular profiling, biofilm architecture and investigation of microbiota associated in diabetes chronic wound infections
8.	NSF/SCH/2018/09 01 year	Ms M M K Peiris University of Sri Jayewardenepura	<b>Prof. S S N Fernando</b> Department of Microbiology Faculty of Medical Sciences University of Sri Jayewardenepura  <b>Dr T D C P Gunasekara</b> Department of Microbiology Faculty of Medical Sciences University of Sri Jayewardenepura  <b>Prof. P M Jayaweera</b> Department of Chemistry Faculty of Applied Sciences University of Sri Jayewardenepura	Biological synthesis, characterization and assessment of antimicrobial properties of silver and titanium dioxide nanoparticles
9.	NSF/SCH/2018/10 01 year	Ms A K I Kapuge Postgraduate Institute of Science University of Peradeniya	<b>Dr Pradeep Nalaka Ranasinghe</b> Department of Oceanography and Marine Geology University of Ruhuna  <b>Prof. A L Tilak Hewawasam</b> Department of Geography University of Peradeniya  <b>Dr C H E R Siriwardana</b> Geological Survey and Mines Bureau	Studying paleoclimatic and paleoenvironmental changes in Ratnapura Basin during the quaternary period
10.	NSF/SCH/2018/11 03 years	Ms K P Madhubhashini Weerathne Postgraduate Institute Science University of Peradeniya	<b>Prof. H M T G A Pitawala</b> Department of Geology Faculty of Science University of Peradeniya  <b>Prof. H R D Pieris</b> Department of Basic Sciences Faculty of Dental Science University of Peradeniya	Reconstructing the Prehistoric human diet using stable, palaeoproteomics and chemical analyses of human and faunal skeletal remains recovered from Pallemalala shell midden, Sri Lanka
11.	NSF/SCH/2018/12 02 years	Ms Sujanthe Rasakulendran University of Colombo	<b>Dr I C Perera</b> Department of Zoology and Environment Sciences University of Colombo  <b>Dr N T Perera</b> Department of Chemistry University of Sri Jayewardenepura	Ligand responsive MarR homologs as novel drug targets against <i>Mycobacterium tuberculosis</i>

## Research Scholarships Completed

No	Grant No. & Duration	Scholar and Institution	Supervisor/s	Title	Postgraduate Degree Obtained
1.	NSF/ SCH/2013/02  02 years	<b>Mr Kanishka Weranga Palihakkara</b> Department of Physics Faculty of Science University of Colombo	<b>Prof. D U J Sonnadara</b> <b>Prof. Asiri Nanayakkara</b> Department of Physics Faculty of Science University of Colombo	Investigation of distribution of zeros of wave functions and spontaneous breaking down of PT symmetry in Non-Hermitian Hamiltonian systems	MPhil
2.	NSF/ SCH/2015/04  02 years	<b>Ms A M Piyumali Sandareka</b> Department of Microbiology Faculty of Medical Science University of Sri Jayewardenepura	<b>Dr T D C P Gunasekara</b> <b>Prof. S S N Fernando</b> <b>Prof. M M Weerasekera</b> Department of Microbiology 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	MPhil
3.	NSF/ SCH/2013/08  01 year	<b>Ms A N C K Wijesooriya</b> Department of Architecture University of Moratuwa	<b>Dr Janaka Wijesundara</b> Department of Architecture University of Moratuwa	Development of a theoretical framework to facilitate creative process in Architectural Design Education	MPhil
4.	NSF/ SCH/2015/06  02 years	<b>Ms A Nishamani Kodithuwakku</b> Department of Agricultural Biology Faculty of Agriculture University of Ruhuna	<b>Dr Sudarshanee Geekiyanage</b> University of Ruhuna  <b>Prof. S G N J Senanayake</b> University of Ruhuna  <b>Prof. Peter Greenburg</b> University of Washington	Development of farmer friendly co-inoculation method with plant growth promoting bacteria and testing efficacy on selected Sri Lankan Rice accessions	MPhil
5.	NSF/ SCH/2013/05  02 years	<b>Ms Rukshika Shalani Hewawasam</b> Department of Molecular Biology and Biochemistry University of Peradeniya	<b>Prof. S Sotheeswaran</b> Institute of Chemistry Ceylon  <b>Dr U S K Waliwegamage</b> Institute of Chemistry Ceylon  <b>Dr R G S C Rajapakse</b> University of Peradeniya	Bioethanol and Wine from fruits of <i>MUSA APP.</i> by microbial fermentation	PhD

## Travel Grants Awarded

### Oral Presentations

No	Name & Address	Title of the Abstract	Title of the Event, Venue & Date
1.	<b>Dr W A P P de Silva</b> Senior Lecturer Faculty of Science University of Peradeniya Peradeniya	Feeding pattern and host preference of frog-biting mosquitoes in Sri Lankan Anuran community	9 <sup>th</sup> International Congress of Dipterology Windhoek, Namibia 25 <sup>th</sup> - 30 <sup>th</sup> November 2018
2.	<b>Dr B S Dassanayake</b> Senior Lecturer Department of Physics University of Peradeniya Peradeniya	Effect of N <sub>2</sub> -purging and N <sub>2</sub> -annealing on chemical bath deposited CdS thin films	International Conference on Advances in Functional Materials (AFM) Nanjing, China 27 <sup>th</sup> - 30 <sup>th</sup> August 2018
3.	<b>Mr R K K G R G Kumarasinghe</b> Postgraduate Student Postgraduate Institute of Science University of Peradeniya Peradeniya	Opto-electric properties of chemical bath deposited CdS films fabricated under variable and steady bath conditions	International Conference on Advances in Functional Materials (AFM) Nanjing, China 27 <sup>th</sup> - 30 <sup>th</sup> August 2018
4.	<b>Prof. A D L C Perera</b> Professor Chair/Physical Chemistry Department of Chemistry University of Peradeniya Peradeniya	Electric-field induced super-lattice structured sub-phase evolution in antiferroelectric liquid crystals	27 <sup>th</sup> International Liquid Crystal Conference (ILCC 2018) Kyoto, Japan 21 <sup>st</sup> -28 <sup>th</sup> July 2018
5.	<b>Dr A C De Silva</b> Senior Lecturer Department of Electronic & Telecommunication Engineering University of Moratuwa Moratuwa	Detection of diabetes by the macro-vascular tortuosity of superior bulbar conjunctiva	40 <sup>th</sup> International Conference of the IEEE Engineering in Medicine and Biology Conference (EMBC) Hawaii, USA 17 <sup>th</sup> - 21 <sup>st</sup> July 2018
6.	<b>Mr K A A Ruparathna</b> Research Assistant Faculty of Science University of Peradeniya Peradeniya	Transparent oxide incorporation for anti-static polyester fabric	International Conference on Nano Technology and Nono Engineering Paris, France 16 <sup>th</sup> -18 <sup>th</sup> July 2018
7.	<b>Ms M S Weerasooriyagedara</b> Postgraduate Student Postgraduate Institute of Science University of Peradeniya Peradeniya	Absorptive removal of oxytetracycline hydrochloride (OTC) by novel montmorillonite-biochar composite (BC-MMT): equilibrium and kinetic studies	The 4 <sup>th</sup> International Conference on Contaminated Land, Ecological Assessment & Remediation 2018 The Hong Kong Polytechnic University, Hong Kong 16 <sup>th</sup> - 18 <sup>th</sup> August 2018
8.	<b>Mr P H T Lakkana</b> Research Assistant Department of Computer Science & Technology Uva wellassa University Badulla	Spatial patterns in the vegetation of a tropical montane cloud forest in Horton Plains, Sri Lanka in relation to disturbance	ATBC 2018, 55 <sup>th</sup> Annual Meeting of the Association for Tropical Biology and Conservation, Linking natural history and the conservation of tomorrow's tropical Ecosystems Kuching, Sarawak, Malaysia 1 <sup>st</sup> - 5 <sup>th</sup> July 2018

## Oral Presentations

No	Name & Address	Title of the Abstract	Title of the Event, Venue & Date
9.	<b>Mrs J A N Sandamali</b> Lecturer (Probationary) Department of Medical Laboratory Science University of Ruhuna	Protective effect of <i>Cinnamomum zeylanicum</i> bark extract against doxorubicin induced cardio toxicity : A preliminary study	ICHMS Singapore 2018: 20 <sup>th</sup> International Conference on Herbal Medicine and Supplements  Singapore 05 <sup>th</sup> - 06 <sup>th</sup> July 2018
10.	<b>Mr K I U Nanayakkara</b> Postgraduate Student Department of Civil Engineering University of Moratuwa	Potential of cyanobacteria isolated from different freshwater bodies of Sri Lanka as a food supplement	The Annual Symposium of the Institution of International Association for Shell and Spatial Structures  Boston, USA 16 <sup>th</sup> - 20 <sup>th</sup> July 2018
11.	<b>Ms M S Malika</b> Postgraduate Student Post Graduate Institute of Agriculture University of Peradeniya	Potential of cyanobacteria isolated from different freshwater bodies of Sri Lanka as a food supplement	10 <sup>th</sup> International Symposium on Plant-Soil Interaction at low PH (10 <sup>th</sup> PSILPH 2018)  Putrajaya, Malaysia 25 <sup>th</sup> - 29 <sup>th</sup> June 2018
12.	<b>Mr M A Wijewardane</b> Senior Lecturer Department of Mechanical Engineering University of Moratuwa	Investigation on luminance requirements and associated cost saving opportunities in garment factories	SEB - 18, The 10 <sup>th</sup> International Conference on Sustainability in Energy and Buildings Gold Coast  Queensland, Australia 24 <sup>th</sup> - 26 <sup>th</sup> June 2018
13.	<b>Dr D P L Ranasinghe</b> Engineering Manager Lanka Hydraulic Institute Ltd. Katubedda Moratuwa	Adaptation of directional wave measurement in 3D physical model to eliminate the reflection component in Uni-Directional Waves	28 <sup>th</sup> International Ocean and Polar Engineering Conference (ISOPE - 2018)  Sapporo, Hokkaido, Japan 10 <sup>th</sup> - 15 <sup>th</sup> June 2018
14.	<b>Dr W A Indika</b> Senior Lecturer Department of Computer Science University of Ruhuna Matara	Towards a user-friendly solution for collaboratively managing a developed ontology	18 <sup>th</sup> International Conference on Computational Science and Applications (ICCSA 2018)  Melbourne, Australia 02 <sup>nd</sup> - 05 <sup>th</sup> July 2018
15.	<b>Dr R P Illeperuma</b> Senior Lecturer Department of Medical Laboratory Science Faculty of Allied Health Sciences University of Peradeniya Peradeniya	Antioxidant rich tropical herbs to combat areca - nut induced OPMDs	JOINT IAOP (International Association of Oral and Maxillofacial Pathologists) General Conference & AAOMP (American Academy of Oral & Maxillofacial Pathology) Annual Meeting  Vancouver, Canada 23 <sup>rd</sup> - 28 <sup>th</sup> June 2018
16.	<b>Dr M T Napagoda</b> Head & Senior Lecturer Department of Biochemistry University of Ruhuna Karapitiya	Green synthesis of silver nanoparticles from the extract of <i>Mollugo cerviana</i> for antimicrobial applications	12 <sup>th</sup> International Symposium on Pharmaceutical Sciences  Ankara, Turkey 26 <sup>th</sup> - 29 <sup>th</sup> June 2018
17.	<b>Dr K D M S Kaluthantiri</b> Senior Lecturer Department of Demography Faculty of Arts University of Colombo Colombo 03	Intergenerational transfers and well-being of the elderly population in Sri Lanka	05 <sup>th</sup> Annual International Conference on Demography and Population Studies  Athens, Greece 18 <sup>th</sup> - 21 <sup>st</sup> June 2018

## Oral Presentations

No	Name & Address	Title of the Abstract	Title of the Event, Venue & Date
18.	<b>Ms I U Gamage</b> Administrative Officer Centre for Environmental Studies University of Peradeniya Peradeniya	Socio - hydrological implications of water management in the dry zone of Sri Lanka	8 <sup>th</sup> International Water Resources Management Conference of ICWRS  Beijing Normal University, China 13 <sup>th</sup> - 15 <sup>th</sup> June 2018
19.	<b>Prof. A A Y Amarasinghe</b> Professor in Export Agriculture Department of Export Agriculture University of Sabaragamuwa Belihuloya	Techniques used and their improvements to preserve germplasm of plants for museum collections; Sri Lanka scenario, especially in education purposes	AAMG - UMAC Annual Conference  Miami, USA 21 <sup>st</sup> - 24 <sup>th</sup> June 2018
20.	<b>Prof. P P M Jayaweera</b> Senior Professor & Head of the Chemistry Department of Chemistry University of Sri Jayewardenepura, Nugegoda	Li - ion and Li/S combined fabrication of low cost energy storage devices using ilmenite	The International Lithium Conference  Perth, Australia 27 <sup>th</sup> - 28 <sup>th</sup> June 2018
21.	<b>Ms K H D Perera</b> Research Student Institute of Chemistry Ceylon 341/22, Welikada, Rajagiriya	A physico-chemical study of husks of different varieties of rice grown in Sri Lanka	NAXOS 2018 - 6 <sup>th</sup> International Conference on Sustainable Solid Waste Management  Naxos Island, Greece 13 <sup>th</sup> - 16 <sup>th</sup> June 2018
22.	<b>Mr B K T Samarasiri</b> Research Student Department of Chemical and Process Engineering University of Moratuwa Moratuwa	Analysis of bio methane production from food waste as a long term renewable energy option	The 2 <sup>nd</sup> International Conference on Anaerobic Digestion Technology  Chiang, Thailand 04 <sup>th</sup> - 07 <sup>th</sup> June 2018
23.	<b>Dr K A N P Katuwavila</b> Consultant Sri Lanka Institute of Nanotechnology Homagama	Functionalized graphene oxide for significantly enhanced antibacterial activity of cephalixin	2 <sup>nd</sup> International Conference and Exhibition on Nano medicine and Drug Delivery  Tokyo, Japan 21 <sup>st</sup> - 23 <sup>rd</sup> May 2018
24.	<b>Ms M M S N Edirisinghe</b> MSc. Student Faculty of Engineering University of Moratuwa Moratuwa	Enhancing overall object placement by understanding uncertain spatial and qualitative distance information in user commands	ICRA 2018 - IEEE International Conference on Robotics and Automation  Brisbane, Australia 21 <sup>st</sup> - 25 <sup>th</sup> May 2018
25.	<b>Dr N Jayathilaka</b> Senior Lecturer Department of Chemistry University of Kelaniya Dalugama, Kelaniya	Effect of fatty acid chain length on regulation of hepatic gene expression by saturated fats	2018 AOCS Annual Meeting & Expo  Minneapolis, USA 06 <sup>th</sup> - 09 <sup>th</sup> May 2018
26.	<b>Ms N A Sanjeevanie</b> Postgraduate Research Student Postgraduate Institute of Agriculture University of Peradeniya	Effect of ademanthera pavonina (L) leaf extracts on blood sugar regulation	91 <sup>st</sup> Annual Meeting of the Japan Endocrine Society.  Miyazaki, Japan 26 <sup>th</sup> - 28 <sup>th</sup> April 2018
27.	<b>Ms M K Wanigapura</b> Software Engineer Mobio (pvt). Ltd Colombo 05	Handwritten computer programme recognition, compilation & execution application.	3 <sup>rd</sup> IEEE International Conference for convergence in Technology 2018  Pune, Maharashtra, India 07 <sup>th</sup> - 08 <sup>th</sup> April 2018

## Oral Presentations

No	Name & Address	Title of the Abstract	Title of the Event, Venue & Date
28.	<b>Dr R P Hewawasam</b> Senior Lecturer / Head Department of Biochemistry University of Ruhuna Galle	Leptin levels in cord blood and their associations with the birth of small, large and appropriate for gestational age infants in southern Sri Lanka	20 <sup>th</sup> International Conference on Paediatric Nutrition, Obesity and Diabetes  Kyoto, Japan 26 <sup>th</sup> - 27 <sup>th</sup> April 2018
29.	<b>Dr P D C Padukkage</b> Research Assistant Faculty of Graduate Studies Faculty of Agriculture University of Ruhuna	Genetic analysis of early flowering Sri Lankan Traditional Rice for Flowering time and Morphological Characters	The 133 <sup>rd</sup> Meeting of the Japanese Society of Breeding  Fukuoka, Japan 25 <sup>th</sup> - 26 <sup>th</sup> March 2018
30.	<b>Ms M R U Silva</b> Instructor Department of Chemical and Process Engineering University of Moratuwa Moratuwa	Textile dye decolourization and bioelectricity generation in a microbial fuel cell.	2 <sup>nd</sup> International Conference on Green Energy & Applications,  Singapore 24 <sup>th</sup> - 26 <sup>th</sup> March 2018
31.	<b>Dr A I Kamaladasa</b> Department of Science and Social Sciences Faculty of Nursing University of Colombo Colombo 03	Differences in response to the dengue virus by primary human monocytes in those with varying severity of past dengue infection.	Immunology, pathogenesis and translational opportunities, India EMBO Symposia  New Delhi, India. 28 <sup>th</sup> - 30 <sup>th</sup> March 2018.
32.	<b>Prof. K K S Hirimburegama</b> Department of Plant Science Faculty of Science University of Colombo, Colombo 03	Women participation in higher education especially in sciences-Case study in Sri Lanka	2 <sup>nd</sup> International Women in Science without Borders (WiSWB)  Indaba Johannesburg, South Africa 21 <sup>st</sup> - 23 <sup>rd</sup> March 2018
33.	<b>Ms K A D D Kuruppu</b> Lecturer (Probationary) Department of Aeronautical Engineering General Sir John Kotelawala Defence University Rathmalana	Nano sol based solar responsive smart window for aircraft	ICAAE 2018, 20 <sup>th</sup> International Conference on Aeronautics and Aerospace Engineering  Sydney, Australia 29 <sup>th</sup> - 30 <sup>th</sup> March 2018
34.	<b>Dr D P I N Pathirana</b> Senior Lecturer Department of Animal Science University of Ruhuna Mapalana Kamburupitiya	Analysis of production and reproduction traits of crossbred murrh buffaloes in a large-scale buffalo farm in Southern Province of Sri Lanka	9 <sup>th</sup> Asian Buffalo Congress (ABC - 2018)  Haryana, India 01 <sup>st</sup> - 04 <sup>th</sup> February 2018
35.	<b>Mr E P N Premarathne</b> Demonstrator Faculty of Science University of Peradeniya Peradeniya	Mathematical modelling of Micro emulsion based-novel drug delivery system for Diclofenac sodium with synthesized glycolipid as permeation	International Conference on Nanotechnology and Nano medicine - Series II  Oxford University, UK 15 <sup>th</sup> - 16 <sup>th</sup> February 2018
36.	<b>Prof. R S Rajakaruna</b> Professor of Applied Zoology Faculty of Zoology University of Peradeniya Peradeniya	Fishers' perception and practices on turtle by - catch in Sri Lanka	38 <sup>th</sup> International SEA TURTLE Symposium  Kobe, Japan 18 <sup>th</sup> - 23 <sup>rd</sup> February 2018
37.	<b>Mr D P Colambage</b> Research Student Department of Electrical Engineering University of Moratuwa Moratuwa	Assessment of cost of unsaved energy for Sri Lankan industrial sector	IEEE International Conference on Industrial Electronics for Sustainable Energy Systems (IESES) 2018  Hamilton, New Zealand 30 <sup>th</sup> January - 02 <sup>nd</sup> February 2018

## Oral Presentations

No	Name & Address	Title of the Abstract	Title of the Event, Venue & Date
38.	<b>Mr W G C Kumarage</b> Postgraduate Student Postgraduate Institute of Science University of Peradeniya Peradeniya	A comparative assessment of opto-electronic properties of CdS thin films: chemical bath deposition and electro deposition	ICTTHM 2018: 20 <sup>th</sup> International Conference on Current Trends of Traditional Herbal Medicine  Singapore 08 <sup>th</sup> - 09 <sup>th</sup> January 2018
39.	<b>Mr D M H T Dasanayake</b> Research Student General Sir John Kotelawala Defence University	Automated Hospital Ward Management System Interacting with Mobile Robot Platform WDBOT	IEEE International Conference on Mechatronics & Automation (ICMA)  Changchun, China 05 <sup>th</sup> - 08 <sup>th</sup> August 2018
40.	<b>Dr K D S Sirisena</b> Senior Registrar in Adult Psychiatry National Hospital	Thinc-it App for measuring cognitive functions: ease of use and norms in people without depression in Sri Lanka	18 <sup>th</sup> WPA World Congress of Psychiatry  Mexico City, Mexico 27 <sup>th</sup> - 30 <sup>th</sup> September 2018
41.	<b>Ms S M B P Samarakoon</b> MSc. Student University of Moratuwa	Replicating natural approaching behaviour of humans for improving robot's approach towards two persons during a conversation	27 <sup>th</sup> IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)  Nanjing, China 27 <sup>th</sup> - 31 <sup>st</sup> August 2018
42.	<b>Mr T G S L Prakash</b> Public Health Inspector Principal Public Health Inspectors Unit Ministry of Health Nutrition & Indigenous Medicine	Lessons learnt from national programme of establishing Tobacco Free Zones in Sri Lanka	12 <sup>th</sup> Asia Pacific Conference on Tobacco or Health  Bali, Indonesia 13 <sup>th</sup> - 15 <sup>th</sup> September 2018
43.	<b>Mr A N R Weerawansa</b> Lecturer Department of Export Agriculture Uva Wellassa University	Status on natural parasitization of rice yellow stem borer, <i>Scripophaga incertulas</i> in Batalagoda region, Sri Lanka	8 <sup>th</sup> International Conference on Multidisciplinary Research 2018  Singapore City, Singapore 23 <sup>rd</sup> - 25 <sup>th</sup> August 2018
44.	<b>Mr A A S N Jayalal</b> Lecturer (Visiting) CINEC Maritime Campus	Audible frequency analysis of ground fisheries	34 <sup>th</sup> Internatioal Conference on Lightning Protection (ICLP)  Rzeszow, Poland 02 <sup>nd</sup> - 07 <sup>th</sup> September 2018
45.	<b>Ms H P C Sirithunga</b> PhD Student University of Moratuwa	A Wizard of Oz Study of Human Interest towards Robot Initiated Human -Robot Interaction	27 <sup>th</sup> IEEE International Conference on Robot and Human Interactive Communication (Ro-Man) 2018  Nanjing, China 27 <sup>th</sup> - 31 <sup>st</sup> August 2018
46.	<b>Dr B S S Seneviratne</b> Senior Lecturer Department of Zoology and Environment Sciences Faculty of Sciences University of Colombo	Widespread divergence in plumage, biochemical, vocal and genetic traits in a group of woodpeckers ( <i>Dinopium flamebacks</i> ) across tropical Asia	27 <sup>th</sup> International Ornithological Congress  Vancouver, Canada 19 <sup>th</sup> -26 <sup>th</sup> August 2018
47.	<b>Prof. M N S Kottegoda</b> Professor of Chemistry Department of Chemistry University of Sri Jayawardenapura	Hydroxyapatite-Urea-polymer nanohybrid compositions as seed coatings for enhanced germination of seasonal crops	256 <sup>th</sup> ACS National Meeting and Exposition  Boston, Massachusetts, USA 19 <sup>th</sup> -23 <sup>rd</sup> August 2018

## Oral Presentations

No	Name & Address	Title of the Abstract	Title of the Event, Venue & Date
48.	<b>Dr G H M J Subashi</b> Senior Lecturer Department of Civil and Environmental Engineering Faculty of Engineering University of Ruhuna	Investigation on characteristics of Whole Body Vibration exposures of Roller Compactors and effect of Waste Rubber on reducing the vibration	26 <sup>th</sup> Japan Conference of Human Response to Vibration  Kindai University, Osaka, Japan 22 <sup>nd</sup> - 24 <sup>th</sup> August 2018
49.	<b>Dr J A P Bodhika</b> Senior Lecturer Department of Physics University of Ruhuna	Characteristics of thunder pertinent to tropical lightning	34 <sup>th</sup> International Conference on Lightning Protection (ICLP)  Rzeszow, Poland 02 <sup>nd</sup> -07 <sup>th</sup> September 2018
50.	<b>Prof. H N Munasinghe</b> Professor in Zoology University of Ruhuna	Estimation of fatty acid profile and proximate composition of <i>Canthidermis maculata</i> (Bloch, 1786) (Tetradontiformes, Balistidae) collected from Southern Coast of Sri Lanka.	ISERD 42 <sup>th</sup> international Conference on Environment and Natural Science (ICENS)  Singapore 2 <sup>nd</sup> -3 <sup>rd</sup> August 2018

## Poster Presentations

No	Name & Address	Title of the Abstract	Title of the Event, Venue & Date
1.	<b>Dr A N C P Silva</b> Senior Lecturer Faculty of Engineering University of Moratuwa	Hydrogel based material for diabetic insole	8 <sup>th</sup> World Congress for Biomechanics  Dublin, Ireland 8 <sup>th</sup> - 12 <sup>th</sup> July 2018
2.	<b>Mr R M U K G M S Bandara</b> Research Assistant Department of Physics University of Colombo	Renal relaxivity mapping at 3.0 T for the diagnosis of chronic kidney disease - initial experience	Joint Annual meeting of International Society for Magnetic Resonance in Medicine - European Society for Magnetic Resonance in Medicine and Biology (ISMRM - ESMRMB) - 2018  Paris, France 16 <sup>th</sup> - 21 <sup>st</sup> June 2018
3.	<b>Dr M S Vithanage</b> Senior Lecturer Office of the Dean Faculty of Applied Sciences University of Sri Jayawardenapura Nugegoda	Recuperation of acid saline soil by application of organic amendments	Global Symposium on Soil Pollution  Rome, Italy 02 <sup>nd</sup> - 04 <sup>th</sup> May 2018
4.	<b>Dr E M Corea</b> Senior Lecturer Department of Microbiology Faculty of Medicine University of Colombo Colombo 08	Sri Lanka: Nation-wide epidemiology of melioidosis	European Melioidosis Congress 2018  Oxford, UK 19 <sup>th</sup> - 21 <sup>st</sup> March 2018
5.	<b>Mrs M V M Divarathna</b> Research Assistant Department of Microbiology University of Peradeniya Peradeniya	Prevalence of respiratory syncytial virus in acute respiratory tract infections in a selected sample of children from Sri Lanka	18 <sup>th</sup> International Congress on Infectious Diseases (ICID)  Buenos Aires, Argentina 01 <sup>st</sup> - 04 <sup>th</sup> March 2018

## Poster Presentations

No	Name & Address	Title of the Abstract	Title of the Event, Venue & Date
6.	<b>Ms A M T N Adikari</b> Lecturer (Probationary) KDU - CARE General Sir John Kotelawala Defence University Rathmalana	Glycemic index of <i>Caryota urens</i> (Kithul) treacle and gaggery; Traditional natural sweeteners of Sri Lanka	Glycemic index of <i>Caryota urens</i> (Kithul) treacle and gaggery; Traditional natural sweeteners of Sri Lanka  Manipal University, Jaipur, India 11 <sup>th</sup> -13 <sup>th</sup> January 2018
7.	<b>Ms M V M Divarathna</b> Research Assistant Department of Microbiology Faculty of Medicine University of Peradeniya	Distribution of respiratory syncytial virus subtypes A and B among children presenting with acute respiratory tract infection to Kegalle hospital, Sri Lanka	17 <sup>th</sup> Ais-Pacific Congress of Clinical Microbiology and Infection cum -8th International Infection Control Conference  Hong Kong, China 30 <sup>th</sup> August -2 <sup>nd</sup> September 2018
8.	<b>Mr R M U K G M S Bandara</b> Research Assistant Department of Physics University of Colombo Colombo 03	Renal relaxivity mapping at 3.0 T for the diagnosis of chronic kidney disease - initial experience	Joint Annual Meeting ISMRM - ESMRMB  Paris, France 16 <sup>th</sup> -21 <sup>st</sup> June 2018

## Chairman of a session, Keynote Speaker & Moderator

No	Name & Address	Title of the Abstract	Title of the Event, Venue & Date
1.	<b>Prof. R M G Rajapakshe</b> Senior Professor Department of Chemistry University of Peradeniya Peradeniya	Research into greener transportation  <i>Keynote Speaker</i>	International Conference on Nanotechnology and Nanomedicine - Series II  Oxford University, UK 15 <sup>th</sup> - 16 <sup>th</sup> February 2018

## OSTP Grants Awarded

No	Name & Address	Category (i.e. NSF Training Fellowship, NSF Travelling Fellowship, and NSF Training Scholarship)	Title of the Training Programme, Venue and Dates	Award Amount
1.	<b>OSTP/2018/01</b> <b>Mr H M D A H Bandara</b> Research Assistant National Institute of Fundamental Studies (NIFS) Hanthana Road, Kandy	NSF Training Scholarship	Training program in analytical techniques in Geology and Minerals, Japan 01 <sup>st</sup> May - 31 <sup>st</sup> July 2018	USD 3,063
2.	<b>OSTP/2018/02</b> <b>Prof. M T R Jayasinge</b> Department of Civil Engineering University of Moratuwa	NSF Training Fellowship	Research Collaboration Programme at Queensland University of Technology, Australia 25 <sup>th</sup> March - 12 <sup>th</sup> May 2018	USD 2,468
3.	<b>OSTP/2018/04</b> <b>Dr K B S N Jinadasa</b> Department of Civil Engineering University of Peradeniya	NSF Travelling Fellowship	Visiting Singapore Science Technology and innovation Organizations 24 <sup>th</sup> to 28 <sup>th</sup> January 2018	USD 1,848
4.	<b>OSTP/2018/05</b> <b>Ms K M A N Kulathunga</b> Research Assistant Agricultural Biotechnology Centre University of Peradeniya	NSF Training Scholarship	Studying the mechanism of host parasite interaction between root parasitic <i>Santalum album</i> and its preferred hosts to popularize the cultivation in Sri Lanka, USA 06 <sup>th</sup> August - 06 <sup>th</sup> November 2018	USD 5,974
5.	<b>OSTP/2018/06</b> <b>Dr J M J W Jayasinghe</b> Department of Electronics Wayamba University of Sri Lanka, Kuliypitiya	NSF Travelling Fellowship	Visiting fellow of Macquarie University, Australia 15 <sup>th</sup> April - 15 <sup>th</sup> May 2018	USD 1,534
6.	<b>OSTP/2018/09</b> <b>K D C U Wijayasiri</b> Medical officer-in-charge Sports and Exercise Medicine Unit Colombo South Teaching Hospital, Kalubowila	NSF Training Scholarship	Joint Research Scientist (PhD Training), Cardiovascular Research, Japan 18 <sup>th</sup> June - 14 <sup>th</sup> July 2018	USD 1,958
7.	<b>OSTP/2018/11</b> <b>R B J Buddhika</b> Department of Pharmacy Faculty Health Sciences The Open University of Sri Lanka	NSF Training Scholarship	NIMS Internship Programme, Japan 13 <sup>th</sup> May - 02 <sup>nd</sup> June 2018	USD 913

No	Name & Address	Category (i.e. NSF Training Fellowship, NSF Travelling Fellowship, and NSF Training Scholarship)	Title of the Training Programme, Venue and Dates	Award Amount
8.	<b>OSTP/2018/12</b> <b>C L Gamage</b> Department of Pharmacy Faculty of Health Science The Open University of Sri Lanka, Nugegoda	NSF Training Scholarship	Intensive 10 days summer 2018 Programme in Global Peace, Security and Strategic Studies, Belgium 16 <sup>th</sup> - 27 <sup>th</sup> July 2018	USD 4,614
9.	<b>OSTP/2018/13</b> <b>P Peratheepan</b> Department of Physics Eastern University Chenkalady	NSF Travelling Fellowship	Training on Green Thermoelectric Energy Generation from strongly Correlated <i>f</i> -electron Systems, South Africa 02 <sup>nd</sup> - 30 <sup>th</sup> August 2018	USD 2,030
10.	<b>OSTP/2018/14</b> <b>R W P M Rajapaksha</b> Department of Biotechnology Faculty of Agriculture and Plantation Management University of Wayamba Kuliyapitiya	NSF Training Scholarship	Research training on "Development of Molecular Technology to Detect Quarantine Important Microbial Pathogens in Imported Seed Potato to Sri Lanka", Australia 13 <sup>th</sup> July - 10 <sup>th</sup> January 2018	USD 9,544
11.	<b>OSTP/2018/15</b> <b>K A A Dilhari</b> Department of Microbiology Faculty of Medical Science University of Jayewardenepura Nugegoda	NSF Travelling Fellowship	ICGEB Course on "Bioinformatics: Computer Methods in Molecular and Systems Biology", Italy 25 <sup>th</sup> - 29 <sup>th</sup> June 2018	USD 862
12.	<b>OSTP/2018/18</b> <b>Dr R M D S Gunarathne</b> Senior Lecturer Department of Chemical and Process Engineering University of Moratuwa	NSF Travelling Fellowship	Training Programme on Belt and Road Petrochemical Industry Technician and Executive Development, China 11 <sup>th</sup> - 29 <sup>th</sup> June 2018	USD 665
13.	<b>OSTP/2018/22</b> <b>Dr P N Ranasinghe</b> Senior Lecture Department of Oceanography and Marine Geology University of Ruhuna Matara	NSF Training Scholarship	Collection of marine sediment samples and making laboratory measurements, Japan 25 <sup>th</sup> - 27 <sup>th</sup> July 2018	USD 2,420
14.	<b>OSTP/2018/23</b> <b>Ms S M Ranasinghe</b> Research student Department of Oceanography and Marine Geology University of Ruhuna Matara	NSF Training Scholarship	Collection of marine sediment samples and making laboratory measurements, Japan 25 <sup>th</sup> - 27 <sup>th</sup> July 2018	USD 2,090

No	Name & Address	Category (i.e. NSF Training Fellowship, NSF Travelling Fellowship, and NSF Training Scholarship)	Title of the Training Programme, Venue and Dates	Award Amount
15.	<b>OSTP/2018/26</b> <b>Prof. V S Jayamanne</b> Department of Food Science and Technology Faculty of Agriculture University of Ruhuna Mapalana, Kamburupitiya	NSF Travelling Fellowship	International Training Course on Technology for Cloud computing for food safety, China  19 <sup>th</sup> July - 07 <sup>th</sup> August 2018	USD 931.13
16.	<b>OSTP/2018/28</b> <b>Mr R M N P K Jayasinghe</b> Senior Research Officer (Exploration) Gem and Jewellery Research and Training Institute Kaduwela	NSF Training Scholarship	Training on Mineral Processing and Beneficiation, South Africa  13 <sup>th</sup> August - October 2018	USD 1,190
17.	<b>OSTP/2018/30</b> <b>Ms N Wickramasinghe</b> Researcher Herpetological Foundation of Sri Lanka, Wattala	NSF Training Scholarship	Short-term workshop on Molecular Phylogenetics, Centre for Ecological Sciences, India  01 <sup>st</sup> - 05 <sup>th</sup> August 2018	USD 253
18.	<b>OSTP/2018/32</b> <b>Dr T D J Kaluarachchi</b> Department of Parasitology Faculty of Medical Sciences University of Sri Jayewardenepura, Nugegoda	NSF Training Scholarship	ICGEB Course "Fluorescence Microscopy- FluoMicro@ICGEB", Italy  02 <sup>nd</sup> - 04 <sup>th</sup> October 2018	USD 234

## IPSAT Grants Awarded

No	Name & Institution	Title of the Training Programme, Venue and Dates
1.	<b>Prof. Joseph Daniel Ortiz</b> Professor with Tenure Department of Geology Kent State University, USA	15 <sup>th</sup> Academic Sessions and 14 <sup>th</sup> Vice Chancellors Awards Ceremony, Hotel Galadari  7 <sup>th</sup> - 11 <sup>th</sup> March 2018
2.	<b>Prof. Shireen Assem</b> Director Agricultural Genetic Engineering Research Institute, Giza, Egypt  <b>Prof. Dr Liyanage C De Silva</b> Professor of Engineering and the Dean of Faculty of integrated Technologies University Brunei Darussalam  <b>Dr Girish Nath Jha</b> Professor of Computational Linguistics Director International Collaboration Jawaharlal Nehru University New Delhi, India	2 <sup>nd</sup> International Research Symposium – 2018 - Uva Wellassa University  1 <sup>st</sup> - 2 <sup>nd</sup> February 2018
3.	<b>Dr D D Samarasekera</b> Director Centre for Medical Education Yong Loo Lin School of Medicine National University of Singapore  <b>Prof. Andrew Dawson</b> Director National Poisons Register & Clinical Toxicology Royal Prince Alfred Hospital, Sydney  <b>Prof. Ravi Silva</b> Director Advanced Technology Institute Surrey University  <b>Prof. Andrew McBain</b> Professor of Microbiology Faculty of Biology, Medicine and Health The University of Manchester	International Conference on Health Science 2018, Waters Edge, Battaramulla  7 <sup>th</sup> - 9 <sup>th</sup> October 2018
4.	<b>Prof. Virander Singh Chauhan</b> J C Bose Fellow (Department of Science and Technology) Department of Science & Technology at ICGEB New Delhi  <b>Prof. Subhra Chakraborty</b> National Institute of Plant Genome Research Jawaharlal Nehru University Campus Aruna Asaf Ali Marg, New Delhi  <b>Prof. Sarman Singh</b> Professor & Head Division of Clinical Microbiology & Molecular Medicine IAll India Institute of Medical Sciences  <b>Prof. Andrew B Holmes</b> Professor Emeritus President Australian Academy of Science Melbourne Laureate	South Asian Biotechnology Conference 2018 (Sabc-2018), Hilton Colombo Residences  28 <sup>th</sup> - 30 <sup>th</sup> March 2018

No	Name & Institution	Title of the Training Programme, Venue and Dates
5.	<p><b>Prof. Shaheen Mehtar</b> Chair Infection Control Africa Network Department of Global Health Faculty of Medicine &amp; Health Sciences Cape Town, South Africa</p> <p><b>Ms Yvonne Iroegbu</b> Lead pharmacist - antimicrobial University Hospital Lewisham London</p> <p><b>Dr John M Stelling</b> Co-Director WHO Collaborating centre for Surveillance of Antimicrobial Resistance Instructor in Medicine Harvard Medical School, USA</p> <p><b>Ms Amy Kolwaite</b> Country Implementation Team Leader Centres for Disease Control and Prevention USA</p>	<p>International Conference on Infectious Diseases and Antimicrobial Resistance, Hotel Taj Samudra</p> <p>8<sup>th</sup> -11<sup>th</sup> August, 2018</p>
6.	<p><b>Dr Prashanth N Suravajhala</b> Research Scientist Department of Biotechnology and Bioinformatics Birla Institute of Scientific Research Jaipur, India</p>	<p>Workshop on Bioinformatics, University of Sri Jayewardenepura</p> <p>1<sup>st</sup> -3<sup>rd</sup> June, 2018</p>
7.	<p><b>Prof. M G Dissanayake</b> Dean School of Environmental Sciences Lakeland College, Alberta, Canada</p> <p><b>Prof. M A Huffman</b> Associate Professor Primate Research Institute Kyoto University, Inuyama, Japan</p> <p><b>Prof. Sudipta Chatterjee</b> Associate Professor Department of Natural Resources TERI University, India</p>	<p>International Conference of Multidisciplinary Approaches Tangerine Beach Hotel, Kalutara</p> <p>31<sup>st</sup> August – 2<sup>nd</sup> September 2018</p>
8.	<p><b>Prof. D K M L Bhugra</b> Non-Executive Director Institute of Psychiatry, Psychology and Neuroscience, King's College, London</p> <p><b>Prof. K T Donald Li</b> President Elected World Organization of Family Doctors Hong Kong</p>	<p>131<sup>st</sup> Anniversary International Medical Congress 2017 Sri Lanka Medical Association, Hotel Galadari</p> <p>26<sup>th</sup> -29<sup>th</sup> July 2018</p>

## Staff Involvement in Awareness & Knowledge Enhancement and Process Improvement Activities (Local)

No	Programme	Duration	Staff Participation
<b>Short Term</b>			
1.	5 <sup>th</sup> Annual Scientific Sessions of Sri Lanka Association for Laboratory Animal Science (SLALAS)	25 <sup>th</sup> & 26 <sup>th</sup> January, 2018	<b>Dr M N S Nadugala</b> , Senior Scientific Officer <b>Mr D M Dilan Rasika</b> , Scientific Officer
2.	Symposium on Creating University - Industry Link	5 <sup>th</sup> March, 2018	<b>Dr Thamara F Dias</b> , Additional Director <b>Ms Nadeeja Wickramarachchi</b> , Senior Scientific Officer
3.	Establishment Code and Financial Regulations, SDFL	8 <sup>th</sup> & 9 <sup>th</sup> March, 2018	<b>Ms Dilushi Munasinghe</b> , Scientific Officer
4.	Science, Technology & Innovation for Socio Economic Development	9 <sup>th</sup> March, 2018	<b>Ms Chamika Dharmasena</b> , Scientific Officer <b>Ms Sumudu Gunasekera</b> , Scientific Officer <b>Ms N Sivasubramaniam</b> , Scientific Officer <b>Ms K A T K G Kandanamulla</b> , Scientific Officer
5.	Right to information Act National Institute of Labour Studies	26 <sup>th</sup> March, 2018	<b>Mr Manuja Karunarathna</b> , Principal Information Officer <b>Mr S N P K Sapumohotti</b> , Senior Admin. Officer <b>Ms Pavani Abeysiri</b> , Scientific Officer
6.	Personal File Management	28 <sup>th</sup> & 29 <sup>th</sup> March, 2018	<b>Mr S N P K Sapumohotti</b> , Senior Admin. Officer
7.	Procurement & Building Process Distance Learning Centre Ltd.	4 <sup>th</sup> & 6 <sup>th</sup> April, 2018 & 16 <sup>th</sup> & 18 <sup>th</sup> August, 2018	<b>Dr P R M P Dilrukshi</b> , Principal Scientific <b>Ms W M U K Rathnayake</b> , Scientific Officer <b>Ms Chamika Dharmasena</b> , Scientific Officer <b>Ms Dilushi Munasinghe</b> , Scientific Officer <b>Ms G R P I Abeysiri</b> , Scientific Officer <b>Ms D N Wickramarachchi</b> , Senior Scientific Officer <b>Ms P S Warakagoda</b> , Scientific Officer <b>Ms E M D C K Ekanayake</b> , Senior Scientific Officer <b>Ms K A T K G Kandanamulla</b> , Scientific Officer <b>Ms U T Karunarathne</b> , Senior Scientific Officer <b>Ms R A A R Ranatunga</b> , Scientific Officer <b>Ms M S K Meneripitiya</b> , Scientific Officer <b>Ms G G Sumudu Kumari</b> , Scientific Officer <b>Ms S S Ediriweera</b> , Scientific Officer <b>Ms N Sivasubramaniam</b> , Scientific Officer <b>Ms Sureshinie Warnasooriya</b> , Scientific Officer <b>Ms R N N Gamage</b> , Scientific Officer <b>Ms R P Sugathadasa</b> , Information Officer <b>Ms Niyas Thasneem</b> , Information Officer <b>Mr S M Pannala</b> , Information Officer <b>Ms W D A Pererea</b> , Management Assistant <b>Ms D M R Ipalawatte</b> , Management Assistant <b>Ms T S U Tillakarathne</b> , Management Assistant
8.	Right to Information Act & contribution of a Librarian	18 <sup>th</sup> May, 2018	<b>Mr Manuja Karunarathne</b> , Principal Information officer
9.	Workshop on Payroll Management Skill Development training Institute	11 <sup>th</sup> May, 2018	<b>Ms Sayuri Randima</b> , Management Assistant <b>Ms Pushpa Ellapallage</b> , Management Assistant

No	Programme	Duration	Staff Participation
10.	National Conference on Library & Information Science	28 <sup>th</sup> June, 2018	<b>Mr Manuja Karunaratna</b> , <i>Principal Information Officer</i> <b>Ms K N Samanthi</b> , <i>Information Officer</i> <b>Mr C A B Wickramasinghe</b> , <i>Library Assistant</i> <b>Ms N A H Priyadarshani</b> , <i>Library Assistant</i>
11.	Internal Auditing in Public Sector	28 <sup>th</sup> & 29 <sup>th</sup> June, 2018	<b>Ms D L Sirimathi</b> , <i>Internal Audit Officer</i>
12.	VMware – Evolve Conference	17 <sup>th</sup> July, 2018	<b>Mr Madhawa Perera</b> , <i>IT Manager</i>
13.	Positive Thinking and Work Place Etiquette	17 <sup>th</sup> July, 2018	<b>Ms Upuli Rathnayaka</b> , <i>Scientific Officer</i> <b>Mr P G I P Ariyadasa</b> , <i>Scientific Officer</i>
14.	Google Training	17 <sup>th</sup> July, 2018	<b>Mr H M M Perera</b> , <i>IT Manager</i> <b>Mr Asela Fernando</b> , <i>Network Administrator</i>
15.	Office Systems (for EB Examination)	4 <sup>th</sup> & 17 <sup>th</sup> July, 2018	<b>Staff participants of EB Exam</b>
16.	Enhancing Skills & Professional knowledge of Office Aids	27 <sup>th</sup> & 28 <sup>th</sup> August, 2018	<b>Mr M D P Perera</b> , <i>Office Aide</i> <b>Mr K M D De Silva</b> , <i>Office Aide</i>
17.	How to conduct a Domestic Inquiry	29 <sup>th</sup> August, 2018	<b>Mr P Sapumohotti</b> , <i>Senior Administrative Officer</i> <b>Mr J Solomon</b> , <i>Head/ Admin &amp; Finance</i>
18.	New Public Sector Accounting Stenders	11 <sup>th</sup> September, 2018	<b>Mr K K Y Chandeeera</b> , <i>Book Keeper</i>
19.	Workshop on Accounting for the Effective Public Service	17 <sup>th</sup> & 18 <sup>th</sup> September, 2018	<b>Ms Pushpa Ellapallage</b> , <i>Book keeper</i>
20.	Symposium on Emerging Viral Infection	20 <sup>th</sup> & 21 <sup>st</sup> September, 2018	<b>Dr M N S Nadugala</b> , <i>Senior Scientific Officer</i>
21.	Seminar on E- Government, Cyber Security and Social Media	16 <sup>th</sup> October, 2018	<b>Mr Chanaka Wickremasinghe</b> , <i>Library Assistant</i>
22.	Awareness Workshop for E-Bar Exam	18 <sup>th</sup> October, 2018	<b>Staff participants of EB Exam</b>
23.	Electrical Technology (Residential)	18 <sup>th</sup> October, 2018	<b>Mr S C S Fernando</b> , <i>Electrician</i>
24.	Requesting Nominations for the 9 <sup>th</sup> Sri Lanka Biennial Conference	8 <sup>th</sup> & 9 <sup>th</sup> November, 2018	<b>Dr P R M P Dilrukshi</b> , <i>Principal Scientific Officer</i> <b>Mr S M A W Anuruddha</b> , <i>Principal Scientific Officer</i> <b>Mr J G Shantha Siri</b> , <i>Principal Scientific Officer</i> <b>Dr S A V Moorthy</b> , <i>Principal Scientific Officer</i> <b>Mr K G J Karunasena</b> , <i>Principal Scientific Officer</i> <b>Ms Dilrukshi Ekanayake</b> , <i>Senior Scientific Officer</i> <b>Dr Inoka Sandanayake</b> , <i>Scientific Officer</i> <b>Ms Upuli Rathnayaka</b> , <i>Scientific Officer</i>
25.	National Library Research Symposium 2018	23 <sup>rd</sup> October, 2018	<b>Mr Manuja Karunaratne</b> , <i>Principal Information Officer</i> <b>Mr C A B Wickremasinghe</b> , <i>Library Assistant</i>
26.	Plumbing Technology (Residential)	26 <sup>th</sup> October, 2018	<b>Mr S C S Fernando</b> , <i>Electrical/Electronic Technician</i>
27.	Conference on Fourth Industrial Revolution and Health Care	25 <sup>th</sup> & 26 <sup>th</sup> October, 2018	<b>Mr Lakshan Warnakula</b> , <i>Scientific Officer</i>

No	Programme	Duration	Staff Participation
28.	5S Training Programme	18 <sup>th</sup> November, 2018	<b>Staff NSF</b>
29.	Awareness of Law for Public Officers	26 <sup>th</sup> & 27 <sup>th</sup> November, 2018	<b>Ms E M D C K Ekanayake</b> , <i>Scientific Officer</i> <b>Ms Chamika Dharmasena</b> , <i>Scientific Officer</i> <b>Ms Dilushi Munasinghe</b> , <i>Scientific Officer</i>
30.	Office Communication for Management Assistants	26 <sup>th</sup> & 27 <sup>th</sup> November, 2018	<b>Ms Jesika N Silva</b> , <i>Management Assistant</i> <b>Ms J A C G Samarasinghe</b> , <i>Management Assistant</i> <b>Ms M A R L Millawithana</b> , <i>Management Assistant</i> <b>Ms P A Palihawadana</b> , <i>Confidential Secretary</i> <b>Ms H A Kanthi</b> , <i>Management Assistant</i> <b>Ms Nandani Parana Vidana</b> , <i>Management Assistant</i> <b>Ms Monika Wijemanne</b> , <i>Management Assistant</i> <b>Ms N S Liyanage</b> , <i>Management Assistant</i> <b>Ms N S S Silva</b> , <i>Management Assistant</i> <b>Ms J A C H Samarasinghe</b> , <i>Management Assistant</i> <b>Ms Kanchana Sewwandhi</b> , <i>Management Assistant</i> <b>Ms Champika Priyadarshani</b> , <i>Management Assistant</i> <b>Ms D M R D Ipalawatte</b> , <i>Management Assistant</i> <b>Ms W A Hiranya Vinoli</b> , <i>Management Assistant</i>
31.	Workshop on Public Financial Management	27 <sup>th</sup> & 29 <sup>th</sup> November, 2018	<b>Ms P Samaranayake</b> , <i>Senior Accountant</i> <b>Ms P Bamunendra</b> , <i>Accountant</i> <b>Ms R M M Jayajeewani</b> , <i>Internal Auditor</i>
32.	Training Workshop on Office Management & Financial Regulations	6 <sup>th</sup> & 7 <sup>th</sup> December, 2018	<b>Ms H Siriwardena</b> , <i>Management Assistant</i> <b>Ms R K D Uthpala Medhavi</b> , <i>Management Assistant</i> <b>Ms Sammani Weerasinghe</b> , <i>Management Assistant</i> <b>Ms D M N Prishanthi</b> , <i>Management Assistant</i> <b>Ms N S Liyanage</b> , <i>Management Assistant</i>
33.	Office Management & Financial Regulations	18 <sup>th</sup> December, 2018	<b>Mr Yohan Chandeeera</b> , <i>Book Keeper</i> <b>Ms H Siriwardane</b> , <i>Management Assistant</i> <b>Ms Uthpala Medhavi</b> , <i>Management Assistant</i> <b>Ms Sammani Weerasinghe</b> , <i>Management Assistant</i> <b>Ms Prishanthi</b> , <i>Management Assistant</i>
<b>Long Term</b>			
1.	Master Degree In Operational Research 2018 University of Moratuwa	October 2018 - October 2020	<b>Ms Upuli Rathnayake</b> , <i>Scientific Officer</i>
2.	Master of Professional Accounting University of Sri Jayawardenapura	January 2018 - January 2019	<b>Ms Priyanka Bamunendra</b> , <i>Accountant</i>
3.	Doctor of Philosophy Degree Programme Wayamba University	From 22 <sup>nd</sup> July, 2015 -21 <sup>st</sup> July, 2020	<b>Mr J G Shantha Siri</b> , <i>Principal Scientific Officer</i>
4.	Extension of PhD Degree Programme	15 <sup>th</sup> March -15 <sup>th</sup> September, 2018	<b>Ms W L C Dasanayake</b> , <i>Senior Scientific Officer</i>
5.	English Programme	Every Monday For 2 hours	<b>Group Training</b>
6.	PT Session	Every Wednesday for 1 & ½ hrs	<b>Group Training for the entire staff</b>

## Staff Involvement in Awareness & Knowledge Enhancement and Process Improvement Activities (Foreign)

No	Programme, Country & Duration	Awarding Agency	Staff Participation
1.	Global Research Council ISC/ESG 22 <sup>nd</sup> - 23 <sup>rd</sup> January, 2018, Republic of Korea	National Science Foundation	<b>Ms K A T K G Kandanamulla</b> <i>Scientific Officer</i>
2.	Visit to Nanyang Environment and Water Research Institute 24 <sup>th</sup> - 28 <sup>th</sup> January, 2018, Singapore	National Science Foundation	<b>Prof. Sirimali Fernando</b> <i>Chairperson/ NSF</i>
3.	3 <sup>rd</sup> International Day of Women and Girls Science Forum 5 <sup>th</sup> - 8 <sup>th</sup> February, 2018, USA	National Science Foundation	<b>Prof. Sirimali Fernando</b> <i>Chairperson/ NSF</i>
4.	Inaugural Meeting of the Commonwealth Science Advisers and Equivalents 16 <sup>th</sup> - 17 <sup>th</sup> April, 2018, UK	National Science Foundation	<b>Prof. Sirimali Fernando</b> <i>Chairperson/ NSF</i>
5.	Bilateral Collaboration on Research & Higher Education between NSF and Swedish Foundation for International Cooperation 17 <sup>th</sup> - 20 <sup>th</sup> April, 2018, Sweden	National Science Foundation	<b>Prof. Sirimali Fernando</b> <i>Chairperson/ NSF</i> <b>Ms Mahesha Nadugala</b> <i>Senior Scientific Officer</i>
6.	International ShortTerm Course on Open Source Software for Library Management 5 <sup>th</sup> - 13 <sup>th</sup> May, 2018, India	National Science Foundation	<b>Ms M Niyas Thasneem</b> <i>Information Officer</i>
7.	24 <sup>th</sup> Session of the ICGEB Board of Governess 10 <sup>th</sup> - 11 <sup>th</sup> May, 2018, Italy	National Science Foundation	<b>Prof. Sirimali Fernando</b> <i>Chairperson/ NSF</i> <b>Ms Mahesha Nadugala</b> <i>Senior Scientific Officer</i>
8.	7 <sup>th</sup> Annual Meeting of Global Research Council 12 <sup>th</sup> - 19 <sup>th</sup> May, 2018, Russia	National Science Foundation	<b>Prof. Sirimali Fernando</b> <i>Chairperson/ NSF</i> <b>Prof. Ananda Jayawardena</b> <i>Director General/ NSF</i> <b>Ms K A T K G Kandanamulla</b> <i>Scientific Officer</i>
9.	Intel International Science & Engineering Fair 12 <sup>th</sup> - 20 <sup>th</sup> May, 2018, USA	Intel International Science & Engineering Fair 2018	<b>Mr K G J Karunasena</b> <i>Principal Scientific Officer</i>
10.	General Assembly of International Union of Biochemistry and Molecular Biology 4 <sup>th</sup> - 8 <sup>th</sup> June, 2018, South Korea	National Science Foundation	<b>Dr S A V Moorthy</b> <i>Principal Scientific Officer</i>
11.	23 <sup>rd</sup> Session of the Intergovernmental Council of the International Hydrological Programme 10 <sup>th</sup> -16 <sup>th</sup> June, 2018, Paris	National Science Foundation	<b>Dr Thamara F Dias</b> <i>Additional Director</i>

No	Programme, Country & Duration	Awarding Agency	Staff Participation
12.	General Assembly of the International Science Council 3 <sup>rd</sup> - 5 <sup>th</sup> July, 2018, France	National Science Foundation	<b>Prof. Sirimali Fernando</b> <i>Chairperson/ NSF</i>
13.	Training Workshop on Technopreneurship for Women in Science, Technology & Innovation 7 <sup>th</sup> - 14 <sup>th</sup> July, 2018, Malaysia	International Science, Technology and Innovation Centre (ISTIC) & National Science Foundation	<b>Ms Priyanwada Warakagoda</b> <i>Scientific Officer</i>
14.	UNESCO Regional Strategic Coordination Meeting "Science to Enable and Empower Asia Pacific for SDGs" 29 <sup>th</sup> July - 2 <sup>nd</sup> August, 2018, Indonesia	UNESCO & National Science Foundation	<b>Dr M N S Nadugala</b> <i>Senior Scientific Officer</i>
15.	37 <sup>th</sup> Session of the Intergovernmental Committee on Intellectual Property, Genetic Resources, Traditional Knowledge and Folklore 27 <sup>th</sup> - 31 <sup>st</sup> August, 2018, Switzerland	World Intellectual Property Organization (WIPO) and National Science Foundation	<b>Dr P R M P Dilrukshi</b> <i>Principal Scientific Officer</i>
16.	World Conference on Science Literacy (WCSL) & Annual Conference of Chinese Association of Natural Science Museums 15 <sup>th</sup> - 19 <sup>th</sup> September, 2018, China	Chinese Association of Natural Science Museums & NSF	<b>Prof. Sirimali Fernando</b> <i>Chairperson/ NSF</i> <b>Prof. Ananda Jayawardena</b> <i>Director General/ NSF</i> <b>Mr K G J Karunasena</b> <i>Principal Scientific Officer</i>
17.	STS Forum 8 <sup>th</sup> - 10 <sup>th</sup> October, 2018, Japan	National Science Foundation	<b>Prof. Sirimali Fernando</b> <i>Chairperson/ NSF</i> <b>Prof. Ananda Jayawardena</b> <i>Director General/ NSF</i>
18.	1 <sup>st</sup> Joint Workshop by the NSF & JST and Site visit 10 <sup>th</sup> - 12 <sup>th</sup> October, 2018, Japan	National Science Foundation	<b>Mr S M A W Anuruddha</b> <i>Principal Scientific Officer</i> <b>Ms K A T K G Kandanamulla</b> <i>Scientific Officer</i>
19.	Expert Meeting on Strategic Financing of R&D 12 <sup>th</sup> - 13 <sup>th</sup> December, 2018, Thailand	STI Policy Office, Thailand	<b>Prof. Sirimali Fernando</b> <i>Chairperson/ NSF</i>

## Research Programme on Health Science (RPHS)

No	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs. Mn)
1.	RPHS/2016/DTM 01	<b>Dr Prasad Katulanda</b> University of Colombo	Establishment of a center on diabetes and Non-Communicable Diseases (NCD) epidemiology and a national research programme on diabetes and NCD epidemiology  03 - 04 Years	15.00
2.	RPHS/2016/DTM 02	<b>Dr Anjula De Silva</b> University of Moratuwa	Development of tools for screening and treating diabetes and related foot complications through Biomedical Engineering innovations  03 - 04 Years	16.00
3.	RPHS/2016/D 01	<b>Dr Hasitha Tissera</b> Epidemiology Unit Ministry of Health Nutrition and Indigenous Medicine	Epidemiological tools and strategies for surveillance and control of dengue: 2017 - 2020  03 Years	5.912
4.	RPHS/2016/D 02	<b>Dr Noble Surendran</b> University of Jaffna	Development of an early warning system, a risk map and a prediction model for dengue and establishment of roles of asymptomatic carriers and brackish water derived mosquitoes in dengue transmission in Jaffna district  03 Years	10.00
5.	RPHS/2016/D 03	<b>Dr Menaka Hapugoda</b> University of Kelaniya	Study of Risk factors affecting Transmission of Dengue in the District of Gampaha  03 Years	5.00
6.	RPHS/2016/D 04	<b>Dr Ajith de Silva Nagahawatta</b> University of Ruhuna	Developing an effective epidemiological surveillance system for dengue in Southern Province of Sri Lanka  03 Years	7.203
7.	RPHS/2016/D 05	<b>Dr S S N Perera</b> University of Colombo	Proactive Dengue Management System (ProDMS)  04 - 05 Years	10.00
8.	RPHS/2016/D 06	<b>Prof. Neelika Malavige</b> University of Sri Jayewardenapura	Identification of the true burden and associated complications of dengue and related viral infections in Sri Lanka and finding long lasting solutions, through in depth understanding of the pathogenesis for development of therapeutic targets  03 Years	25.00
9.	RPHS/2016/CKDu 01	<b>Dr Eranga Wijewickrama</b> University of Colombo	Nationwide surveillance, quantify burden of NCDs, development of case definition and biomarkers for CKDu libraries  02 - 03 Years	8.172

No	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs. Mn)
10.	RPHS/2016/CKDu 02	<b>Dr Pubudu De Silva</b> National Intensive Care Surveillance of the Ministry of Health Nutrition and Indigenous Medicine	The burden from CKD/CKDu on dialysis units in Sri Lanka 02 Years	2.00
11.	RPHS/2016/CKDu 03	<b>Dr Sameera Gunawardena</b> University of Colombo	An exploratory study on environmental, genetic and dietary determinants of chronic kidney disease of uncertain aetiology based on postmortem tissue analysis 03 Years	9.00
12.	RPHS/2016/CKDu 04	<b>Dr S H N P Gunawickrama</b> General Sir John Kotelawala Defence University (KDU)	Immunomodulation associated with CKDu progression, of Sri Lanka 02 Years	4.00
13.	RPHS/2016/CKDu 05	<b>Dr Channa Jayasumana</b> Rajarata University of Sri Lanka	Efficacy of technologies available at CKDu endemic regions with special different water purification emphasis to reverse technology osmosis 02 Years	3.00
14.	RPHS/2016/CKDu 06	<b>Prof. Rohana Chandrajith</b> University of Pertadeniya	To identify the natural history, clinical manifestation, mortality and morbidity of CKD-u patients with two controlled groups 03 Years	10.50
15.	RPHS/2016/CKDu 07	<b>Dr Thilanga Ruwanpathirana</b> Epidemiology Unit Ministry of Health Nutrition and Indigenous Medicine	CKDu Epidemiology; Disease Burden, Case Definition & National Survey of CKD/CKDu- ( <i>Epid. Unit/WHO/NSF Collaborative Study under RPHS</i> ) 03 - 04 Years	10.00
16.	RPHS/2016/C 01	<b>Dr Pubudu De Silva</b> National Intensive Care Surveillance of the Ministry of Health Nutrition and Indigenous Medicine	Development of web - based live update of cancer patient information system 02 Years	2.00
17.	RPHS/2016/C 02	<b>Prof. Vajira Dissanayake</b> University of Colombo	Strengthening the Cancer Information Systems in the Ministry of Health [Hospital Information System (HIS); electronic Morbidity and Mortality System (eIMMR); National Cancer Registry (NCR)] 03 Years	8.00
18.	RPHS/2016/C 03	<b>Prof. Vajira Dissanayake</b> University of Colombo	Sri Lankan Inherited Cancer Biobank (SLICB) & Sri Lankan Inherited Cancer Genetic Variation Database (SLICGVDb) 03 Years	8.00

No	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs. Mn)
19.	RPHS/2016/C 04	<b>Dr Hemali Gunasekara</b> University of Colombo	Biomarker Discovery in Haematology - Myelodysplastic Syndromes  02 Years	5.00
20.	RPHS/2016/C 05	<b>Dr Eranga H Siriweera</b> University of Peradeniya	Novel Biomarkers of Breast Cancer in Pre and Post Menopausal Women Predictive of Therapeutic and Prognostic value.  03 Years	6.00
21.	RPHS/2016/C 06	<b>Dr Chathura Ratnayake</b> University of Peradeniya	Establishment of Molecular Biomarkers Based Detection Tools for Early Screening of Human Papillomavirus (HPV) Infection and Association of HPV in Pathophysiology of Cervical Cancer in Sri Lankan Women  03 Years	7.00
22.	RPHS/2016/C 07	<b>Prof. Kamani Tennekoon</b> Institute of Biochemistry Molecular Biology and Biotechnology (IBMBB)	Identification of new cancer biomarkers and validating existing biomarkers for the Sri Lankan setting and identification and development of anti cancer compound libraries  04 - 05 Years	13.00

## Special Project on Cinnamon

No	Theme	Description of the Project	Project output
1.	Genetic and biochemical characterization	<p><b>Grant No: SP/CIN/2016/01</b></p> <p><b>Team Leader:</b></p> <p><b>Dr Pradeepa Bandaranayake</b></p> <p><b>Project Title:</b></p> <p>Molecular and biochemical characterizations of Sri Lankan Cinnamon and their wild relatives and expression analysis of major biochemical genes under different environmental conditions and plant parts to enhance utilization value of cinnamon in Sri Lanka</p>	1. Morphological analysis of existing germplasm was completed
			2. Gap Filing-Locations of all seven wild relatives of genus <i>Cinnamomum</i> were identified from different agro ecological zones along with the cultivated variety ( <i>Sri gamunu</i> ) and <i>C. zeylanicum</i> (Wild)
			3. DNA barcoding (wild and cultivated) - Samples for the chloroplast genome sequencing were collected and genomic DNA was extracted using modified SDS method. Genomic DNA was extracted and DNA was sent for whole genome sequencing service provider and waiting for the results
			4. Biochemically characterize Ceylon cinnamon - HPLC procedure was optimized and calibration curves were generated for 7 known chemicals present in cinnamon. Sample analysis continues with optimized extraction procedures and methods
2.	Pharmacological properties and drug development	<p><b>Grant No: SP/CIN/2016/02</b></p> <p><b>Team Leader:</b></p> <p><b>Prof. Ranil de Silva</b></p> <p><b>Project Title:</b></p> <p>Potential protective roles of Ceylon cinnamon in health, leading to product development</p>	1. Method of incorporation of natural antioxidant from cinnamon leaf as an antioxidant into surgical and examination gloves were developed
			2. Comparison of Antioxidant properties of leaf, bark, peel extracts and essential oil of <i>Cinnamomum zeylanicum</i> and <i>Cinnamomum sinharajense</i> was completed
		<p><b>Grant No: SP/CIN/2016/03</b></p> <p><b>Team Leader:</b></p> <p><b>Prof. Bimali Jayawardena</b></p> <p><b>Project Title:</b></p> <p>Biochemical assessment of <i>Cinnamomum zeylanicum</i> extracts and development of a readily soluble nutraceutical product for the treatment of type 2 diabetes</p>	1. Chemical analysis has been done to assess 08 extraction methods using "Sri Vijaya" and "Sri Gamunu" varieties
			Out of 08 extraction methods, Enzyme Assist Water Extraction found to gave highest efficiency followed by Pressured Water Extraction for Ceylon cinnamon
<p><b>Grant No: SP/CIN/2016/04</b></p> <p><b>Team Leader:</b></p> <p><b>Dr Jinasena Hewage</b></p> <p><b>Project Title:</b></p> <p>Identification of Biochemical Profile, Bioactive Compounds, and Pharmacological studies of Ceylon Cinnamon</p>	1. Sample collections were completed in four cinnamon cultivated districts (Matara, Hambanthota, Peradeniya and Galle) covering 5 agro-ecological zones		
	2. Phytochemical analysis (qualitative and quantitative) of leaf and bark samples for two accessions, Sri Gamunu and SriWijaya was completed		

No	Theme	Description of the Project		Project output
3.	Value chain development and market research	<p><i>Grant No: SP/CIN/2016/05</i></p> <p><i>Team Leader:</i> <b>Prof. D A M De Silva</b></p> <p><i>Project Title:</i> Ceylon Cinnamon Value Chain Development: Making global market space for value chain actors</p>	1.	Developed a database on Cinnamon value chain
			2.	Developed a wise cinnamon decision support system and mobile apps to facilitate decision making process of value chain actors.
			3.	Developed GIS maps on plantations, human resources, soil types and farming systems  Developed and maintaining Facebook page on Ceylon cinnamon.

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