NATIONAL SCIENCE FOUNDATION

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ஆண்டறிக்கை 2021

Annual Report 2021

ජාතික විද්‍යා පදනම

தேசிய விஞ்ஞான மன்றம்

National Science Foundation

keeping with its mandate and aligning with the National Policy Framework "Vistas of Prosperity" and also with the Sustainable Development Goals (SDGs), the NSF progressed continuously throughout 2021 with the energy and drive of its committed staff guided by the Chairman and the Board of Management delivering the maximum output. This year's Annual Report captures basically the completed work as set out in the Action Plan for the year (pages 28-31). 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 53 graphical presentations, 13 tables, 88 pictures, 02 diagrams and 07 annexes. The entire annual report contains 160 pages together with the Audit Report & the NSF feedback on the Audit Report. The report is prepared following the guidelines for preparation of Annual Reports published by the Department of Public Enterprises in 2021.

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NSF at a glance

About

The National Science Foundation functions under the purview of the State Ministry of Skills Development, Vocational Education, Research & Innovation. Its dedicated service to the nation extends over 53 years. The organization was initially established as the National Science Council (NSC) in 1968 (Act No. 09 of 1968). NSC was restructured as the Natural Resources, Energy and Science Authority (NARESA) in 1982 (Act No. 78 of 1981). After 16 years of service, NARESA was reorganized as the National Science Foundation (NSF) in 1998 by the 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 scientists, with a view-

  (i) to strengthening scientific research potential, including research in the social sciences, and science education programmes;

  (ii) to developing the natural resources of Sri Lanka;

  (iii) to promoting the welfare of the people of Sri Lanka; and

  (iv) to training research personnel in science and technology

(b) to foster the interchange of scientific information among scientists in Sri Lanka and foreign countries;

(c) to award scholarships and fellowships for scientific study or scientific work at science and technology institutions;

(d) to maintain a current register of scientific and technical personnel, and in other ways to provide a central clearing house for the collection, interpretation and analysis of data, on the availability of and the current and projected need for, scientific and technical resources in Sri Lanka, and to provide a source of Sri Lanka, and to provide a source of information for policy formulation on science, technology and other fields;

(e) to popularize science amongst the people by funding programmes for that purpose.

Vision

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

Mission

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.

Goal

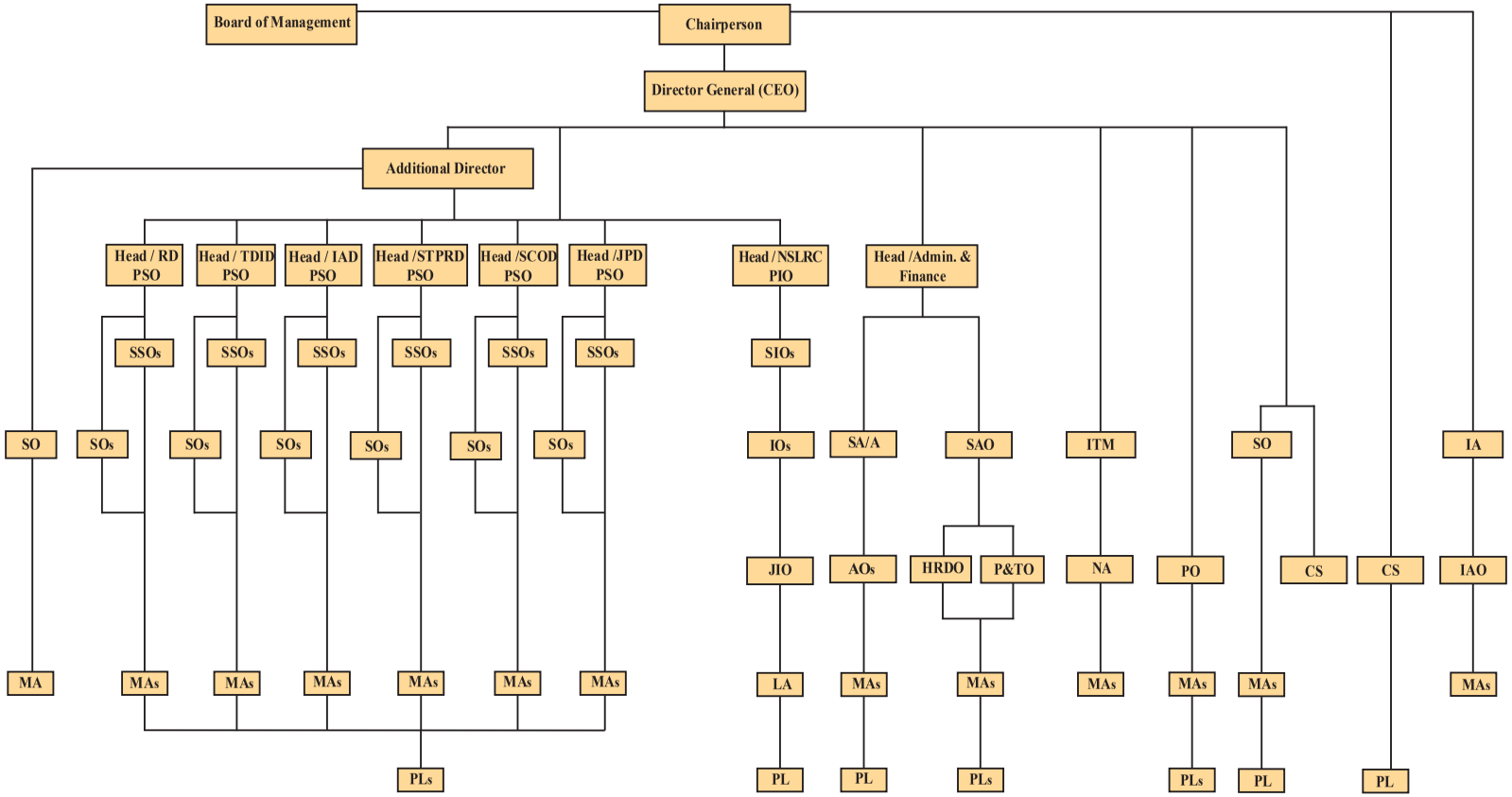
To contribute actively and effectively to the rapid development of the nation by implementing programmes under priorities of the National Policy Framework (NPF).

Objectives

1. Conduct research, development, and innovation to create a knowledge economy by building public-private, institution-industry partnerships.
2. Facilitate required capacity building, infrastructure development, technology transfer, knowledge creation and sharing in all fields of S&T to improve the quality of life of our people.
3. Conduct policy studies & surveys, data collection and evidence-based reporting to help developing S&T indicators promoting decision making by the policy makers.
4. Outreach to public and other sectors of the society through science communication and increase the science literacy and engagement in science by the public.
5. Nurture a competent work force in a conducive work environment which is performance-driven and results-oriented.

Governance framework

Organizational Structure (OS) – National Science Foundation



AO - Accounting Officers
CS - Confidential Secretary
HRDO - Human Resource Development Officer
IA - Internal Auditor
IAO - Internal Audit Officer
IAD - International Affairs Division
IO - Information Officer
ITM - IT Manager

JIO - Junior Information Officer
JPD - Journal Publication Division
LA - Library Assistant
MA - Management Assistant
NA - Network Administrator
NSLRC - National Science Library and Resource Centre
P & TO - Procurement and Transport Officer
PIO - Principal Information Officer

PL - Primary Level
PM - Printing Manager
PO - Printing Officer
PSO - Principal Scientific Officer
RD - Research Division
SA/ A - Senior Accountant / Accountant
SAO - Senior Admin. Officer
SIO - Senior Information Officer

SO - Scientific Officer
SCOD - Science Communication and Outreach Division
SSO - Senior Scientific Officer
STPRD - Science and Technology Policy Research Division
TDID - Technology Development and Innovation Division
* - Personal to the holder

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 State Minister of Skills Development, Vocational Education, Research & Innovation.

Emeritus Prof. Ranjith Senaratne (*w.e.f. 17th January, 2020 - to date*)
Chairman

Ms Damayanthi K Wijesinghe (*w.e.f. 22nd February to 03rd August, 2021*)
Acting Director General
Additional Secretary
State Ministry of Skills Development, Vocational Education,
Research & Innovation

Mr Ravindra Pathmapriya (*w.e.f. 10th August, 2021 to 10th March 2022*)
Acting Director General
Additional Secretary
State Ministry of Skills Development, Vocational Education,
Research & Innovation

Dr Sunil Jayantha Nawaratne (*w.e.f. 02nd March, 2020 to date*)
Director General
National Institute of Education

Eng. (Prof.) S B S Abayakoon *(w.e.f. 29th January, 2020 to September 2021)*
Senior Professor
Department of Civil Engineering
Faculty of Engineering
University of Peradeniya

Prof. Ananda Jayawardane (*w.e.f. 03rd July, 2020 to date*)
Senior Professor
Department of Civil Engineering
University of Moratuwa

Prof. N N J Nawarathne (*w.e.f. 29th January, 2020 to date*)
Professor
Department of Human Resources Management
Faculty of Management & Finance
University of Colombo

Prof. M M Pathmalal (*w.e.f. 29th January, 2020 to date*)
Dean
Faculty of Graduate Studies
University of Sri Jayewardenepura

Prof. J K D S Jayanetti (*w.e.f. 12th May, 2021 to 31st December, 2021*)
Dean
Faculty of Technology
University of Colombo

Dr Lakshman Wedikkara (*w.e.f. 29th January, 2020 to date*)
Senior Lecturer
Department of Social Science Education
Faculty of Education
University of Colombo

Dr Premasiri Mapalagama (*w.e.f. 29th January, 2020 to 7th March 2022*)
Consultant Pathologist
General Hospital
Matara

Ms R J Abdeen (*w.e.f. 31st March, 2021 to 1st March 2022*)
Director
Department of Public Enterprises
Ministry of Finance

Staff strength

The NSF functions with an approved cadre of 144. A complete review of the NSF staff occupation is given in *Table 01* and is graphically presented in *Figure 01*.

Table 01: Staff occupation based on category

Category	Year					
	As of 2020.12.31			As of 2021.12.31		
	Approved	Existing	Vacant	Approved	Existing	Vacant
HM	10	7	3	10	8	2
AR 2	6	6	-	6	5	1
AR 1	26	21	5	26	19	7
MM	11	11	-	11	9	2
JM	10	5	5	10	4	6
MA	56	48	8	56	47	9
PL	25	19	6	25	18	7
Total	**144**	**124**	**20**	**144**	**110**	**34**

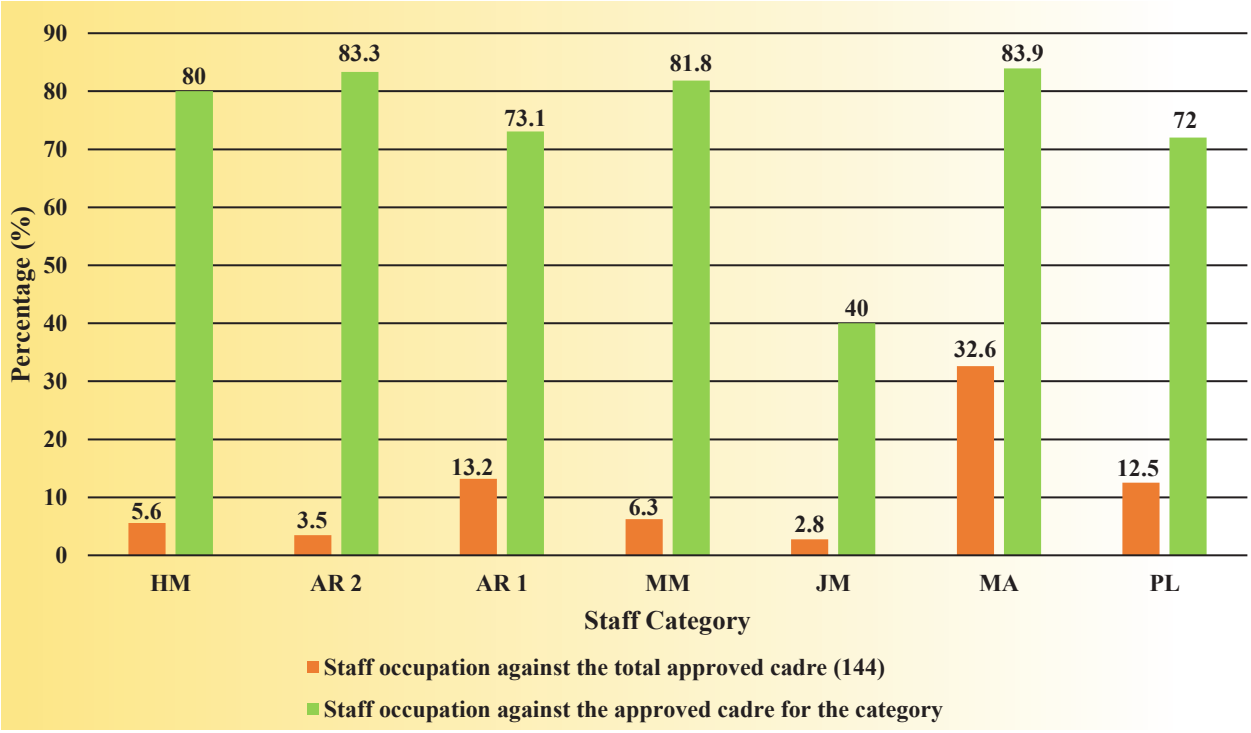


Figure 01: Staff occupation against the approved cadre in 2021

The details of Principal Staff of NSF as of 31st December 2021 is given in *Annex 01*.

Financial highlights for the preceding 10 years

The NSF keeps records of all financial performance and reviews such records 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 pages 74 & 75 provides current and future financial health at the NSF.

The investments for the preceding 10 years are given in *Table 02* and depicted in *Figures 02, 03 & 04.*

Table 02: Financial review for the preceding ten years

Year	Financial Details (Rs. million)		
	Allocation	Funds Received	Expenditure
2011	300	110.7	154.95
2012	283	157.4	168.3
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
2019	342.32	307.19	277.51
2020	59	59	82.07

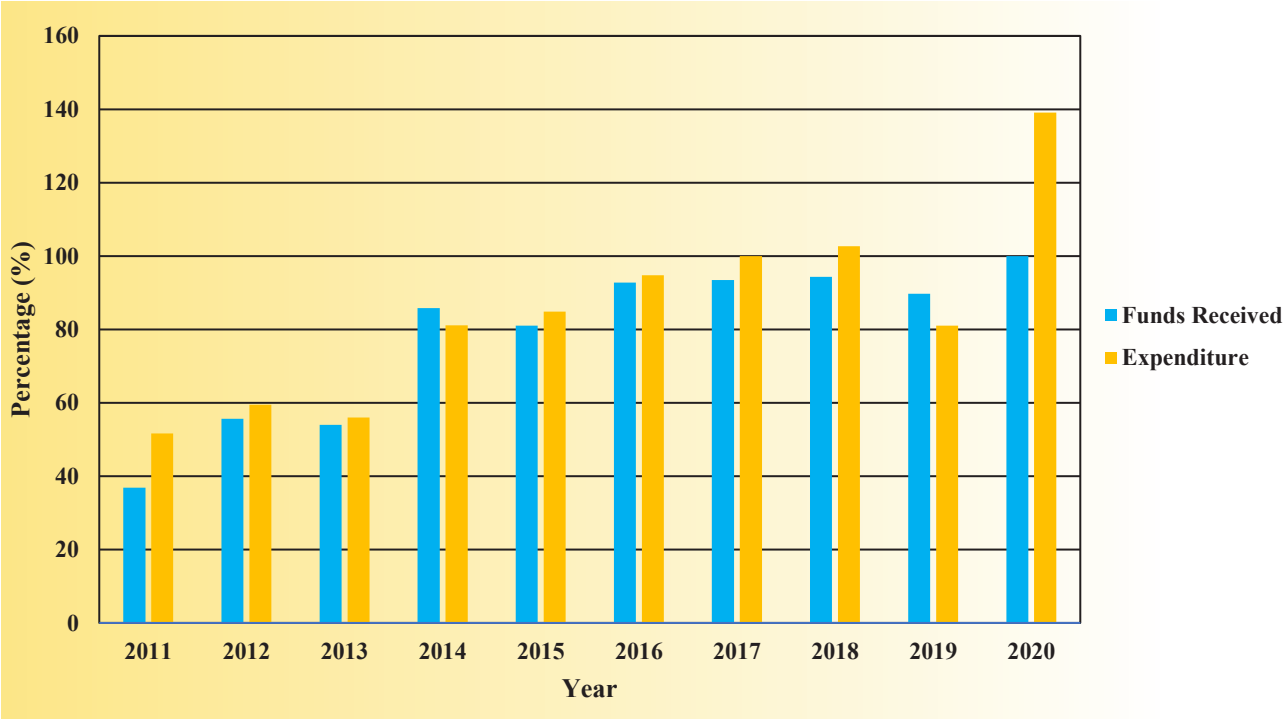


Figure 02: Financial status % against the allocation

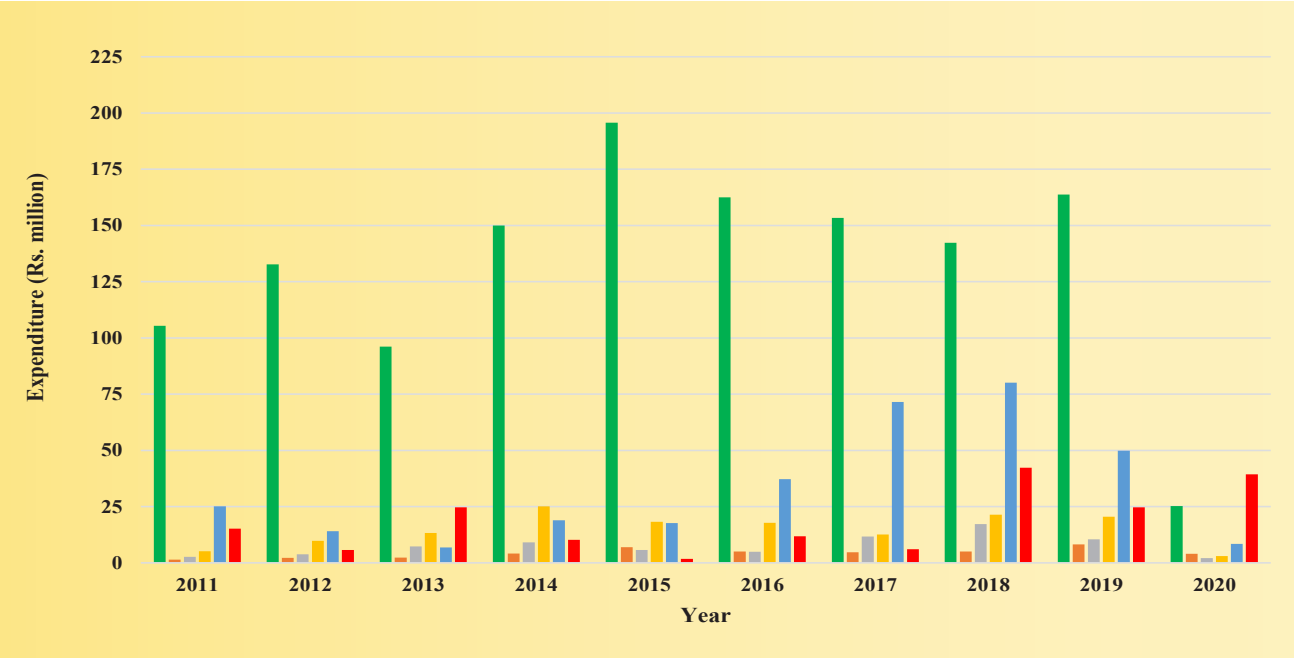


Figure 03: Expenditure under major programmes

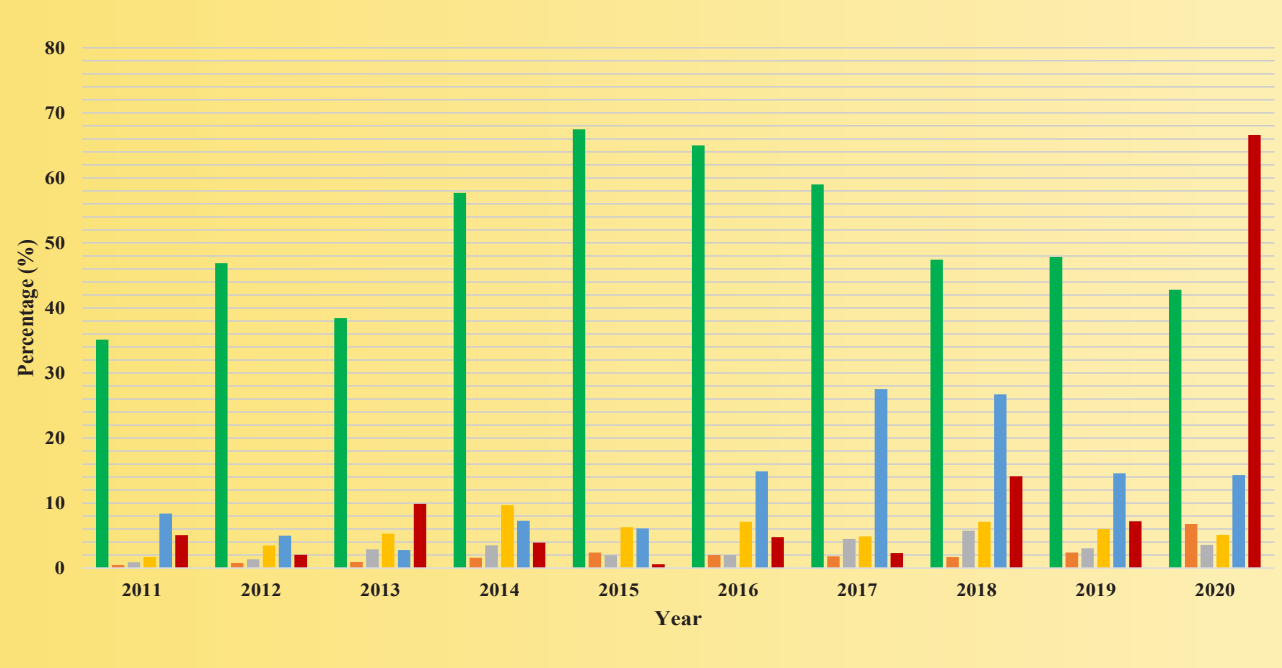


Figure 04: Expenditure under major programmes as a % against the total allocation

- Strengthening scientific research potential
- Conducting science and technology policy research
- Creating a national gateway to S&T information
- Popularizing science
- Capacity building and international cooperation
- Resource improvement and system administration

NSF External resource pool

The NSF, due to the urgent need to re-orientate the scientific research initiatives promoted by the institute, established the Research Arm (RA) and the Technology Development & Innovation Arm (TDIA) in 2021. This initiative would enable the identification of national priority R&D needs to bridge the gaps that exist in industry and product development framework. The ultimate objective was to ensure economic returns of investments made through award of grants. The best available scientific resources in the country will be harnessed and directed towards the implementation of government policy set out in the "Vistas of Prosperity and Splendour". It is believed that this transformative change will nurture new trends in local research with emphases on multidisciplinary approaches, specially to establish an innovative culture, translational research, cost-effective and efficient product development with industry growth whilst fostering public-private partnerships.

To help in this process, the following committees, editorial boards and working groups were also established.

1. Steering Committee on Research & Development of Agriculture Sector
2. Steering Committee on Research & Development for Engineering Services & SMEs
3. Steering Committee on Research & Development of Fisheries & Aquaculture
4. Steering Committee on Research & Development of Cost-Efficient Energy Sources and Storage
5. Steering Committee on Research & Development of Information Technology and Services
6. Steering Committee on Research & Development of Healthcare Innovations
7. Steering Committee on Research & Development of Water
8. Steering Committee on Research & Development of Environment
9. Steering Committee on Research & Development of Social Innovations
10. Editorial Board of the JNSF (Journal of the National Science Foundation)
11. Editorial Board of SLJSS (Sri Lanka Journal of Social Science)
12. Working Committee on Science & Technology Policy
13. Working Committee on Science Popularization
14. Working Group on Quality Control and Quality Assurance of Herbal Products Entering the Market
15. Working Group on Food Safety and Potential Health Risks from Food
16. Working Group on Quality Assurance (QA)
17. Working Group on National Innovation Ecosystem Development with the Stakeholders
18. Working Group on Compiling an Instrument Database
19. Working Group on Collaboration with University Business Link Cells
20. Working Group on Capacity Building
21. National Committee on Man and Biosphere

Chairman's review

It affords me great pleasure to send this message to the Annual Report - 2021 of the National Science Foundation, the premier national institution mandated to promote science, technology and innovation for socio-economic development. Founded in 1968, it has made a remarkable contribution to national development through investment and intervention in a wide range of spheres, including S&T, capacity building and competency enhancement of R&D institutions and academia, promoting public awareness on S&T and enhancing public scientific literacy.

The world is in a state of flux and the economic, technological, environmental, social and political landscapes are dynamic and rapidly changing and markets are becoming increasingly competitive, sophisticated and globalized. Besides, with the whole world is shaken by the COVID-19 pandemic and other negative impacts. In this crucial and defining hour offers, the NSF, being the cradle of S&T in Sri Lanka, has a pivotal role to play in mitigating its impact and building a robust and resilient economy.

In the circumstances, the NSF is in the process of reviewing and revisiting its portfolio, funding priorities and embarking upon novel initiatives so as to respond effectively to change. Establishment of a digital platform to harness Sri Lankan scientific and professional expatriates for national development, forging strategic PPPs for wealth creation and embarking upon a programme aimed at capacity building for vaccine production are some noteworthy interventions.

In a pandemic context, funds are hard to come by due to urgent and important competing demands. However, advances in digital technologies, provided a good IT infrastructure is in place, offer ample opportunities for progress and development even when financial resources are limited.

S&T is a primary driver of economic development. Therefore, the NSF will redouble its effort to advance the cause of S&T for the common good thereby making it a strategic partner and dynamic force in transforming Sri Lanka into a developed nation.

Prof. Ranjith Senaratne
Chairman
National Science Foundation

Director General's report

As in previous years, the year 2021 was filled with several programmes performed under the five mandates empowered by the Science & Technology Development Act No. 11 of 1994. The NSF with a clear vision and focus carried forward its mission aligning with the SDGs and NPF priorities by utilizing 99.93% of its capital allocation. Review contains a summary highlighting the progress against the action plan with main achievements, followed by a detailed account on the work performed as per the NSF mandates.

It is our aim to deliver increasing outputs and outcomes achieving Key Performance Indicators (KPIs) set forth based on the work of previous years. Our future direction would be to increase the performance of the NSF by facilitating more research, capacity building through strengthened collaborative activities and popularizing the outputs amongst key stakeholders and people in the country through improved methodologies and processes. With this aim, constant review of the existing schemes and programmes for effectiveness, will be on the continuous move for greater impact.

I express my sincere appreciation to the Chairman and the Board of Management of the NSF for their guidance provided throughout in carrying out the work and the NSF Team, which is the greatest strength of the institution, for their dedication and commitment in attending to work diligently fulfilling the requirements despite resource constraints.

Dr Sepalika Sudasinghe
Director General

Summary & highlights

The following highlights the NSF performance in 2021.

- Physical performance in 2021 as a percentage against the planned activities is depicted in *Figures 05 & 06*. *Table 03* provides the connection of NSF functions with NPF priorities. The NSF was able to spend almost the total allocation of Rs. 67.897 million to perform the functions as stipulated in the Science & Technology Development Act no. 11 of 1994. The financial progress made during the year performing functions of the NSF is graphically depicted in *Figure 07*.

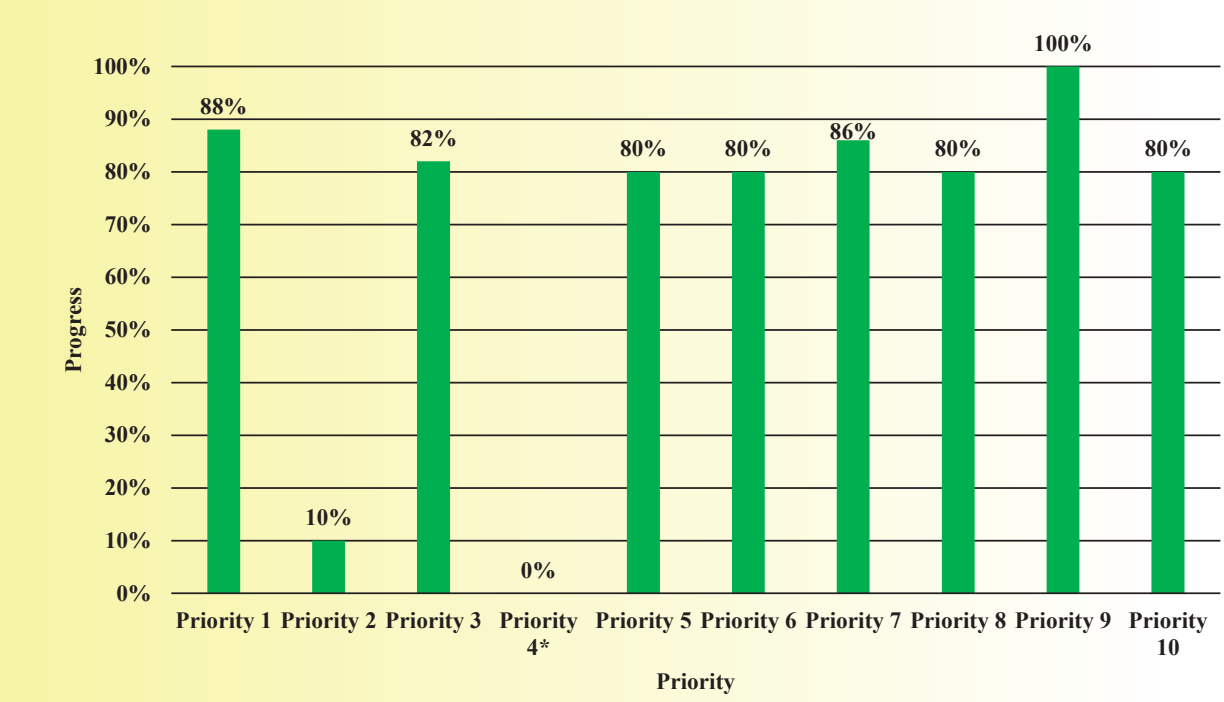


Figure 05: Physical performance 2021 according to NPF priorities

* During the revision the activity was removed from the Action Plan

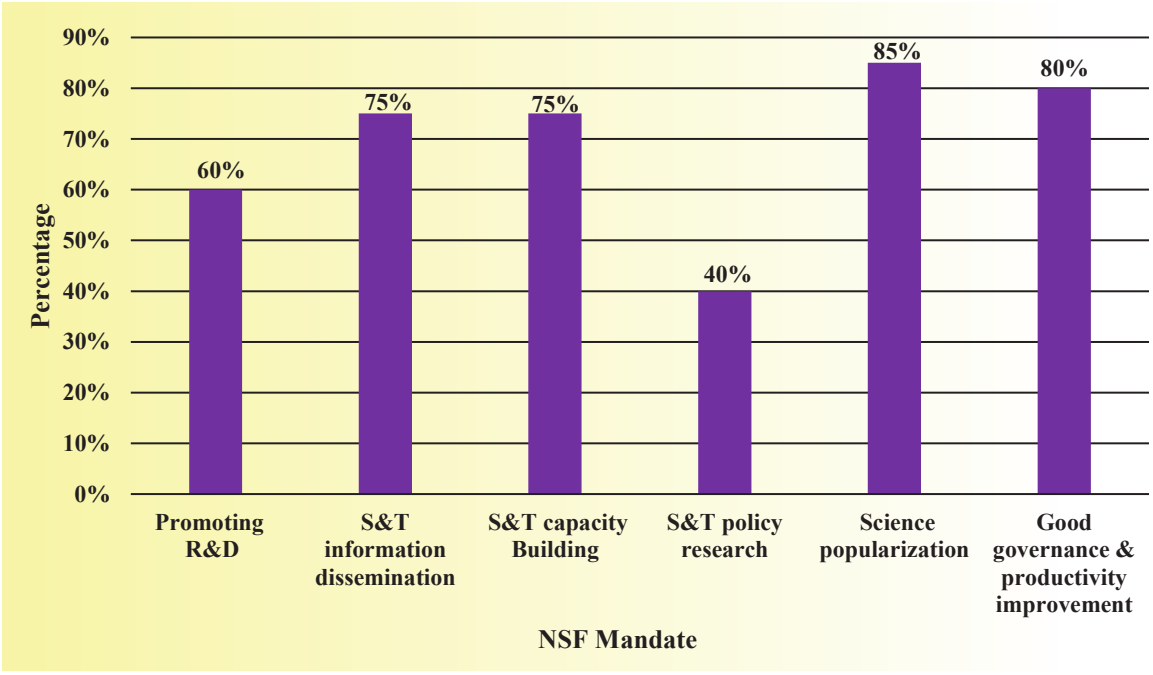


Figure 06: Physical performance 2021 according to NSF functions

Table 03: Mapping the NSF mandate with NPF Priorities

NSF Functions	NPF Priority
Promoting R&D	Priority 1, Priority 2, Priority 4, Priority 5, Priority 8, Priority 9
S&T information dissemination	Priority 1 , Priority 6, Priority 7
S&T capacity Building	Priority 3
S&T policy research	Priority 1
Science popularization	Priority 1, Priority 6, Priority 7
Good governance & productivity improvement	Priority 10

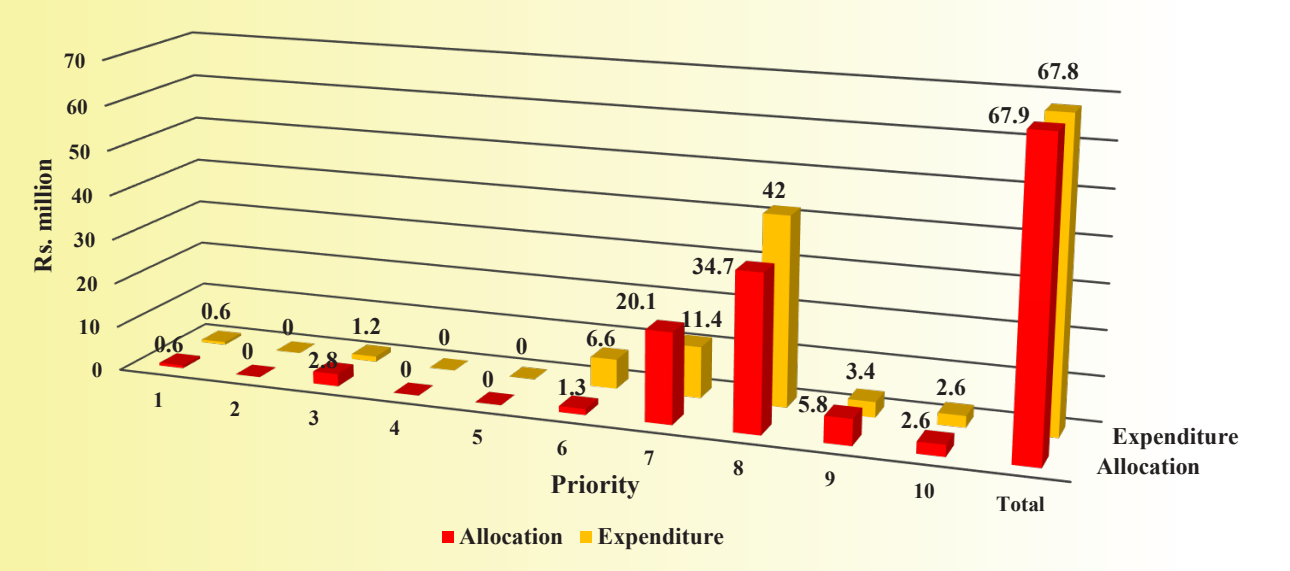


Figure 07: Financial performance 2021

The NSF generated a small income through grants and by providing services as depicted in *Figure 08.*

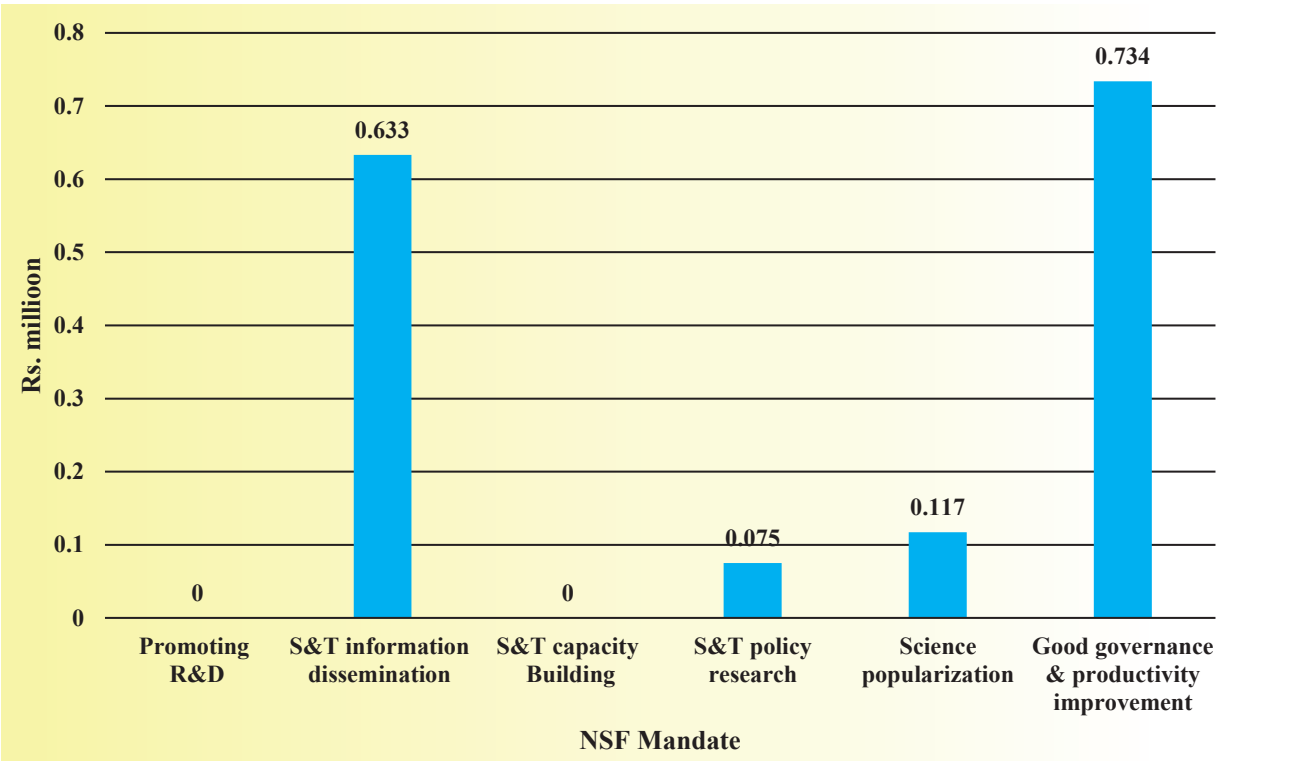


Figure 08: Income generated by providing services to institutes and community

- Analysis of grant outputs arising from ongoing R&D projects are depicted in *Figures 09 & 10* . R&D projects span among sectors is shown in *Figure 11*.

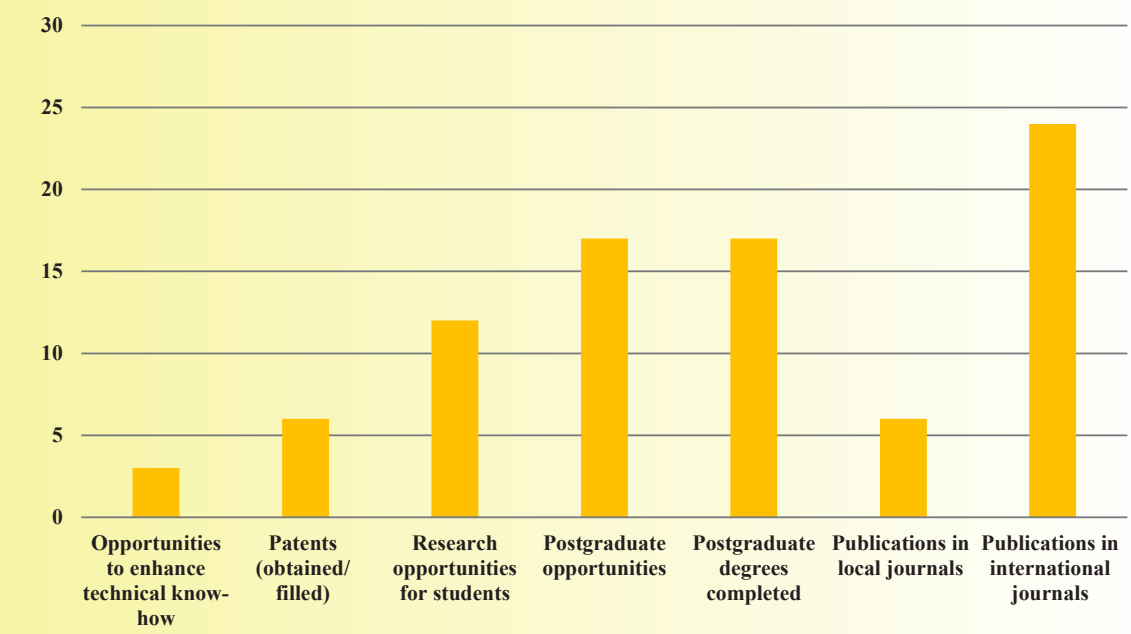


Figure 09: Ongoing R&D projects: Analysis of contribution to S&T development

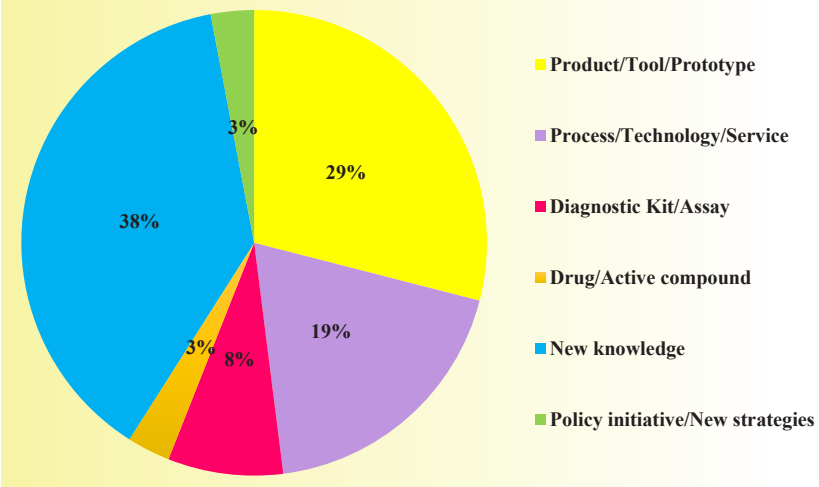


Figure 10: Grant products expected from ongoing grants

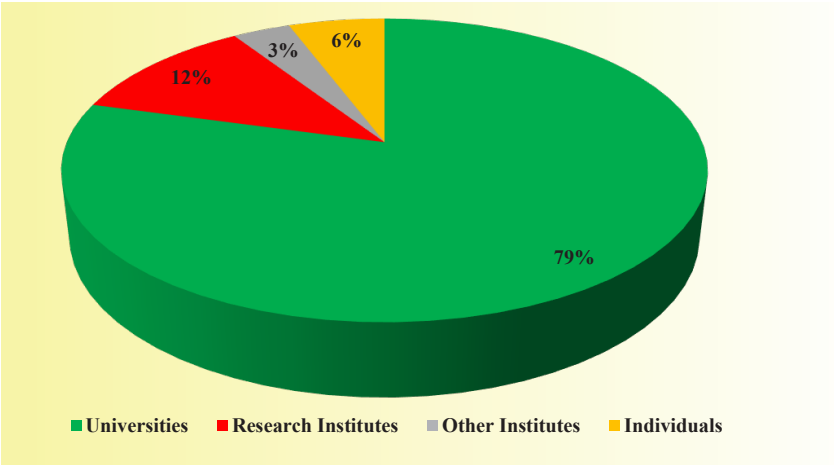


Figure 11: Distribution of R&D projects among institutes

• Events conducted during the year under all activities by NSF is depicted in *Figure 12.*

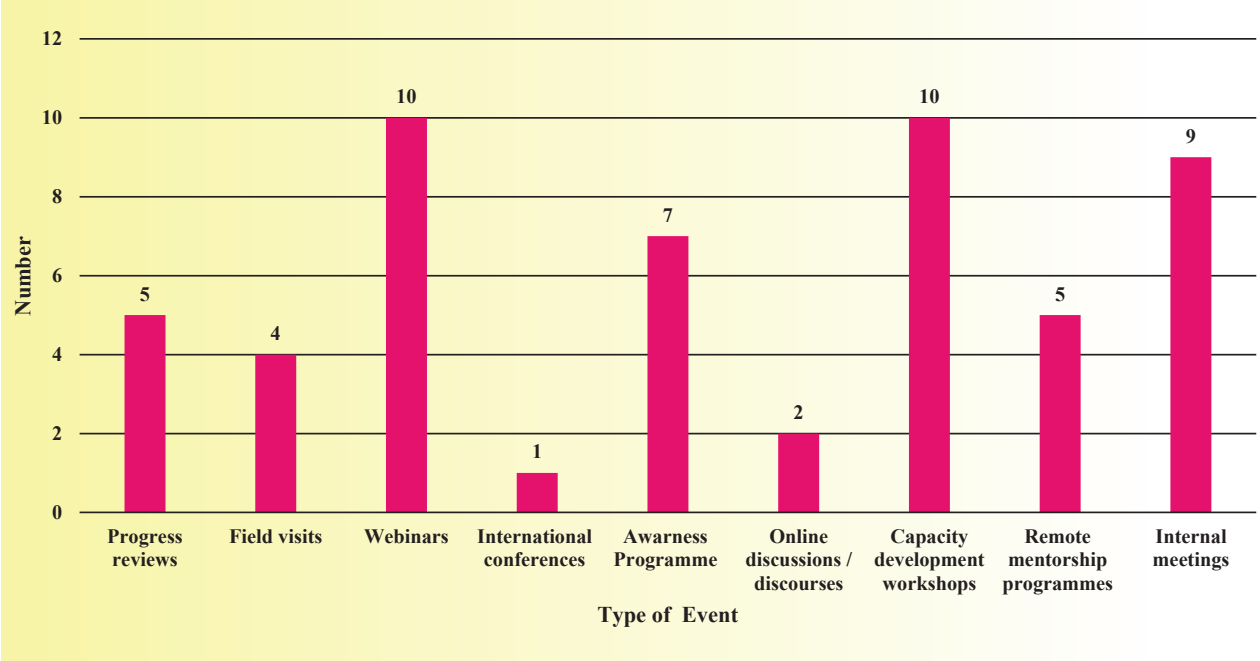


Figure 12: Events conducted in 2021

• The NSF initiated a process to establish a Digital Platform (DP) of Sri Lankan expatriate professionals with the unique objective of tapping the global talent pool for national development.

The other objectives of this endeavour are to;

1. Provide greater opportunities for higher education and capacity building,
2. Enhance academic cooperation and research collaboration,
3. Create a culture of creativity and innovation,
4. Promote joint publications and increase ranking of Sri Lankan universities, and
5. Facilitate e-technology transfer,

The back end of the DP is comprised of a database of over 800 eminent expatriates residing in developed economies, i.e., North America, Europe, Oceania, and Asia. The expatriate base spans a wider spectrum of disciplines from life sciences, social science/humanities, informatics/data science, management, engineering, environmental science to emerging interdisciplinary sciences such as Nanotechnology, AI, IoT, VR/AR/MR and robotics etc. The NSF is making continuous effort to increase the number of records in the database. Sri Lanka Association of Software and Services Companies (SLASSCOM) generously supported designing and constructing the DP. Development of the platform was completed, and fine tuning was in progress by the end of 2021.

- Having completed all preparatory works associated with the 2-day national conference titled "COVID 19: Impact, Mitigation, Opportunities and Building Resilience" in 2020, the conference was successfully held in hybrid form at BMICH from to 27th - 28th January, 2021 with three technical sessions. Internationally renowned scientists of Sri Lankan origin, namely Prof. Malik Peiris from Asia, Prof. Shanthi Mendis from Europe, Prof. Dilantha Fernando from North America, Prof. Raina McIntyre from Oceania, Dr Mahesh Nirmalan from Africa and a foreign resource person Dr Steven Hoffman shared their knowledge and experience in combatting COVID at this conference.

- The National Science Foundation (NSF) launched a landmark publication titled "COVID-19 :Impact, Mitigation, Opportunities and Building Resilience" at the BMICH on 30th July 2021 under the distinguished patronage of Prof. G L Peiris, Minister of Education. The multi-disciplinary volume edited by Prof. Ranjith Senaratne, Chairman/NSF, Prof. Dilanthi Amaratunga, University of Huddersdfield, UK, Prof. Shanthi Mendis, former Senior Advisor to WHO, Geneva, Switzerland and Prof. Prema-chandra Athukorala, Australian National University, Canberra, Australia, comprises 65 papers in nearly 800 pages.

The book is published by the NSF under the Creative Commons license CC BY-NC-ND (Attribution-Non Commercial-No Derivs).

- Under the category "Research Institutions", the NSF was adjudged the " Bronze Award" at the Best Annual Report and Accounts Awards 2019 organized by the Association of Public Finance Accountants Sri Lanka (APFASL).

- The NSF functioned with a staff of 117 at the beginning of 2021 and the figure decreased to 110 by the 31st December 2021.

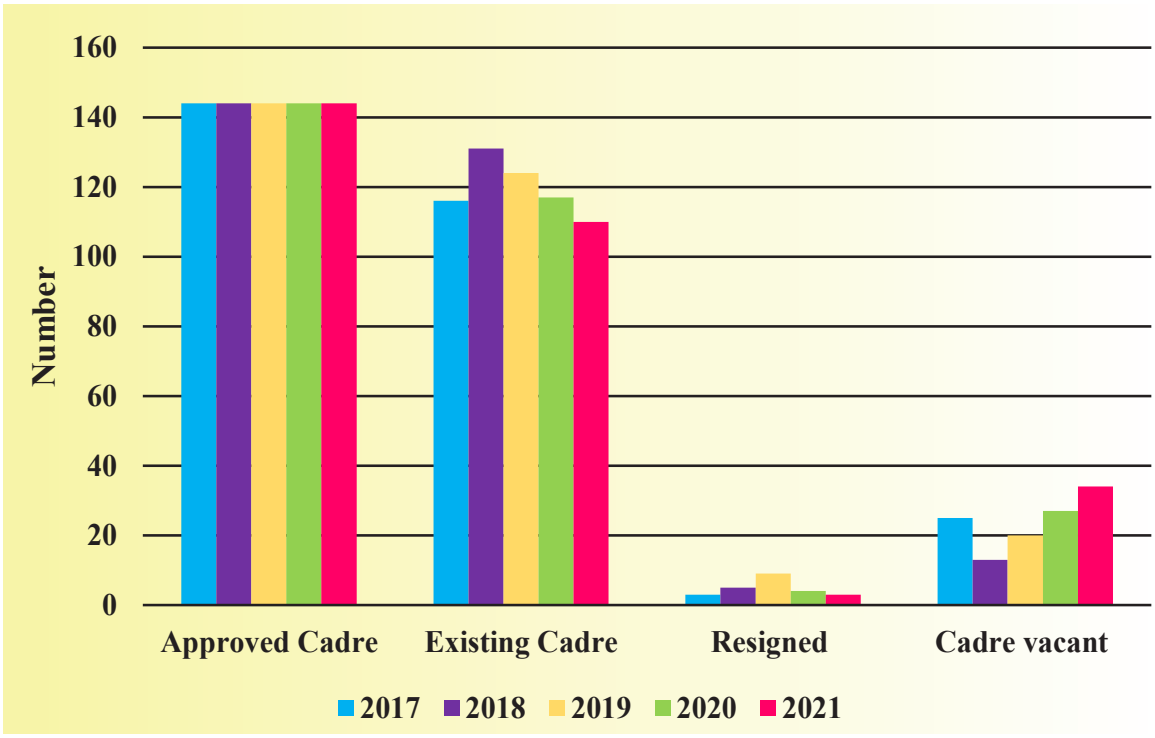


Figure 13: Staff status from 2017 - 2021

Mapping the NSF functions with the Sustainable Development Goals (SDGs) and the National Policy Framework (NPF), "Vistas of Prosperity & Splendour"

As in previous years, the focus on the SDGs was construed in the Action Plan aiming at contributing to eradication of extreme poverty via stimulating creativity and S&T culture in diverse areas of scientific disciplines making the public more accessible to S&T applications in their lives. The ten policies stated in the NPF were also taken to mean with the same objectives as depicted in the *Diagram 01.*

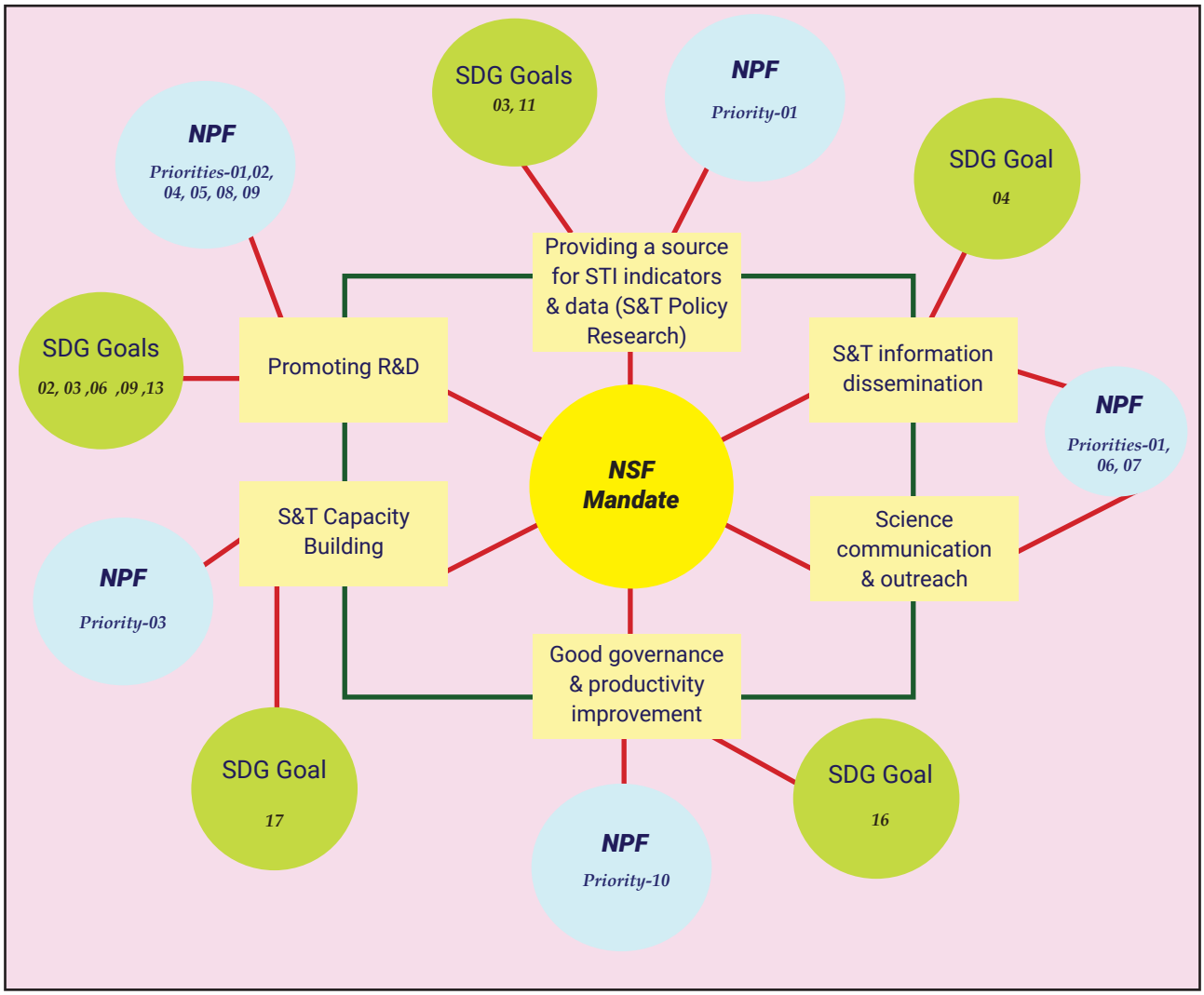


Diagram 01 : Mapping the NSF functions with NPF & SDGs.

Priority Area (Ref. to NPF)	Project/Programme	Allocation 2021 (Rs.Mn)	Out put	Out come	Key Performance Indicator (KPI)
Priority 1 (Page: 50), Priority 2(Page: 40), Priority 3(Page: 40), Priority 5(Page: 40), Priority 6(Page: 40, Priority 7(Page: 20), Priority 8(Page: 39), Priority 9(Page: 21), Priority 10(Page: 28)	**NSF mandate a) Promoting R&D**				
	Commence programmes to develop innovation-based entrepreneurship (from School-Youth-Community)	67.8969	*Innovation/ commercialization and entrepreneurship based programmes - 10	*Community driven with innovation based entrepreneurship	*10 PPPs established
	Establishment of the national analytical and testing center/facility		*Comprehensive Serachable Database - 01 *Finalized survey report * A proposal developed for establishment of the National analytical and testing centre/ facility	*Availability of low-cost and expedited testing facility	*No. of Databasesdeveloped (01) *No. of survey reports (01) *No. of proposals developed (01)
	Innovations, Startups, Commercialization, and Branding Activities		* Number of projects commercialized and amount of fund release. *No. of innovators benefitted from pitching events	* Contribution to the national economy. * Creating opportunities for innovators to improve their products.	*Number of completed technology development projects funded for commercialization. *Number of pitching events organized with UBLCs.
	Training and Capacity Development of entreprenures		*No. of interactive knowledge sharing sessions conducted for innovators. *No. of innovators trained.	* Skill development for innovators.	*No. of interactive knowledge sharing sessions conducted for innovators. *No. of innovators trained.
	Partnership project with the National Chamber of Exporters (NCE)		*Export sector enterprises establishing links with universities- local/foreign (02)	*Value added or new prodcut developmne tfor export market	*No. of links esiablished (02) *No. of new product developments supported (02)
	Automated system to simplify the patenting process (with NIPO)		*Number of inventors supported with the patenting process *No of capacity built internal staff members	*Increased awareness on know how of patent drafting/information search.	*No of patent information searches made *No. of consultancy provided *No. of search reports provided - 03. *No. of training sessions conducted.
	Facilitate establishment of a startup for a NSF funded successful project		*Establishment of a startup of a NSF grant output	*S&T sector contribution to wealth creation *Local market enriched with sustainable alternative walling technology *Oppurtunities to create local entreprenuers by training local community	*No. of startups establish *No. of people trainined *No. of local entrprenuers created
	Identify and provide participatory approaches to fulfill research needs of rural entrepreneur development in Sri Lanka		*Identification of research needs in SMEs	*Provide solutions for identified problems through coordinating relevant parties	*Develop a questionaire for Batik manufacturers and consumers. *Information collected from Batik manufacturers and consumers of Western Province as the first step . *Identify parameters to quality certification scheme in bathik sector
	Partnership Projects with private sector		*NSF Grant Outputs penetrating to the local market	*S&T sector contribution to wealth creation *Local market enriched with value added products	*No. of NSF grant outputs penetrated to local marekt *No. of technology transfers faciliatted

Priority Area (Ref. to NPF)	Project/Programme	Allocation 2021 (Rs.Mn)	Out put	Out come	Key Performance Indicator (KPI)
Priority 1 (Page: 50), Priority 2(Page: 40), Priority 3(Page: 40), Priority 5(Page: 40), Priority 6(Page: 40, Priority 7(Page: 20), Priority 8(Page: 39), Priority 9(Page: 21), Priority 10(Page: 28) Priority 6(Page:40, Priority 7(Page:20), Priority 8(Page:39), Priority 9(Page:21), Priority 10(Page:28	Continue programmes on strengthening scientific research potential		*No. of journal publications - 15 *No. of communications - 30	*Strengthened R&D potential, value addition to natural resources & reduced losses, and enriched/uplifted welfare of people	*No. of projects that has contributed to the development
	Technology Development Grants and COVID 19 GrantsF Following up of completed technology grants				
	Recognition for S & T excellence		*Timely and successfully completed NSF research grants & postgraduate degrees - 10	*Young researchers and scientists motivated	*No. of awards with contribution to socio-economic development
	Quality Assurance		* Plan to implement suggested QA. * Report on implementation of QA.	* Quality assurance of NSF funded projects.	*No. of projects identified for commercialization with the quality component. *No. of projects ensure QA.
	Ayurvedic Medicine Value Addition		*No. of R&D needs identified.	* Protocol for studying the efficacy of Herbal/ Ayurvedic products	*No. of R&D needs identified
	Food Safety and Value Addition		*Report on potential risks in food consumption patterns.	*Food safety guidelines for policy recommendations in the food sector.	*No. of potential and emerging food hazards identified. *No. of potential food safety risks identified.
	Agriculture Sector Value Addition		*No. of areas provided value addition.	* Value addition in the agriculture sector.	*No. of areas for value addition in the agriculture sector.
	Obtaining properly formulated project proposals according to priority needs		*well-defined proposals by RD *No. of priority projects funded.	Resolved/Mitigated current issues Contribution to the national economy.	Delivered outputs as per project objectives. Number of issues resolved
			*6 well-defined proposals by TD *No of priority projects funded		Delivered outputs as per project objectives. Number of issues resolved.
	Continue programmes on capacity building		*Postgraduate degrees produced and knowledge developed - 10 *Successful completion of the Research projects - 05	*Capacity building, knowledge & skills development for enhanced economic growth, solving industrial problems, building multi stakeholder partnerships.	*05 Research Scholarships completed
	Continue with the equipment grant scheme		*Completed grants - 05	*Research facilities strengthened	*No. of well equiped labs
	Catering to the SME Needs		*No. of SMEs benefitted.	*Contribution to the national economy.	* No. of technology needs identified. * No. of SMEs benefitted.
	Partnership project with the Industry Service Centre of University of Wayamba		*create U-I linkages (02)	*New prodcuts in the marekt *Create employment opportunities	* No. of linkages established
	NSF mandate b) S&T information dissemination				
	National digitization project used for income generation		*New projects - 03	*Increased visibility & access to digitized resources *Increased number of users *Implement the e-repository *Income generating strategies	*Monetary value of income generated *E repo

Priority Area (Ref. to NPF)	Project/Programme	Allocation 2021 (Rs.Mn)	Out put	Out come	Key Performance Indicator (KPI)
Priority 1 (Page: 50), Priority 2(Page: 40), Priority 3(Page: 40), Priority 5(Page: 40), Priority 6(Page: 40, Priority 7(Page: 20), Priority 8(Page: 39), Priority 9(Page: 21), Priority 10(Page: 28) Priority 6(Page:40, Priority 7(Page:20), Priority 8(Page:39), Priority 9(Page:21), Priority 10(Page:28	Support Scheme for Scientific Meetings and Events (SSSME)		Events supported: 01	*S&T output dispersed for relevant stakeholders *International recognition for Sri Lankan scientists *International collaborations at events	No. of events supported
	Support Scheme for Publication Fees (SSPF)		Articles supported: 06		No. of articles supported No. of local authors supported
	Journal of the National Science Foundation		*Processing at least 250 manuscripts *Publication of the four issues on time. *Publishing at least 40 articles within the year.	*Dissemination of research findings internationally	*Publish Journal
	Sri Lanka Journal of Social Sciences		*Processing at least 200 manuscripts *Publication of the two issues on time. *Publishing at least 12 articles within the year.	*Dissemination of research findings internationally	*Publish Journal
	Support Scheme for Sri Lankan Journals		*consultation provided to 05 journals	*Journals qualifying for applying for indexing in international databases *Increased quality and standards of Sri Lankan Journals	*Support at least 05 journal to enter the ESCI by 2023
	Sri Lanka Journals OnLine (SLJOL)		*Journal articles uploaded - 820 *New journals - 130	*Increased visibility to Sri Lankan journals	*Improved S&T journals
	Providing information on scientific expertise and resources availability through the S&T Personnel Platform (STMIS)		*Expanded institutional coverage in the STMIS - 60 *Include the STMIS link in the website of the Ministry and in the institutions come under the Ministry *Introduce one service to benifit STMIS registrants	*Wider usage of S&T information in policy decision making *Improved visibility and usage	*One stop information source of S&T *No. of registrants *No. of institutes included *No. of data provisions *No. of visitors to the STMIS *No. of hits to the websit
	NSF mandate c) S&T capacity Building				
	Establishment of a digital platform for tapping the expatriate talent pool		*Partnerships for mutual benefits - 05	*Advancement of the innovation ecosystem *Contribution from expatriates for socio-economic development	*A platform introduced to collaborate with expatriates for conducting advanced R&D *No. of expatriates registered with the digital platform *No. of new collaborations established *No. of researchers benefited from knowledge transfer programmes *No. of high end research projects
	Engage expatriates for capacity building for STI development		*No. of researchers built capacity - 10	*Contribution to socio-economic development through STI R&D workforce prepared to bring Sri Lanka as innovation hub	*No. of researchers trained *No. of new R&D collaborations initiated *Enhanced number of scholarly publications *Capacity build researchers to conduct high-end research
	Explore international funding opportunities to facilitate local R&D		*Facilitate submission of 10 proposals to bring at least 02 grants	*Enhanced R&D output with lesser burden to government	*No. of research proposals submitted *Amount of foreign funds harnessed

Priority Area (Ref. to NPF)	Project/Programme	Allocation 2021 (Rs.Mn)	Out put	Out come	Key Performance Indicator (KPI)
Priority 1 (Page: 50), Priority 2(Page: 40), Priority 3(Page: 40), Priority 5(Page: 40), Priority 6(Page: 40, Priority 7(Page: 20), Priority 8(Page: 39), Priority 9(Page: 21), Priority 10(Page: 28) Priority 6(Page:40, Priority 7(Page:20), Priority 8(Page:39), Priority 9(Page:21), Priority 10(Page:28	Facilitate research under UNESCO MAB programme		*Establish 02 partnerships *Facilitate 02 conservation programmes	*Environment sustainability *Correctly positioned MAB programme *Better management of biosphere reserves	*No. of research gaps identified *No. of research studies facilitated
	Strengthen networking with international STI organizations, NSF being the national focal point		*Establish 05 new links	*Increased innovation ecosystem	*No. of researchers benefited from joint programmes
	Partnership Programme		*Webinars to transfer new knowledge from the globe - 03	*Research community imparted with frontier knowledge and more aware of global practices and trends	*No. of researchers benefitted
	NSF mandate d) S&T policy research				
	National R & D Survey 2020		*Published Statistical Handbook on R&D survey 2018 - 01 *40% completed of R&D Survey 2020 hand book - 01	*Availability of information/ data to policy makers on R&D performance of the country	*Improved 2018 statistics of national R& D survey * 40% completion of 2020 statistics of national R& D survey
	NSF mandate e) Science popularization				
	Creating & strengthening community networks tocondcut programmes and activties to improve science literacy and facilitate science education		*No. of networks established - 02	*Networking to take science to different level of community and improve science literacy	*Successful networks established
	Transferring important research findings and technologies to relevant stakeholders and industries		*R&D needs identified - 05 *Outreach programmes - 03 *Community networks - 02	*Establish/ improved cottage industries village level and improved technology know-how in community	*No. of outreach programmes conducted
			*Media briefings and meeting forums - 02	*S&T output used for development	*No.r of research outputs put into practice
	Improving public awareness on new and modern technologies, health issues and other topics of scientifically important issues through different media		*No. of books/ Issues *No. of discourses/discussion/ webinars - 04	*Knowledge enhancement	*No. of books, Vidurava published and -programmes conducted
	"World Science Day" programme and NSF Award Ceromony on Science Popularization		*Programmes conducted - 01 *No. of awards - 145	* Induced student engagement in science	*Event successfully completed
	Conference on “COVID-19: From Adversity to Serendipity”		*Successfully completed 01 conference and compilation of book	*Generation of knowlwdge in during pandemics prevention, control and health care	*Schoarly publications
	Creating Research and Innovation culture in school community and facilitate science education		*New research concepts - 80	*Improved science literacy *Inculcate research culture among school community *Create nature loving future generation	*No. of schools/students participated *No. of universities participated *No. of projects that has potential for further development
	Good governance & productivity improvement				
	Continue with good governance		*Educated and well trained staff - 20	*Staff motivated for better delivery of work outputs	*No. of human capital developed

Output/ Outcome based performance review

R&D & Capacity building

The NSF continued to support to supplement the financial, physical and manpower resources available in the S&T institutions in Sri Lanka to carry out research & development activities in 2021. Grants are awarded in all fields of Science & Technology including social sciences. *Figure 14* shows the details of new grants awarded in 2021 and *Annex 02* provides the details. *Table 04* Summarizes the status of all R&D projects monitored in 2021.

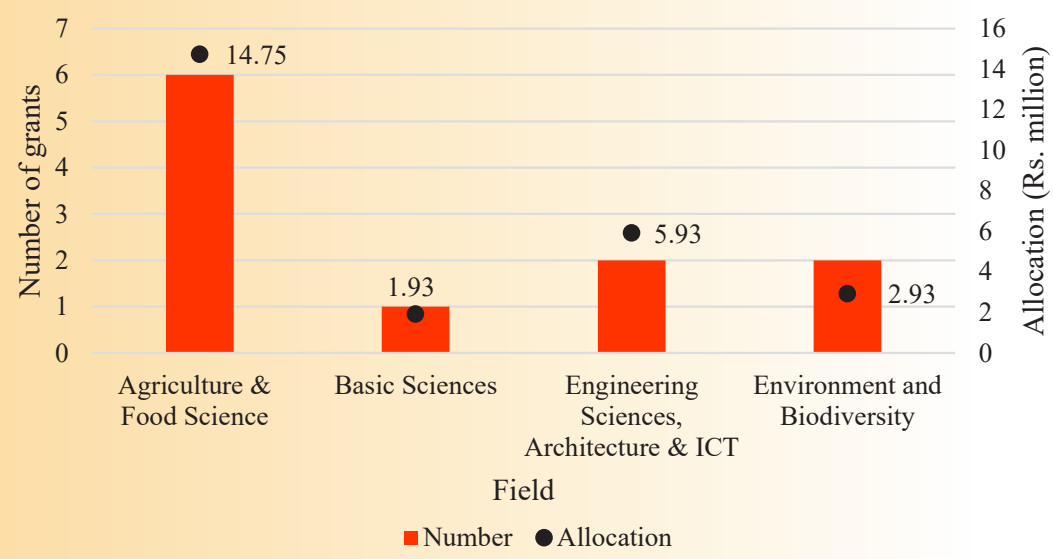


Figure 14: New R&D projects initiated in 2021

Table 04: Status summary of R&D projects

Field/s	No. of ongoing projects during the year			No. of completed projects during the year			Total number of projects taken forward to 2022		
	Basic	Applied	Product Development	Basic	Applied	Product Development	Basic	Applied	Product Development
Agriculture	1	12	10	-	2	1	1	10	9
Biotechnology	2	3	-	1	1	-	1	2	-
Basic Sciences	4	10	-	-	1	-	4	9	-
Engineering, Architecture & ICT	1	10	6	-	-	2	1	10	4
Environment & Biotechnology	5	4	1	3	1	-	2	3	1
Health Sciences	7	21	1	3	2	-	4	19	1
Social Science	1	-	-	-	-	-	1	-	-
Climate Change & Natural Disaster	-	5	-	-	-	-	-	5	-
Total	21	65	18	7	7	3	14	58	15
Grand Total	104			17			87		

Researchers equivalent to 258 including both Principal Investigators and Co-investigators (PIs and Co-Is) from eighteen (18) institutions were benefitted from the R&D projects.

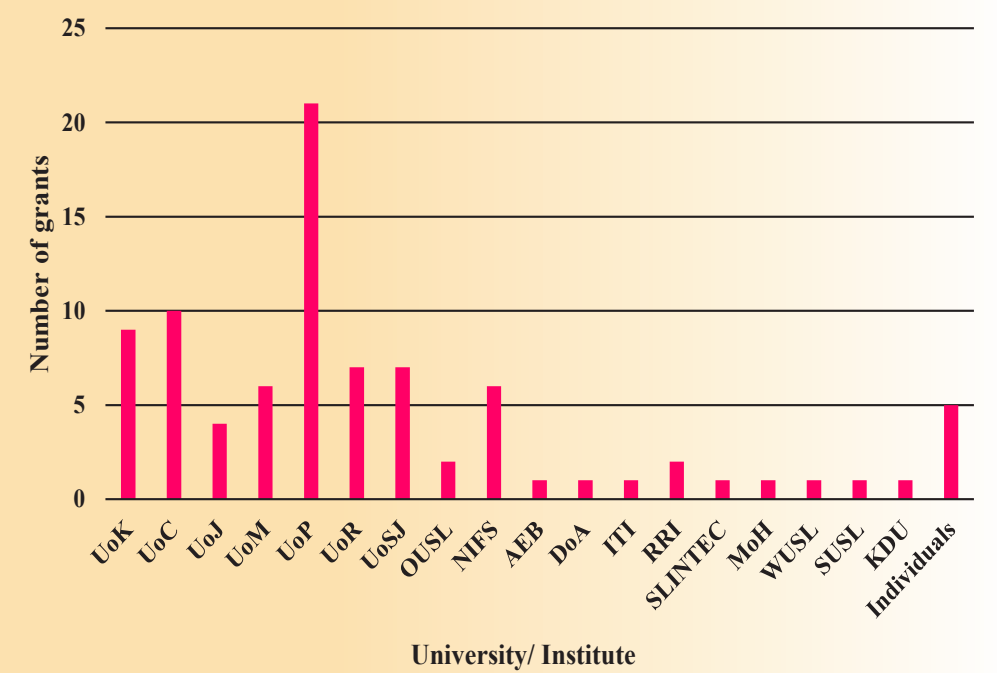


Figure 15 : Institutions benefitted from ongoing R&D projects

A total of 128 publications were resulted from R&D projects in 2021 which include 4 patents obtained, 2 patent applications filed, 26 foreign publications, 07 local publications and 95 communications *(Figure 16)*. The patents were in the fields of Engineering, Architecture & ICT, Biotechnology and Health Sciences.

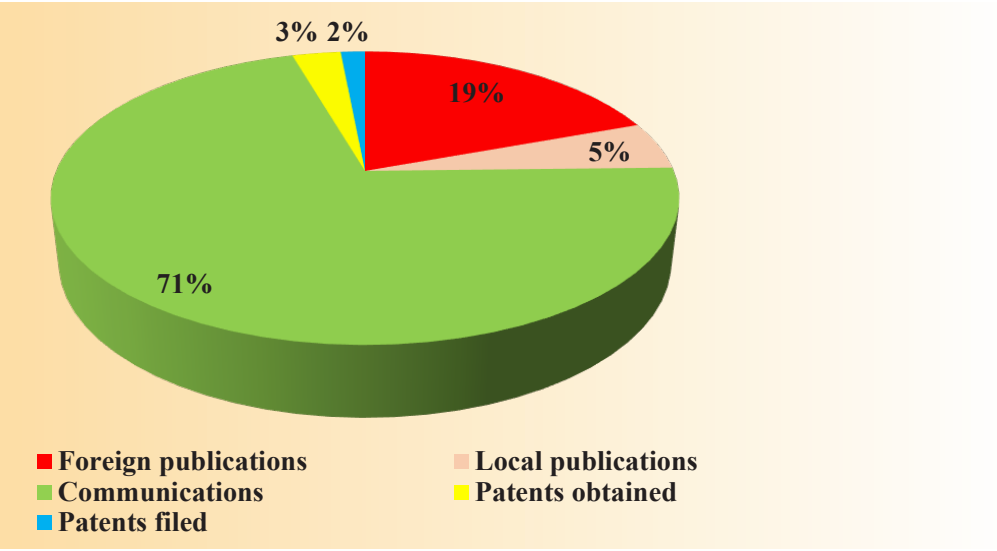


Figure 16: Publications and patents arising from R&D projects

Under capacity building, the NSF had facilitated 24 students with scholarship grants to follow post graduate degrees. Out of them, 16 students completed their postgraduate degrees in 2021.

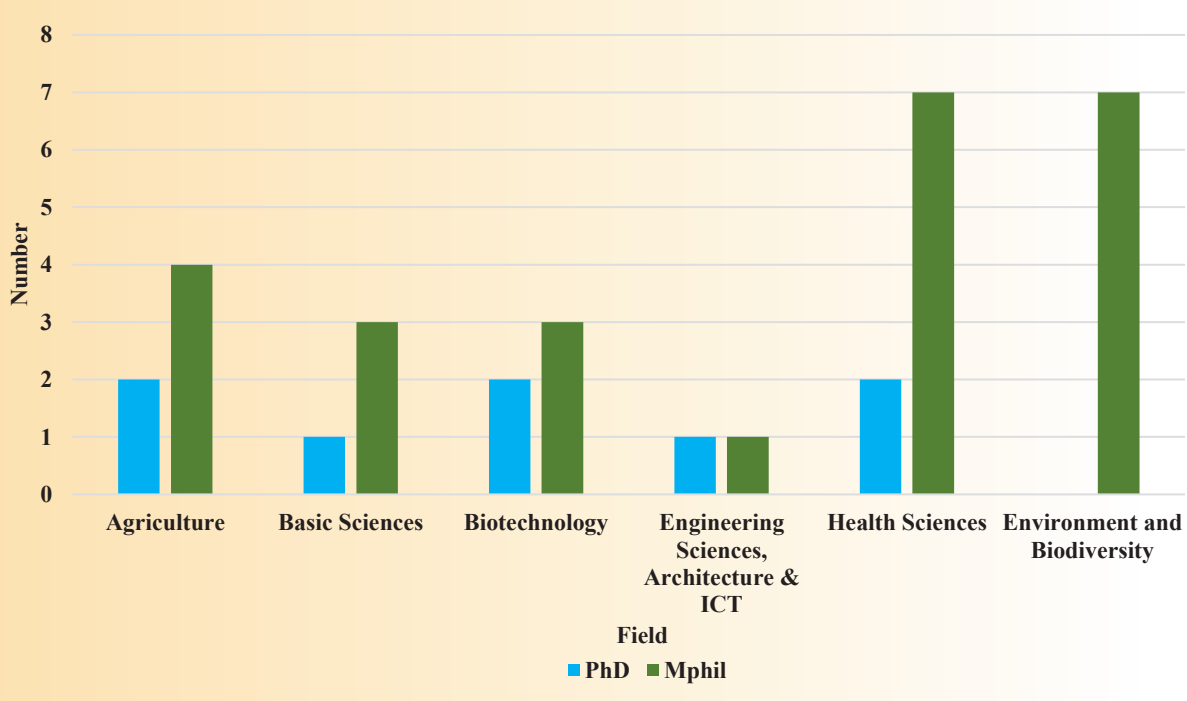


Figure 17: Number of PhD, MPhil graduates produced under different S&T fields

R&D success stories

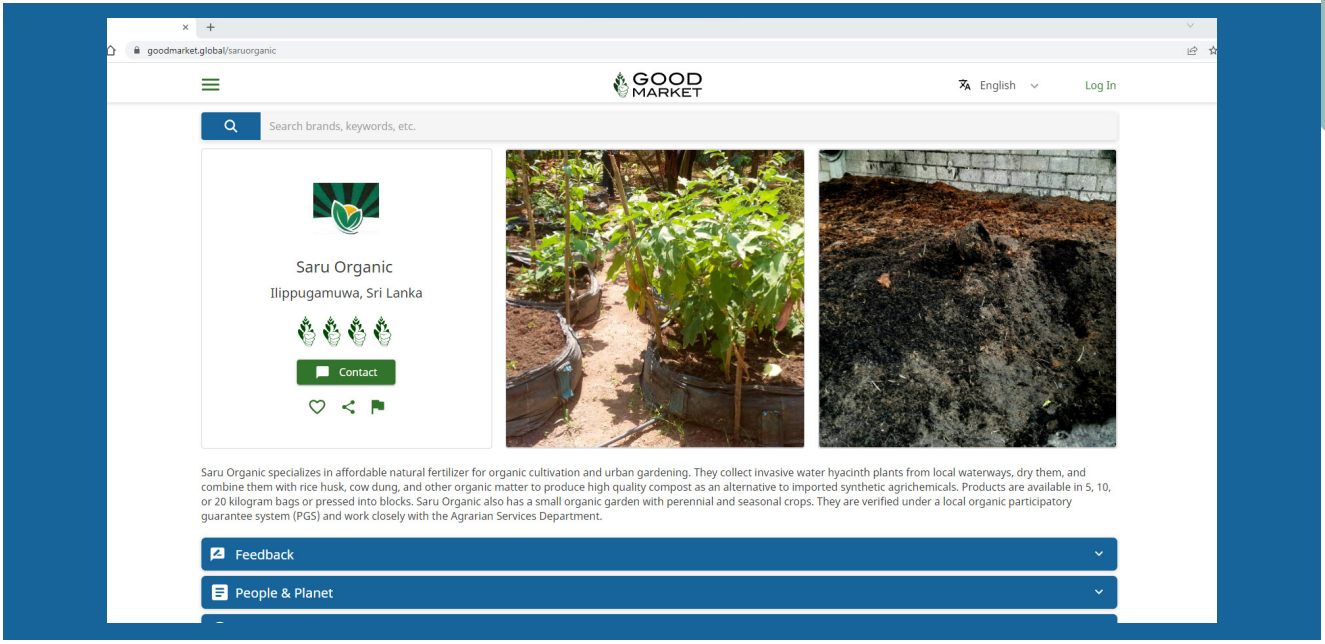
Exploring market opportunities

NSF collaborated with the Good Market, Sri Lanka to explore market opportunities for economic gain out of NSF grant products. Interactive discussions were held with the Good Market and NSF Grantees. The products "Saru Organic" from invasive aquatic plant Water hyacinth, various food products from fruit waste including mango vinegar, and the herbal sunscreen formulation were the focused grant products.

Grantee, Mr N. Dharmasiri presenting his products to the Team Good Market team

Good Market Team inspecting the manufacturing process of "Saru Organic" product

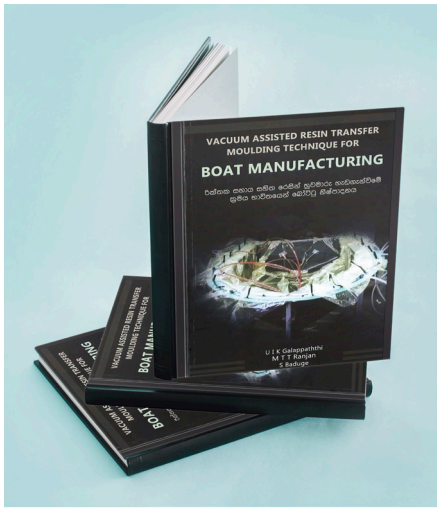
The product "Saru Organic" was the first to move in the market after inspection and verification visits to project site at Naththandiya by the Good Market Team. The product obtained the PGS certification from the Good Market and entered to their product portfolio. Accordingly, the grant product is now registered in the Good Market Global platform.



Two grant outputs were resulted in local and foreign patents.

TG/2016/Tech-D/01 was resulted in a US patent US 10,912, 464 B2 for the invention titled "System and method for monitoring vascular system health".

TG/2014/Tech-D/01 was resulted in a local patent 20167 for the invention titled "Method for the biological insect pest management of Brassicaceae family crops and artificial diet formulations for mass rearing diamond black moth".



TG/2017/Tech-D/02 was resulted in knowledge transfer of technology. The book "Vacuum Assisted Resin Transfer Moulding technique for boat manufacturing" (ISBN 978-624-5464-02-9) was published thus acheiving knowledge transfer to the local boat manufacturing community. The book contains nine chapters in English and seven chapters in Sinhala language.

NSF support energizes local beverage market

A locally developed, 100 % natural, energy drink now serves the thirst of athletes, youth, school children and elderly persons, with an enriched nutritional formula. Whey protein rich beverage sweetened with four different natural flavours; ginger, mango, soursop, passion, has occupied supermarket shelves with counterpart energy drinks, with its unique selling point, "Being natural".

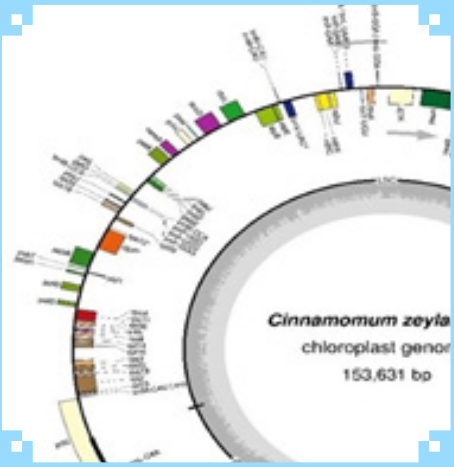
The NSF being the funding partner of the product development, investigated the aspect of supporting new product development, by utilizing a byproduct of cheese industry; the whey, which contains high energy source, whey protein. The new product development has paved the way to convert the byproduct to a value-added commercial product opening avenues for new product development, a new market, new employment, and uplifting the local SME. The product has been tested at Industrial Technology Institute for shelf life, organoleptic properties, and composition.

The product has been developed by the Lili Cheese (Pvt) Ltd., a local SME in the dairy sector. This would be a revolutionary product emanating from local SME, shedding light on many in the sector to explore market opportunities.

Products under "Lili' and "ARPICO" brands, are marketed by Komarika International (Pvt) Ltd. Product development was supported under the Technology grant TG/2016/Tech-D/06 and penetrated to the market with the tag "local & natural".

Grant outputs delivered in 2021 - the Special Project on Cinnamon

- Confirmation of chemical finger printing of Ceylon Cinnamon and Wild varieties.
- Assembling the Genome of *Cinnamon Zeylanicum* - 1st in the World.
- Assembling the complete chloroplast genomes



- Identification of Cinnamon Route to indulge the tourism industry

- Prototyping cinnamon-based production to capture space of the global market

- Evaluation of anti-diabetic properties of Ceylon Cinnamon


BIOCHEMISTRY, BIOPHYSICS AND MOLECULAR BIOLOGY

In vitro anti-diabetic effects and phytochemical profiling of novel varieties of *Cinnamomum zeylanicum* (L.) extracts

Research article · Biochemistry · Food Science and Technology · Plant Science · Pharmacology

W.A. Niroshani M. Wariyapperuma[1], Sagarika Kannangara[2], Yasanandana S. Wijayasinghe[3], Sri Subramanium[4], Bimali Jayawardena[1]*

Published November 2, 2020

- Producing natural antioxidant incorporated gloves using cinnamon leaf oil extracts

OP 12-03: Method of incorporation of natural antioxidant from cinnamon leaf oil as an antioxidant into surgical and examination gloves

S Abira[1], RD Gunaratne[2], PA Paranagama[3], KRD de Silva[1]

[1]Interdisciplinary Center for Innovations in Biotechnology & Neurosciences, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka

[2]Department of Biosystems Technology, Faculty of Technology, University of Sri Jayewardenepura, Sri Lanka

[3]Department of Chemistry, Faculty of Science, University of Kelaniya, Sri Lanka

Produced the following monographs.

- Quality and safety standards
- Economics of Ergonomics
- Food safety and quality
- Entrepreneurship guide for cinnamon value chain action
- Marketing strategy for value chain
- Traceability

Other R&D Outputs

The project conducted at the National Institute of Fundamental Studies (NIFS) has developed a bioreactor and commenced producing biofertilizer and bio-control inoculants to be used in organic agriculture.


50L Bioreactor installed at the NIFS laboratory

The project conducted by University of Peradeniya has developed a low-cost particle filter analyzer to measure the filtration capacity of face masks and filter materials.

Grant No. : RG/2016/BT/03
Principal Investigator : Dr A Arulkanthan
Department of Veterinary Pathobiology
Faculty of Veterinary Medicine and
Animal Science
University of Peradeniya

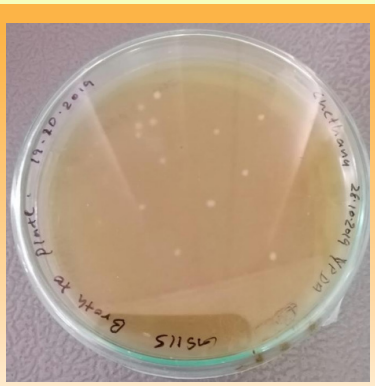
Project Title : Studies on mycobacteriosis in freshwater ornamental fish:

"Preparation for the PCR based assay for diagnosis of a disease in ornamental fish"

The main objectives of this study were to identify the mycobacterial species occurring in ornamental fish (gold fish, koi carps, guppy, molly, platy) in Sri Lanka and to develop a molecular diagnostic technique. This study revealed that Mycobacterium spp. especially *M. fortuitum* is widespread among ornamental fish species in Sri Lanka. The Internal Transcribed Spacer (ITS) PCR validated in this study could be used as a rapid laboratory diagnostic tool to detect mycobacteriosis in fish. As a national service to ensure the ornamental fish health in order to uplift the ornamental fish sector in Sri Lanka, the diagnostic techniques validated in this study are available in the Centre for Aquatic Animal Disease Diagnosis and Research (CAADDR), University of Peradeniya for use by the government, private sector, farmers, aquarium owners and general public.

Grant No. : RG/2016/BT/04
Principal Investigator: Prof. Ranil Dassanayake
Department of Chemistry
Faculty of Science
University of Colombo

Project Title : Transgenic reconstitution of RNA interference pathway in *Pichia pastoris* yeast model system



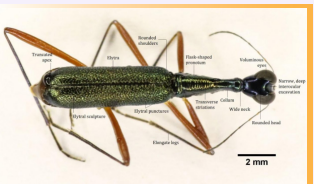
P. pastoris GS115 colonies transformed with linearized pPICZ A-Gal1-EGFP

Transgenic *P. pastoris* strain developed in this study can be used to validate how effective the in-silico designed dsRNA in the destruction of the target in RNA interference which is otherwise difficult to test in cell cultures due to high cost and time consumption.

EGFP tagged yeast expression vector and the RNAi expressing transgenic *Pichia pastoris* strain will be made available for the R&D sector in Sri Lanka once it is fully established.

Grant No. : RG/2017/EB/01
Principal Investigator : Prof. Chandima D Dangalle
Department of Zoology and Environment Sciences
Faculty of Science
University of Colombo

Project Title : Diversity, distribution and habitat types of arboreal tiger beetles (*Coleoptera, Cicindelidae*) of Sri Lanka



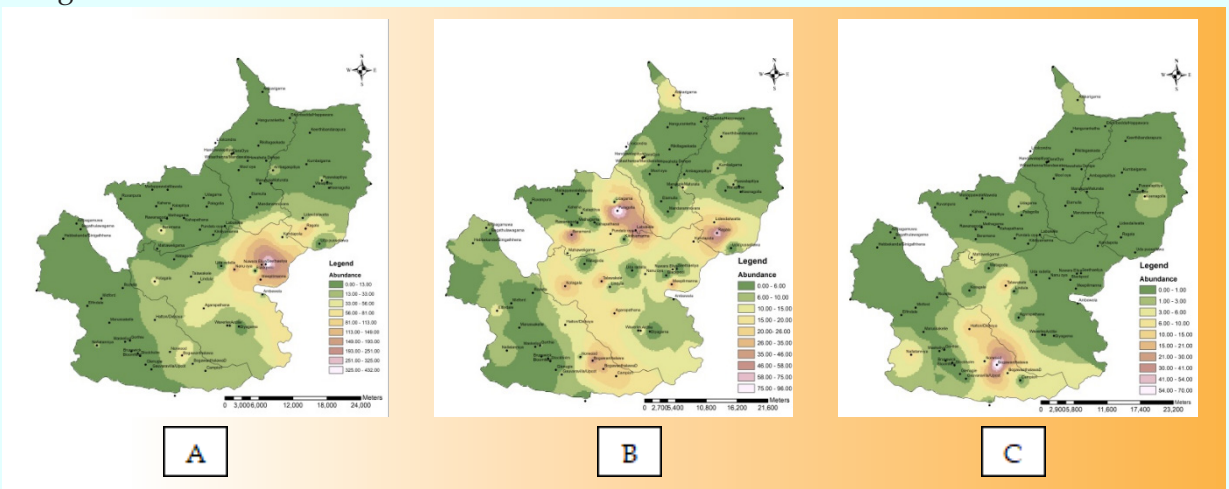
Dorsal view of Neocollyris (Stenocollyris) vedda Male

Arboreal tiger beetles are a poorly studied group of predatory insects in Sri Lanka. Past literature records 30 species from the island of which 23 species are endemic. However, the literature dates back to more than 100 years and are far outdated. Therefore, current studies on this beetle group with high endemicity was necessary. Eighty-five locations within the country including all climatic zones and provinces and 20 districts were investigated and a variety of habitat types were surveyed. A database consisting of arboreal tiger beetle species, their locations of occurrence, environmental parameters of their locations, morphology and morphometrics was constructed and used for developing an automated identification system for tiger beetle species of Sri Lanka.

Grant No.: RG/2017/EB/05
Principal Investigator : Dr N P S Kumburegama
Department of Zoology
Faculty of Science
University of Peradeniya

Project Title : Distribution of terrestrial gastropod pests, their seasonal abundance and degree of damage to crops in agricultural lands in the Nuwara Eliya (NE) district

A total of 14 species of terrestrial gastropods were identified in agricultural lands. 64% were exotic pest species and 36% were native species. The exotic gastropods were widespread in agricultural lands and they showed a wide range of tolerance to the environmental factors. While elevation, rainfall and atmospheric pressure were the major governing factors for exotic species, all measured environmental factors affected the distribution of the endemics and native species. Any alteration to natural habitats will therefore adversely affect the native species whereas the exotic species will be favored in such environments. Information on the distribution and abundance of exotic pests and native gastropod species in NE can help formulating management plans related to landscape planning and habitat transformation.



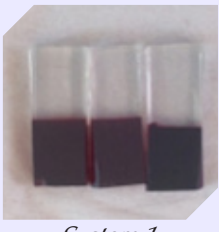
Terrestrial gastropod species distribution in agricultural lands in Nuwara Eliya district.
A) Exotic pest snail distribution,
B) Exotic pest slug distribution and
C) Native species distribution

Grant No.: RG/2016/BS/01
Principal Investigator : Prof. R M G Rajapakse
Department of chemistry
Faculty of Science
University of Peradeniya

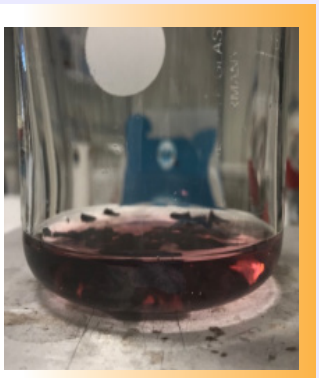
Project Title : Synthesis and characterization of ionic liquid-based gel polymer electrolytes to be used for rechargeable cells and supercapacitors

This research project is based on entirely novel concept of using upconverted infrared radiation for developing dye sensitized solar cells (DSCs) that would work only with infrared radiation enabling them to work even in the night. Three different photon upconverting systems were developed through this research project.

System 1: Transition metal ion-doped TiO_2 - This type of up conversion is not suitable for DSC applications. However, these upconverting catalysts are superior in water photo-splitting to generate hydrogen gas. Therefore, further research into quantification and upscaling of these catalysts should be directed towards generating hydrogen gas for green energy generation.



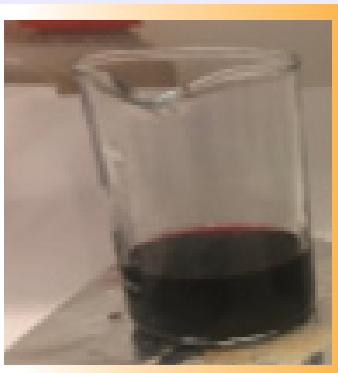
System 1



System 3

System 2: Lanthanide ion-doped TiO_2 - This is a novel discovery where, for the first time, a solar cell was developed to work only under infrared illumination. This means that our proposal to develop solar cells that would work even in the night is not a myth but is realistic. The concept that solar cells can be developed to work with upconverted infrared radiation was proven through this study.

System 3: Natural dye-based DSCs - This study showed that the DSCs developed using natural dye has highly improved shelf-life and the highest recorded efficiency for this natural dye. Scaling-up of this research is important.



System 2

Grant No : RG/2017/AG/04
Principal Investigator : Dr W M P B Weerasinghe
Veterinary Research Institute
Peradeniya

Project Title : In-vitro and in-vivo screening of newly introduced forages for sustainable intensification of dairy production in the context of climate change

Sri Lanka currently imports about 60% of the milk requirement. Poor nutrition of the dairy cows has been identified as one of the major obstacles for dairy development in the country. Available roughage varieties are low in nutritional quality. Additionally, information on their nutritional quality, especially digestibility parameters are lacking or not available. Due to this, proper balancing of dairy cow rations is hard to achieve, resulting in genetic potential for milk production of majority of the dairy herd in the country being not achieved. This project demonstrated that newly introduced fodder varieties (Fodder sorghum Sugar graze, Napier hybrids CO-3 and CO-4) can be effectively used to increase milk production of dairy cows in the country. The nutritive and physical qualities of silages made from three fodder varieties and their Combinations were also evaluated. These findings can be used to produce quality silages for on farm use as well as for commercial silage production. Findings also demonstrated that low fiber, high energy feeds such as sorghum produces less methane than Napier varieties. This crucial information can be used for better feeding and thereby improve production performance of dairy cows while reducing methane production from ruminants. This information is useful for policy planning on reduction of methane emission by national dairy herd.

Grant No.: TG/2017/Tech-D/03
Principal Investigator : Prof. N M M G S B Navarathne
University of Sri Jayawardenapura

Project Title : Development of a fermentation chamber to improve porous-crum structure of rice related leavened food products prepared from composite flour

The crumb texture has a vital role in leavened baked food products which are usually formed during leavening action. In wheat flour, gluten protein is capable to entrap gasses within the dough mass itself. Since rice flour does not have gluten, it has a poor ability to entrap leavened gas. Hence, it is extremely difficult to produce well developed porous-crumb structure in fermented rice related food products. The aim of this study was to develop nutritious leavened baked products with well porous crumb structure and better texture properties using rice related composite flour and introduce the technology and mechanisms that can be used to obtain better crumb properties to the food industry. This product development is important for diversification of the way of rice consumption that will enable the consumers to have a wide range of rice related healthy products, increase demand for rice, increase the income of farmers and reduce the importation of wheat by saving foreign exchange.

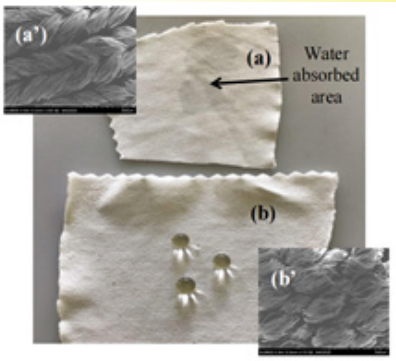
Indoor fermentation chamber

Commercial level fermentation chamber

Biscuits

Grant No.: TD/2016/Tech-D/02
Principal Investigator : Prof. D G G P Karunaratne
Department of Chemical and process Engineering
Faculty of Engineering
University of Peradeniya

Project Title : Synthesis and commercialization of value-added products from Sri Lankan Dolomitic Lime



(a). Behavior of water in a non-treated fabric and (b). behavior of water in a hydrophobic polyester fabric developed using Super Hydrophobic PCC (a',b') inner structures of the fabric

This project has identified novel, economical, and industrially feasible techniques to synthesize calcium and magnesium based value-added products. Potential products such as nano-precipitated calcium carbonate (NPCC), nano-magnesium hydroxide (NMH), nano-MgO, superhydrophobic precipitated calcium carbonate (SHPCC), SHPCC coated textile and NPCC/natural rubber (NR) composite synthesis processes which have an extensive industrial application have been developed. PCC based nanoparticles are broadly used in industries such as paper, textile, rubber, plastic, cosmetic, sealant, toothpaste, paint, and food industries, while NMH is mainly used as a fire-retardant filler in polymer and plastic products. Herein, the processes starting from target ion extraction to final nanoparticle synthesis and further the incorporation of them to produce nanomaterial have been studied and optimized. Moreover, a spinning disk reactor has been fabricated to ease the nanoparticle synthesis process and to gain a higher level of control of the process. Eventually, a pilot plant has been set up to carry out the synthesis processes.

Recognizing S&T excellence

The NSF, as the nation's premier driving force in promoting Science, Technology and Innovation for economic and social prosperity of Sri Lanka, annually organizes the NSF Awards Ceremony to recognize, felicitate and encourage Sri Lankan Scientists/Engineers who have made outstanding contributions to S&T in their respective fields. Accordingly, NSF Awards 2021 was held on 16th November at the Bandaranaike Memorial International Conference Hall (BMICH) as part of the World Science Day celebrations. A total of 20 awards were conferred under the following categories.

» NSF Technology Awards
» Support Scheme for Supervision of Research Degrees (SUSRED)

SUSRED strengthens the national research system with an increased number of trained/qualified research personnel within a vibrant and dynamic research culture. This year 19 supervisory teams consisting of 37 researchers were successful in securing awards for producing 14 PhDs & 5 MPhil degrees. One certificate of commendation was awarded to Prof. R G N Meegama, University of Sri Jayewardenepura under Technology Awards.

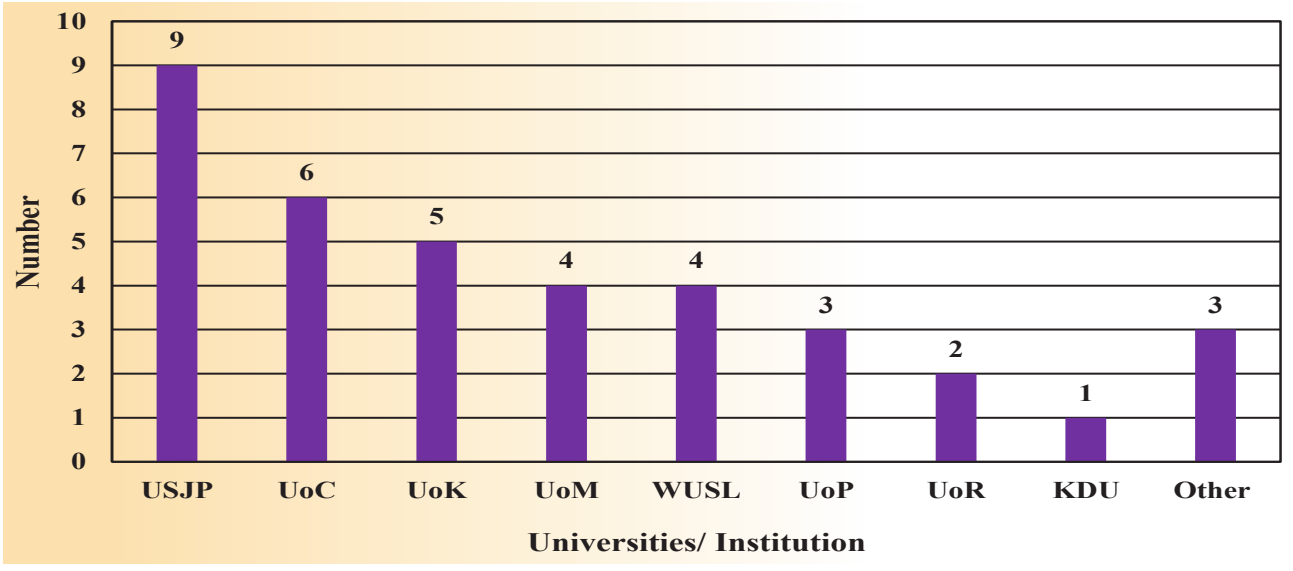


Figure 18: SUSRED awardees in different institutions

Database of high-end analytical and research equipment

National Science Foundation launched an island wide survey with the objective of collating information on existing high-end analytical and research equipment in state universities and research institutes. This initiative was intended holistically to make available a comprehensive database of the equipment currently available in the country, as the effective share and use of available equipment is the key to the advancement of R&D and resource saving.

The island wide survey was started in September 2020 and the database was developed in February 2021. About 650 entries from both universities and research institutes were entered to the database by September 2021.

This activity was reoriented and expanded to obtain accreditation of university/institution laboratories to national/international standards by identifying high-tech instruments/services.

The proposed National Instrument Database is being constructed as an online platform using CodeIgniter framework and pre-registration will not be required to retrieve data. Information gathered from the database will benefit the users as well as the decision makers.

Resource harnessing via Digital Platform

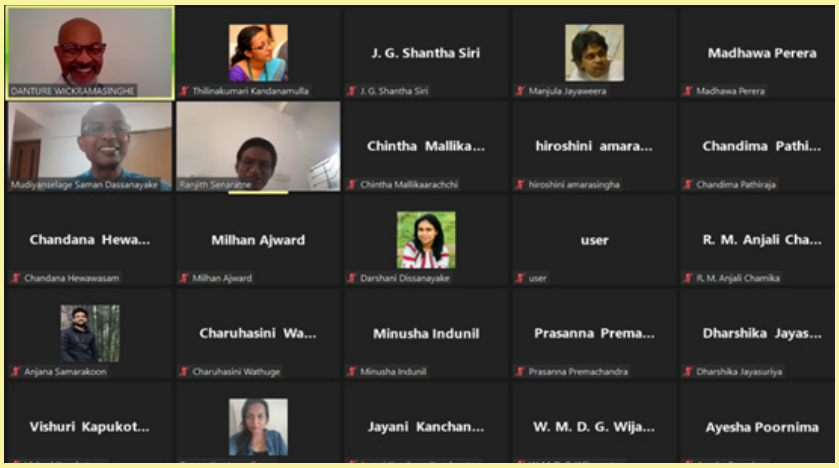
A series of knowledge transfer webinars were organized with the participation of expatriate resource persons catering to capacity building and knowledge transfer (*Tables 5 & 6*). This helped transferring frontier knowledge addressing some of the national level high priority concerns thereby enabling the researchers and policy makers to adapt best practices.

Table 05: Knowledge transfer webnairs thorugh Digital Platform

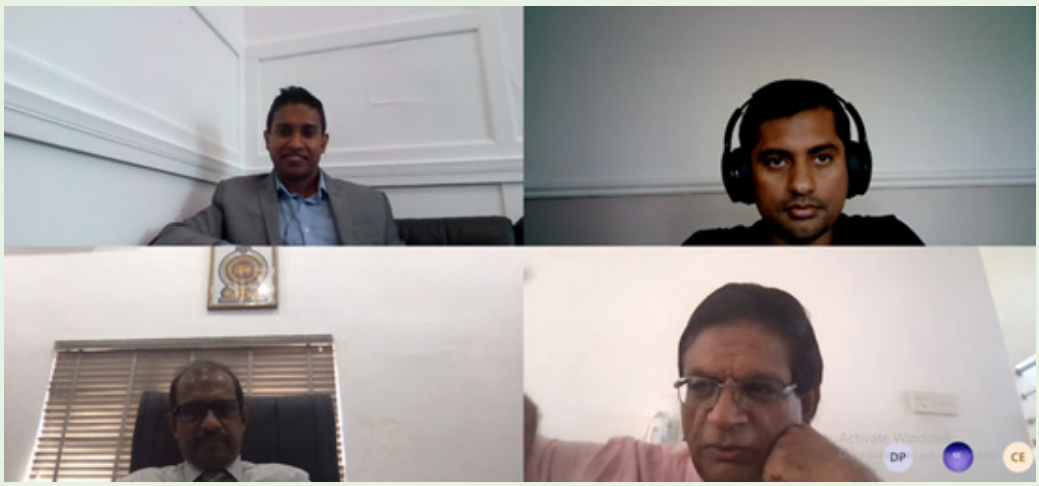
Event & Objective	Objective	Number of participants
Webinar on 'Different Facets of Salinity Affecting Sri Lanka and Solutions'	Make Sri Lankan researchers and relevant other stakeholders aware of latest technologies and best practices for mitigating the salinity issue.	120
Webinar on 'Writing articles for high impact journals: a guide to researchers'	Capacity building of researchers in writing journal articles aimed at high impact journals and thereby to enhance the number of scholarly publications from Sri Lanka.	765
Webinar on 'Improved awareness on services offered by the Digital Platform'	Matchmaking Sri Lankan researchers and expatriates abroad for leveraging R&D outputs	65
Online discussion on "X-press Perl Cargo Shipwreck: Consequences, implications and remedies"	Make Sri Lankan researchers and relevant other stakeholders aware of the latest technologies and best practices for mitigating the marine environment pollution.	15
Webinar on "How Sri Lankan expatriates could contribute to enhancing academic and research performance of HEIs in Sri Lanka"	Matchmaking Sri Lankan researchers and expatriates abroad for leveraging R&D outputs	365
Webinar on "Ethics in Research"	New-knowledge transfer	237
Webinar on "How to prepare a PhD research proposal as an interdisciplinary research project" by Prof. Danthure Wickramasinghe	Enhance capacity of young researchers to submit competitive proposals to win grants	422
Webinar on "Fossil Fuels to Renewables: a Pragmatic and Holistic Approach"	Make Sri Lankan researchers and policy makers aware of latest research trends, strategies to harness renewable energy resources	180
Webinar conducted by Eng. Nipuni Karunaratne, Rolls Royce PLC, UK*	To motivate school children and undergraduates about global opportunities in the STI sector	265

Table 06: Webinars conducted aiming at capacity building – some impact parameters

Title	Impact Parameter	Count
'Writing articles for high impact journals: a guide to researchers'	Number of manuscripts prepared	12
	Number of articles submitted to journals	10
	Number of Articles published in the Peer Reviewed Journals	5
	Number of Articles Published in the Indexed Journals	1
'Writing winning proposals to secure international grants' was conducted in collaboration with the International Relations Office (InRO), University of Peradeniya and SLAYS with the participation of 425 participants.	Number of Proposals prepared/being prepared targeting international funding agencies	2
	Number of proposals submitted for international funding	1
	Paper on "Secrets of writing winning proposals to secure international grants" has been drafted.	1
'How to prepare a PhD research proposal for an interdisciplinary research project'	Number of students who have contacted the resource person for further guidance	07
	Number of students who are currently doing a background search to prepare a proposal	05
	Number of students who are at different stages of proposal preparation	26
	Number of students who have finished preparing the proposal/submitted to a Higher Educational Institute	05



Webinar on "How to prepare a PhD research proposal for an interdisciplinary research project" by Prof. Danthure Wickremasinghe



Discussions were in progress with StorTera, UK and StorLion, Sri Lanka to explore potential for value addition to Sri Lankan mineral resources as raw materials for smart energy storage applications.

Discussions were in progress with the Ivy Tech Ltd, UK to explore potential for Ivy Tech branching out to Sri Lanka enabling Sri Lanka to grasp emerging global opportunities on High-tech R&D. This will also enable Sri Lanka to leapfrog from 2IR to 4IR with the leadership of Eng. Nipuni Karunaratne, founder of Ivy Tech Ltd cum Manager/Digital Technology, Rolls Royce, UK.

Meeting in the Ministry with Sugarcane Stakeholders for possible collaborations with ABC institute of Brazil jointly organized with the Ministry of Foreign Affairs of Sri Lanka.

Building effective partnerships for enhancing innovation capacity

NSF joined hands with the National Chamber of Exporters (NCE) to promote university-industry collaborations and increase innovative capacities. NCE-NSF facilitation enabled to identify industry issues and technology needs for new product development. Textrip Lanka (Pvt) Ltd, E-Silk Route and D Samson Industries had interactive discussions with the researchers from University of Peradeniya, University of Sri Jayewardenepura and Deakin University, Australia. The partnership between the expatriate scientist from Deakin University and Textrip Lanka (Pvt) Ltd. helped improving the quality of smart wearable / stretching bands, which has a significant market demand in the global market.

Online meeting with Prof. Pathirana from Deakin University & Textrip Lanka (Pvt) Ltd

Webinar on 'Computational tactics for ODE models' followed by the concept note on 'Investigating Challenges and prospects in data processing of infectious diseases - a way forward to a decision support system for Sri Lankan context' helped establishing a collaborative partnership with researchers in Epidemiology Unit, Health Information Unit, Medical Statistics Unit, Health Promotion Bureau and the relevant researchers of the Ministry of Health. These linkages resulted in high impact publications and further scalable research.

- "An age-dependent model for Dengue transmission: Analysis and comparison to field data" in the Journal of Applied Mathematics and Computations (2020) - Springer (SCI, Web of Science, SCOPUS indexed - Impact Factor 4.091) *https://www.sciencedirect.com/science/article/abs/pii/S009630032030494X?fbclid=IwAR17WaqB_Hmu4-mh-iZtKqbDS30IkonQsXN4IucC9_hs_Dms2jIr1X7hOwE*

- "Reassessment of contact restrictions and testing campaigns against COVID-19 via spatio-temporal modeling" in the Journal of Nonlinear Dynamics (2021) - Springer (SCI, SCOPUS indexed - Impact Factor 5.022) https://doi.org/10.1007/s11071-021-07111-w

'IVY TECH' is a multidisciplinary research and innovation company based in UK focusing on pushing the boundaries by enabling the technologies to make the fourth-industrial revolution (4IR) a reality. The 'IVY TECH' is interested in branching out to Sri Lanka where a strategic partnership will be built with the NSF for mutually reinforcing and rewarding benefits. This partnership will be a turning point as it will not only create synergy at organizational level but also catalyze and mobilize research and innovation leading to 4IR as a nation. Eng. Nipuni Karunaratne, an expatriate Sri Lankan professional has pioneered the establishment of the 'IVY TECH', UK who is also working as the Digital Technology Manager at Rolls Royce PLC. UK. A virtual meeting was organized by the NSF with Eng. Nipuni Karunaratne and Dr Shehan Lowe, UK Nuclear Research Center on 22nd June to strengthen partnership and to harness the potential for advancement of science technology innovation sector in Sri Lanka.

Sharing the MoU with the SLT

The NSF forged a strategic partnership with the Sri Lanka Telecom providing for technical cooperation and research collaboration in a mutually rewarding and reinforcing manner. An MoU in this connection was signed between the two institutions on 24th November at the NSF. The MoU would enhance collaboration between the two institutions with a view to improving the socio-economic development of the country with special emphasis on sectors such as agriculture, fisheries and cottage industries through digital intervention.

Exploring international funding opportunities to facilitate local R&D

International Center for Genetic Engineering & Biotechnology (ICGEB)

- Two researchers were awarded with short-term (3-8 months) post-doctoral fellowships under the Arturo Falaschi ICGEB fellowships programme. Worth of fellowships were nearly USD 10,000.

- Out of five proposals submitted to the ICGEB under ICGEB-CRP Programme addressing high priority R&D needs of the country, one application was selected at the first phase of evaluation by the ICGEB, and the second phase of evaluation was in progress. NSF organized an awareness enhancement webinar on ICGEB-CRP scheme jointly with ICGEB and with 190 local researchers. This increased the interest of researchers and almost a threefold number of applications were received at 2021 call compared to previous years.

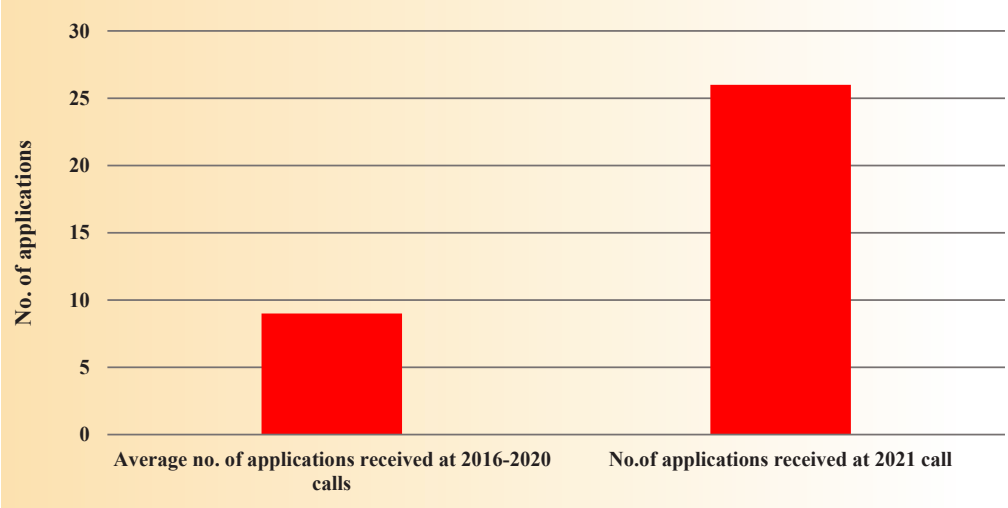


Figure 19: Increased interest on ICGEB grants, by local researchers

- Grant worth of Rs. 200,000 was received from the US Embassy to popularize science among kids.

Enhancing global visibility of Sri Lanka's STI landscape

- 10 nominations of Sri Lankan researchers were submitted to the ISC Awards Programme 2021 under the following categories.

    - Early carrier scientist awards
    - Science for sustainability awards
    - Science for policy awards

- Success case write up on the National R&D Survey under the GRC theme, "The Science and Technology Workforce Development" was prepared for case studies collection to be launched in 2022.

- NSF represented at foreign STI events as follows.

    - Asia Pacific Regional Webinar of the Global Research Council
    - Two Webinars on "JST Connect" by Japan S&T Agency

- Panel discussion on "Community based Recovery" at the WHO ad-hoc consultation on "Community-centered approaches to health emergencies: progress, gaps and research priorities"

- 2nd Alumni meeting of the Sakura Science Club Alumni Association Sri Lanka jointly with Japan Science and Technology Agency (JST) with the objective of strengthening capacity building opportunities for Sri Lankan young researchers under the Sakura Science Programme

Sakura Science Programme Alumni Meeting

- Annual online meeting of the Global Research Council (GRC) and monthly online meetings of the GRC Gender Working Group (GWG) to be on par with the global trends and networking.

- Ms Nayana P. Amarawickrama, Lecturer (Freelance) presented a country paper titled 'Digital Technology and the Impact of COVID 19 on the Lower-Skilled Workforce in Sri Lanka' at the 24th Biennial General Conference 'Navigating the future during and after Covid-19: the role of social sciences in Asia' held from 26th to 28th October organized by the Association of Asian Social Science Research Councils (AASSREC).

S&T Information dissemination

"Knowledge", the main driving force of the 21st Century, propels the global economy all over the world. As mandated by the Act, the NSF was engaged in fostering the dissemination of scientific information and the results of new R&D encompassing all scientific disciplines including social science.

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

The Journal of the National Science Foundation of Sri Lanka (JNSF) publishes four issues of the journal in March, June, September, and December. Currently, it is the only Sri Lankan journal indexed in the Clarivate Analytics Science Citation Index Expanded (SCIE). The JNSF maintained the indexing state in SCIE in 2021. In addition to SCIE, the JNSF is also indexed in Chemical & Biological Abstracts, BIOSIS Previews, Zoological Records, SCOPUS, TEEAL, Ulrich's, AGRICOLA, and EBSCOhost.

In 2021, four issues of the volume 49 were published with 52 peer reviewed articles which is a 20% increase compared to 2020. The entire volume disseminated findings of research in all aspects of science and technology conducted locally and globally. All published articles are available at Open Access.

The Impact Factor (IF) of the JNSF was increased to 0.515 from 0.378 of previous year (analytics was received in mid-2021). This is a clear indication of the increased visibility and quality of articles published in the JNSF.

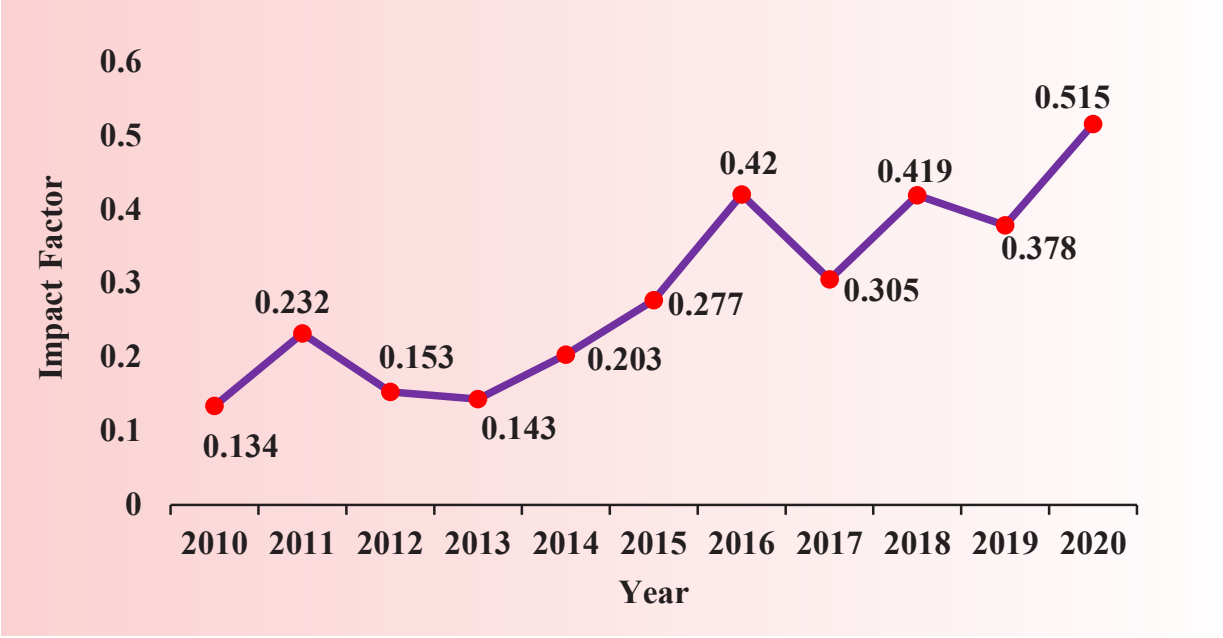


Figure 20: JNSF Impact Factor increase from 2010-2020

There were 514 manuscripts received in 2021 (*Figure 21).* The review process of manuscripts is depicted in *Figure 22.*

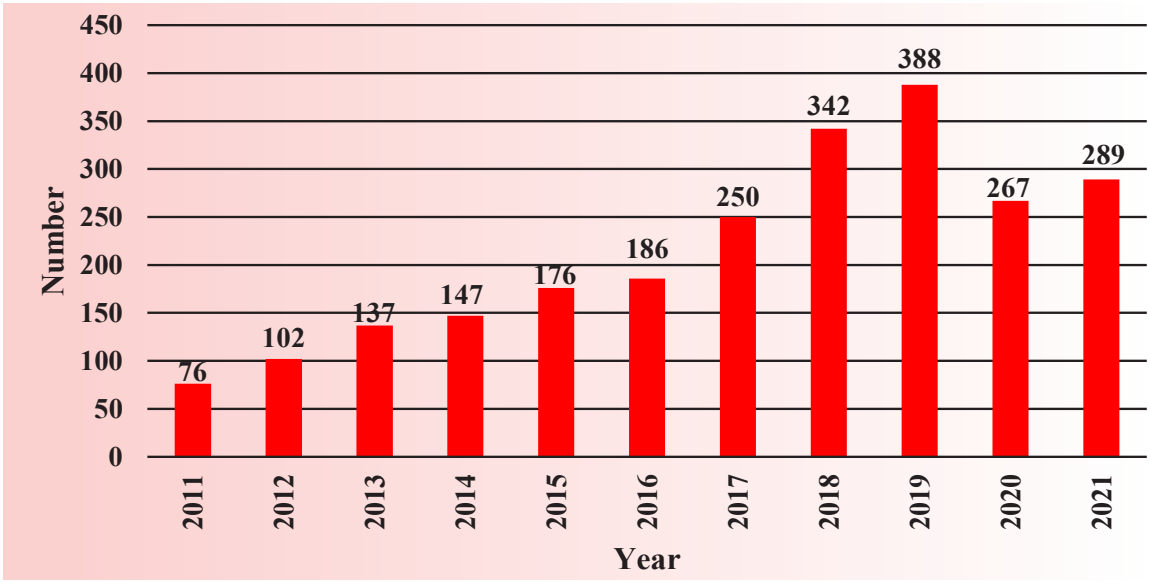


Figure 21: Manuscripts processed for JNSF

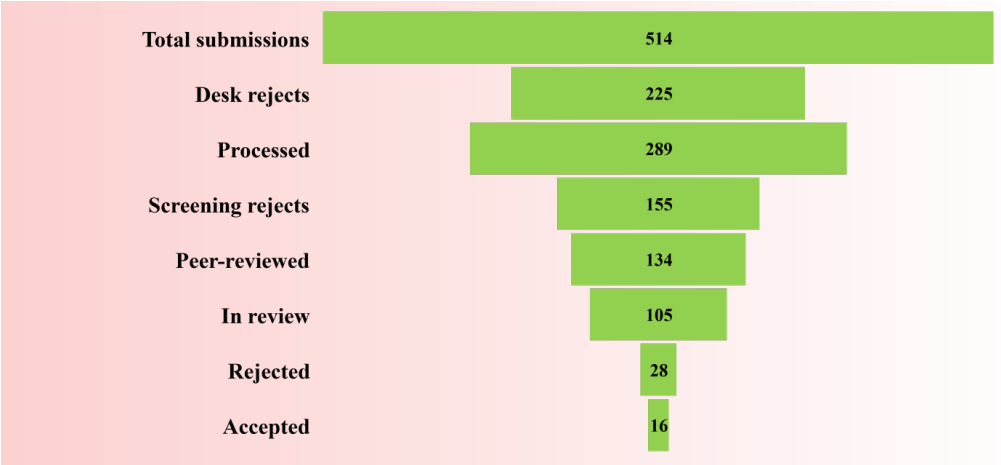


Figure 22: Flow chart and progress of the editorial process of JNSF

There were 7 foreign reviewers and 65 local reviewers contributing to the reviewing process. The percentage of local submissions has increased to 48% compared to 42% in the previous year. Sri Lankan researchers collaborating with foreign research institutes exploiting JNSF as a platform to publish their research was also a noteworthy achievement of the JNSF.

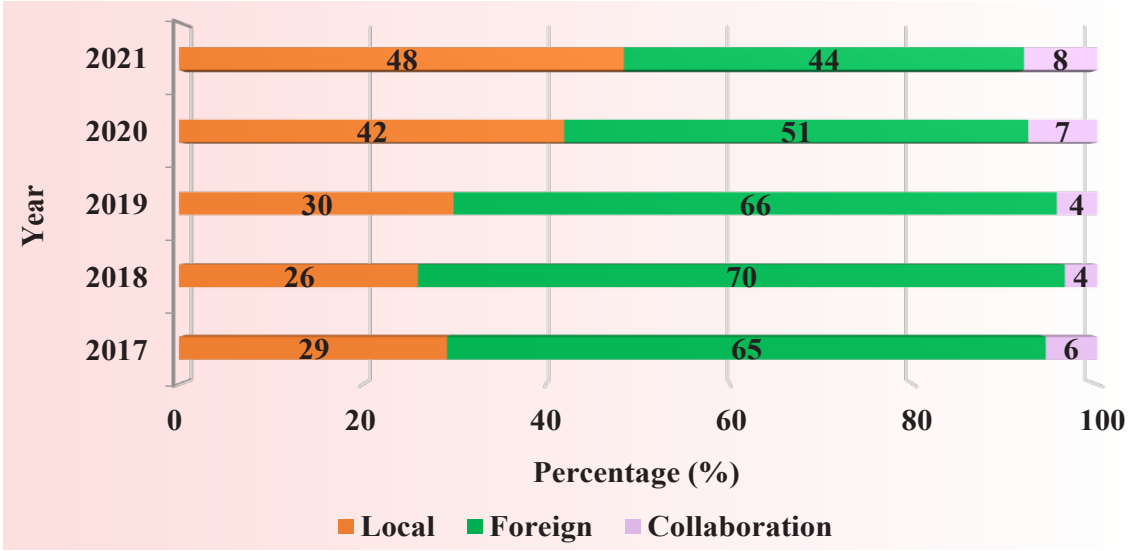


Figure 23: Submissions based on the origin of authors (2017 – 2021)

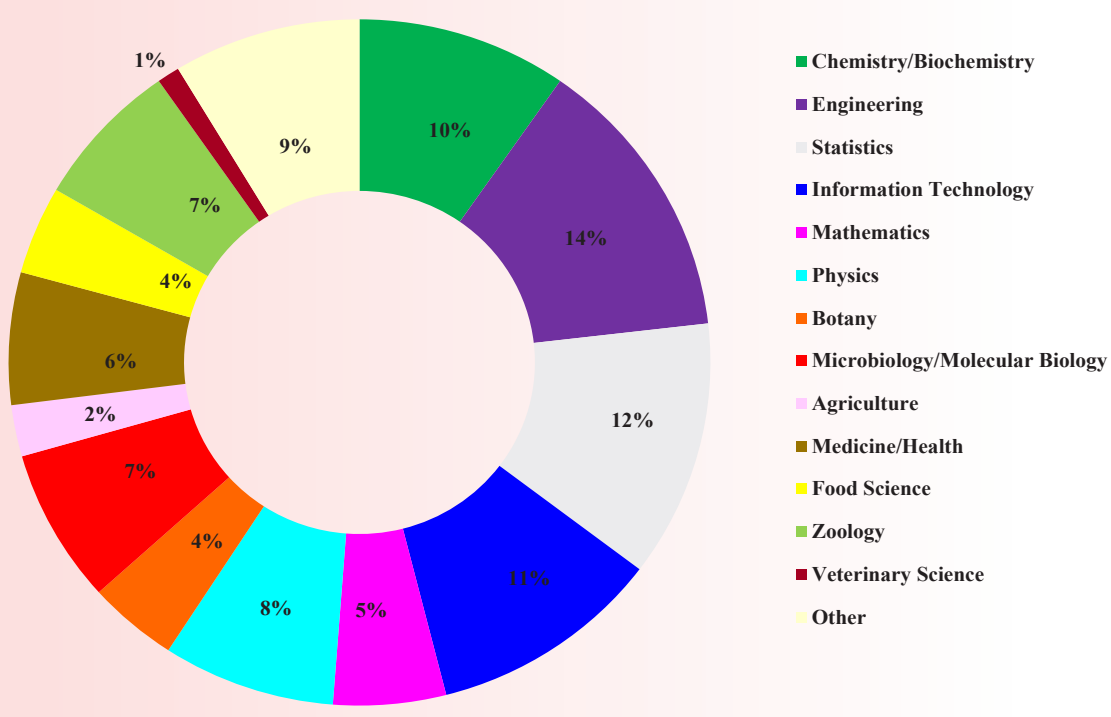


Figure 24: Manuscripts processed based on discipline

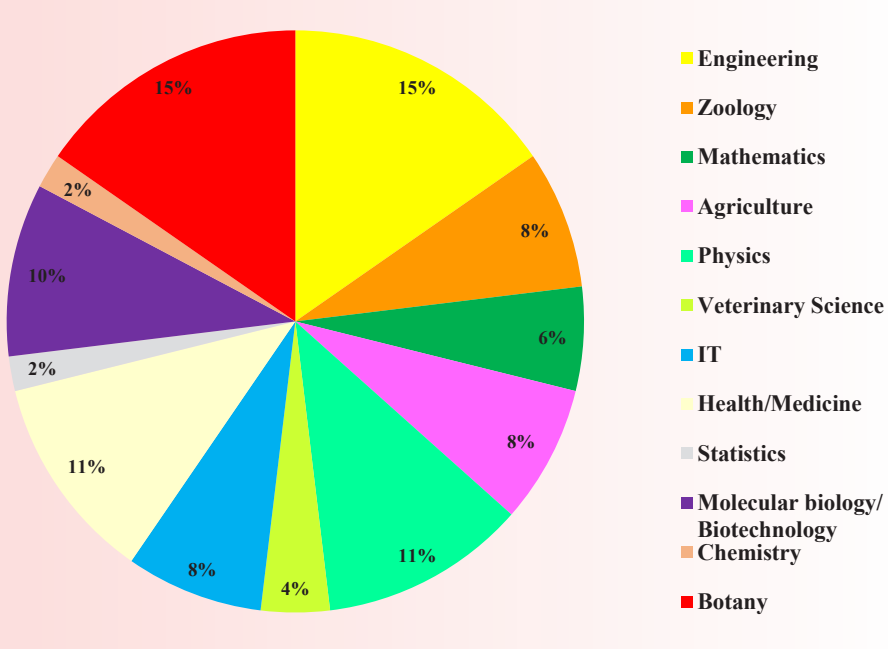


Figure 25: Disciplines covered by the articles published in JNSF in 2021

Majority of the articles published in 2021 covered physical sciences related disciplines while the representation from biological sciences was less (*Figure 25*).

A total of 149 local authors (72%) and 57 foreign authors (28%) were able to disseminate their research findings to the international scientific community by publishing in the JNSF in 2021. There is a reduction in the percentage of foreign authors from 34% in 2020 to 28% in 2021, as well as a reduction in the number of foreign articles published, from 13 articles in 2020 to 11 articles in 2021.

The foreign authors represented 12 countries and the majority was from the Asian region (15% from the total). When considering the author affiliations, the JNSF was able to attract authors from 48 different foreign universities/institutions.

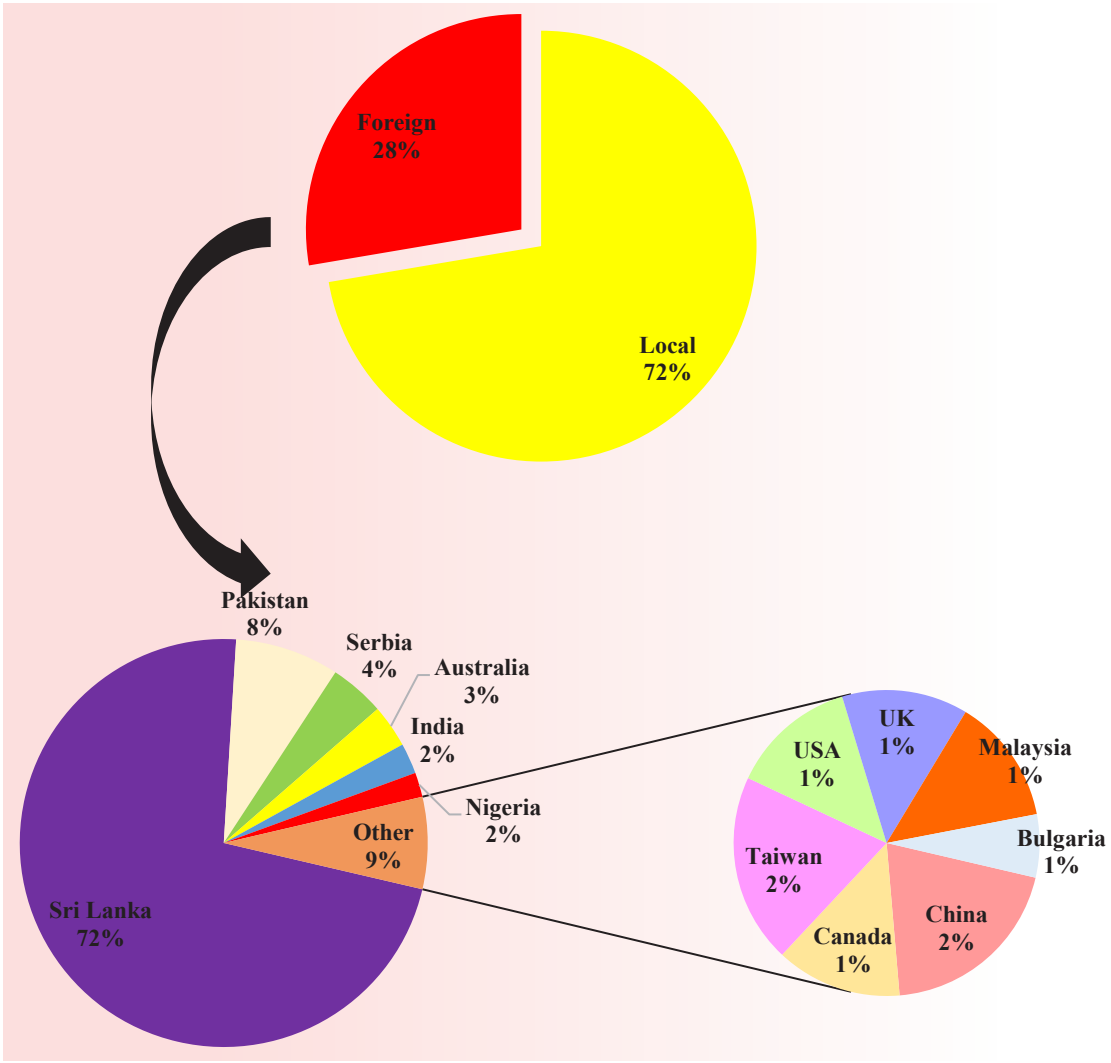


Figure 26: Origin of authors and countries represented in Volume 49 of JNSF

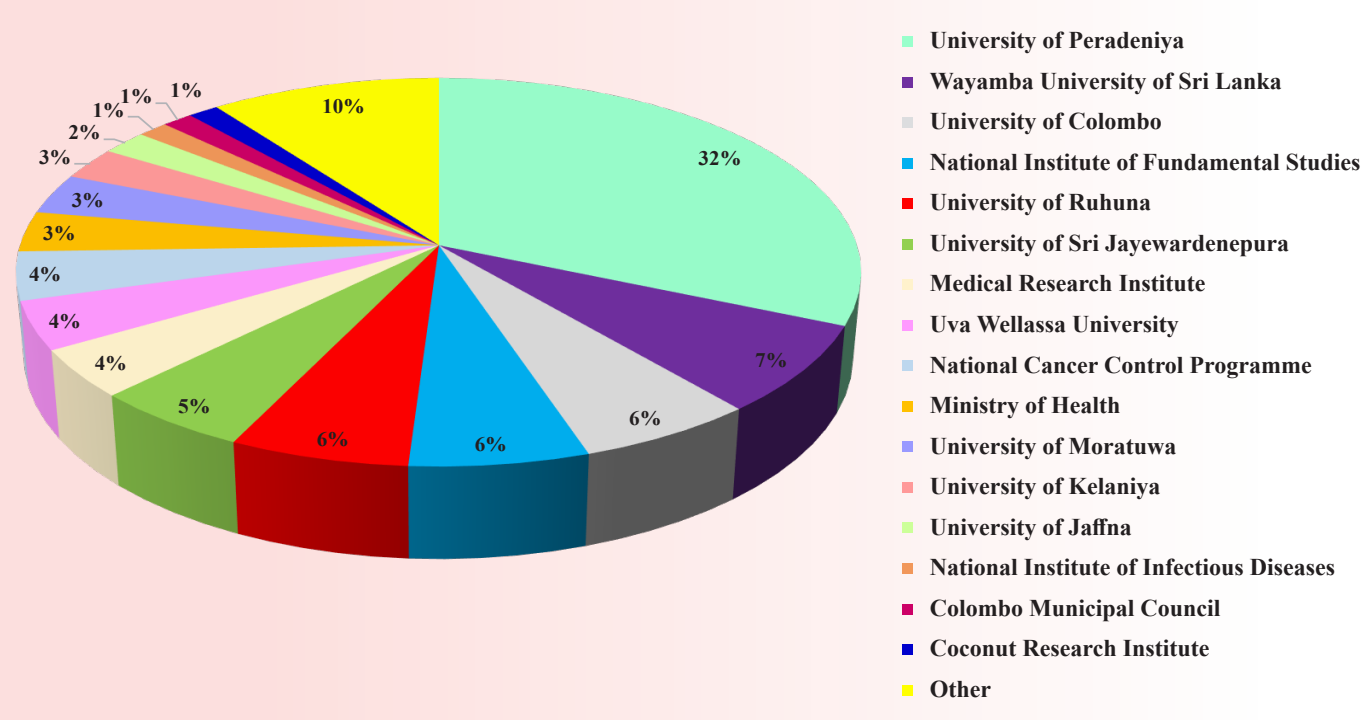


Figure 27: Universities and research institutes contributed to Volume 49 of JNSF

Out of fifty-two research articles of different disciplines published 56% were from local researchers and 21% were from foreign researchers. The number of collaborative papers published has increased significantly from 5% in 2020 to 23% in 2021

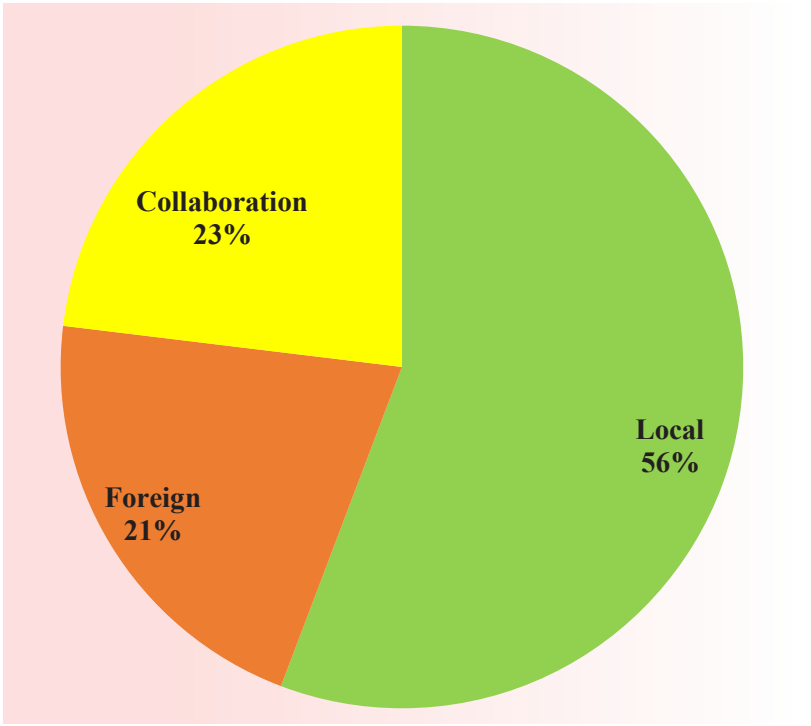


Figure 28: Origin of articles published in volume 49 of JNSF

Sri Lanka Journal of Social Sciences (SLJSS)

Volume 44 of the Sri Lanka Journal of Social Sciences (SLJSS) was published in two issues, in June and December 2021 with 15 research articles, 02 review articles, 01 correspondence and 01 invited book review. 28% of articles published were in the field of sociology.

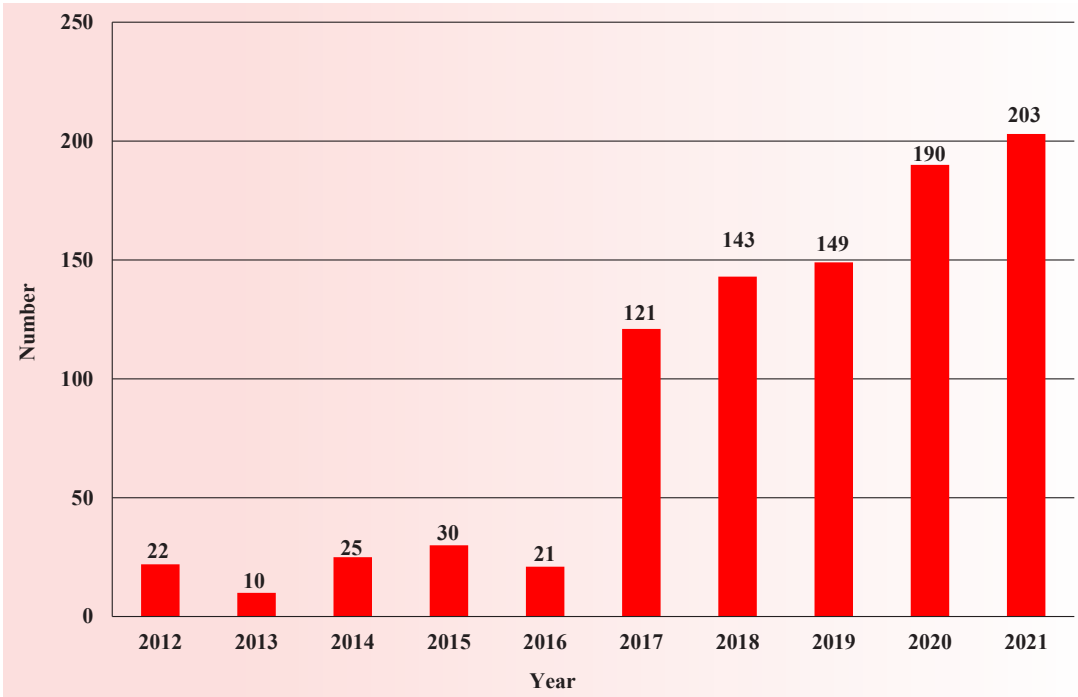


Figure 29: Article submissions for SLJSS (2012-2021)

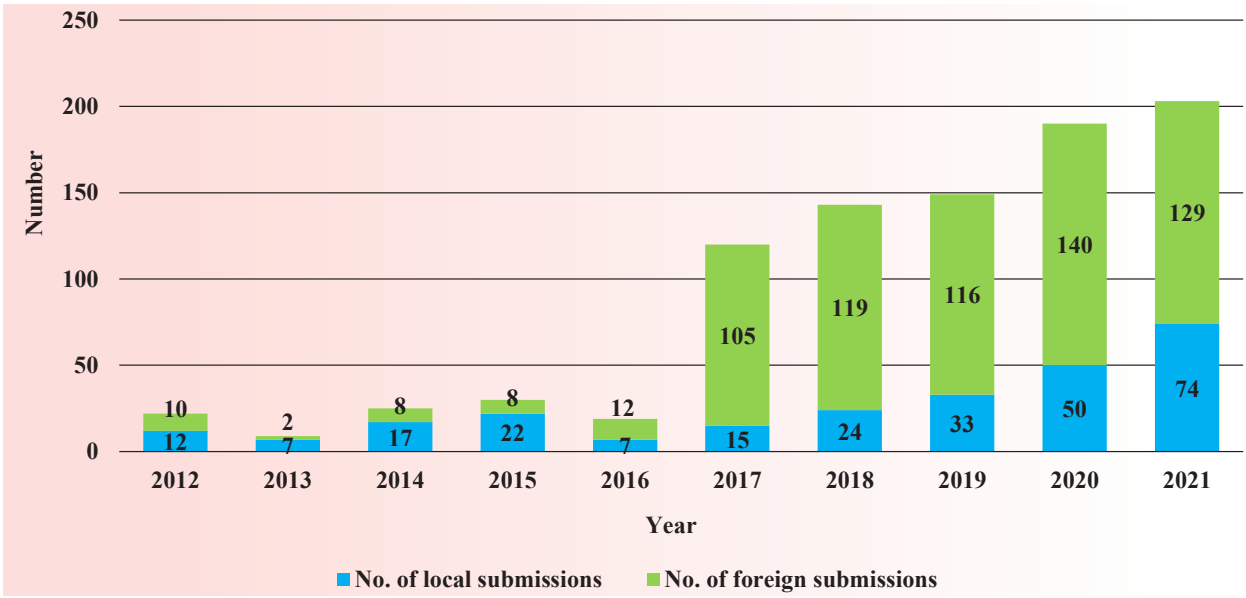


Figure 30: Article submissions to SLJSS by origin

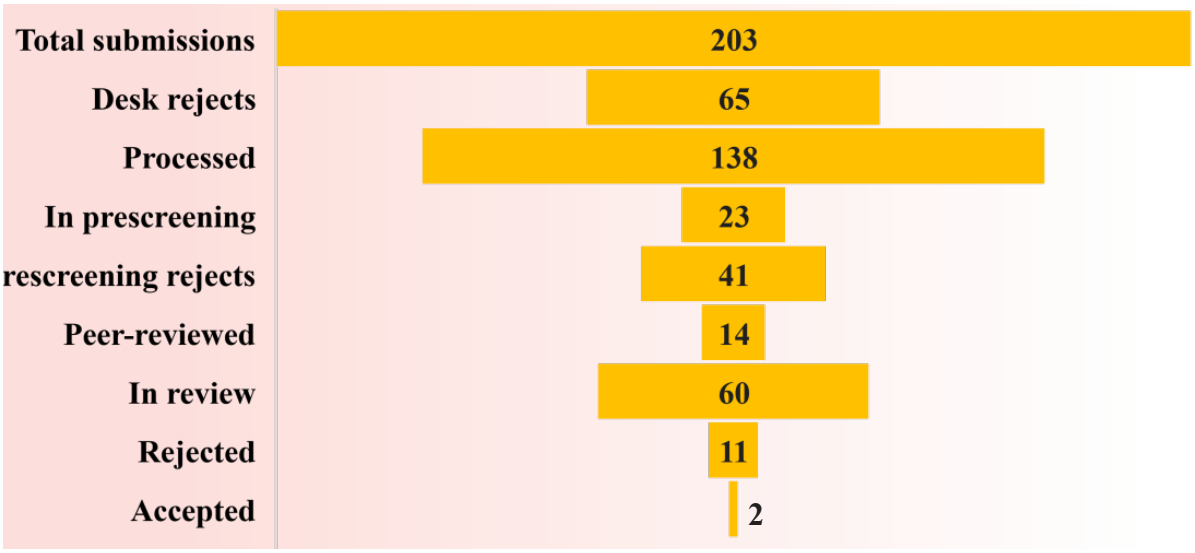


Figure 31: Flow chart of the editorial process of SLJSS

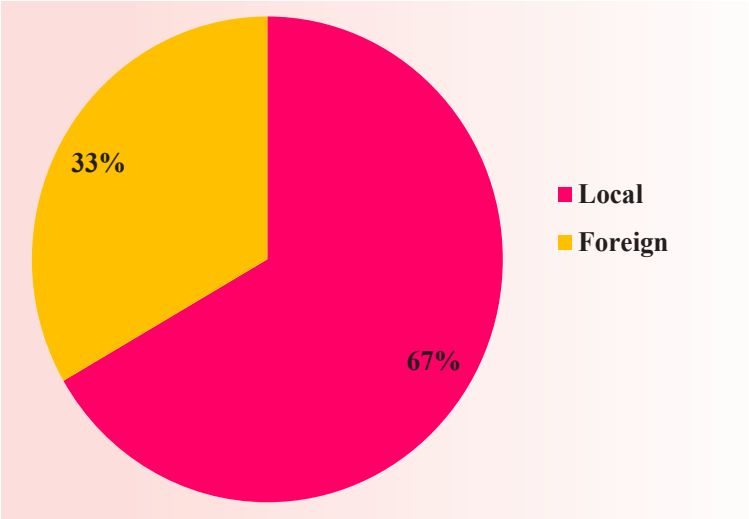


Figure 32: Origin of articles published in Volume 44 of SLJSS

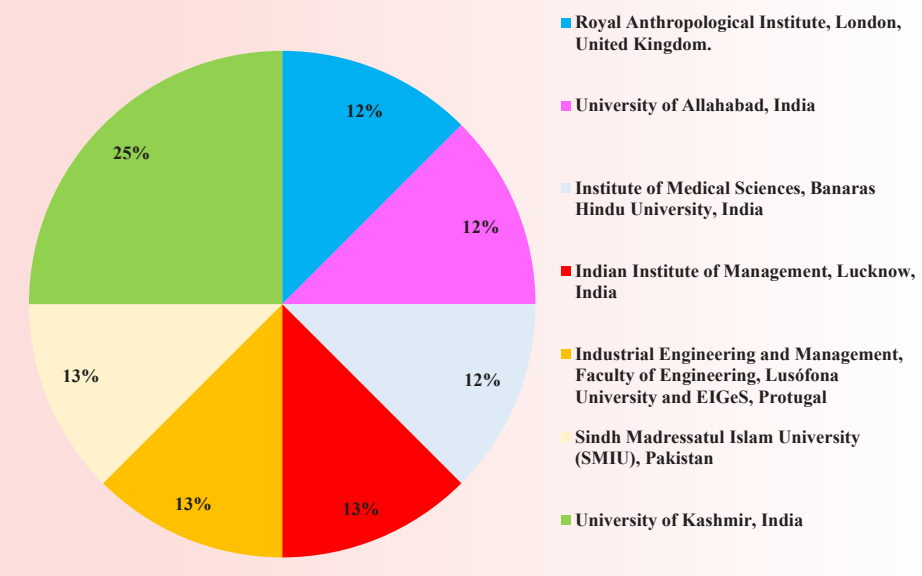


Figure 33: Contribution to Volume 44 of SLJSS by foreign institutions

67% of publications were originated from research conducted by scholars attached to universities and academic institutions in Sri Lanka (*Figure 34*).

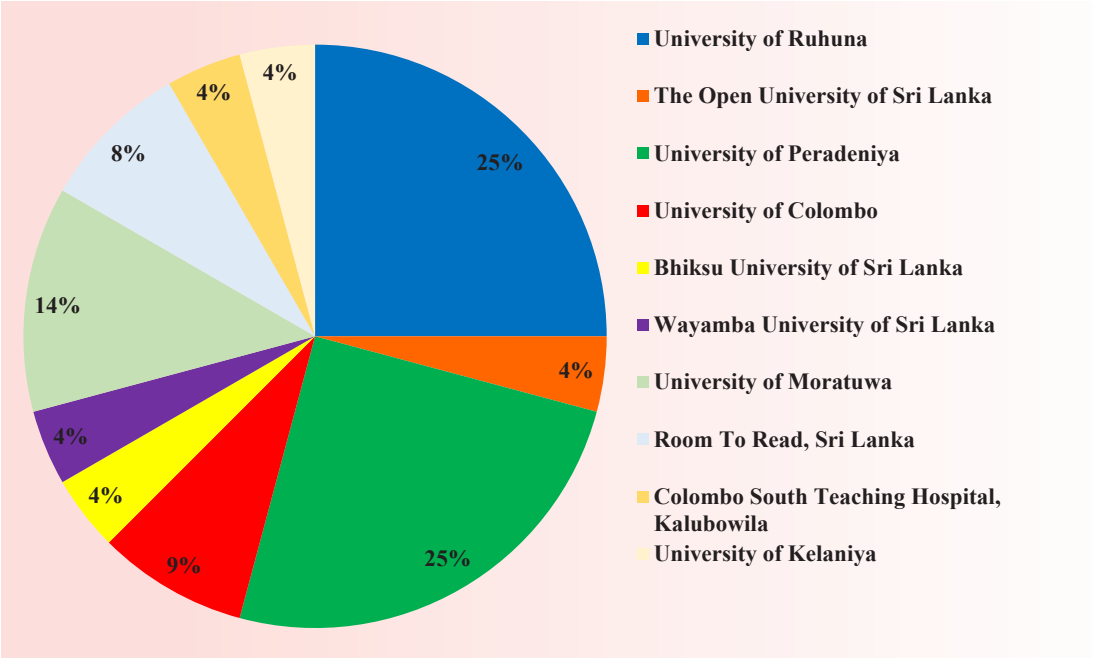


Figure 34 : Contribution to Volume 44 of SLJSS by local institutions

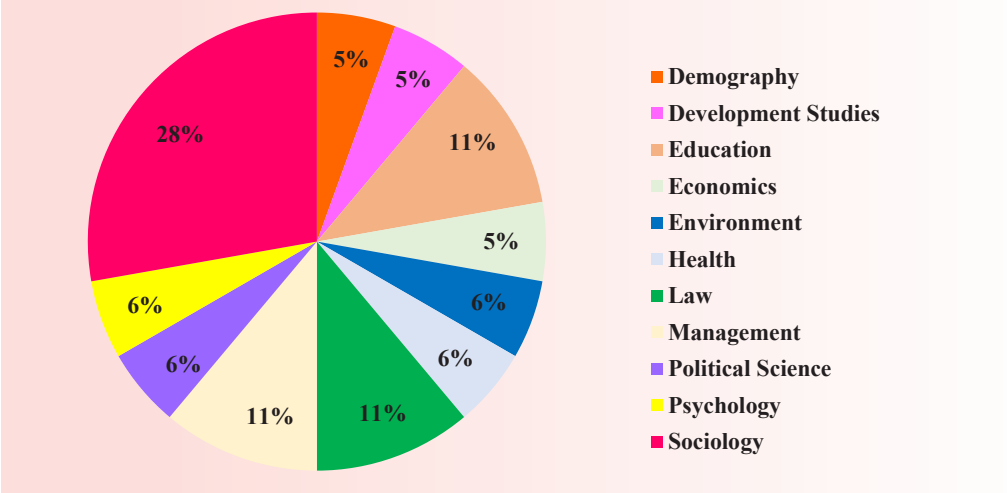


Figure 35: Articles published in Volume 44 of SLJSS by subject

The two grant schemes supporting the researchers to publish in high impact journals, Support Scheme for Publication Fees (SSPF), and the Support Scheme for Scientific Meetings and Events (SSSME) were also in operation. High publications fees restrict the researchers publishing in high impact scholarly journals. The NSF supported with publication fees under SSPF for three Sri Lankan scientists whose papers were accepted by reputed journals indexed in the Science Citation Index Expanded and Social Science Citation Index with the Impact Factor of 1.3, 2.54 & 4.01 (*Annex 06*).

SLAAS 77th Annual Sessions (Theme – "Science & Technology for better tomorrow") was supported under SSSME where knowledge related to 135 research work were shared/ disseminated as oral and poster presentations.

Sri Lanka Journals Online (SLJOL)

The Sri Lanka's primary journal aggregator platform, Sri Lanka Journals Online (SLJOL) *(https://www.sljol.info/)* 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 NSF since 2008 in collaboration with Ubiquity Press, UK is dedicated to improving the worldwide visibility of and access to the scholarly research outputs published by Sri Lankan-based academics. The website currently hosts 111 locally published, peer-reviewed scholarly journals covering the full range of academic disciplines.

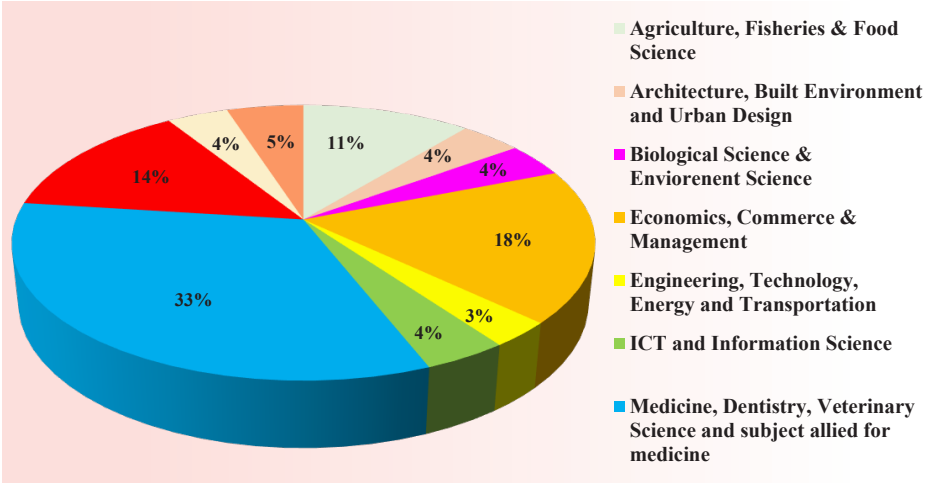
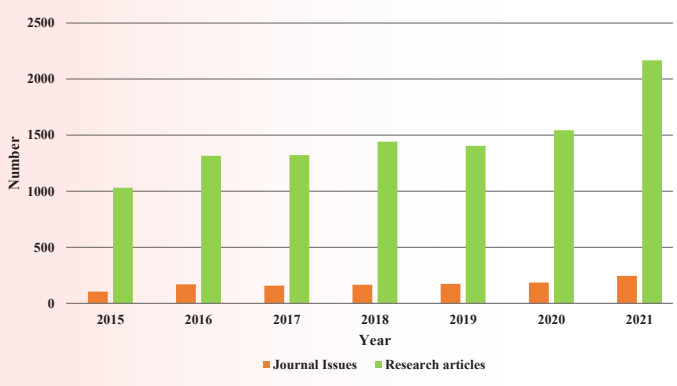


Figure 36: Subject coverage of SLJOL

In the face of the COVID-19 pandemic, the value and necessity of having an open access journal publishing platform were widely realized by local publishers, editors, and authors (researchers). Hence, there was a high demand from 26 local open access journals to join the SLJOL. Upon fulfillment of standards and rigorous evaluation criteria required by the SLJOL 17 journals were newly added to the SLJOL during the year 2021.

As of 31st December 2021, there were 15,653 research articles of 1776 issues covered by 111 Sri Lankan scholarly journals in SLJOL. All articles are freely available for review and use subject to terms and conditions. In 2021, 2167 research articles of 245 journal issues were published on SLJOL. Figures 37 (a) and 37 (b) depict the growth of SLJOL.



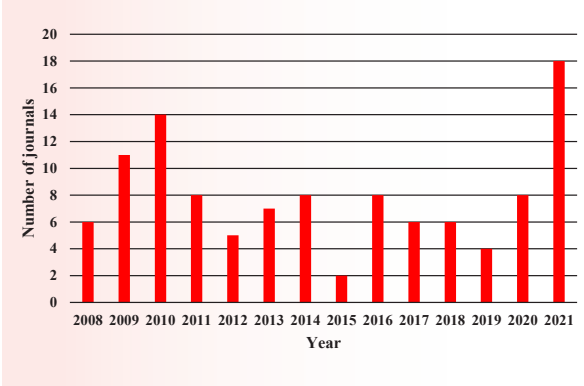


Figure 37 a & 37 b : Growth of SLJOL

According to the statistics given on Google analytics in 2021, there were 303,596 viewers from 210 countries and 147,467 full text articles have been downloaded (*Table 07*).

Table 07: SLJOL Users (Top Thirty-Six Countries)

Country	Users	Country	Users	Country	Users
Sri Lanka	111542	Bangladesh	2130	Saudi Arabia	1124
India	31637	France	2043	Egypt	1119
United States	21131	Germany	1970	South Korea	1117
China	15016	Singapore	1785	South Africa	1033
Philippines	10152	Turkey	1783	Mexico	975
United Kingdom	6289	Japan	1737	Vietnam	955
Indonesia	5305	Brazil	1641	Italy	941
Australia	4355	Thailand	1585	Hong Kong	863
Nigeria	4207	Nepal	1541	Taiwan	803
Pakistan	3797	Ireland	1157	Kenya	736
Malaysia	3628	Ethiopia	1154	Spain	725
Canada	2717	Netherlands	1145	United Arab Emirates	654

As shown in *Figures 38 & 39* the usage of SLJOL is increased considerably and full text downloads have been boosted during the pandemic.

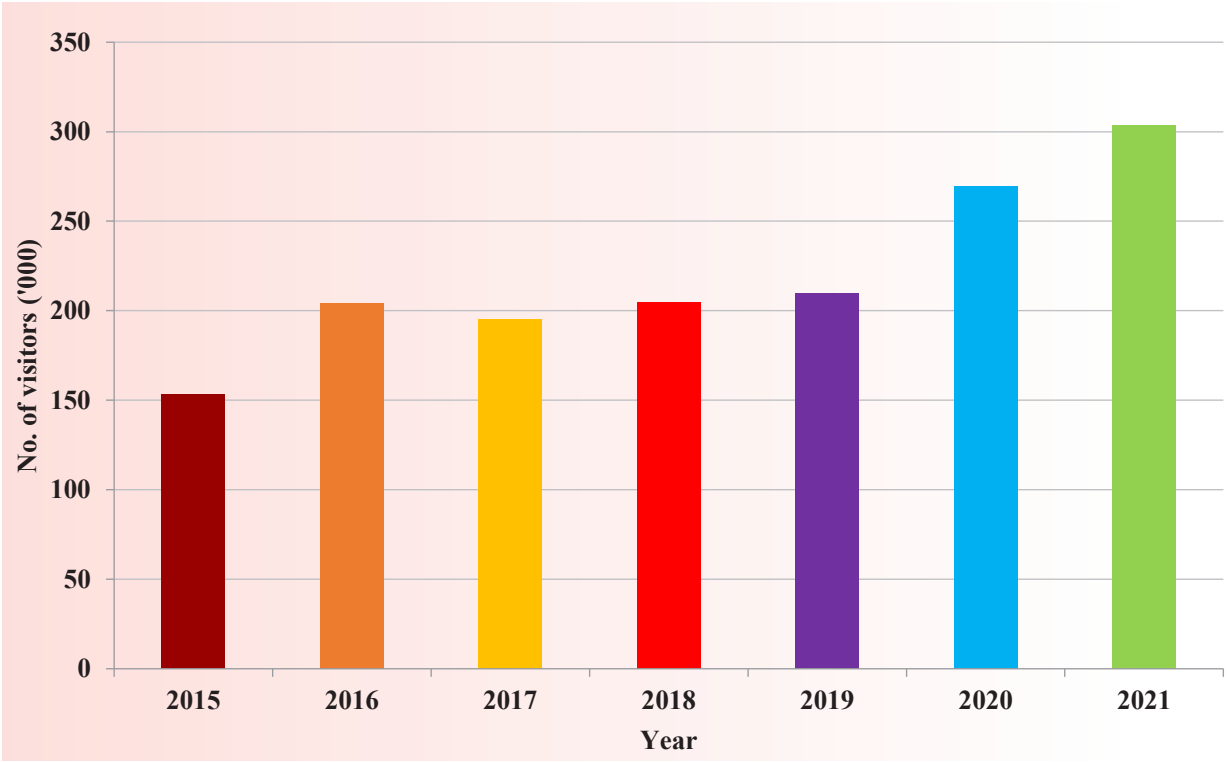


Figure 38: Visitors to SLJOL given on google analytics (2015-2021)

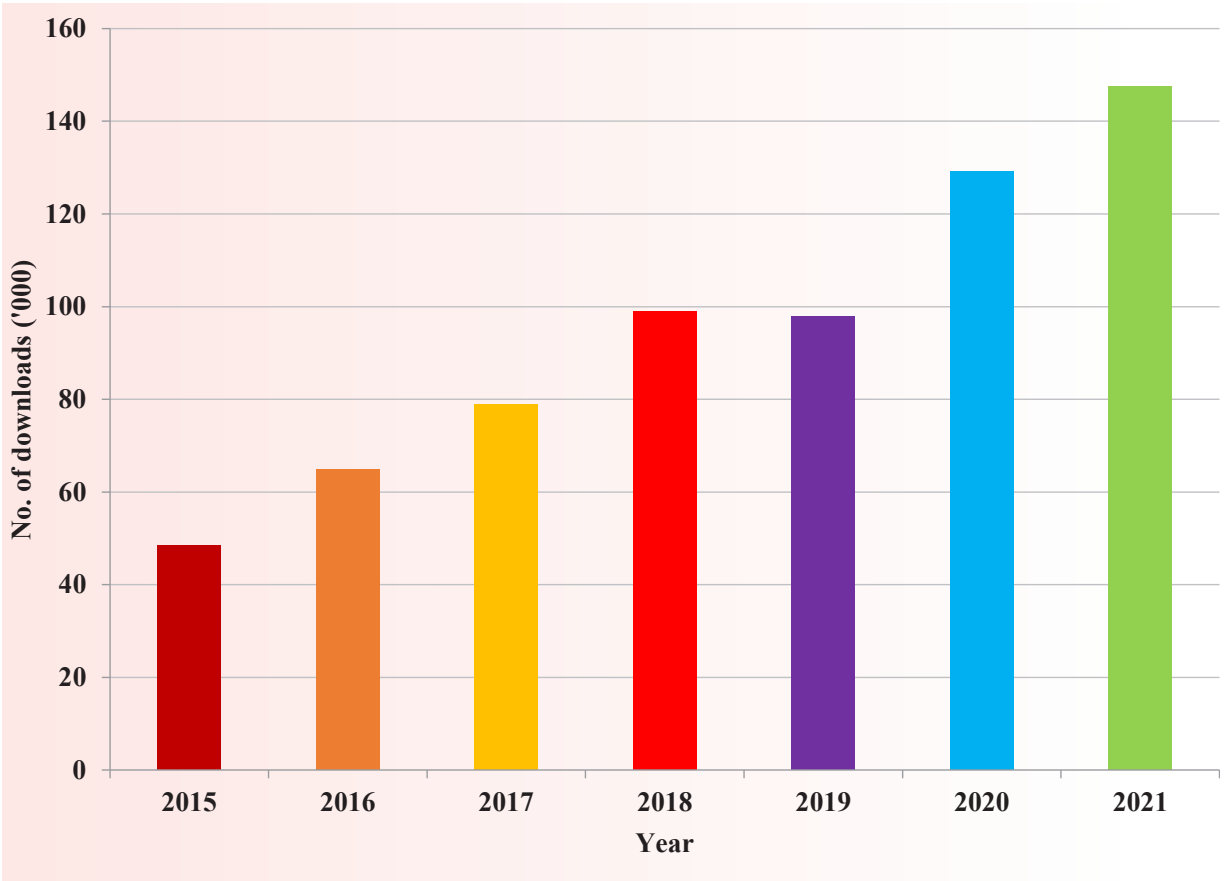


Figure 39: Fulltext downloads fom SLJOL given on google analytics (2015-2021)

One important responsibility of the Sri Lanka Journals Online is to periodically evaluate how successful its journals and whether some preventive actions are needed to safeguard or strengthen the journals. This task was done through performing activities mentioned in *Table 08*.

Table 08: Journal Supporting activities done in 2021.

01	Facilitated 21 journals through online editorial process and publishing articles
02	77% of journals were placed under the category of 'Gold' *(Gold Open Access Journal has Creative Commons (CC) Attribution 4.0 license)*
03	260 web announcements with relevant cover images and twitters
04	270 troubleshooting sessions
05	99 demonstrations and awareness sessions to editors
06	Enrolled 329 users as editors, section editors, authors, reviewers, and copy editors
07	62% of editors are attributed with ORCID ID.
08	189 web updates of journals
09	'Research Integrity' category was added to 04 journal home pages fulfilling the criteria to index in citation databases
10	232 journal issues were offered Digital Object Identifiers (DOIs) from crossref.org
11	07 journal editors were informed of Journal Publishing Practices and Standards (JPPS) framework
12	Facilitated conducting the training programme on "Editorial Processes", online course - Part 1 conducted by INASP, UK (5th October - 8th November)
13	Facilitated 02 online training programme for journal editors on "Journal Management Systems" conducted by Ubiquity Press, UK on 29th April and 24th June
14	Serven inactive jornals rejoined

National Digitization Project

National Digitization Project was progressing successfully at its third phase (Phase III) during 2021. Digitization of local literature collections in selected libraries, establishment of Institutional Repositories (IRs) on DSpace software for each library & uploading of digitized documents into IRs were the main activities of each phase. Approximately, 80,000 documents were made available for online access by the end of 2021. The flow chart and progress of NDP since its inception (2011) is given in *diagram 02*.

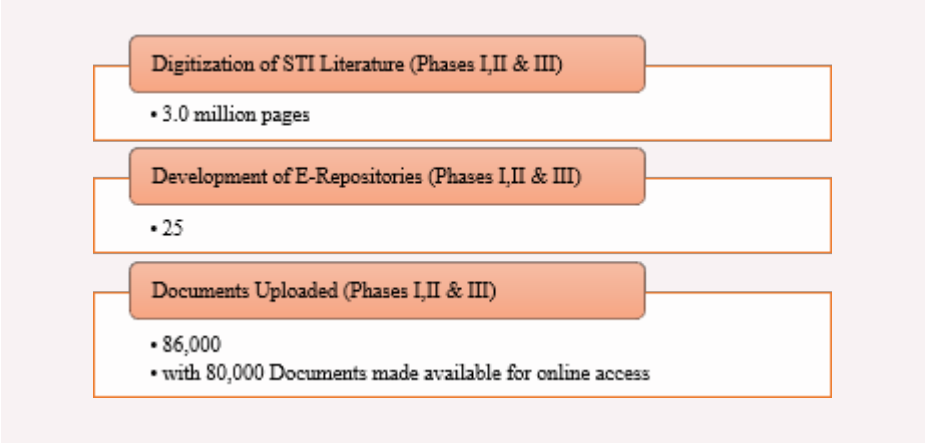


Diagram 02 : Flowchart (progress of NDP since its inception (2011)

Figure 40 depicts the total number of articles for which online access was provided via eight e-repositories.

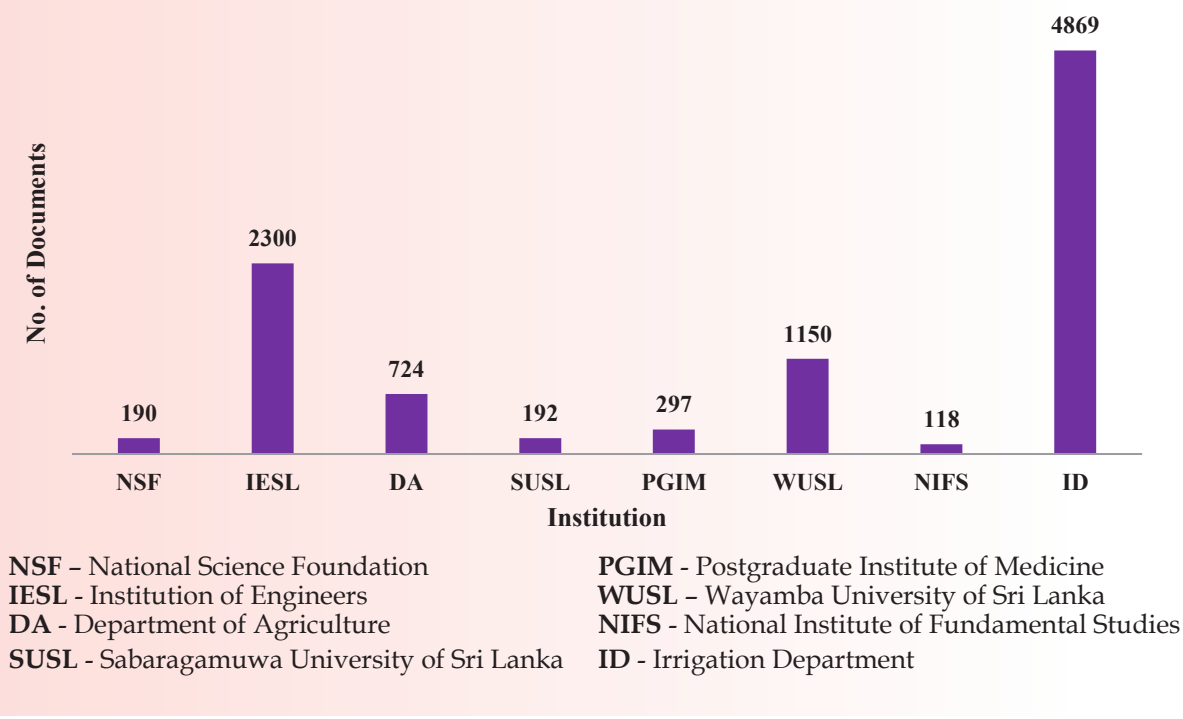


Figure 40: Full text articles/ documents made availble for online access in 2021.

One of the main objectives of the NDP is to increase the visibility and online accessibility for uses. It is measured by the number of views made and the number of documents downloaded. A significant increase in the usage of repositories in 2021 is observed compared to 2019 & 2020. More than 2.24 million views and more than 430,000 full text documents downloads are recorded in the year under review.

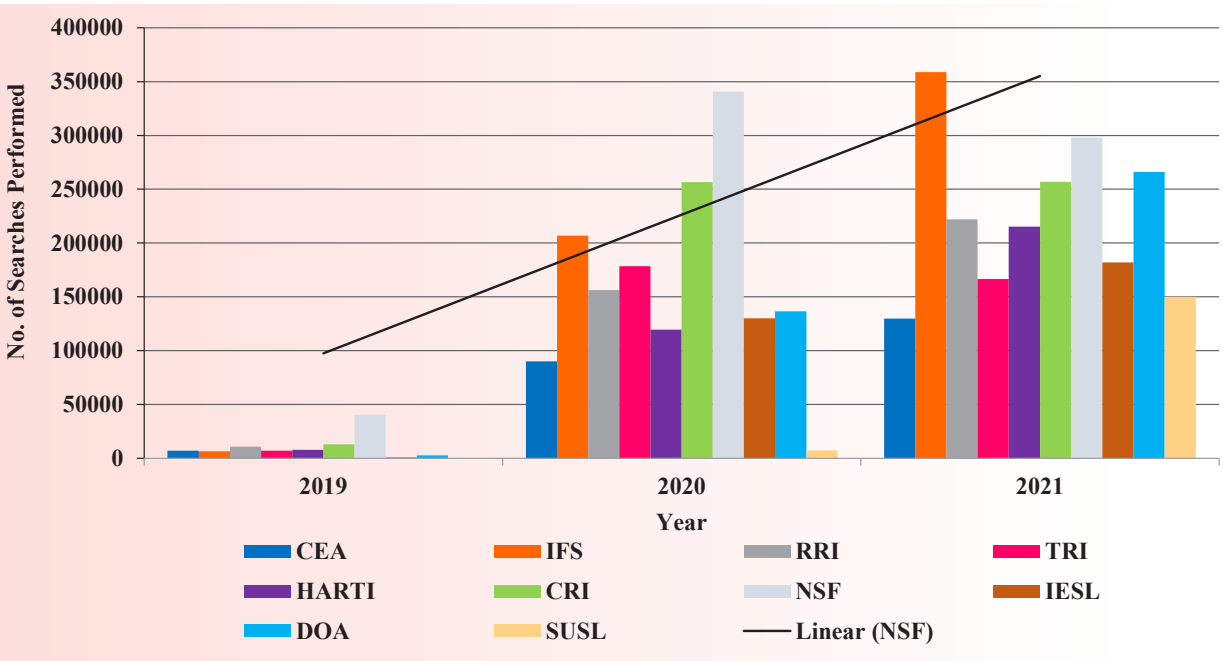


Figure 41: Usage of Repositories hosted on NSF server based on searches

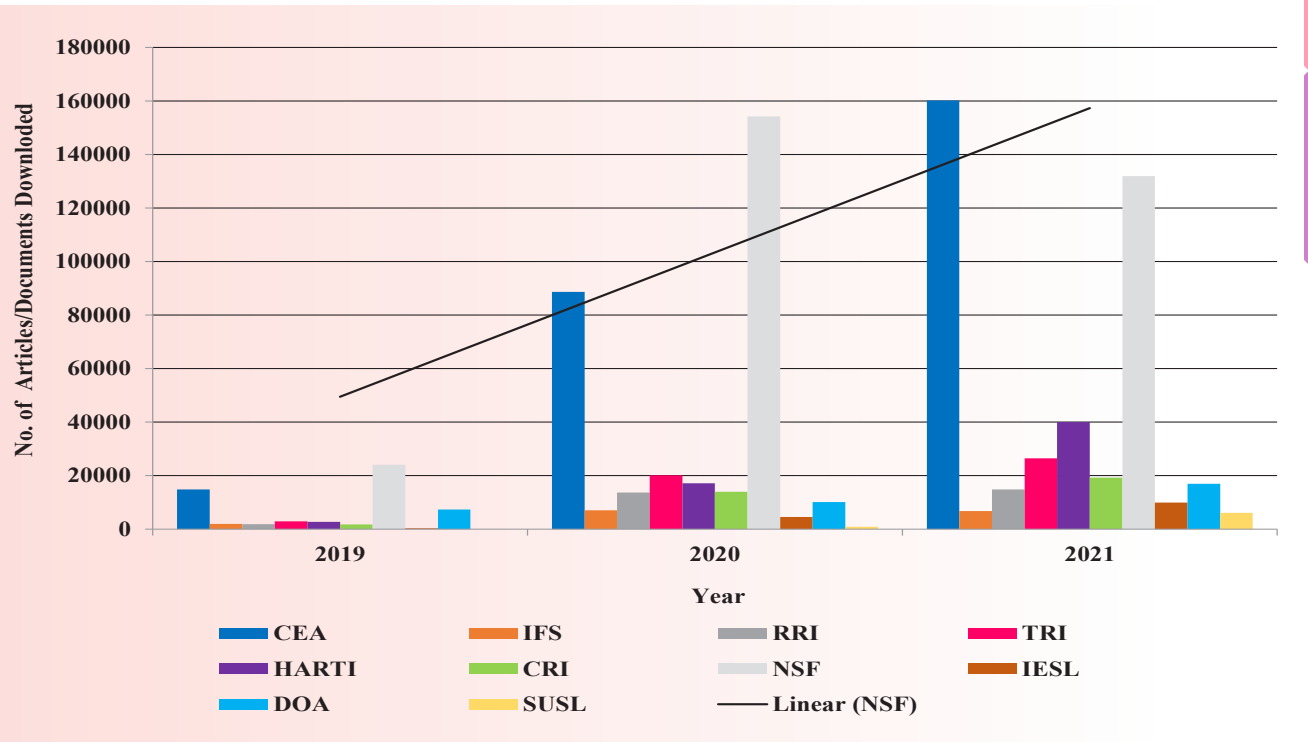


Figure 42: Usage of Repositories hosted on NSF server based on downloads

The NDP was extended to two organizations i.e., the Ministry of Environment & the Presidential Secretariat in 2021. The digitization of publications of the Ministry needs to cover approximately 15,000 pages. The two projects will flow through 2022.

Development and Maintenance of National Databases of Scientific Information

During the year 2021, the NSF was able to further strengthen its Scientific Information Databases by adding 8,534 records to Sri Lanka Science Index (SLSI), SLSTICAT and, Sri Lanka Association for Advancement of Science abstract (SLAAS) Databases.

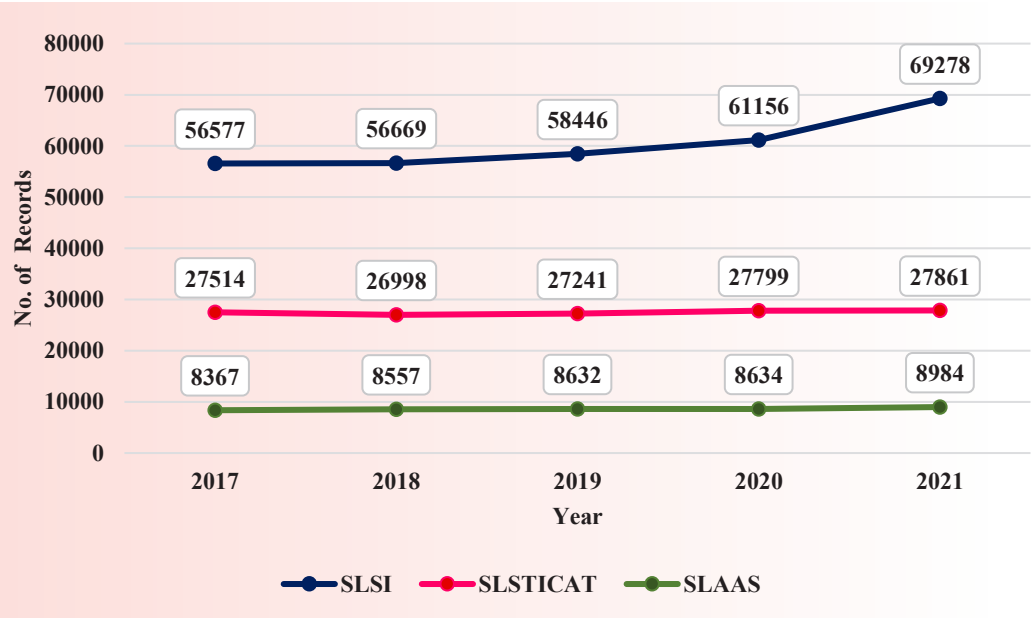


Figure 43: Growth of Scientific information Databases (2017- 2021)

It is a great achievement for NSF to be able to share 208,586 documents of full range of academic disciplines worldwide to overcome the great challenge faced by Sri Lankan researchers in disseminating their findings worldwide. In this year, 21,526 new documents & records were added and 41,592 records were updated in the digital repositories and databases. According to the statistics given on Google analytics and other, in 2021, 2,503,596 viewers have been recorded from all databases and 577,467 full text articles have been downloaded globally.

Providing a source for STI indicators & data

National Research and Development Survey

The Statistical Handbook on Research and Development Survey 2018 was published based on the survey conducted from March 2019 to March 2020. The statistical handbook reflects the performance of Research and Development activities of the country in the fiscal year 2018. The Survey is conducted based on international standards laid out by the Organization for Economic Cooperation and Development (OECD). The scope of the Survey encompasses the following four sectors:

- Higher education sector
- Government R&D institutions
- Business enterprise sector
- Private nonprofit organization sector

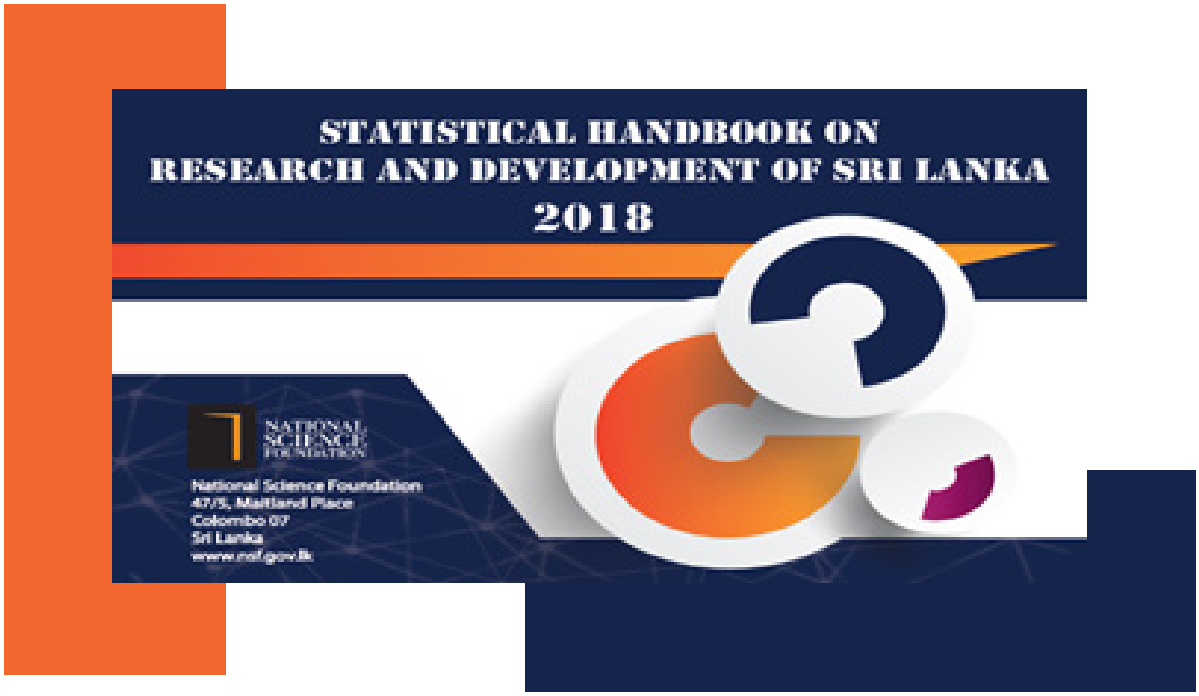
Compared to previous years, several measures were taken to improve the survey of 2018. As a result, response rate was significantly increased for the Business Enterprise Sector improving higher representation and data quality. The partnership built up with the Department of Census and Statistics played a significant role in this.

R&D statistics for the year 2018 was shared with the UNESCO Institute of Statistics (UIS), NSF being the national focal point.

Highlights on the R&D Survey 2018 are given below.

- The Gross Domestic Expenditure on Research and Development (GERD) of Sri Lanka in 2018 was Rs. 18,343.92 million and it was 0.13% of GDP of the country in comparison to Rs. 17,003.34 million in 2017.

- The highest expenditure on Research and Development was incurred by the Business Enterprises (39.77%) followed by the Government Research Institutes (35.42%). The proportions regarding this for the Higher Education and Private Non-Profit Organization sectors are 23.46% and 1.35% respectively.



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, advanced scientific equipment available in the institutions, ongoing research activities, technologies developed and transferred by the institutions, services and training programs offered by the S&T institutions for the public and research publications done by the individual scientists.

The database is enriched with additional features such as infographics to depict the number of members by expertise, qualifications, age, gender & institutions. There are 6981 registrants currently in the STMIS database, of which 263 are new registrants during the year 2021.

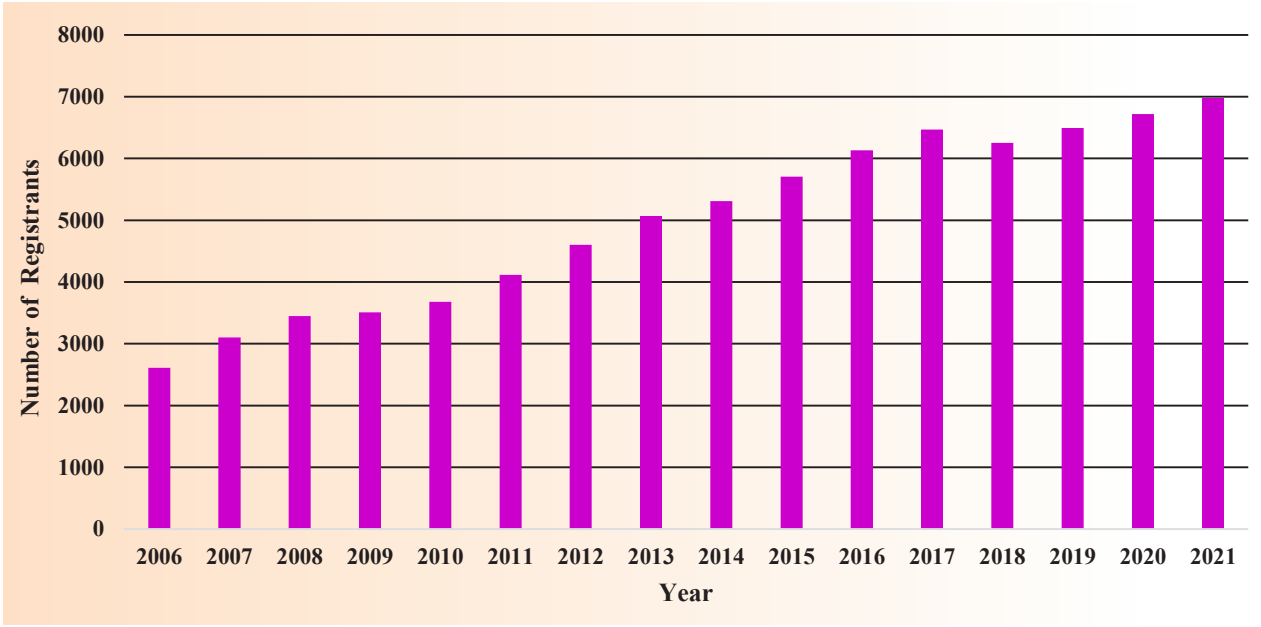


Figure 44: Registrants in the STMIS database

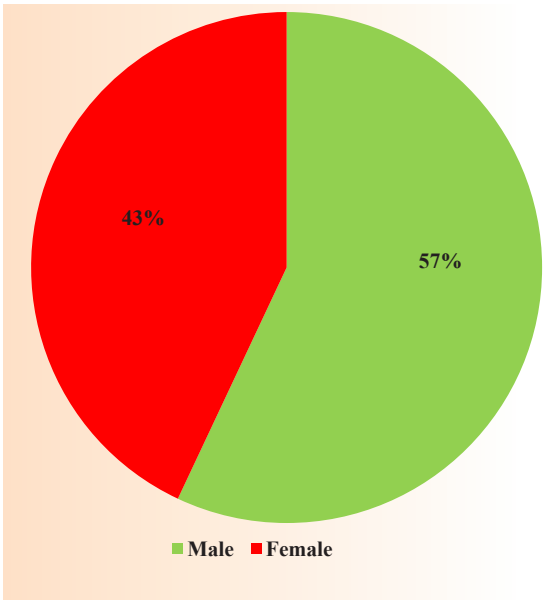


Figure 45: STMIS registrants by gender

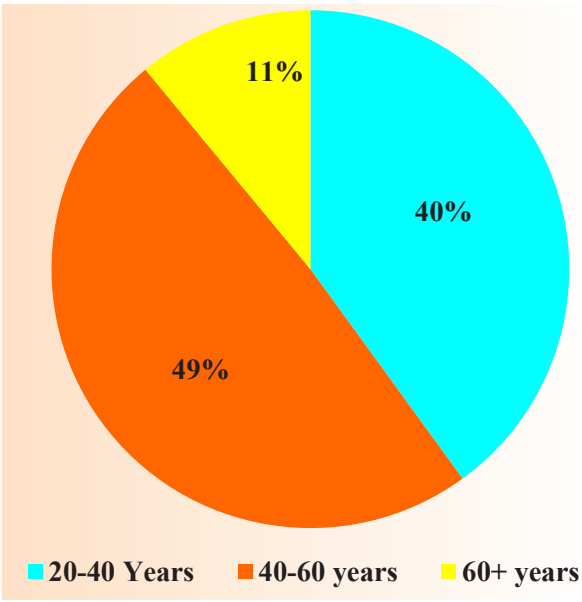


Figure 46: STMIS registrants by age group

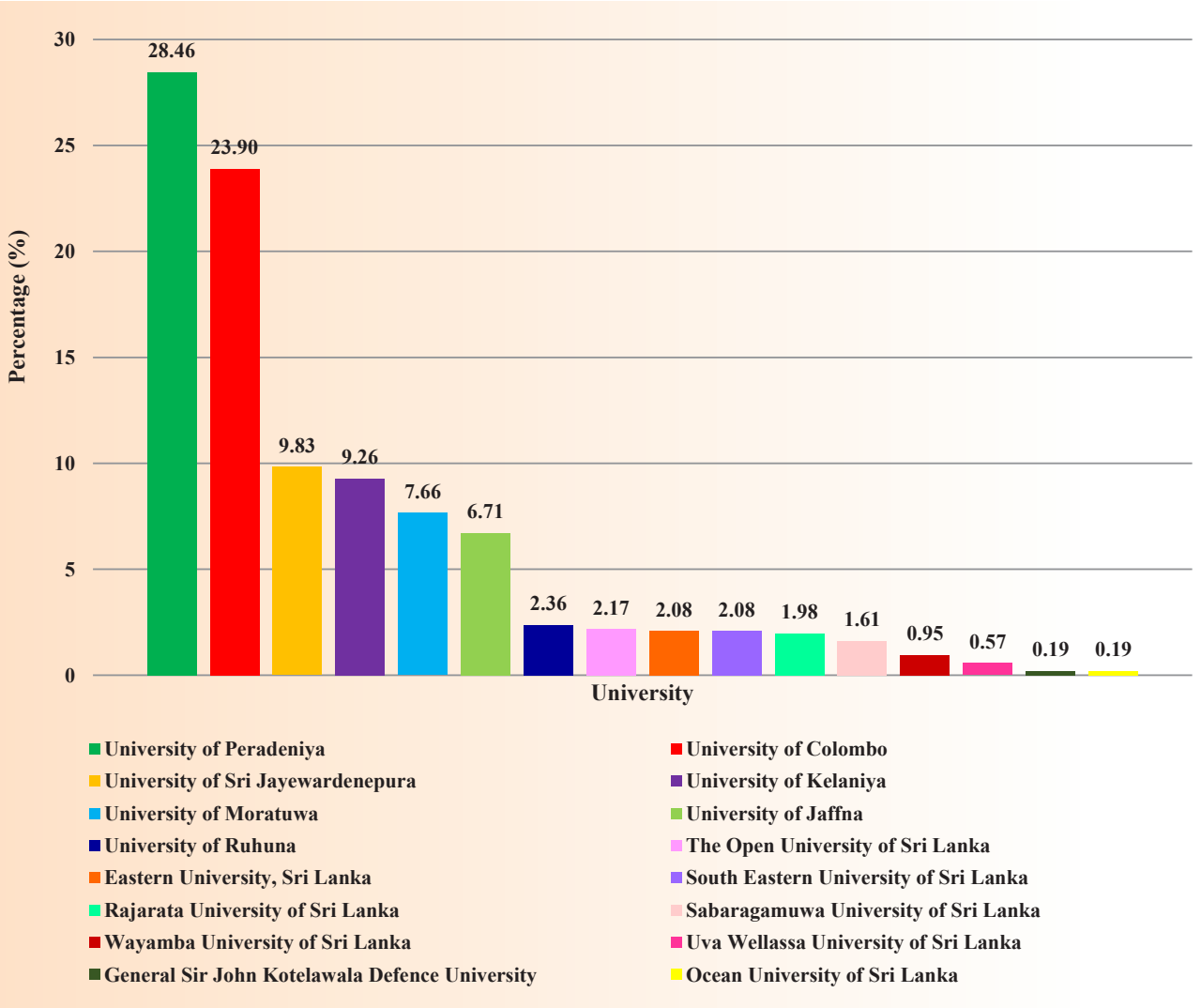


Figure 47: presentage registrants against the total registrants by university

With the objective of making STMIS a one stop information centre, the information namely, the basic details of the institution, contact details, services and training programs the institutes offer, technologies developed and specific equipment they possess were collected for 105 R&D institutions and entered into STMIS.

STMIS was linked to the website of the State Ministry of Skills Development, Vocational Education, Research and Innovations in 2021 to enhance the visibility and will be linked to the websites of other institutes in future.

Usage

STMIS database is used for disseminating important updates, such as scientific courses & events, grant calls and other information such as career opportunities, for the benefit of the registrants. Formal introduction of this facility has benefitted the STMIS registrants in receiving most up-to-date information regarding the opportunities available nationally and internationally.

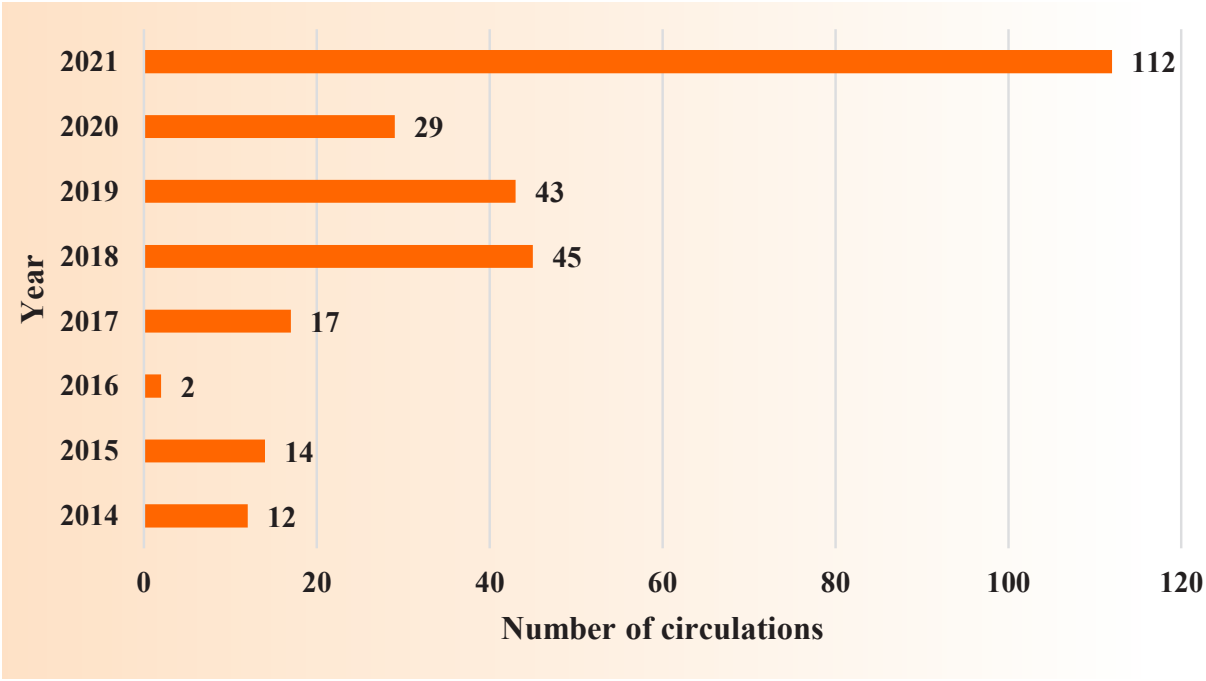


Figure 48: Information circulations via STMIS

Marking a significant increase, a total of 112 circulations were done during the year 2021 accounting LKR 75,000 as an income to the NSF. The service is becoming popular among the S&T community in the country as a reliable gate for receiving wider yet relevant information/audience.

Eleven customized comprehensive reports were generated in 2021 based on the requests of different stake holders using the data maintained in the STMIS. The reports included verified details of over 1000 experts in relevant fields.

Science Popularization

Strengthening networks for enhancing science literacy of people

Science Society Networks

- The School Science Society Network (SSSN) was initiated in 2005 with the objective of fostering school children to acquire knowledge on latest developments in various fields of Science and Technology, and to make them aware of the application of scientific knowledge in day-to-day activities. This network included all school categories (1AB, 1C, Type 2, Type 3 & Private). By the end of 2021, the total number of registered SSSs has been increased up to 1056, marking a continuous increase in yearly basis. Accordingly, the services of NSF are now reached to 575 1AB schools and 481 other school types.

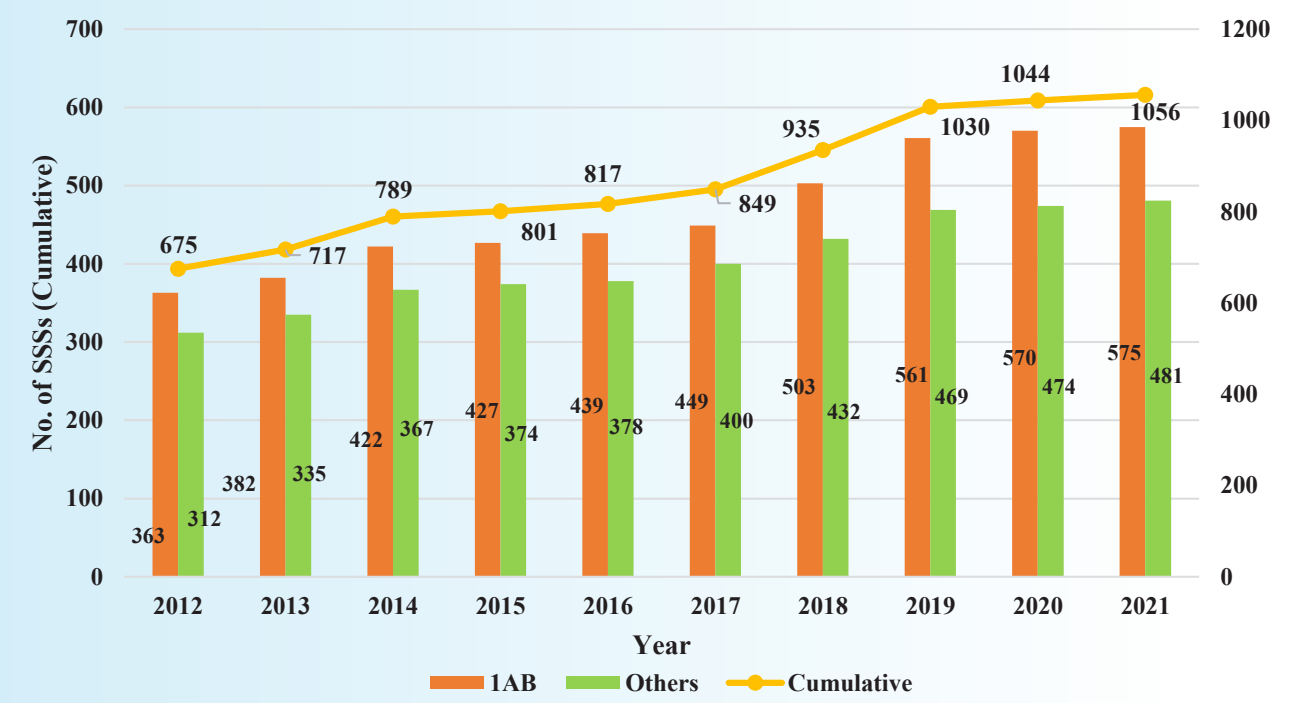


Figure 49: The number of registered School Science Societies from 2012 to 2021.

- University Science Society Network (USSN) programme was established in 2014 with the objectives of creating a platform for science undergraduates, developing their knowledge and skills in national activities. This also aimed at enhancing scientific communication, and improving writing skills of the undergraduates, and utilizing their knowledge to popularize science for the well-being of the citizens in Sri Lanka. A total of 85 University Science Societies had been registered with NSF by the end of 2021.

- The establishment of Youth Science Society Network (YSSN) is in progress.

NSF provided financial support and resource persons to three schools to conduct science popularization programs in the year under review.

1. "Sci-Eye" education research symposium 2021 organized by the Delta Gamunupura MV, Kotmale.

2. Research Symposium & Science Day of the Lyceum International School, Wattala.

3. "ExperiMentals 21" inter school scientific idea and research competition by the Royal College Science Association was supported by evaluating the research ideas and project proposals.

Competitions for secondary & tertiary level students

NSF received 215 research project proposals for consideration under Science Research Project Competition (SRPC) for students of Grades 9 - 13. The final evaluation of the SRPC was conducted in two steps: Step I: Selection of 20 science projects based on Multimedia Presentations, and Step II: Selection of Top Ten projects based on Poster Presentations out of 20 selected at Step I. The names of winners are given in *Table 09.*

Table 09: Winners of (SRPC)

No	Name	School	Project Title
1	A Y B Weerakoon	Dharmaraja College, Kandy	Investigation of pest control effect of Wathupalu (*Mikania micrantha*) leaf water extract
2	U G Bhashini Lakshika Abekoon	Delta Gemunupura Maha Vidyalaya, Pussellawa	Propagation of Dracaena sanderiana using cuttings under different conditions
3	J A Linuri Himansa W Naduni Navodya Ronethmi Sandewma Alawatta	Sirimavo Bandaranaike Vidyalaya, Colombo 7	Development of a ready to serve drink using juice of fresh *Cocos nucifera* sprouts
4	W R M U A K Wickramasinghe G D Kanathegedara T M P R V Tennakoon	Mahamaya Giris' College, Kandy	Isolation of polythene degrading microorganism
5	Tharushi Ekanayake Shwetha Abeywarna	Hillwood College, Kandy	Study on incidental bycatch of sea turtles in coastal and offshore fishery in Kalpitiya Peninsula, Sri Lanka
6	R K Sanduni Nethmini Ramanayaka M Paramitha Wijayawardana	Rathnavali Balika Vidyalaya, Gampaha	Evaluation of local plant species for the development of potential larvicidal agents against the *Aedes aegypti L.* (*Diptera: Culicidae*) mosquito larvae.
7	Niluminda Dharmawardhane Sandeepa Rajakaruna Gaviru De silva	Trinity College, Kandy	Population dynamics of Barking Deer (*Muntiacus muntjak malabaricus*) at Udawattekele Reserve Forest, Kandy, Sri Lanka
8	Riviru Dilwan Gunasena	Prince of Wales College, Moratuwa	Applicability of using selected household organic waste as a substrate for small scale cultivation and their potential to developing in commercial scale
9	P Kowarthanan M Rathukesh T Manojkaran	Paddiruppu M.M. Vidyalayam, Kalawanchikudy	Preliminary study of effective fluoride adsorption by aluminium oxide modified clay
10	Safa Rizan Sadika Shaheima Seema Faizal	Muslim Ladies College, Kensington Garden, Colombo 4	Knowledge, attitudes and practices and factors associated with knowledge regarding dementia among parents of ordinary level school children in a selected school in Colombo

Winners of SRPC 2020/2021, Ms Saduni Ramanayaka and Ms Paramitha Wijewardana of Rathnavali Balika Vidyalaya, Gampaha were accepted to participate at " iPURSE 2021" organized by the Faculty of Arts, University of Perdeniya with Oral presentations. The event was held on 11th November 2021.

Under the annual programme of conducting science competitions, eight science competitions under the theme "Let's Apply Science to Rebuild the Nation" were conducted. Cash prizes and certificates were awarded to all winners. Teachers promoting science and best performing School Science Societies were also recognized.

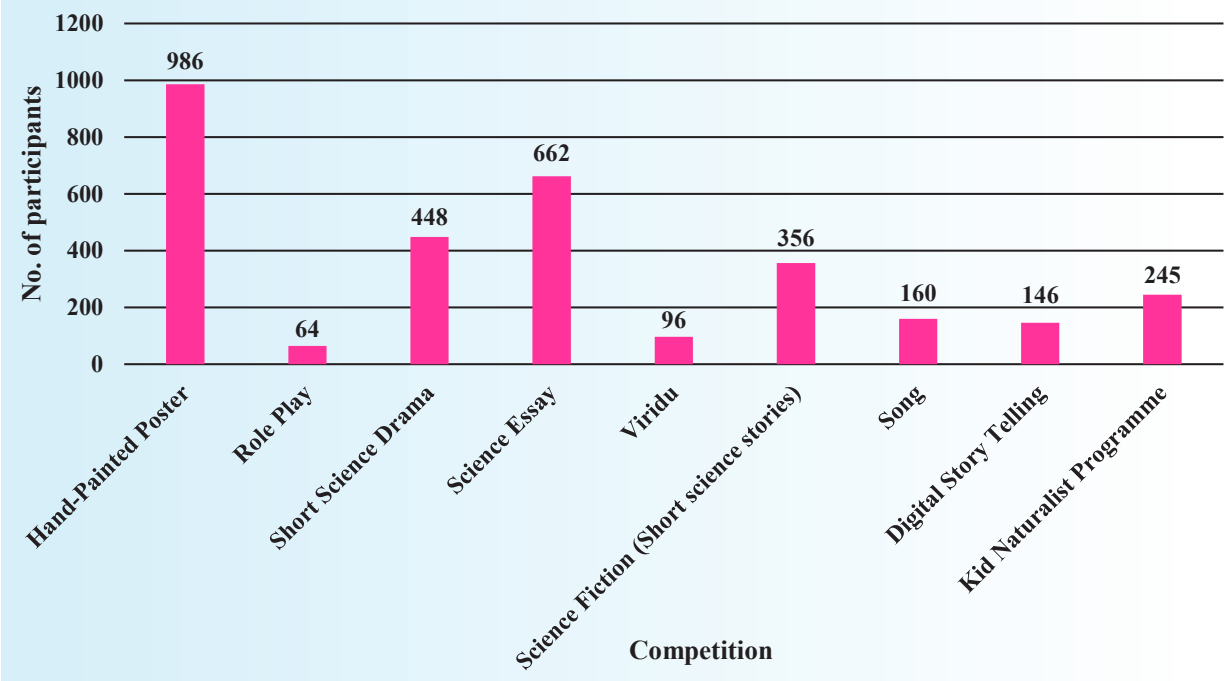


Figure 50: Participantion at different competitions by school children in 2021

Top 20 contestants of the "Digital Story Telling" competition were directed to participate at the "International Contest of Creative Popular Science Video Works" organized by the World Organization for Science Literacy. The contest was focused on the theme "Sustainable Development of Society". 05 first prize winners, 10 second prize winners, and 50 third prize winners had been selected at this competition.

Table 10: Winners of International Contest of Creative Popular Science Video Works

Name of the winner	Title of the Video	Place
Kisara Gethmin Peramunugamage Pahandi Udana Peramunugamage	Saving the planet through sustainable energy sources	First Prize
M Hasinidu Jayashan De Silva	Promoting Public Science Literacy for Life and Health	First Prize
P A Thewmali Piyadasa	Climate Change and Carbon Emissions	Second Prize
Denagamage Sanuga Dulwan	Creative Thinkers Build A Better World	Second Prize
Diduli Diyanadini	Can We Use Lightning As an Energy Source	Third Prize
Dinithi Wijegunawardena	Deep sea, deep space, and the deep ground	Third Prize
Gumsara Weerasinghe	Science Behind Bridges	Third Prize
Thewnitha Piyadasa	Health and life	Third Prize
M Jayantha De Silva	Agriculture and Food Safety	Third Prize

'Kid Naturalist' is a new competition introduced in year 2020 that encourages students from primary level (Grade 1-5) to explore the environment with motivation. The plan was to ensure that the students utilize their time productively during enforced school closures. The winners were felicitated during the World Science Day celebrations.

Celebrating the World Science Day

The World Science Day for Peace and Development has been declared by UNESCO for 10th November every year. The celebration highlights the significant role of science in society and the need to engage the public wider in debates on emerging scientific issues. It also underlines the importance and relevance of science in our daily lives.

The NSF celebrated the World Science Day on 16th November as a hybrid event at BMICH, Dr Seetha Arambepola, the Hon. State Minister of Skills Development, Vocational Education, Research and Development being the chief guest. The theme of the year was "Let's Apply Science to Rebuild the Nation". Keynote addresses were delivered by two eminent scientists, Prof. Neelika Malavige, Professor of Microbiology and Director, Centre for Dengue Research, Department of Microbiology, Faculty of Medicine, University of Sri Jayewardenepura on "Why scientific research is important for the national development" and Mr Manju Gunawardena, Inventor Senior Research Scientist and CEO of Hybrid Technologies, and consultant/ Nanotechnology applications, SLINTEC on "Creating innovation culture to rebuild the nation"

Publications on Science popularization

The "Vidurava" Science Magazine was published under the theme: Biosafety, COVID 19, Silent pollution & Non-conventional Environmental hazards.

Eight books were printed under the science popularization grant scheme targeting public.

1) "SPSS සරලව" by Mr Salinda Weerasinghe and H. H Harshani Dedunu

2) "ආරක්ෂිත ආහාර සැකසීම" by Prof. Upali Samarajeewa

3) "ෆින්ලන්තය අපේ ඇසින්" by Prof. Sunethra Karunarathne

4) "Rice production principles, practices and constrains in Sri Lanka" by Dr Nanada Senanayaka

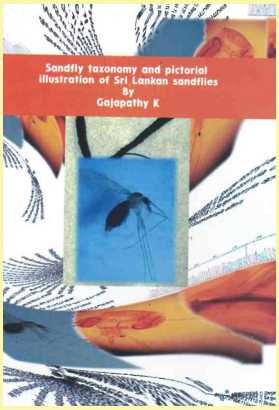
5) "Chemistry in everyday life" by Prof. O A Ileperuma

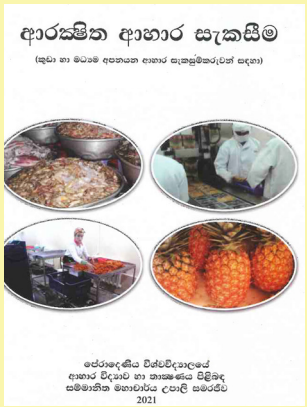
6) "A historical review of Science planning and research in Sri Lanka 1812-2000" by Mr Asoka De Silva

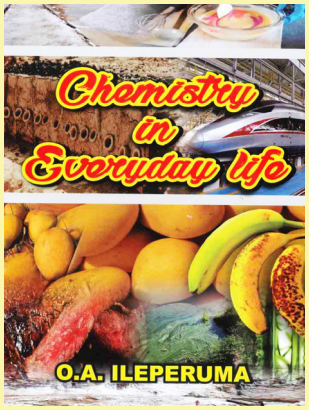
7) "Dress of women in Sri Lanka" by Dr Ayesha Wickramasinghe

8) "Sandfly taxonomy, pictorial illustrations of Sri Lankan sand flies" By Dr Kanapathy Gajapathy

9) "Indigenous knowledge, traditions, culture and lifestyle practices in ancient Sri Lanka" by Mr Asoka De Silva







Sub functions and sustainability

As in previous years, it was a continued effort of the NSF to improve the policies, processes and procedures together with management and technical competency of staff. To improve the working environment and create a happy and contented staff was another important matter the NSF has taken into account thourgh out.

Administration 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 was continuously supporting the other Divisions of the NSF to carry out core functions of the NSF.

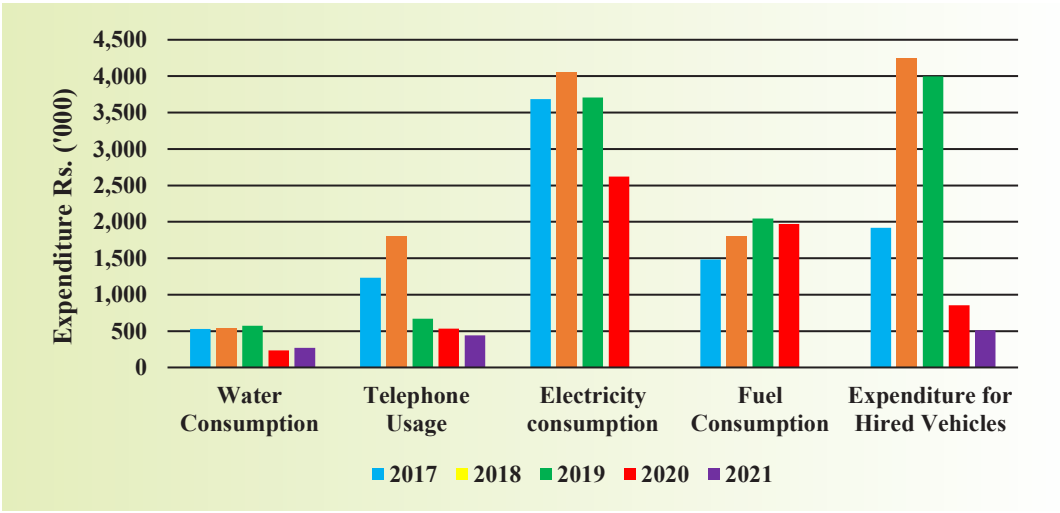


Figure 51: Expenditure on utility facilities (2017-2021)

Financial support

The Finance Division manages all the financial activities in order to execute all planned and approved work in the action plan 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.

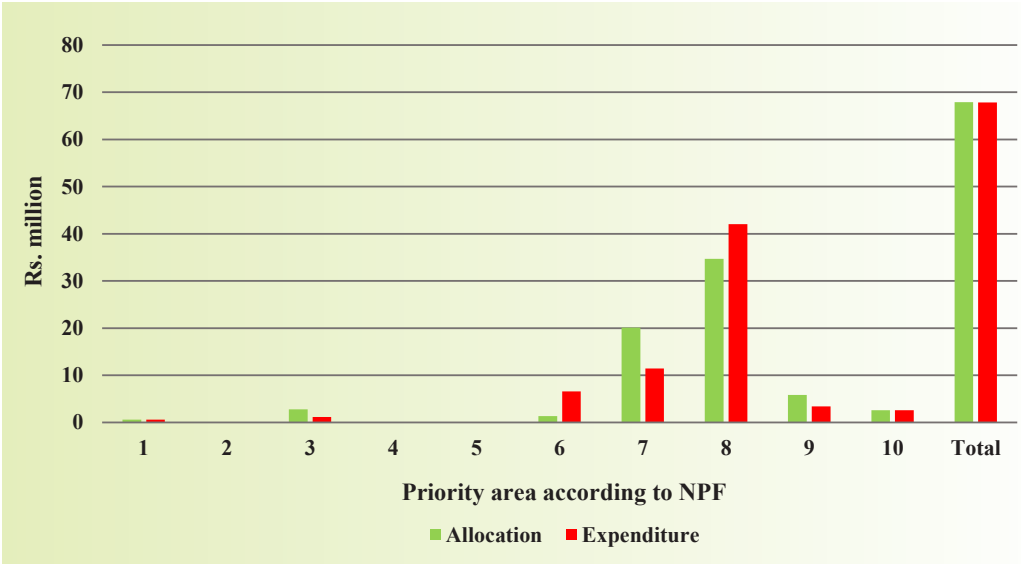


Figure 52: Financial performance under priority ares

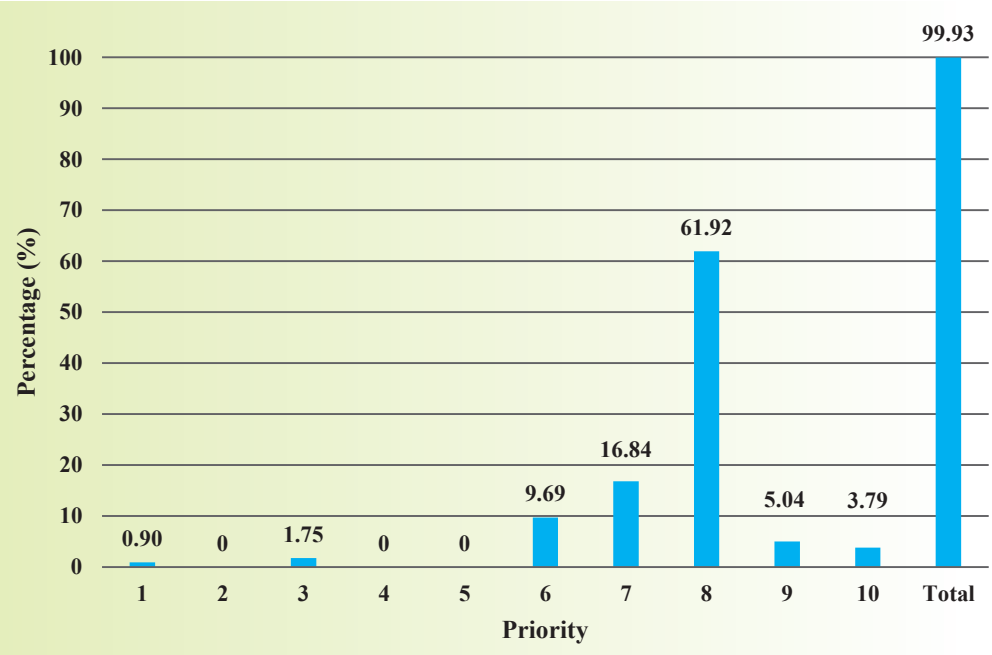


Figure 53: Expenditure under priority ares as a percentage against the total allocation Rs. 67.897 million

Information technology support

The IT Unit is responsible to maintain the organizational ICT infostructure facilities and provide end-user IT support to the NSF Staff. During 2021, the IT Unit has played a significant role to enhance institutional "Work from Home" culture in terms of arranging online webinars, meetings and providing technical support.

Improving processes & procedures

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 meetings of Heads of Divisions (HoD) provided a regular platform facilitating decision making with regard to carrying out administrative functions and thereby paving the way for making timely recommendations to the Board of Management.

12 regular Board meetings were held during the year.

Improving technical competency of staff

The purpose of training is to equip people with necessary skills, knowledge and attitudes to meet the organization's needs in relation to its objectives. Training is undertaken after a critical appraisal of Institutional/Divisional needs in relation to its objectives, while taking into account the realistic aspirations of the employees. Training and development is a continuous process at NSF for every employee, irrespective of the category.

NSF recognizes the value and importance of providing opportunities to all staff, managerial, executive and other support staff, to develop their job-related knowledge and skills. NSF expects that with development and training, individual effectiveness will increase and the staff will make a richer contribution to the work of their Divisions in support of NSF obligations. By the effective utilization of limited resources and investing in peoples' training and development, the NSF expects to harness the full potential of the staff, while fulfilling their needs for personal development and job satisfaction.

Accordingly, the Staff Development Committee (SDC) of the NSF, prepared the Annual Training Plan for the institution based on the training needs identified by the Heads of Divisions and Units. Every effort was made by the SDC to provide need-based training opportunities to the staff during the year, within the annual allocation for staff development, complying with the guidelines given in the Staff Training Policy. Eventhough many traning oppertunities were obstructed by the COVID pandemic, the staff followed online programmes fulfilling the needs.

The details of training provided is given in *Annex 07*.

Audit & Management Committee report

The Board of Management of the NSF appointed three Board members including the Treasury Representative to serve in the Audit & Management Committee (AMC) at its meeting held on 27th February 2020, as per the directives given by the PED/55 circular. These members continued to serve in 2021 too. However, Mrs Ruzniya Abdeen was nominated in place of Mr R M D K G N Ranatunga, treasury representative to the NSF. Prof. Nimal Nawarathne was appointed in place of Eng. (Prof.) S B S Abayakoon from October 2021 as Prof. S B S Abayakoon resigned from the Board. A representative from the National Audit Office and Chief Internal Auditor of the Ministry were invited to serve as observers of AMC proceedings.

The AMC plan was to meet on quarterly basis. However, due to COVID pandemic situation of the country, only two meetings were held on the 29th October and 12th January 2022 for the year 2021. Mrs Ruzniya Abdeen served as the Chairman of the AMC at both meetings. The AMC forwarded its recommendations to the Board of Management along with the minutes of the meetings and the Internal Auditor of the NSF conveyed the recommendations of the AMC to the Heads of the Divisions of NSF to take appropriate action for smooth functioning. Progress reports on the actions taken were also reported at the subsequent AMC meetings.

The AMC drew special attention to the following in their reviewing of progress.

- Follow-ups on the NAO queries until completion and avoid repeated queries.
- Follow-ups on the statutory requirements of the NSF throughout the year.
- Review of activities of the NSF and making recommendations on corrective and preventive actions.
- Review internal audit observations and external audit reports, management letters and recommendations helping the Board to take remedial action.
- Review and provide directives for the internal audit activities.

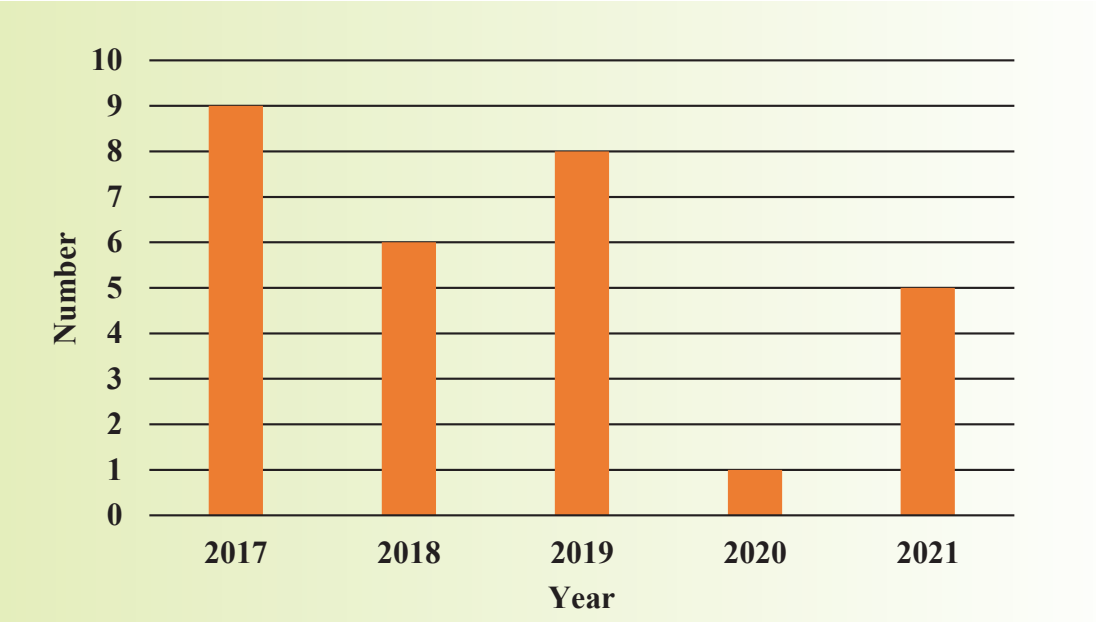


Figure 53: Number of Audit Queries received (2017-2021)

Printing support

Despite the pandemic situation in the country the Printing Unit was continuously engaged with the printing activities fulfilling the printing requirements of the Scientific Divisions with the available resources. Accordingly, the following work was completed with quality outputs in order to attract the stakeholders with printed scientific information. Fifteen (15) different types of publications were printed during this year. The details are given in *Table 11*.

Table 11: Variety of material printed

Publication	Quantity
SLJSS	
June 2020 & Off prints	75+20
June 2021 & Off prints	75+20
JNSF	
June 2020 & Off prints	180 +20
September 2020 & Off prints	180 +20
Vidurava	
April - June 2019 (Tamil)	750
October - December 2019 (Tamil)	750
April - June 2020 (English)	1600
April - June 2020 (Sinhala)	2000
Other	
Statistical Handbook 2018	250
Research Awards Booklet 2021	85
Annual Report - 2019 (3 Languages)	02
Annual Report - 2020 (3 Languages)	02

In addition, the Printing Unit covered all other printing requirements of the NSF by attending to fourteen (14) separate print job requests during the year 2021.

Initiative to make NSF a Carbon Neutral Model Institute

In line with the 2030 Agenda for Sustainable Development, national actions in the respective domains are recognized as critical since the outcomes synergistically enable the achievement of the set targets. Sri Lanka's intended contribution not only is substantial but also critical given the phase of its economic growth and development. As a fast-growing economy in South Asia, Sri Lanka has to decouple its economy from the fossil resources not only to comply with the set environmental targets, but also to achieve the economic sustainability in the long-run. Therefore, decisive action such as renewable energy integration [RENi], sustainable consumption and production [SCP], etc., subsequently leading to the achievement of Zero Emission Systems is prioritized nationally. Yet, practical actions and successful examples to that end are largely missing in the public sector of Sri Lanka as opposed to that of the public sector of the developed economies. Accordingly, the NSF took some initiatives with the vision to establish a Zero Emission Public Office as a 'national lighthouse project' by implementing zero emission technologies and strategies, so that the public sector, the private sector and the general public can have a successful point of reference of whose scope can be scaled to meet the individual and national requirements.

General Objectives of this initiative were to transform NSF into a most exemplary eco-friendly institution in Sri Lanka, to achieve the 2030 Agenda for Sustainable Development, in particular the goals 7, 8, 9, 12, and 13. Specific Objectives would be to reduce and minimize the Carbon footprint and achieve carbon neutrality, to reduce and minimize the water footprint, to reduce and minimize the ecological footprint, to improve internal air quality and the working environment

Proposed Interventions/Strategies/Activities are of threefold:

Short-term projects: Making NSF a paperless institution, Restructure within divisions – separate areas for printers, indoor plant to each desk, plants for corridors, each division, a system to switch on and off A/Cs, applying efficient solid waste management strategies & technologies, establishing a composting unit, maintaining a home garden, indoor and outdoor lighting based on LED.

Medium-term projects: Establishing a rainwater harvesting system, fresh air intake for ventilation system, water saving installations, utilization of (partly pre-treated) grey water.

Long-term projects: Mounting photovoltaic [PV] on rooftops, enhancing the energy management system, thin-foil lamination [window films] of windows directly exposed to sun (east/west), electro-mobility option to manage internal and external mobility needs based on carbon-neutral energy, application of waterless urinals and installation of vacuum toilets, separate collection, treatment and usage of grey and black water flows.

Expected Outputs are calculations on how much reductions of utility usage would be possible with the implementation of suggested projects. Expected Outcomes are, interventions made aimed at considerable reduction of expenditure on public utilities, travel & transport and office consumables/ stationary, be in a position to apply for national/ international standards for green buildings/ green certification.

5S Quality Circle project on solid waste management

To supplement one short-term project mentioned under "making the NSF carbon neutral" and under the 5S Quality Circle project, a separate sub project was planned for solid waste management. Planned activities under this sub project are: to organize a pre awareness on segregation of waste, survey on quantity and type of waste generated, preparation of schedules & guidelines for disposal of different types of waste, obtain approval and implement, appoint a consultant, select a composting site, purchase required equipment, select service providers, construct composting site, staff awareness

on implementation plans, implementing the activities on non-biodegradable waste, implement the project on biodegradable waste – composting.

These Projects and activities hindered to some extent due to the pandemic situation will be commenced and continued in year 2022.

Future projection report

Programme	Measures	
	Short	Medium
1. Facilitate & support basic and applied research to strengthen the R&D potential	• Periodically evaluate all grants to ensure expected outputs • Recognize and encourage senior scientists to supervise PG degrees and reward for research excellence • Promote industry-oriented technology development through PPP ensuring commercialization. • Conduct thematic/commissioned research on national priority areas specifically at critical national crisis. • Identify gap-filling research for already funded research, and completed research with potential outputs with product/process and commercial value • Initiate Partnership Programs with industry/ institutions to identify research and technology needs and apply strategies to address the needs.	• Effective dissemination of research findings and facilitate implementation. • Optimal utilization of resources to improve facilities for R&D including human resource potential • Facilitate technology development/start-up/ Commercialization
2. Provide a platform for S&T indicators/ resources and conduct policy research	• Conduct National Research and Development Survey. • Maintenance of Science and Technology Management Information System (STMIS). • Conduct policy research, publish policy briefs, and follow up with intended outputs/outcomes.	• Generate/update indicators to measure the status of Science and Technology in Sri Lanka. • Upgrade the STMIS using modern technologies to increase its efficiency. • Make policy recommendations based on policy studies/ discussions to address nationally critical/ important / prominent issues.
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.	• Browse/subscribe with available resources to international resource databases • Promote using Open Access Online Journals. • Continue with the National Digitization Project ensuring access to S&T research papers/articles. • Management of Sri Lanka Journal Online Project (SLJOL). • Expedite the peer-review process and shorten the time for publication of the two scientific journals, JNSF and SLJSS • Strengthening the Human Resource base of the Journal Publication Division • Harness eminent Sri Lankan expatriates abroad through the Digital Platform and facilitate cutting-edge knowledge transfer in the fields having strategic advantage.	• Establishment of the e-consortium and make available the access of S&T literature required for R&D. • Attract more articles to the journal, especially from the local authors. • Improve the Impact Factor (IF) of the two journals (JNSF & SLJSS). • Facilitate establishment of long-term partnerships with global talent pool via Digital Platform to foster interchange of innovative knowledge • Make SLJSS indexed in the Social Science Citation Index
4. Popularize science amongst schools and public	• Use mass media for public awareness and popularizing science • Conduct science competitions • Support & encourage all students (schools & universities) in participating at science competitions locally and internationally. • Conduct outreach programmes for different segments of community including youth, women, farmers to enhance science literacy and application of scientific research outputs. • Recognize by making awards for scientists, media personnel for promoting science communication • Recognize by making awards for teachers, zonal director for enhanced student engagement in science and science popularization work.	• Provide training for science communication to relevant stakeholders engaged. • Ensure facilitating STEM education and make an enabling environment for conducting scientific research by improving laboratories in schools. • Effective dissemination of R&D outputs/research findings and facilitate implementation

5. Promote and enhance capacity building through liaising with individuals, associations, or institutions locally and internationally and facilitate the engagement of expat Sri Lankan scientists and technologists of distinction for S&T development in the country	• Strengthen the engagement of local scientists with the Global Digital Platform to provide a wider audience/ exposure for international multilateral/bilateral S&T cooperation. • Facilitate collaborative research activities with diverse research organizations. • Building capacity at postgraduate and postdoctoral levels. • Harness eminent Sri Lankan expatriates abroad through the Global Digital Platform and facilitate capacity building of young researchers though remote supervision • Conduct online training programmes (capacity building workshops and webinars) harnessing expatriates abroad via Global Digital Platform • Periodically evaluate all scholarships to ensure expected outputs	• Facilitate retaining Sri Lankan graduates in the country and encourage fresh PhD holders to continue their R&D activities for socio-economic development of the country. • Liaise with Sri Lankan expatriates and STI organizations abroad to facilitate branching out of world class R&D centers to Sri Lanka • Expanding and leveraging the networks and partnerships with Sri Lankan expatriates and STI organizations abroad for enhancing capacity building opportunities for Sri Lankan researchers/post graduate students.
6. Enhance the intellectual and physical environment in the NSF to achieve excellence in all its activities.	• Develop HR and physical infrastructure/infostructure facilities securing funding and utilizing 100% allocation.	• Ensure state-of-the-art office management and service facilities based on up-to-date three-year planning horizon.

Audited Financial Report

Observation of the accounting officer on performance 2021

NSF is a funding organization which is solely dependent on government funds. Funds recommended by the Department of National Budget under "Recurrent" and "Capital" expenditure for NSF for the year 2021 were Rs. 153 million and Rs. 68 million, respectively. Department of Treasury Operations released Rs. 132.1 million for "Recurrent" expenditure and Rs. 61.7 million for "Capital" expenditure in installments and NSF collected Rs. 10.2 million as balances remaining in the completed grants during the year. The details of expenditure are given in *Table 12 & 13*.

Table 12: Recurrent and Capital expenditure in 2021

Description	Rs.' 000	
Recurrent Expenditure	Estimate	Expenditure
Personal Emoluments	118,520	108,711
Other Recurrent	34,480	25,706
Total Recurrent Expenditure	**153,000**	**134,417**
Capital Expenditure	**67,897**	**67,848**

The details of Capital Expenditure for 2021 is given in *Table 09.*

Table 13: Details of Capital expenditure in 2021

Priority	Description	Expenditure – 2021 (Rs.' 000)
Priority – 01	Establishing Sri Lanka as an Innovation Hub by maximizing the use of Internet of Things, Artificial Intelligence, Biotechnology, Robotics, Augmented Reality, Cloud Computing, Nanotechnology and 3D Printing.	611
Priority – 02	Making efficient the system to issue patents to researchers for innovations and to secure ownership of IP.	-
Priority – 03	Providing facilities to local research institutions to collaborate with the international research institutions.	1,190
Priority – 04	Bringing awareness to tax reliefs provided to private enterprises contributing to research.	-
Priority – 05	Introducing domestic or foreign investors required for manufacturing under a domestic brand the local innovations.	-
Priority – 06	Formulating an efficient mechanism to channel innovations and research results to investors and relevant users.	6,577
Priority – 07	Science to Community.	11,432
Priority – 08	Energies and capacities of universities, research institutes and private sector will be garnered by promoting/encouraging research in modern agriculture and agriculture innovation, Biotechnology/ Nanotechnology, Artificial Intelligence, value addition and technological innovation, indigenous drugs, Environment and Biodiversity Conservation and Protection etc.	42,044
Priority – 09	All qualified students to continue their higher education by Providing adequate funds to university students to pursue new courses.	3,420
Priority – 10	A 'Long-term Human Resource Plan to enhance the productivity and efficiency of the staff. The numbers required for an efficient service, the structure and distribution of staff, and the work allocation of the staff to be included in this plan.	2,574
Total Capital Expenditure		**67,848**

NATIONAL SCIENCE FOUNDATION
STATEMENT OF FINANCIAL POSITION
As at 31st December 2021.

As at 31.12.2020		Notes	Rs.	Rs.
	Assets			
	Current Assets			
18,267,547.64	Cash & Cash Equivalents	**21**	28,475,552.01	
6,204,345.42	Receivables	**22**	6,028,668.52	
2,451,155.57	Stocks	**23**	2,524,786.09	
1,444,387.94	Pre Payments - **(Schedule - 07)**		1,529,325.94	
108,650.00	Other Current Assets	**24**	93,650.00	
28,476,086.57	Total Current Assets			38,651,982.56
	Non-Current Assets			
11,770,580.00	Receivables	**22**	8,743,598.00	
1,285,495,959.80	Property,plant & Equipment	**25**	1,268,447,090.38	
4,506,617.43	Intangible Assets	**26**	3,379,826.46	
883,002,124.00	Investments	**27**	883,002,124.00	
2,184,775,281.23	Total Non-current Assets			2,163,572,638.84
2,213,251,367.80	**Total Assets**			2,202,224,621.40
	Liabilities			
	Current Liabilities			
4,862,544.46	Accrued Expenses	**28**	7,545,192.31	
7,207,871.86	Creditors	**29**	4,206,054.22	
12,070,416.32				11,751,246.53
	Non-Current Liabilities			
41,831,260.29	Provision for Retiring Gratuity	**30**	41,389,595.00	
63,976,664.83	Deffered Revenue	**31**	55,385,154.44	
105,807,925.12				96,774,749.44
117,878,341.44	**Total Liabilities**			108,525,995.97
2,095,373,026.36	**Net Assest**			**2,093,698,625.43**
	Equity and Reserves			
	Accumulated Fund			
(13,876,605.15)	NSF Fund		(26,296,276.41)	
(23,467,308.51)	Add: Excess of Expenditure over Income		(12,722,038.18)	
(37,343,913.66)	**Total Accumulated Funds**			(39,018,314.59)
1,249,216,114.91	Revaluvation Reserve			1,249,216,114.91
883,002,124.00	Government Grant			883,002,124.00
498,701.11	NSF Development Fund	**32**		498,701.11
2,095,373,026.36	**Total Equity**			**2,093,698,625.43**

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Head Administration & Finance

The Accounting policies and Notes on pages 06 to 37 form an integral part of these Financial Statements. The Board of Directors is responsible for the preparation and presentation of these Financial Statements. These Financial Statements were approved by the Board of Directors and signed on their behalf,

.....	.....	.....
Chairman	**Director General**	**Board Member**

NATIONAL SCIENCE FOUNDATION
STATEMENT OF FINANCIAL PERFORMANCE
For the year ended 31st December 2021.

As at 31.12.2020		Rs.	Rs.	Rs.
	Grants from Treasury			
59,000,000.00	Capital			61,672,900.00
150,690,000.00	Recurrent			132,100,000.00
209,690,000.00				193,772,900.00
	Income for the year			
636,367.44	Interest received	715,082.71		
184,023.46	Sundry Income	15,150.00		
(818,229.49)	Sale of Publications - **(Note 19.1)**	(2,034,148.93)		
2,994.00	Photocopy receipts	3,417.00		
178,561.79	Publications Charges Received - JNSF	172,791.54		
101,125.00	NSLRC Income	456,091.15		
-	Income from Workshops	75,000.00		
4,368.75	Profit/(Loss) Disposal of Fixed Assets	-		
289,210.95			(596,616.53)	
	Other			
1,809,091.15	Payables Writeback	-		
15,352,181.35	Deffered Income (Assets)	9,069,451.13		
1,602,200.70	Deffered Income (Publications)	3,368,581.93		
625,449.60	Income form Projects	-		
19,388,922.80			12,438,033.06	
19,678,133.75				11,841,416.53
229,368,133.75				205,614,316.53
	Less; Expenditure for the year			
	Recurrent Expenditure			
	Office Expenditure			
457,700.00	Traveling & Allowances for Board Members	708,600.00		
116,335.12	Refreshments for meetings	34,266.00		
-	Printing & Publications	-		
574,035.12			742,866.00	
	Staff Emoluments			
87,416,451.46	Salaries & Allowances	82,503,671.80		
12,267,452.76	Employees Provident Fund	11,598,577.14		
2,453,462.67	Employees Trust Fund	2,319,715.43		
6,356,807.74	Transport & Fuel Allowances	6,135,735.60		
7,843,554.61	Provision for Retiring Gratuity	3,743,687.21		
2,303,836.04	Overtime	1,956,670.60		
34,343.62	Holiday Payment	11,547.06		
304,457.30	Uniforms	310,255.20		
118,980,366.20			108,579,860.04	
	Office Administration			
861,571.06	Travelling - Office	512,379.84		
1,029,271.50	Stationery & Consumables	901,927.19		
2,616,526.94	Electricity	2,081,443.30		
2,948,729.31	Telephone/ Fax	1,798,716.24		
6,964.80	Postal charges	38,500.00		
535,000.00	Audit fees - Auditor General's Department	372,600.00		
55,060.00	Bank charges	49,385.00		
169,457.58	Medical Expenses	215,932.00		
106,704.00	Advertising	221,724.00		
2,068,560.06	Fuel Expenses	2,121,023.24		
1,839,506.21	Maintenance of Motor Vehicles	1,331,733.54		
2,063,098.47	Maintenance of Office Equipment & Furniture	956,434.56		
672,049.40	Maintenance of Building	437,600.00		

		Rs.	Rs.	Rs.
-	Maintenance of Land	-		
951,047.55	Insurance	649,535.75		
399,153.52	Water Consumption charges	266,234.68		
1,628,675.00	Security Services	1,597,705.00		
19,210,020.84	Depreciation	17,329,438.17		
1,678,416.48	Amortisation of intangible assets	1,324,162.96		
-	Legal Fees	57,500.00		
497,222.00	Sundry Expenses	379,447.62		
1,484,460.00	Janitorial Services	1,711,647.63		
345,015.00	Translation charges	200,727.50		
825.00	Stamp duty	775.00		
4,047,894.03	Intangible Assets Written off	-		
-	Loss of Refundable Deposit	15,000.00		
-	Stock of Stationery & Consumables written off	-		
406,850.00	Stock of Magazines & Journals written off	1,162,124.60		
45,622,078.75			35,733,697.82	
	Others			
80,892.00	National Science Library & Resource Centre- **Note 19.2**	1,295.00		
429,580.79	Printing Division - **Note 19.3**	322,813.14		
5,077,605.20	Subscription for Internet Services	5,107,668.69		
5,588,077.99			5,431,776.83	
	Capital Expenditure			
4,012,079.38	Priority 01 - **Note 20.1**	610,816.81		
-	Priority 02 - **Note 20.2**	-		
1,651,052.45	Priority 03 - **Note 20.3**	1,189,532.53		
-	Priority 04 - **Note 20.4**	-		
-	Priority 05 - **Note 20.5**	-		
870,711.03	Priority 06 - **Note 20.6**	6,577,329.12		
4,222,475.94	Priority 07 - **Note 20.7**	11,432,344.55		
24,324,556.73	Priority 08 - **Note 20.8**	42,044,309.15		
6,795,000.00	Priority 09 - **Note 20.9**	3,420,200.00		
40,195,008.67	Priority 10 - **Note 20.10**	2,573,621.86		
82,070,884.20			67,848,154.02	
252,835,442.26				218,336,354.71
(23,467,308.51)	**Net Surplus/(Deficit) for the year**			**(12,722,038.18)**

NATIONAL SCIENCE FOUNDATION
Statement of Changes in Net Assets/Equity
for the year ended 31st December 2021

Summery

	Contributed Capital	Revaluation Reserve	Other Reserve	Other Funds	NSF Fund	Total Accu .Fund	Total
Balance as at 01.01.2021	-	1,249,216,114.91	883,002,124.00	498,701.11	(37,343,913.66)	(36,845,212.55)	2,095,373,026.36
Changes in accounting Policy	-	-	-	-	-	-	-
Prior year adjustments	-	-	-		11,047,637.25	11,047,637.25	11,047,637.25
Restated balance	-	1,249,216,114.91	883,002,124.00	498,701.11	(26,296,276.41)	(25,797,575.30)	2,106,420,663.61
Change in net asset/equity for 2021							
Revaluation Surplus	-	-	-	-	-	-	-
Investment adjustment	-	-	-	-	-	-	-
Grants From Treasury							
Capital	-	-	-	-	61,672,900.00	61,672,900.00	61,672,900.00
Recurrent	-	-	-	-	132,100,000.00	132,100,000.00	132,100,000.00
Other operations	-	-	-	-	11,841,416.53	11,841,416.53	11,841,416.53
Expenditure during the year							
Capital	-	-	-	-	(67,848,154.02)	(67,848,154.02)	(67,848,154.02)
Recurrent	-	-	-	-	(150,488,200.69)	(150,488,200.69)	(150,488,200.69)
Total recognised revenue and expences for the period	-	-	-	-	(12,722,038.18)	(12,722,038.18)	(12,722,038.18)
Balance as at 31st December 2021	**-**	**1,249,216,114.91**	**883,002,124.00**	**498,701.11**	**(39,018,314.59)**	**(38,519,613.48)**	**2,093,698,625.43**

NATIONAL SCIENCE FOUNDATION

STATEMENT OF CASH FLOW

	2021 Rs.		2020 Rs.	
Cash flows from operating Activities				
Net Surplus/(Deficit) for the year	(12,722,038.18)		(23,467,308.51)	
Add: NSF fund prior year adjustments	11,047,637.25		(16,654,295.92)	
	(1,674,400.93)		**(40,121,604.43)**	
Adjustments for				
Depreciation	17,329,438.17		19,210,020.84	
Amortisation of Intangible assets	1,324,162.96		1,678,416.48	
Gratuity paid during the year	(4,185,352.50)		(4,877,633.32)	
Provision for Gratuity	3,743,687.21		7,843,554.61	
Disposal of Fixed Assets	-		(4,368.75)	
Writeoff of Intangible Assets	-		4,047,894.03	
Deffered Revenue	(9,069,451.13)		(15,352,181.35)	
Operating profit/(loss) before working capital changes	**7,468,083.78**		**(27,575,901.89)**	
Net (Increase)/Decrease in trade other receivables	3,132,720.90		28,223,705.27	
Net (Increase)/Decrease in inventories	(73,630.52)		(786,746.43)	
Net Increase/(Decrease) in trade payables	(319,169.79)		(8,231,639.40)	
Cash generated from operations	2,739,920.59		19,205,319.44	
Net Cash Flows from Operating Activities		**10,208,004.37**		**(8,370,582.45)**
Cash flows from Investing Activities				
Proceed of Disposal of Fixed Assets	-		4,368.75	
Purchase of assets	(477,940.74)		(49,539,191.41)	
Net Cash Flows from Investing Activities		**(477,940.74)**		**(49,534,822.66)**
Cash Flows from Financial Activities				
Contribution from Government	477,940.74		49,539,191.41	
Contribution from NSF Components	-		97,726.50	
Net Cash Flows from Financial Activities		**477,940.74**		**49,636,917.91**
Net Increase/(Decrease) in cash & cash equivalents		10,208,004.37		(8,268,487.20)
Cash & Cash Equivalent at beginning of the period		18,267,547.64		26,536,034.84
Cash & Cash Equivalent at end of the period		**28,475,552.01**		**18,267,547.64**
Cash & Cash Equivalents				
BOC - 0002323269		21,301,090.95		15,972,660.18
BOC - 0002323270		78,468.49		147,619.76
BOC - 0002322471		475,043.16		475,043.16
BOC Savings - 80771519		5,754,675.21		803,644.61
Special cash imprest		100,000.00		100,000.00
Petty cash		5,000.00		5,000.00
Cash & Cheques in hand		761,274.20		763,579.93
		28,475,552.01		**18,267,547.64**

NATIONAL SCIENCE FOUNDATION

Notes on Accounting Policies

For the Year Ended 31st December 2021

1. General

1.1 Reporting Entity

National Science Foundation has been incorporated under the Act No.11 of 1994, and located at No.47/5, Maitland Place, Colombo - 07 Sri Lanka. NSF is functioned under the State Ministry of Skills Development, Vocational Education, Research, and Innovation.

1.2 Reporting Period

The financial period of the National science foundation represents from 01st January 2021 to 31st December 2021.

1.3 Approval of Financial Statements

The financial statements for the year ended 31 December 2021 were authorized for issue by the Board of Directors on 22nd February 2022.

1.4 Principal activities and nature of operations

Accordingly, the National Science Foundation facilitates research, development, and innovation to create a knowledge economy. It also facilitates capacity building, infrastructure development, technology transfer, knowledge creation and sharing in all fields of science & technology to improve the quality of life of the people.

To Functions of the National Science foundation shall be

- ✓ To initiate, facilitate and support basic and applied scientific research by universities science and technology institutions and scientists.
- ✓ To strengthening scientific research potential, including research in the social science and science education programs.
- ✓ To developing the natural resources of Sri Lanka
- ✓ To training research personnel in science and technology
- ✓ To foster the interchange of scientific information among scientists in Sri Lanka and foreign countries
- ✓ To awards scholarships and fellowships for scientific study or scientific work at science and technology institutes.
- ✓ To awards Research Grants and Technology Grants
- ✓ To Popularization of Science

1.5 Responsibility for financial statements

Management is responsible for the preparation of financial statements that give a true and fair view 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.

2. Summary of Significant Accounting Policies

2.1 Statement of compliance

The Financial Statements of the Institute have been prepared and presented in accordance with Sri Lanka Public Sector Accounting Standards (SLPSAS's) and presented in accordance with Sri Lanka Public Sector Accounting Standards SLPSAS 01 - Presentation of Financial Statements. However, Sri Lanka Accounting Standards have also been used in the areas where Public Sector Accounting Standards are not available. These Financial Statements comprise the statement of Financial Position, Statement of Financial Performance, Statement of Cash flows, Changes in equity and Notes to the Financial Statements.

2.2 Basis of preparations

The financial statements of the National Science Foundation have been prepared on an accrual basis and under the historical cost convention and apply consistently. No adjustments have been made for inflation factors affecting to the FSs except for the PPE measured at fair value.

2.3 Comparative Information

The Accounting Policies applied by the Institute are, unless otherwise stated, consistent with those used in the previous year. Previous year figures and phrases have been rearranged wherever necessary to conform to the current year presentation.

2.4 Presentation of functional currency

The financial statements of the Institute are presented in Sri Lankan Rupees (LKR), which is the primary economic environment in which the Institute operates.

2.5 Going Concern

The Management has assessed its ability to continue as a going concern and is satisfied that it has the resources to continue in business for the foreseeable future. Furthermore, the Management is not aware of any material uncertainties that may cast significant doubt upon the Institute's ability to continue as a going concern. Therefore, the Financial Statements of the Institute continue to be prepared on a going concern basis.

3. Property Plant & Equipment's

The National science foundation Property Plant & Equipment (PPE) includes Land, Buildings, Office Equipment's & Furniture, Library Books, Motor Vehicles, Accessories & Miscellaneous, Documentation Equipment's.

3.1 Basis of recognition

Property, Plant and Equipment are recognised if it is probable that future economic benefits associate with the item will flow to the entity and the cost of the item can be reliably measured.

3.2 Initial recognition

Property, Plant & Equipment are initially recognised at cost including the cost of purchase with any incidental expenses incurred in bringing the assets to its working conditions, for its intend use, Subsequent to initial Recognition, PPE are measured at cost less accumulated depreciation and accumulated impairment losses.

3.3 De-recognition

The carrying amount of an item of Property, plant & equipment is de-recognised on disposal; or when no future economic benefits are expected from its use or disposal. Gains and losses on de-recognition are recognised in income statement and gains are not classified as revenue. When re-valued assets are sold, any related amount included in the revaluation reserve is transferred to Retained Earnings.

3.4 Revaluation

After recognition as an asset, class of PPE whose fair value can be measured reliably have been carried at a revalued amount, being its fair value at the date of the revaluation less any subsequent accumulated depreciation and subsequent accumulated impairment losses. Land, Building (Including Container Office) and Motor Vehicles were revalued by the Department of Government Valuation in 2019 and charged revaluation surplus/deficit directly debit/credit to revaluation surplus, to the extent the asset value has increased/decreased.

3.5 Disclosure on Land and Building

According to the cabinet decision No. 20/1607/306/035, a Memorandum dated 2020-10-12 by the Minister of Urban Development & Housing on " Vesting/Acquisition of State and Private Lands with the Urban Development Authority for proposed Projects centered on Major Cities including the City of Colombo" granted approval to vest the National Science Foundation Land referred to under serial No.6 of the Annex - 1 to the Memorandum.

3.6 Intangible Assets

Computer software and License have been recognised as intangible assets when it is probable that future economic benefits that are attributable to the assets will flow the enterprise and the cost of the asset can be measured reliably. Intangible assets acquired are stated at cost less accumulated amortization and accumulated impairment losses.

Amortisation

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

Computer Software - 20%

3.7 Depreciable assets & Depreciation

Depreciation is recognised in the statement of Financial Performance on original cost or at revaluation 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 life. The estimated rates are as follows.

Assets Category	Rate
Building	5%
Office Equipment & Furniture	20%
Motor Vehicles	20%
Accessories & Miscellaneous	20%
Library Books	5%
Documentation Equipment	10%

4. 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 a debtor is created for the unutilised funds. project unutilised balance to be refunded to NSF. The funds transferred to the Institution are treated as expenditure at the end of the year.

5. Investment

The Ministry of Technology and Research oversees the Government's involvement of SLINTEC through the National Science Foundation (NSF). NSF investment in SLINTEC is Rs. 883,002,124/-. Preference Shares has increased by 3,810,175 number of shares and no financial impact occurred during the year.

6. 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 organizations 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 a year were written down to zero as per the decision of the Board of Management on 15th November 2010.

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

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

7. Presentation of Grants related to assets and income

7.1 Grants related to assets

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

7.2 Grants related to income

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

8. Inventories

Inventories are measured at the lower of cost and net realisable value. The cost of inventories is based on the first-in-first-out (FIFO) principle, and includes expenditure incurred in acquiring the inventories and other costs incurred in bringing them to their existing location and condition.

Publication stocks are valued at the cost or selling price whichever is lower.

9. Receivables

Receivables includes Cash Advances, Staff Loan, Staff Debtors and Sundry debtors. NSF provides doubtful debts for debts which are outstanding for more than 3 years.

10. Cash and Cash Equivalents

In the Statement of Cash Flows of the Institute, cash and cash equivalents includes cash and cheques in hand, cash at bank, Petty Cash and Special petty Cash.

11. Employees Benefits

All employees are covered by EPF & ETF. An approved Medical Scheme is provided in addition to the normal Welfare facilities available. Retirement benefits to employees are provided according to the laid down statutory requirements. Institute contribution for provident fund and employees' Trust Fund is 15% and 3% respectively.

Gratuity

Retirement benefits to employees are provided according to the laid down statutory requirements. Gratuity provision is made according to the Gratuity Act No.12 of 1983.Provisions have been made in the accounts in respect of liability for retiring gratuity for the employees who have completed one year of Service. The funds required for payment of gratuity is given by Treasury when requires. Gratuity has been calculated based on Basic Salary and Cost of Living Allowance.

Gratuity Provision and Payment details as follows.

Gratuity Amount paid for the year	4,185,352.50
Gratuity Provision for the year	3,743,687.21

12. Provisions, contingent assets, and contingent liabilities

Provisions are made for all obligations existing as at the Balance Sheet date when it is probable that such an obligation will result in an outflow of resources and a reliable estimate can be made of the quantum of the outflow. There are no contingent assets or liabilities to be disclosed.

13. Revenue

Revenue is recognised to the extent that it is probable that the economic benefits will flow to the Institute, and the revenue and associated costs incurred or to be incurred can be reliably measured. Revenue is measured at the fair value of the consideration received or receivable, net of trade discounts. The following specific criteria are used for recognition of revenue:

13.1 Interest Income

Interest income is recognised as and when the interest accrues.

13.2 Sundry Income

Sundry income is recognised on an accrual basis.

13.3 Profit/(Loss) Disposal of property, plant, and equipment's

Net gain and loses from the disposal of Property, plant and equipment's and other non-current assets, are accounted for in the Statement of Financial Performance. Gain or Loss is calculated after deducting the carrying amount of such assets and the related selling expenses from the sales proceed.

13.4 NSLRC Income

NSLRC income includes Library Services, Winsis Packages and Database migrations. Revenue from rendering of the services is recognised in the accounting period in which the services are rendered or performed.

13.5 Sale of Publications

Sale proceeds of the Publications are recognised as an income at the point in time of dispatch or sale has occurred.

13.6 Income From Workshops

Income from workshops, conference is recognised at the point in time upon register and collect on the payment for the event.

13.7 Income From Projects

Income of the projects is recognised its administration cost given from relevant division.

13.8 Publication Author Charges

Author Charges income is recognised on an accrual basis.

13.9 Differed Income

Where the capital grant relates to an asset released from the General Treasury, when the recurrent related to an expense item, it is recognised as income over the period necessary to match the grant on a systematic basis to the cost that it is intended to compensate.

14. Expenditure and Presentation in Income Statements

Expenses are recognised in the income statement on the basis of a direct association between the cost incurred and the earning of the specific items of income where appropriate. All expenditure incurred in running of the Institute and depreciation of the property, plant & equipment has been charged against to income in calculating the surplus/(deficit) for the period

15. Statement of Cashflow

The cashflow statement has been prepared by using The Indirect Method in accordance with the SLPSAS 2 whereby gross cash receipts and gross cash payments of operating activities, finance activities and investing activities have been recognised.

16. Current Liabilities

Current Liabilities are stated at their book value.

17. Events after the reporting period

Since the Balance sheet date there have been no events which could materially affect the state of affairs of the Institute.

18. Funds Drawn from the Treasury during – 2021

	Budget Rs.	Received Rs.	
Capital Funds	67,896,900	61,672,900	**Note A**
Recurrent Funds	153,000,000	132,100,000	

Note A: Capital Funds Allocation to Relevant Priorities

- Priority – 01 626,000
- Priority – 02 -
- Priority – 03 1,194,900
- Priority – 04 -
- Priority – 05 -
- Priority – 06 6,592,000
- Priority – 07 11,433,000
- Priority – 08 42,050,000
- Priority – 09 3,421,000
- Priority – 10 2,580,000

18.1 Presentation of Budget

The approved budget of the Institute has been prepared for the year 2021. The budget of the Institute has been prepared as per action plan activities. Statement of comparison of budget and actual amounts are shown in separate annexure on page no 22 to 24 in Financial Statements 2021.

NATIONAL SCIENCE FOUNDATION
Notes on Accounts
For the Year Ended 31st December 2021

Note No 19

19.1	Sale of Publications		2021	2020
			Rs.	Rs.
	Sales Proceed of Publications	Note - A	21,100.00	18,400.00
	Cost of Sales - Publications	Note - B	(2,055,248.93)	(836,629.49)
			(2,034,148.93)	**(818,229.49)**

Note - A Sales Proceed of Publications

1	Sri Lanka Journal of Social Sciences	200.00	1,000.00
2	Sri Lanka Journal of Social Sciences Vol No. 42	200.00	-
3	Sri Lanka Journal of Social Sciences Vol No. 43	800.00	-
4	Other Publications	-	7,500.00
5	Vidurava	900.00	5,700.00
6	Journal of National Science Foundation Vol No. 44		600.00
7	Journal of National Science Foundation Vol No. 47	-	2,000.00
8	Journal of National Science Foundation Vol No. 48	4,000.00	-
9	Covid - 19	15,000.00	-
10	Vidurava Vol. 36-1 (E)	-	200.00
11	Vidurava Vol. 36-1 (S)	-	200.00
12	Vidurava Vol. 36-1 (T)	-	200.00
13	Vidurava Vol. 36-3 (S)	-	600.00
14	Vidurava Vol. 36-2 (E)	-	200.00
15	Vidurava Vol. 36-2 (S)	-	200.00
		21,100.00	**18,400.00**

Note - B Cost of Sales - Publications

	2021	2020
	Rs.	Rs.
Opening Stock as at 01.01.2021	1,190,284.96	831,563.75
Add		
New Publications Cost	3,368,581.93	1,602,200.70
	4,558,866.89	2,433,764.45
Less		
Publication Stock Written off	(1,162,124.60)	(406,850.00)
Closing Stock as at 31.12.2021	(1,341,493.36)	(1,190,284.96)
	2,055,248.93	**836,629.49**

19.2	National Science Library & Resource Centre	2021	2020
		Rs.	Rs.
1	Maintenance & Repairs	-	-
2	Consumables	1,295.00	80,892.00
		1,295.00	**80,892.00**

19.3	Printing Unit	2021	2020
		Rs.	Rs.
1	Consumables & Chemicals	379,987.61	209,058.57
2	Paper & Boards	(57,174.47)	39,342.62
3	Maintenance & Repairs	-	181,179.60
		322,813.14	**429,580.79**

NATIONAL SCIENCE FOUNDATION
Notes on Accounts
For the Year Ended 31st December 2021

Note No 20

20.1 Priority 01

Establishing Sri Lanka as an Innovation Hub by maximizing the use of Internet of Things, Artificial Intelligence, Biotechnology, Robotics, Augmented Reality, Cloud Computing, Nanotechnology and 3D Printing.

		2021	2020
		Rs.	Rs.
1	Research Division	-	-
2	Technology Division	-	-
3	Science & Technology Policy Research Division	610,816.81	4,012,079.38
		610,816.81	**4,012,079.38**

20.2 Priority 02

Making efficient the system to issue patents to researchers for innovations and to secure ownership of IP.

		2021	2020
		Rs.	Rs.
1	Technology Division	-	-
		-	**-**

20.3 Priority 03

Providing facilities to local research institutions to collaborate with the international research institutions.

		2021	2020
		Rs.	Rs.
1	International Contacts - Travel Grants	-	644,823.50
2	International Contacts - CERN	-	-
3	International Contacts - OSTP	-	9,005.00
4	International Contacts - IPSAT	-	-
5	International Liasion Division	2,080.00	45,723.95
6	Subscription to International Scientific Organizations	1,187,452.53	951,500.00
		1,189,532.53	**1,651,052.45**

20.4 Priority 04

Bringing awarness to tax reliefs provided to private enterprises contributing to research.

		2021	2020
		Rs.	Rs.
1	Technology Division	-	-
2	Research Division	-	-
3	Science & Technology Policy Research Division	**-**	**-**
		-	**-**

20.5 **Priority 05**

Introducing domestic or foreign investors required for manufacturing under a domestic brand the local innovations.

		2021	2020
		Rs.	Rs.
1	Technology Division	-	-
2	Research Division	-	-
		-	**-**

20.6 **Priority 06**

Formulating an efficient mechanism to channel innovations and research results to investors and relevant users.

		2021	2020
		Rs.	Rs.
1	Technology Division	-	-
2	Science Popularization Division	-	-
3	Journal Publication Unit	1,382,018.00	-
	National Library and Resource Center		
4	SLJOL Databse	4,417,690.95	600,698.42
5	Library Books	6,423.75	16,563.01
6	National Digitization	154,336.42	202,638.33
7	Seminars & Workshops	-	37,378.00
8	Subscriptions & Periodicals	616,860.00	13,433.27
9	Honararium for Committee Meeting	-	-
10	National Repository S & T	-	-
		5,195,311.12	870,711.03
		6,577,329.12	**870,711.03**

20.7 **Priority 07**

Science to Community.

		2021	2020
		Rs.	Rs.
1	Science Popularization Division	9,021,706.20	3,007,202.38
		9,021,706.20	3,007,202.38
2	**Journal Publication Unit**		
	Journal of National Science Foundation - (JNSF)	1,579,282.80	937,310.02
	Sri Lanka Journal of Social Sciences - (SLJSS)	831,355.55	277,963.54
		2,410,638.35	1,215,273.56
		11,432,344.55	**4,222,475.94**

20.8 **Priority 08**

Energies and capacities of universities, research institutes and private sector will be garnered by promoting/encouraging research in modern agriculture and agriculture innovation, Biotechnology/Nanotechnology, Artificial Intelligence, value addition and technological innovation, indigenous drugs, Environment and Biodiversity Conservation and Protection etc.

		2021	2020
		Rs.	Rs.
	Technology Division		
1	Technology Grants	5,995,105.25	2,419,599.83
		5,995,105.25	2,419,599.83
	Research Division		
1	Research Grants	36,049,203.90	19,498,498.80
2	Thematic Special Project Unit	-	5,838.10
3	Research Project Health Science - RPHS	-	2,400,620.00
		36,049,203.90	21,904,956.90
		42,044,309.15	**24,324,556.73**

20.9 **Priority 09**

All qualified students to continue their higher education by Providing adequate funds to university students to pursue new courses.

		2021	2020
		Rs.	Rs.
	Research Division		
1	Research Scholarship & Fellowships	3,420,200.00	6,795,000.00
		3,420,200.00	**6,795,000.00**

20.10 **Priority 10**

A 'Long-term Human Resource Plan' to enhance the productivity and efficiency of the staff. The numbers required for an efficient service, the structure and distribution of staff, and the work allocation of the staff to be included in this plan.

			2021	2020
			Rs.	Rs.
	Administration			
1	Office Equipment & Furniture		-	514,237.14
2	Building		-	-
3	Motor Vehicles		22,000.00	-
4	Information Technology		2,370,576.86	5,089,200.84
5	Land & Improvements		-	31,799,318.71
6	Accessories & Miscellaneous		10,945.00	1,550.00
7	Staff Development	Local	170,100.00	266,427.00
		Foreign	-	-
8	Director's Office Vote		-	2,524,274.98
			2,573,621.86	**40,195,008.67**

NATIONAL SCIENCE FOUNDATION

Notes on Accounts

For the Year Ended 31st December 2021

			2021	2020
	Note No 21 - Cash and Cash Equivalents			
			Rs.	Rs.
	Bank Accounts			
1	BOC - 0002323269	**Note - A**	21,301,090.95	15,972,660.18
2	BOC - 0002323270		78,468.49	147,619.76
3	BOC - 0002322471		475,043.16	475,043.16
4	BOC Savings - 80771519		5,754,675.21	803,644.61
5	Special cash imprest		100,000.00	100,000.00
6	Petty cash		5,000.00	5,000.00
7	Cash & Cheques in hand		761,274.20	763,579.93
			28,475,552.01	**18,267,547.64**
	Note A : Capital Cash Balance as at 31.12.2021			
	Treasury Funds - Capital		17,095,036.73	9,637,281.42
	Covid - 19		922,500.00	1,000,000.00
	Biosafety Project		1,672,266.11	3,759,945.50
	Cinemon Project		1,575,433.26	1,575,433.26
	NSF Kid Naturalist Project - 2021		35,854.85	-
			21,301,090.95	**15,972,660.18**
	Note No 22 - Receivables			
	Cash Advances & Advance payments			
1	Miscellaneous		-	-
2	**Loans to Staff**			
	i. Distress loan - 01	**Schedule - 1**	1,870,345.00	2,183,665.00
	ii. Distress loan - 02	**Schedule - 2**	11,009,959.00	14,091,109.00
	iii. Combined loan	**Schedule - 3**	-	-
3	Festival Advance	**Schedule - 4**	30,000.00	30,000.00
4	Staff Debtors		-	198,824.25
5	Sundry Debtors	**Schedule - 5**	1,861,962.52	1,471,327.17
			14,772,266.52	**17,974,925.42**

Note 15.1 - Receivable Analysis	**Amount**	**Settlements With in one Year**	**Settlements After one year**
Distress Loan - 01	1,870,345.00	641,778.00	1,228,567.00
Distress Loan - 02	11,009,959.00	3,494,928.00	7,515,031.00
Other Receivables	1,891,962.52	1,891,962.52	-
	14,772,266.52	**6,028,668.52**	**8,743,598.00**

	Note No 23 - Stocks			
1	Stationery and Consumables	**Schedule - 6**	1,183,292.73	1,260,870.61
2	Publications	**Schedule - 6**	1,341,493.36	1,190,284.96
			2,524,786.09	**2,451,155.57**
	Note No 24 - Other Current Assets			
1	Refundable Deposit	**Schedule - 7**	93,650.00	108,650.00
			93,650.00	**108,650.00**

NATIONAL SCIENCE FOUNDATION

Property Plant and Equipment

Note No 25

As at 31st December 2021

Description	Balance as at 01.01.2021 (Rs.)	Additions	Disposals	Balance as at 31.12.2021 (Rs.)
Assets - (Cost & Revaluation)				
Land	1,134,314,859.19	-	-	1,134,314,859.19
Building	124,647,001.40	-	-	124,647,001.40
Office Equipment & Furniture	110,238,599.17	243,200.00	-	110,481,799.17
Motor Vehicles	25,300,000.00	20,000.00	-	25,320,000.00
Accessories & Miscellaneous	1,437,856.55	10,945.00	-	1,448,801.55
Library Books	5,689,683.27	6,423.75	-	5,696,107.02
Documentation Equipment	15,945,261.85	-	-	15,945,261.85
	1,417,573,261.43	280,568.75	-	1,417,853,830.18
Accumulated Depreciation				
Building	9,043,372.34	6,232,350.07	-	15,275,722.41
Office Equipment & Furniture	96,447,785.29	5,781,427.99	-	102,229,213.28
Motor Vehicles	5,060,000.00	5,063,387.40	-	10,123,387.40
Accessories & Miscellaneous	1,358,112.62	30,311.68	-	1,388,424.30
Library Books	4,222,769.53	221,961.03	-	4,444,730.56
Documentation Equipment	15,945,261.85	-	-	15,945,261.85
	132,077,301.63	17,329,438.17	-	149,406,739.80
Net Value	**1,285,495,959.80**			**1,268,447,090.38**

Note No 26 - Intangible Assets

	2021	2020
Cost	Rs.	Rs.
Balance at the beginning of the year	6,566,199.55	9,659,888.53
Additions	197,371.99	2,692,469.43
Transfers/Disposals	-	(5,786,158.41)
Balance as at the end of the year	**6,763,571.54**	**6,566,199.55**
Accumulated amortisation		
Balance at the beginning of the year	2,059,582.12	2,119,430.02
Charge for the year	1,324,162.96	1,678,416.48
Transfers/Disposals	-	(1,738,264.38)
Balance as at the end of the year	**3,383,745.08**	**2,059,582.12**
Carrying amount as at the end of the year	**3,379,826.46**	**4,506,617.43**

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

NATIONAL SCIENCE FOUNDATION

Notes on Accounts

For the Year Ended 31st December 2021

			2021	2020
			Rs.	Rs.
	Note No 27 - Investments			
1	SLINTEC	**Note - B**	883,002,124.00	883,002,124.00
			883,002,124.00	**883,002,124.00**
	Note - B : Investments Breakup			
		No of Shares		
	Ordinary Shares	43,680,786	394,036,527.00	394,036,527.00
	Preference Shares	51,792,386	488,965,597.00	488,965,597.00
			883,002,124.00	**883,002,124.00**
	Note No 28 - Accrued Expenses			
1	Accrued Expenses	**Schedule - 8**	7,545,192.31	4,862,544.46
			7,545,192.31	**4,862,544.46**
	Note No 29 - Creditors			
	Creditors amounting to Rs.4,206,054.22 represents monies held by NSF as given below,			
1	Retention Payable - Ransavi Constructions		-	872,493.10
2	NSF Kid Naturalist Project - 2021		35,854.85	-
3	Covid - 19		922,500.00	1,000,000.00
4	Cinemon Project		1,575,433.26	1,575,433.26
5	Biosafety Project		1,672,266.11	3,759,945.50
			4,206,054.22	**7,207,871.86**
	Note No 30 - Provision for Retiring Gratuity			
	Balance as at 01.01.2021		41,831,260.29	38,865,339.00
	(+) Provision for the year		3,743,687.21	7,843,554.61
			45,574,947.50	46,708,893.61
	(-) Paid during the year		(4,185,352.50)	(4,877,633.32)
	Balance as at 31.12.2021		**41,389,595.00**	**41,831,260.29**
	Note No 31 - Deffrede Revenue			
1	Deffred Revenue - Assets	**Note - C**	55,385,154.44	63,976,664.83
			55,385,154.44	**63,976,664.83**
	Note C : Deffered Revenue - Assets			
	Balance as at 01.01.2021		63,976,664.83	29,789,654.77
	(+) Assets Capitalized		477,940.74	49,539,191.41
			64,454,605.57	79,328,846.18
	(-) Depreciation Deffered		(9,069,451.13)	(15,352,181.35)
	Balance as at 31.12.2021		**55,385,154.44**	**63,976,664.83**
	Note No 32 - NSF Development Fund			
1	NSF Component		338,966.31	338,966.31
2	Staff Component		159,734.80	159,734.80
			498,701.11	**498,701.11**

NATIONAL SCIENCE FOUNDATION
Budget & Actual Expenditure 2021

Capital Expenditure

Rs.000'

Description	*Estimate 2021*	*Revised Estimate 2021*	*Actual Expenditure*	*Surplus/(Vareinces)*
Priority - 01	626	626	611	15
Priority - 02	-	-	-	-
Priority - 03	2,751	1,195	1,190	5
Priority - 04	-	-	-	-
Priority - 05	-	-	-	-
Priority - 06	1,327	6,592	6,577	15
Priority - 07	20,126	11,433	11,432	1
Priority - 08	34,672	42,050	42,044	6
Priority - 09	5,815	3,421	3,420	1
Priority - 10	2,580	2,580	2,574	6
Accruals	-	-	-	-
Total	**67,897**	**67,897**	**67,848**	**49**

Recurrent Expenditure

Rs.000'

Description	*Estimate 2021*	*Revised Estimate 2021*	*Actual Expenditure*	*Surplus/(Vareinces)*
Personal Emoluments	118,000	118,520	108,711	9,809
Travelling Expenses	2,000	2,000	512	1,488
Supplies	4,750	4,250	3,333	917
Maintenance Expenditure	3,850	3,750	2,726	1,024
Contractual Services	13,700	13,700	8,144	5,556
Others	10,700	10,780	7,673	3,107
Accruals	-	-	3,318	(3,318)
Total	**153,000**	**153,000**	**134,417**	**18,583**

NATIONAL SCIENCE FOUNDATION

Budget & Actual Expenditure 2021

Rs.000'

Description	*Estimate 2021*	*Revised Estimate 2021*	*Actual Expenditure*	*Surplus/(Variences)*
Staff Emoluments				
Salaries & Allowances	88,750	88,750	82,504	6,246
Employees Provident Fund	13,150	13,150	11,599	1,551
Employees Trust Fund	2,400	2,400	2,320	80
Payment for unutilized leave	-	-	-	-
Fuel & Transport Allowance	6,200	6,200	6,136	64
Retiring Gratuity	6,000	6,000	4,185	1,815
Overtime	1,500	2,000	1,957	43
Holiday Payment	-	20	12	8
	118,000	**118,520**	**108,711**	**9,809**
Traveling				
Office Traveling	2,000	2,000	512	1,488
	2,000	**2,000**	**512**	**1,488**
Supplies				
Uniforms	350	350	310	40
Stationary & Consumables	1,400	1,400	902	498
Printing & Publications	-		-	-
Fuel & Lubricants	3,000	2,500	2,121	379
	4,750	**4,250**	**3,333**	**917**
Maintenance				
Maintenance of Motor vehicle	2,250	2,250	1,332	918
Maintenance of Office equipment & furniture	1,000	1,000	956	44
Maintenance of Building	500	500	438	62
Maintenance of Land	100	-	-	-
	3,850	**3,750**	**2,726**	**1,024**
Services				
Electricity	3,400	3,400	2,081	1,319
Postage	1,000	1,000	39	962
Telephone/ Fax	4,000	4,000	1,799	2,201
Insurance charges for vehicles & Building	850	850	650	200
Water consumption	750	750	266	484
Security Services	1,850	1,850	1,598	252
Janitorial Services	1,850	1,850	1,712	138
Leasing	-	-	-	-
	13,700	**13,700**	**8,144**	**5,556**

Description	*Estimate 2021*	*Revised Estimate 2021*	*Actual Expenditure*	*Surplus/(Variences)*
Other Recurrent				
Advertising	490	470	222	248
Allowances to Board members Audit Committee & travelling	800	800	709	91
Audit fees - Auditor General's Dept.	1,500	1,500	373	1,127
Bank charges	100	100	49	51
Entertainment	-	-	-	-
Legal fees	250	250	58	193
Medical scheme	150	250	216	34
Refreshments for committee meetings	500	500	34	466
National Science Library & Resources Centre	-	-	1	(1)
Printing unit	600	600	323	277
Stamp duty	10	10	1	9
Sundry Expenses	500	500	379	121
Translation charges	300	300	201	99
Internet membership fees	5,500	5,500	5,108	392
Subscription for S/W Licence Renewal	-	-	-	-
	10,700	**10,780**	**7,673**	**3,107**
Total	**153,000**	**153,000**	**131,099**	**21,901**
Provision & other				
Gratuity Provision	-	-	3,744	-
Depreciation	-	-	17,329	-
Amortitation of Intangible Assets	-	-	1,324	-
Intangible Assets Written off	-	-	-	-
Loss of Refundable Deposit	-	-	15	-
Stock Stationery & Consumables Written off	-	-	-	-
Stock Magazines & Journals Written off	-	-	1,162	-
		-		
Total Other Recurrent	**-**	**-**	**23,574**	**-**
Total	**153,000**	**153,000**	**154,674**	**-**

Loan Balance as at 31.12.2021

Schedule - 1

Distress Loan - 01

		Rs.	Rs.
1	Mr.M.D.Vajira	21,738.00	
2	Mrs.N.S.Liyanage	47,828.00	
3	Mrs.D.M.R. Ippalawatte	63,856.00	
4	Mr.K.G.J Karunasena	60,534.00	
5	Mrs.Dilani Jayaweera	122,165.00	
6	Mrs.S.V.P.M.Rukshani	15,250.00	
7	Mrs.J.A.C.H Samarasinghe	96,822.00	
8	Mr.T.D.K.Gunasekara Zoysa	60,816.00	
9	Mrs.K.A.T.K.G.Kadanamulla	25,128.00	
10	Mrs.J.A.C.G.Samarasinghe	124,980.00	
11	Mr.Umeka Samaranayake	250,000.00	
12	Mr.E.M.D.C.B Ekanayaka	60,424.00	
13	Mrs.R.M.M Jayajeewani	71,694.00	
14	Mr.Asanga Indrajith Ahangama	84,096.00	
15	Mrs.D.M.W Sadari Dematagolla	132,804.00	
16	Mrs.Dilushi Munasingha	52,260.00	
17	Mr.S.A.Jayasinghe	33,720.00	
18	Mrs.Nisansala Hansamali	187,470.00	
19	Mr.Ranil Kumara de Silva	105,028.00	
20	Mrs.J.K Harsha Shamini	58,740.00	
21	Mohomad Rihas	58,522.00	
22	Mrs.K.W.D.Madushani	58,800.00	
23	Mrs.A.H.D.R Monali	77,670.00	
			1,870,345.00

Distress Loan - 02

Schedule - 2

1	Mr.M.D.Vajira	14,712.00
2	MRs.H.A.Kanthi	112,482.00
3	Miss.N.Paranavidana	95,818.00
4	Mrs.V.R.Priyanganie	183,304.00
5	Mrs.N.S.Liyanage	135,432.00
6	Mrs.N.S.S Silva	156,951.00
7	Mr.Saman Sujeewa	179,138.00
8	Mrs.R.K.D.U Medhavi	179,138.00
9	Mrs.Monika Wijayamanne	179,138.00
10	Mr.K.A.D.P.N. Nanayakkara	233,296.00
11	Mr.B.S.Cooray	183,304.00
12	Mr.H.P.L Caldera	74,988.00
13	Mrs.D.M.R. Ippalawatte	152,776.00
14	Mrs.Hemamali Priyadarshani	183,304.00
15	Mrs..A.J.N. Silva	145,810.00
16	Mrs.D.M.N Prishathi	179,138.00
17	Mrs.Viraji Yasapalitha	183,304.00
18	Mrs.I.C.Ramani	183,304.00
19	Mr.K.G.J Karunasena	185,201.00
20	Mrs.W.A.D.A Perera	183,304.00
21	Mrs.D.N.Wickramarachchi	104,150.00
22	Ms.K.N.R.H.D.Mahapitiya	137,478.00
23	Mrs.Dilani Jayaweera	98,633.00
24	Mrs.J.A.C.H Samarasinghe	40,656.00
25	Mrs.M.A.R.L Millavithana	104,150.00
26	Mrs.S.V.P.M.Rukshani	234,750.00
27	Mr.S.N.P.K Sapumohotti	108,316.00
28	Mrs.Dilrukshi Ekanayake	95,818.00
29	Mr.Chandrasiri Perera	179,138.00
30	Mrs.B.T.Wickramasingha	91,652.00
31	Mr.T.D.K.Gunasekara Zoysa	172,480.00
32	Mrs.R.A.A.R Ranathunga	104,150.00
33	Mrs.Maduka Senarathna	95,818.00
34	Mr.P.D Gunamuditha	183,304.00
35	Mr.W.P.S.Sammani Weerasingha	179,138.00
36	Mr.K.K.Yohan Chandeera	179,138.00
37	Mrs.Chani M De Silva	183,304.00
38	Mrs.Kanchana Sewwandhi	179,138.00
39	Mrs.H.K.C Priyadarshanie	179,138.00
40	Mr.E.M.D.C.B Ekanayaka	43,227.00
41	Mrs.Pushpa Ellapallage	179,138.00

42	Mrs.Priyanka Bamunendra	179,138.00	
43	Mrs.A.N.L Perera	187,470.00	
44	Mrs.B.V.I.D Wimalarathna	116,648.00	
45	Mr.Janaka Perera	140,386.00	
46	Mr.Asanga Indrajith Ahangama	15,792.00	
47	Mrs.Saroja Udayangani	108,808.00	
48	Mrs.D.M.W Sadari Dematagolla	8,806.00	
49	Mrs.Dilushi Munasinghe	110,214.00	
50	Mr.S.C.S Fernando	183,304.00	
51	Mrs.P.H.Hasni	133,312.00	
52	Mrs.L.N.A.L.Nissanka	187,470.00	
53	Mrs.M.Shamila	84,612.00	
54	Mr.Ranil Kumara de Silva	22,940.00	
55	Mr.Pujitha Hewawasam	112,482.00	
56	Mrs.J.K Harsha Shamini	170,390.00	
57	Mrs.W.A.H Vinoli Chandi	179,138.00	
58	Mr.Sandun Fernando	62,514.00	
59	Mrs.G.G.K.P.Sumudu Kumari	187,470.00	
60	Mr.Manuja Karunarathna	133,312.00	
61	Mrs.S.Warnasooriya	116,648.00	
62	Mrs.M.S.Weerasooriyagedara	116,648.00	
63	Mrs.N Muhandiram	129,146.00	
64	Mrs.K.N.Samanthi	116,648.00	
65	Dr.K.B.Hasanthi	116,648.00	
66	Mr.Dushantha Pushpakumara	245,794.00	
67	Mohomad Rihas	183,106.00	
68	Mr.Malith Dananjaya	125,698.00	
69	Mrs.K.W.D.Madushani	57,848.00	
70	Mr.Nuwan Nishantha	216,632.00	
71	Mrs.N.M.Wickramsingha	120,814.00	
72	Mrs.C.N.G Moragoda	120,814.00	
73	Mrs.A.H.D.R Monali	109,800.00	
74	Mr.G.D.N.Ranjan	179,138.00	
75	Mrs.Chamathka Dias	191,636.00	
76	Mr.P.J.M.C Perera	181,500.00	
77	Mr.M.A.R.Bandara	177,375.00	
78	Mr.R.D.S.D Wijesundara	183,304.00	
			11,009,959.00

Schedule - 3

Combined Loan as at 31.12.2021

		Rs.	Rs.
1	Not Available	-	
			-

Schedule - 4

Festival Advance Balances as at 31.12.2021

	Name	**Rs.**
1	Mr.K.A.D.P.N. Nanayakkara	10,000.00
2	Mr.S.C.S Fernando	10,000.00
3	Mr.Jude Malan	10,000.00
	Total	**30,000.00**

Schedule - 5

Sundry Debtors Schedule

Sundry Debtors Balances as at 31/12/2021

Date	V.No	Grant No.	Grantee	Amount Rs. cts.
28-11-2019	JV - 491		Ministry of Science & Technology - Election Duty	6,000.00
31-12-2020	JV - 282	NSF/SCH/2018/03	Mr. H.M.I. Chandralal Herath Central College Piliyandala	212,752.00
31-12-2020	JV - 282	RG/2019/EQ-NSFC/01	Dr. Meththika Vithanage Ecosphere Resilience Centre Faculty of Applied Sciences University of Sri Jayawardenapura	25.00
31-12-2020	JV - 290	Invoice No - 5278	Hon. Jayantha Samaraweera State Minister of Warehouse Facilities Layden Bastian Road Colombo - 01.	2,000.00
31-12-2021	JV - 144	Invoice No - 5293	The Secretary Ministy of Enviornment Robert Gunawardena Mawatha Battaramulla.	204,530.15
31-12-2021	JV - 174	RG/2017/EA&ICT/03	Dr. L.W.P.R. Udayanga Senior Lecturer Dept. of Electrical and Electronic Engineering Faculty of Engineering University of Moratuwa	25,000.00
31-12-2021	JV - 174	RG/2017/HS/03	Dr. B.G. Galhena Dept. of Biochemistry & Clinical Chemistry University of Kelaniya	229,073.11
31-12-2021	JV - 174	RG/2017/EB/02	Prof. L.D. Amarasinghe Dept. of Zoology, Faculty of Science University of Kelaniya	277,398.04
31-12-2021	JV - 174	RG/2016/AG/01	Dr. T.H.P.S. Fernando Senior Plant Pathologist RRI, Dartonfield, Agalawatte	269,033.76

31-12-2021	JV - 174	NSF/SCH/2018/12	Ms. Sujanthe Rasakulendran Department of Zoology and Environment Science University of Colombo Colombo 03	69.38
31-12-2021	JV - 174	NSF/SCH/2016/04	Prof. J.T. Kotelawela IBMBB University of Colombo No.90, Cumaratunga Munidasa Mw, Colombo 03	111,819.04
31-12-2021	JV - 174	NSF/SCH/2018/10	Ms. A.K.I.U. Kapuge Dept. Oceanography and Marine Geology, University of Ruhuna	92,925.20
31-12-2021	JV - 180	RG/2017/HS/04	Dr. S.F. Jayamanne Dept. of Medicine Faculty of Medicine, Thalagolla Rd Ragama	162,114.61
31-12-2021	JV - 180	RG/2017/AG/01	Rubber Research Institute Dr.K.V.V.S.Kudaligama RRI Agalawatta	216,466.99
31-12-2021	JV - 182	NSF-PSF/2017/ICRP/EA&ICT/04	Prof. M.A.K.L. Dissanayake Research Professor National Institute of Fundamental Studies	52,755.24
				1,861,962.52

Schedule - 6

	Stocks		Rs.	Rs.
1	Stationary & Consumables	- Stores	550,418.24	
		- Printing	632,874.49	
				1,183,292.73
2	Coral Reef Posters		15,220.00	
3	Horton Plains Vedio Cassettes		8,043.75	
	Books & Periodicals			
4	Covid - 19		360,000.00	
5	Sri lanka Journal of Social Science Vol No 43		1,050.00	
6	Sri lanka Journal of Social Science Vol No 44		7,500.00	
7	Vidurawa 36-2 (Tamil)		150,000.00	
8	Vidurawa 36-4 (Tamil)		150,000.00	
9	Vidurawa 37-2 (English)		240,125.98	
10	Vidurawa 37-2 (Sinhala)		278,453.63	
11	Journal of National Science Foundation Vol No. 48		131,100.00	1,341,493.36
		Total		**2,524,786.09**

Schedule - 7

Prepayments

		Rs.
1	Insuarance	302,501.55
2	Maintenance of Building	249,480.00
3	Maintenance of Office Equipments	882,411.39
4	Postage	94,933.00
		1,529,325.94

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	Laugh Holdings	8,200.00
		93,650.00

Schedule - 8

Accrued Charges

Recurrent

1	Audit Fees	742,200.00	
2	Electricity	223,200.60	
3	Water Consumption charges	5,328.36	
4	Salaries & Allowances	64,503.52	
5	Uniforms	1,000.00	
6	Fuel	421,000.00	
7	Telephone	290,413.24	
8	Medical Expenses	32,959.00	
9	Sundry Expenses	9,650.00	
10	Travelling	56,278.85	
11	Overtime	138,562.38	
12	Subscription for Internet Charges	396,857.47	
13	Mobile Internet	7,934.40	
14	Cons. & Chemicals - Printing	52,488.00	
15	Maintenance of Office Equipments	71,859.84	
16	Translation Charges	90,552.50	
17	Gratuity	131,285.00	2,736,073.16

Capital

1	Sub International Science Org - RGB/GEN/05	1,194,464.00	
2	Database	3,374,500.00	
3	Information Technology	48,597.65	
4	Science Popularization Division	191,557.50	4,809,119.15
	Total		**7,545,192.31**

NATIONAL SCIENCE FOUNDATION
Reconciliation of Financial Position

	Note	Audited Balance as at 31 December 2020	Adjustments	Adjusted Balance as at 31 December 2020
ASSETS				
Current Assets				
Cash & Cash Equivalents		18,267,548		18,267,548
Receivables		6,204,345		6,204,345
Stocks		2,451,156		2,451,156
Pre Payments		1,444,388		1,444,388
Other Current Assets		108,650		108,650
Total Current Assets		28,476,087	-	28,476,087
Non-Current Assets				
Receivables		11,770,580		11,770,580
Property,plant & Equipments		1,285,495,960		1,285,495,960
Intangible Assets		4,506,617		4,506,617
Investments		883,002,124		883,002,124
Total Non-current Assets		2,184,775,281	-	2,184,775,281
Total Assets		2,213,251,368	-	2,213,251,368
Liabilities				
Current Liabilities				
Accrued Charges		4,862,544		4,862,544
Creditors		7,207,872		7,207,872
		12,070,416	-	12,070,416
Non-Current Liabilities				
Provision for Retiring Gratuity		41,831,260		41,831,260
Deffered Revenue		63,976,665		63,976,665
		105,807,925	-	105,807,925
Total Liabilities		117,878,341	-	117,878,341
Net Assets		**2,095,373,026**	**-**	**2,095,373,026**
Equity and Reserves				
Accumulated Funds				
NSF Fund		(37,343,914)		(37,343,914)
Revaluvation Reserve		1,249,216,115		1,249,216,115
Government Grant		883,002,124		883,002,124
NSF Development Fund		498,701		498,701
Total Equity		**2,095,373,026**	**-**	**2,095,373,026**

Reconciliation of Financial Performance

	Year ended 31 December 2020				
	Audited Balance 2020		Adjustments	Adjusted Balance 2020	
Revenue					
Government Grant	150,690,000			150,690,000	
Other Income				-	
Interest received	636,367			636,367	
Sundry Income	184,023			184,023	
Sale of Publications	783,971		(1,602,201)	(818,229)	
Photocopy receipts	2,994			2,994	
Publication Charges Received - JNSF	178,562			178,562	
NSLRC Income	101,125			101,125	
Income from Workshops	-			-	
Profit/(Loss) Sale of Fixed Assets	4,369			4,369	
Other	61,434,541			61,434,541	
Differed Income - Publications	-		1,602,201	1,602,201	
Differed Income - Assets	15,352,181			15,352,181	
		229,368,134			229,368,134
Expenditure					
Office Expenditure					
Traveling & Allowances for Board Members	457,700			457,700	
Refreshments for meetings	116,335			116,335	
Printing & Publications	-	574,035		-	574,035
Staff Emoluments					
Salaries & Allowances	87,416,451			87,416,451	
Employees Provident Fund	12,267,453			12,267,453	
Employees Trust Fund	2,453,463			2,453,463	
Transport & Fuel Allowance	6,356,808			6,356,808	
Provision for Retiring Gratuity	7,843,555			7,843,555	
Overtime	2,303,836			2,303,836	
Holiday Payment	34,344			34,344	
Uniforms	304,457			304,457	
		118,980,366			118,980,366
Office Administration					
Travelling - Office	861,571			861,571	
Stationary & Consumables	1,029,272			1,029,272	
Electricity	2,616,527			2,616,527	
Telephone/ Fax	2,948,729			2,948,729	
Postal charges	6,965			6,965	
Audit fees - Auditor General's Dept.	535,000			535,000	
Bank charges	55,060			55,060	
Medical Expenses	169,458			169,458	
Advertising	106,704			106,704	
Fuel Expenses	2,068,560			2,068,560	
Maintenance of Motor Vehicles	1,839,506			1,839,506	
Maintenance of Office Equipment & Furniture	2,063,098			2,063,098	
Maintenance of Building	672,049			672,049	
Maintenance of Land	-			-	
Insurance	951,048			951,048	
Water Consumption charges	399,154			399,154	
Security Services	1,628,675			1,628,675	
Depreciation	19,210,021			19,210,021	
Amortisation of intangible assets	1,678,416			1,678,416	
Sundry Expenses	497,222			497,222	
Janitorial Services	1,484,460			1,484,460	
Translation charges	345,015			345,015	
Stamp duty	825			825	
Intangible Assets Written off	4,047,894			4,047,894	
Stock of Stationery & Consumables written off	-			-	
Stock of Magazines & Journals written off	406,850	45,622,079		406,850	45,622,079
Others					
National Science Library & Resource Centre	80,892			80,892	
Printing Division	429,581			429,581	
Subscription for Internet Services	5,077,605	5,588,078		5,077,605	5,588,078
Capital Expenditure					
Awards & Grants : Mandate 01	25,235,204			25,235,204	
Science & Tec Policy Research : Mandate 02	4,012,079			4,012,079	
National Gateway S & T Infrmation : Mandate 03	2,085,985			2,085,985	
Science popularization programmes : Mandate 04	3,007,202			3,007,202	
International cooperation : Mandate 05	8,435,405			8,435,405	
Capital Assets, Maintenance & Admin : Mandate 06	39,295,009			39,295,009	
		82,070,884			82,070,884
Excess of Income over expenditure		**(23,467,309)**			**(23,467,309)**

Reconciliation of Statement of Cash Flow

Rs'000

	Audited Balance 2020		Adjustments	Adjusted Balance 2020	
Cash flows from operating Activities					
Net excess of expenditure over income	(23,467)			(23,467)	
Add; NSF fund prior year adjustments	(16,654)			(16,654)	
	(40,122)			**(40,122)**	
Adjustments for					
Depreciation	19,210			19,210	
Amortisation of Intangible assets	1,678			1,678	
Gratuity paid during the year	(4,878)			(4,878)	
Provision for Gratuity	7,844			7,844	
Disposal of Fixed Assets	(4)			(4)	
Writtenoff of Intangible Assets	4,048			4,048	
Revaluation Reserve of Disposal Vehicles	-			-	
Deffered Revenue	(15,352)			(15,352)	
Debtor Written off	-			-	
Operating profit/loss before working capital changes	**(27,576)**			**(27,576)**	
Net increase/decrease in trade other receivables	28,224			28,224	
Net increase/decrease in inventories	(787)			(787)	
Net decrease/increase in trade payables	(8,232)			(8,232)	
Cash generated from operations	19,205			19,205	
Net cash from operating activities		**(8,371)**			**(8,371)**
Cash flows from Investing Activities					
Proceed of Disposal of Fixed Assets	4			4	
Purchase of assets	(49,539)			(49,539)	
Proceeds from sale of books	-			-	
Net cash used in investing activities		**(49,535)**			**(49,535)**
Cash Flows from Financial Activities					
Contribution from Government	49,539			49,539	
Contribution from NSF Component	98			98	
		49,637			**49,637**
Net cash from financing activities		(8,268)			(8,268)
Cash & cash equivalent at beginning period		26,536			26,536
Cash & cash equivalent at end of period		**18,268**			**18,268**

Auditor General's Report

ජාතික විගණන කාර්යාලය
தேசிய கணக்காய்வு அலுவலகம்
NATIONAL AUDIT OFFICE

මගේ අංකය எனது இல. My No. IMT/D/NSF/1/21/53 මගේ අංකය உமது இல. Your No. දිනය திகதி Date 19th May 2022

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 2021* 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 2021 comprising the statement of financial position as at 31 December 2021 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 2021,*** 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

As per the section 48 of Sri Lanka Public Sector Accounting Standards No.01 assets and liabilities, and revenue and expenses shall not be offset unless required or permitted by a SLPSAS. However, the gross loss of sale of publications amounting to Rs.2,034,149 had been disclosed as revenue in the statement of financial performance by the institution. As a result, the revenue for the year had been reduced by the same amount.

අංක 306/72, පොල්දූව පාර, බත්තරමුල්ල, ශ්‍රී ලංකාව இல. 306/72, பொல்துவ வீதி, பத்தரமுல்லை, இலங்கை. No. 306/72, Polduwa Road, Battaramulla, Sri Lanka.
+94 11 2 88 70 28 - 34 +94 11 2 88 72 23 ag@auditorgeneral.gov.lk www.naosl.gov.lk

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 Other information included in the Foundation's 2021 Annual Report.

The other information comprises the information included in the Foundation's 2021 Annual Report but does not include the financial statements and my auditor's report thereon, which is expected to be made available to me after the date of this auditor's report. Management is responsible for the other information.

My opinion on the financial statements does not cover the other information and I do not express any form of assurance conclusion thereon.

In connection with my audit of the financial statements, my responsibility is to read the other information identified above when it becomes available and, in doing so, consider whether the other information is materially inconsistent with the financial statements, or my knowledge obtained in the audit or otherwise appears to be materially misstated.

When I read the Foundation's 2021 Annual Report, if I conclude that there are material misstatements therein, I am required to communicate that matter to those charged with governance for correction. If further material uncorrected misstatements are existed those will be included in my report to Parliament in pursuance of provisions in Article 154 (6) of the Constitution that will be tabled in due course.

1.4 Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation of financial statements that give a true and fair view 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 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 Foundation or to cease operations, or has no realistic alternative but to do so.

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

As per Section 16(1) of the National Audit Act No. 19 of 2018, the 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 Foundation.

1.5 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 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 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. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the Foundation 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

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

2.1.1 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.

2.1.2 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.

2.1.3 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.

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

2.2.1 to state that any member of the governing body of the Foundation has any direct or indirect interest in any contract entered into by the 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.

2.2.2 to state that the Foundation has not complied with any applicable written law, general and special directions issued by the governing body of the Foundation as per the requirement of section 12 (f) of the National Audit Act, No. 19 of 2018.

2.2.3 to state that the 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.

2.2.4 to state that the resources of the 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.

2.3 Other Matters

a. During the year under review actions had been taken to write off the cost of Rs.1,162,125 relating to 9,900 publications under 11 categories that had been printed without proper study of the need and proper methodology for distribution. Moreover, 5,100 copies of the "Vidurawa" Educational Magazine amounting to Rs.963,484 had been printed with a special objective of distributing free of charge to School Science Societies, Vidatha Centers, Zonal and Provincial Science Societies within the second quarter of the year. However, action had been taken to distribute only 963 copies by the end of the year under review.

b. 150 copies of the book "Covid-19" were printed at a cost of Rs. 1,277,650 using the funds provided by a private institute and the selling price was set for Rs. 7,500.00 per copy. Out of these 50 copies had been reserved for sale and 100 copies for free distribution. By the audit date of March 7, 2022, only 03 copies of the book had been sold and only 57 copies had been distributed free of charge. Even though the book was printed for sale the institute did not have a marketing strategy or sales outlet for selling the book.

c. As per section 05 of the guidelines for research grants the balance funds of the grants must be settled within a month after completion of the grant and submission of the final financial statement. However a total of Rs. 1,174,144/- of completed 12 grants by 31st December 2021 had not been settled by the date of the audit, March 2022.

W.P.C. Wickramaratne
Auditor General

NSF feedback on the Auditor General's Report

Auditor General,

National Audit Office,

No.306/72, Polduwa Road,

Battaramulla,

2022.04.04

Comments for the Draft 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 2021 in terms of Section 12 of the National Audit Act, No. 19 of 2018.

2.3 Other Matters

(a) These two balances of the creditors are represented by the Cinnamon and Biosafety Projects.

Out of these two, Cinnamon Project shows a balance of Rs.1,575,433.00. The project was started on 28/12/2016 and was scheduled to be completed on 27/12/2019. 05 grants were awarded under the project and their duration was extended up to August 2021 with the approval of the relevant ministry. Out of these, 04 grants were successfully completed. The final report of the other project is pending. After completion of this grant action will be taken to complete the financial activities related to the project with the agreement of the Ministry of Primary Industries.

The Biosafety project was completed on 30/11/2021 which represents the remaining balance of Rs. 1,672,266.00. The final report of the project has been provided after achieving all the objectives successfully. The remaining amount of Rs.3,969,856.61 was refunded on 24/02/2022 after completion of all financial affairs related to the project.

(b) The NSF accounting policy of publications as per the decision of the Board of Management (15th November 2010) is that the journals/magazines after six months from the date of publication to be written off by 50% of the value of journals/magazines. The publications after one year to be written off at zero cost. Accordingly, 9,900 publications of 11 categories valued at Rs. 1,162,125.00 were written off from the stock and are disclosed by accounting policy no. 6 of the financial statement of the year.

JNSF, SLJSS, and 'Vidurawa' Science Magazine represents the above value. The number printed was decided after analyzing the quantity sold, exchanged, and distributed in previous years. But due to the COVID pandemic situation faced in 2020, the distribution among scholars who published articles in the Journal in late 2019 and 2020 was significantly reduced.

Apart from this, after the year 2019, the printing of journals has been reduced considering the trend of using online versions by the users. After tracking this trend, it was decided to stop printing of the journal from year 2021. In addition, a mechanism is being introduced to identify the public and private institutions that have not bought or exchanged the journal so far and to distribute the remaining copies of the journal among them.

As 'Vidurawa' is printed aiming at school children, the number of copies to be printed was decided considering the numbers of schools registered with the NSF, 'Vidatha' centers, provincial science coordinators, regional science directors, and university libraries. The distribution process of 'Vidurawa' was hampered due to COVID pandemic situation in the country. However, as at now, the distribution process had been started as planned.

(c) Publications of the NSF are distributed among people during various programs with the purpose of disseminating scientific knowledge and popularizing science among the public.

These posters and videos were the balance stocks printed for the above mentioned purpose. The remaining stocks will be displayed at the proposed publications outlet to be given to users and also will be distributed during science programs organized by the NSF.

At present, the requirement for printing of publications has been confirmed according to the distribution plan.

(d) National Science Foundation conducted a national conference on Covid-19 from January 27-28, 2021. The main objective of this conference was to print a historically valuable book that contain a collection of data on how Sri Lanka managed the 1st wave of the covid-19 epidemic successfully over the other countries, and how individuals and all sectors of the country contributed to the success and how they managed the problems they faced for future use.

Accordingly, the book was launched on 30/07/2021 and printing was completed on 29/09/2021. The purpose was to sell and distribute this nationally important book freely for future needs. However, due to 4th wave of COVID pandemic and the economic crisis faced by the country the distribution of the book did not take place as planned. Action was taken to distribute free copies to selected parties by post/by hand and 57 copies have been distributed to date.

It is difficult to sell a book that has historically valuable data in a short duration. However, action will be taken to establish a proper system to distribute the book through publicity during institution's programs and activities. Further, steps will be taken to display the book in the proposed publication outlet.

(e) 'Vidrawa' science magazine is published by the National Science Foundation on current topics related to science and technology. The magazine is distributed free of charge to school libraries registered with the NSF.

This magazine is also distributed among 'vidatha' centers, provincial science coordinators, regional science directors, and university libraries free of charge. In addition, the magazine is given as gifts at institutional events and distributed during exhibitions, workshops, etc., and a part is kept for sale.

Several printed copies (about nine) are distributed as a bundle considering the postal cost. Until the completion of printing several volumes, the magazines are kept at the publication store. The printing process was slightly delayed due to the Covid 19 pandemic situation in the country in 2020. The distribution of publications was also delayed due to the closing of schools, and disturbances in postal services.

However, distribution of publications was started with the reopening of schools and only the following quantities are remaining as of 22/03/2021.

Publication	Balance stock as mentioned by the Audit	Balance to date
36 :02 Tamil	750	518
36:04 Tamil	750	122
37:02 Sinhala	2000	1949
37: 02 English	1600	1548

The remaining copies of the publication mentioned above will be sold and distributed freely during workshops and exhibitions disseminating knowledge.

(f) Out of the 10 debtor balances (Rs. 1,525,704.86) disclosed by the audit, Rs. 351,571.04 representing 04 grants have been collected by 25/03/2022. The following balances related to 06 grants amounting to Rs.1,174,143.82 should be recovered.

Grant No.	**Grantee/Institute**	**Balance (Rs.)**
Invoice No.5293	Ministry of environment	204,530.15
RG/2014/HS/03	Dr. B. G. Galhena	229,073.11
RG/2016/AG/01	Dr. T.H.P.S. Fernando	269,033.76

NSF/SCH/2016/10	Ms. A. K. I. U. Kapuge	92,925.20
RG/2017/HS/04	Dr. S. F. Jayamanne	162,114.61
RG/2017/AG/01	Rubber Research Institute	216,466.99
Total		**1,174,143.82**

Out of these Rs.204,530.15 from the Ministry of Environment will be received immediately after completion of the feasibility study of the project.

The delay of the settlement occurred due to discontinuation of institutional activities as a result of Covid 19 pandemic. However, action will be taken to remind the grantees and collect this money before 31/05/2021, as per section 05 of the research grant guideline.

A program was also conducted to aware grantees of this on 25/03/2022.

(g) In the last presidential election (November 2019), 04 drivers of the NSF were assigned for election duties, and they were paid Rs.6,000.00 as combined allowance.

This amount has not been reimbursed by the Election Commission. The Commission was informed to reimburse this amount in writing.

Chairman

National Science Foundation

Annexures

Principal Staff - As at 31st December, 2021

Annex 1

Chairperson

Prof. Ranjith Senaratne
Ph.D. (Vienna), Ph.D. (Durham) h.c.

Acting Director General

Ms Damayanthi K Wijesinghe — *w.e.f. 22.02.2021 to 03.08.2021*
Acting Director General appointed by the Ministry

Mr K Ravindra Pathmapriya — *w.e.f. 10.08.2021 to date*
Acting Director General appointed by the Ministry

Additional Director

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

Research Division (RD)

Dr S A V Moorthy, *B.Sc. (Jaffna), M.Sc. (Colombo), Ph.D. (Colombo)*	Principal Scientific Officer/ Head up to 22.03.2021
Eng. T M R Dissanayake, *B.Sc. Engineering (Production Eng), M.Sc. in Processing & Food Engineering*	Principal Scientific Officer/Head w.e.f. 28.04.2021
Ms H D N Jayaweera, *B.Sc. (Hons.) (Sri Jayewardenepura)*	Scientific Officer
Ms W L C Dasanayake, *B.Sc. Agric. (Hons) (Peradeniya), M.Sc. (Peradeniya), M.Sc. (Japan), M.Eng (Germany)*	Senior Scientific Officer
Dr H I Sandanayake, *B.V.Sc. (Peradeniya), M.Sc. (London)*	Scientific Officer
Dr A M N S Nadugala, *B.Sc. Agric. (Hons) (Peradeniya) M.Sc. (Asian Institute of Technology). Ph.D. (Sir John Kothalawala Uni.)*	Senior Scientific Officer
Dr P V S Panawala, *B.V.Sc. (Peradeniya), M.Phil. (Peradeniya)*	Scientific Officer
Ms Amali Ranasinghe, *B.Sc. (Hons) (Bangalore), M.Sc. (Food & Nutrition) (Peradeniya)*	Scientific Officer released to SLIBTEC on 01.03.2021
Mrs G G K P S Kumari, *B.Sc. Special in Agric. (Peradeniya) MPhil in Agricultural Engineering (Peradeniya)*	Scientific Officer
Eng. Sureshinie Warnasooriya *B.Sc. Special Eng. (Moratuwa), MSc. (Moratuwa)*	Scientific Officer
Ms M Weerasooriyagedara *B.Sc. Special Uva Wellassa), MSc.(Peradeniya)*	Scientific Officer

Science and Technology Policy Research Division (STPRD)

Mr S M A W Anuruddha, *B.Sc. (Hons) (Colombo), M.Sc. (Colombo)*	Principal Scientific Officer/Head
Ms Chamika Dharmasena, *B.Sc. Special (Hons) (Colombo) Postgraduate Diploma in Applied Sociology (Colombo)*	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
Ms G R P I Abeysiri, *B.Sc. Agric. Special (Wayamba) M.Sc. Crop Science (Peradeniya)*	Scientific Officer

International Affairs Division (IAD)

Mr J G Shantha Siri, *B.Sc. (Hons) (Colombo), M.Sc. (Kelaniya)*	Principal Scientific Officer/Head
Ms E M D C K Ekanayake, *B.Sc. Agric. (Hons) (Peradeniya), M.Sc. (Peradeniya)*	Senior Scientific Officer
Ms K A T K G Kandanamulla, *B.Sc. Agric. (Hons) (Ruhuna), M.Sc. (Colombo)*	Scientific Officer
Ms. N L Muhandiram, *B.Sc (Hons). (Uva Wellassa)*	Scientific Officer

Technology Development and Innovation Division (TDID)

Mr. K G J Karunasena, *B.Sc Agric. (Hons) (Peradeniya), M.Phil. Agric. (Peradeniya)*	Principal Scientific Officer & Head
Ms. R N N Gamage, *B.Sc. (Hons) (Asian University)*	Scientific Officer Up to 15.12.2021
Ms Sarani K Meneripitiya, *B.Sc. Special (Hons.) (Kelaniya)*	Scientific Officer

Science Popularization & Outreach Division (SPOD)

Dr P R M P Dilrukshi, *B.Sc. Special (Hons) (Peradeniya), Ph.D. (Peradeniya)*	Principal Scientific Officer/Head
Ms M D Senarathne, *Graduateship in Chemistry (I. Chem.), M.Sc, Polymer Science (Sri Jayewardenepura)*	Senior Scientific
Ms R A A R Ranatunga, *B.Sc. Special (Hons) (Colombo)*	Scientific Officer
Mr W A D L R Warnakula, *B.Sc. Special (Agric.) (Hons) (Wayamba)*	Scientific Officer
Ms H M A J Herath, *B.Sc. Special, Food Science & Nutrition (Wayamba)*	Scientific Officer

Journal Publication Unit (JPU)

Ms D N Wickramarachchi, *B.Sc. (Hons) (The Open University), M.Sc. (Sri Jayewardenepura)*	Principal Scientific Officer/Head w.e.f 18.05.2021
Ms Uthpala Karunarathne, *B.Sc. Special (Hons) (Kelaniya), M.Sc. (Colombo)*	Senior Scientific Officer
Ms W M U K Rathnayake, *B.Sc. Special (Hons)(Wayamba)*	Scientific Officer
Mrs S Samarasekera, *B.Sc Special (Hons.) (Sri Jayewardenepura) B.Sc. (Economic & Mgt.) (Uni. of London)*	Scientific Officer

Additional Director's Office

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

National Science Library and Resource Centre (NSLRC)

Mr Manuja Karunarathne *B.Sc. (Kelaniya), M.Sc Kelaniya)*	Principal Information Officer/Head
Amila 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), MSc (Peradeniya)*	Information Officer
Mr P K B A S M Pannala, *MSc (MIS), Colombo, B.Sc. (Hons.) (National Uni. of Ireland)*	Information Officer (Up to 27.09.2021)
Ms K N Samanthi, *MA (Kelaniya), B.A (Peradeniya)*	Information Officer
Ms. N A H Priyadarshani, *Diploma in Library & Information Science*	Junior Information Officer

Printing Unit

Mr S M A W Anuruddha, *B.Sc. (Hons) (Colombo), M.Sc. (Colombo)*	Principal Scientific Officer & Covering Printing Officer

Administration Division

Mr P Sapumohotti, *B.Sc. (Peradeniya), MPM (SLIDA)*	Senior Administrative Officer
Ms B T Wickremasinghe, *B.Sc. (SriJayewardenepura)*	Procurement & transport Officer
Mr. Saman Sujeewa , *Postgraduate Diploma in HRM Masters of Business Studies*	Human Resource Development Officer

Finance Division

Ms T D P P Samaranayake, *Professional Part II of ICASL*	Senior Accountant up to 08.07.2021
Ms E M P Bamunendra, *B.Com. (Sri Jayewardenepura), Master of Professional Accounting, Licentiate Certificate of ICASL*	Accountant

Internal Audit Unit

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

IT Unit

Mr H M M Perera, *MBCS*	IT Manager
Mr W A B Fernado, *B.Sc. (Networking)(Wolverhampton)*	Network Administrator

Confidential Secretaries

Ms Ayomi Palihawadana	Up to 21.08.2021

Retired during the year 2021

Ms T D P P Samaranayake	Senior Accountant	From 08.07.2021
Dr S A V Moorthy	Principal Scientific Officer	From 23.03.2021
Ms P A Palihawadana	Confidential Secretary	From 22.08.2021
Mr A A Dias	Driver	From 18.10.2021

Resigned During the year 2021

Mr S M Pannala	Information Officer	From 27.09.2021
Ms R N N Gamage	Scientific Officer	From 15.12.2021
Ms P L L Abeygunawardhana	Management Assistant	From 28.12.2021

R&D Grants Awarded – 2021

Annex 2

Agriculture & Food Science

Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2021/AG/02	**Prof. M Vithanage** Ecosphere Resilience Research Centre **Dr A U Rajapaksha** Office of the Dean Faculty of Applied Sciences University of Sri Jayawardenapura **Prof. C V L Jayasinghe** Department of Food Science & Technology **Dr P U S. Peiris** Biostatistics & Agronomy Unit Faculty of Livestock Fisheries & Nutrition Wayamba University of Sri Lanka	Synthesis of organo-mineral enriched biochar as fertilizer and nemato -repellent to enhance soil nutrient cycling, yield and quality of organic export root crops ginger and turmeric 03 years	**3,180,000/-**
RG/2021/AG/03	**Dr W A U Vitharana** Department of Soil Science Faculty of Agriculture University of Peradeniya **Mr R A C J Perera** Field Crops Research and Development Institute Mahailluppallama	Mapping of salinity development in paddy grown soils using proximal and remote sending based techniques 03 years	**4,086,680/-**
RG/2021/AG/04	**Dr B R Fernando** Department of Veterinary Public Health and Pharmacology Faculty of Veterinary Medicine and Animal Science University of Peradeniya **Dr S S P Silva** Department of Animal Production & Health Peradeniya	Profiling of risks associated with veterinary drug residues in animal feed and food of animal origin to ensure consumer safety. 02 years	**3,750,000/-**
RG/GAPF/2021/AG/01	**Dr L J P A P Jayasooriya** **Dr D A Satharasinghe** Department of Basic Veterinary Sciences Faculty of Veterinary Medicine & Animal Sciences **Prof. T M Madujith** Department of Food Science Faculty of Agriculture University of Peradeniya **Prof. Gammika Prathapasinghe** Department of Livestock and Avian Sciences Wayamba University of Sri Lanka	Value addition to chicken egg with enrichment egg yolk lipids with natural Conjugated Linoleci Acid (CLA) having anti-cancer actions & subsequent commercialization of the value-added product. 01 year 03 months	**1,670,000/-**

Basic Sciences

No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2021/BS/01	**Ms D C K K Dissanayake** Director of Life Sciences Sri Lanka Atomic Energy Board Orugodawatta Wellampitiya **Dr L L W C Yalegama** Dr Dushan Kumaratunge Coconut Research Institute **Ms Priyanga Ratnayake** Sri Lanka Atomic Energy Board	Design and development of a decision support system to reconfigure fruit and vegetable supply chain to enhance the food security 03 Years	**1,929,600/-**

Engineering Sciences, Architecture & ICT

No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2021/EA&ICT/01	**Dr (Eng.) K M A K Kulatunga** **Ms (Eng.) U S S Dharmapriya** Department of Manufacturing & Industrial Engineering Faculty of Engineering University of Peradeniya	Design and development of a decision support system to reconfigure fruit and vegetable supply chain to enhance the food security 03 Years	**3,453,750/-**
RG/GAPF/2021/EA & ICT/01	**Prof. J B Ekanayake** Department of Electrical & Electronic Engineering Faculty of Engineering University of Peradeniya **Dr Akila Wijethunge** Department of Materials & Mechanical Technology Faculty of Technology University of Sri Jayewardenepura **Dr J V Wijayakulasooriya** Department of Electrical & Electronic Engineering Faculty of Engineering University of Peradeniya	An integrated application of the dynamic line rating, and the solar PV inverter control to enhance the rooftop solar PV integration in to distribution networks 2 ½ Years	**2,475,000/-**

Environment and Biodiversity

Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/GAPF/2021/EB/01	**Dr I R M Kottegoda** Materials Technology Section **Dr R C L De Silva** Materials Technology Section Industrial Technology Institute 363 Bauddhaloka Mawatha Colombo 07	Purification of Graphite of Sri Lanka as a high value addition 2 Years	**930,000/-**

RG/GAPF/2021/EB/02	**Prof. M M Pathmalal** Department of Zoology **Prof. S D M Chinthaka** Department of Chemistry **Dr G Y Liyanage** Department of Aquatic Bioresources Faculty of Applied Sciences University of Sri Jayewardenepura	Scale up of the developed domestic water filter for removal of Geosmin, 2-MIB, cyanotoxins, and antibiotics in drinking water 1 Year	**2,000,000/-**

COVID 19 New Grants

TD/2021/COVID/AG/01	**Prof. Prasad M Jayaweera** Departmen of Computer Science Faculty of Applied Science University of Sri Jayawardenapura.	Lanka Agriculture Interoperability Framework (LAIF): A decision support service enhancement for Agri Food supply chain. 01 year	**1,764,000/-**

New Technology Development Grants (Further funding technology development grants)

TG/2021/Tech d/01.	**Mr K M S Bandara** A R A Engineering, Panawala Road Villegoda Eheliyagoda.	Efficient coconut de-husking machine for coconut industry - Easy coconut de-husker 06 months	**300,000/-**

R&D Grants Completed – 2021

Agriculture & Food Science

No.	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
1.	RG/2017/AG/02	**Prof. C V L Jayasinghe** Department of Food Science & Technology Wayamba University of Sri Lanka **Prof. D Chamara K Illeperuma** Department of Food Science & Technology Faculty of Agriculture University of Peradeniya **Prof. A N Navaratne** Department of Chemistry Faculty of Science University of Peradeniya	Industrial fruit waste derived ingredients for commercial food production 02 years	**2,331,000/-**
2.	RG/2017/AG/04	**Dr W M P B Weerasinghe** Veterinary Research Institute Peradeniya **Dr Ariyanthilaka Manawadu** Department of Animal Science Faculty of Agriculture University of Ruhuna **Dr Kumara Mahipala** Department of Animal Science Faculty of Agriculture University of Peradeniya	In vitro and in vivo screening of newly introduced forages for sustainable intensification of dairy production in the context of climate change 03 years	**3,985,000/-**

Basic Sciences

No.	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
1.	RG/2016/ BS/01	**Prof. R M G Rajapakse** Department of Chemistry Faculty of Science University of Peradeniya **Prof. G R A Kumara** National Institute of Fundamental Studies Kandy	Photon upconversion as a tool to harvest infrared radiation for direct illumination in the dark and to fabricate dye-sensitized solar cells to generate electricity under illumination as well as in the dark 03 years	**5,235,000/-**

Biotechnology

No.	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
1.	RG/2016/BT/03	**Dr A Arulkanthan** Department of Veterinary Pathobiology Faculty of Veterinary Medicine and Animal Science University of Peradeniya	Studies on mycobacteriosis in freshwater ornamental fish: Identification of risk factors, and clinic pathological features and development of rapid diagnostic technique 03 years	**3,759,000/-**

2.	**RG/2016/BT/04**	**Prof. Ranil Dassanayake** Department of Chemistry Faculty of Science University of Colombo	Transgenic reconstitution of RNA interference pathway in Pichia pastoris yeast model system 04 years	**4,534,135/-**

Environment & Biodiversity

No.	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
1.	**RG/2017/EB/01**	**Dr Chandima D Dangalle** Department of Zoology Faculty of Science University of Colombo	Diversity, distribution and habitat type of arboreal tiger beetles (Coleoptera Cicindelidae) of Sri Lanka 03 years	**4,267,505/-**
2.	**RG/2011/NRB/02**	**Dr (Mrs) R Gnaneswaran** Department of Zoology Faculty of Science University of Jaffna	The role of Mangrove Ecosystem in connecting other ecosystems by maintaining above ground Invertebrate biodiversity 02 years	**843,590/-**
3.	**RG/2017/EB/02**	**Prof. (Mrs) L D Amarasinghe** Department of Zoology Faculty of Science University of Kelaniya	Micro-fauna and micro-flora diversity in mosquito breeding habitats and their effects on mosquito larvae 02 years	**2,264,030/-**
4.	**RG/2017/EB/05**	**Dr N P S Kumburegama** Department of Zoology Faculty of Science University of Peradeniya	Distribution of terrestrial gastropod pests, their seasonal abundance and degree of damage to crops in agricultural lands in Nuwara-Eliya 02 years	**2,565,600/-**

Health Sciences

No.	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
1.	**RPHS/2016/ CKDu/ 06**	**Prof. R L Rohana Chandrajith** Department of Geology Faculty of Science University of Peradeniya	To identify the natural history, clinical manifestation, mortality and morbidity of CKD-u patients with two controlled groups.	**10,662,000/-**
2.	**RPHS/2016/C/ 06**	**Dr Chathura Ratnayake** Department of Obstetrics & Gynaecoogy Faculty of Medicine 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	**9,000,000/-**

Technology Development Grants

No.	Grant No.	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
1.	**TG/2016/Tech-D/04**	**Mr S K Seneviratne** Suriyagoda Kiribathkumbura	Development of the Truck- Trailer Combination Vehicle to Suit the Road network of Sri Lanka (funds were provided to develop a driver assisted interface to support reversing of the Truck – Trailer combination) 12 months	**680,000/-**

2.	**TG/2017/Tech-D/03**	**Prof. N M M G S B** Navaratne University of Sri Jayawardenepuras	Development of a Fermentation Chamber to Improve Porous-Crumb Structure of Rice related-leavened food products prepared from composite flour 02 years	**3,031,552/-**
3.	**TG/2016/Tech-D/02**	Prof. D G G P Karunaratne Department of Chemical Engineering University of Peradeniya	Synthesis and Commercialization of Value-Added Products from Sri Lankan Dolomite Lime 03 years and 09 months	**11,893,200/-**

Research Scholarships Completed in 2021

No.	Grant No. & Duration	Scholar and Institution	Supervisor/s	Title	Postgraduate Degree obtained
1.	**NSF/SCH/ 2017/01 3 years**	**Ms Maduja V M Divarathna** Department of Microbiology Faculty of Medicine University of Peradeniya	**Dr F Noordeen Dr A J Morel**	Characterization of respiratory syncytial and human metapneumo viruses causing acute respiratory tract infection in a selected cohort of hospitalized children in Sri Lanka	**PhD**
2.	**NSF/ SCH/2019/01 1.5 years**	**Ms W L B P Abhayawickrama** Department of Biotechnology Faculty of Agriculture & Plantation Management Wayamba University of Sri Lanka	**Prof. N S Kottearachchi Dr D R Gimhani Dr Venura Herath**	QTL map based candidate gene discovery for salt tolerance in rice *(Oryza sativa)*	**PhD**
3.	**NSF/ SCH/2016/03 2 years**	**Ms Abiramy Thurairajah** Faculty of Agriculture University of Jaffna	**Dr Nalina Gnanavelraja Dr Renuka R Ratnayake**	Isolation of denitrifying bacteria and their potential use in nitrate removal from well water of Jaffna district	**MPhil**
4.	**NSF/ SCH/2018/12 2 years**	**Ms Sujanthe Rasakulendran** Department of Zoology and Environment Sciences University of Colombo	**Dr I C Perera Dr N T Perera**	Ligand responsive MarR homologs as novel drug targets against *Mycobacterium tuberculosis*	**PhD**
5.	**NSF/ SCH/2017/02 16 months**	**Dr Thavarajah Vijayakumar** Department of Biochemistry Faculty of Medicine University of Jaffna & Siddha Teaching Hospital Kaithady Chavakacheri	**Dr S Balakumar Dr (Mrs) T Thayalini**	Safety evaluation of hepato, nephron, neuro and hemato; and antioxidant activity of Sinna *Sivappu Maathirai* a siddha herbo mineral drug	**MPhil**
6.	**NSF/ SCH/2017/03 3 years**	**Mr Saminda C Premaratne** UCSC	**Dr Lakshman Jayaratne**	Entity Resolution in Multimedia Databases	**PhD**
7.	**NSF/ SCH/2018/04 3 years**	**Mr Jaseetharan Thillainathan** PGIS Peradeniya	**Prof. M A K L Dissanayake Prof. G K R Senadeera**	Semiconductor quantum dots for applications in solar cells and infra-red detectors	**MPhil**
8.	**NSF/ SCH/2017/09 3 years**	**Ms S W G R T K Ariyawansha** Department of Agriculture Engineering Faculty of Agriculture University of Peradeniya	**Prof. B F A.Basnayake Dr A K Karunarathna**	Development of interactive mathematical expressions for biochemical transformation kinetics	**PhD**
9.	**NSF/ SCH/2019/07 1 year**	**Mr Uvindu D A Anthony** Department of Parasitology Faculty of Medical Sciences University of Sri Jayawardenepura	**Prof. Renu Wickremasinghe Prof. Preethi Udagama Prof. Deepika Fernando**	A sero-epidemiological study to provide supportive evidence to establish Malaria elimination in Sri Lanka	**MPhil**
10.	**NSF/ SCH/2017/05 1 year**	**Ms N G L Nadee Nanayakkara** Faculty of Fisheries and Marine Science & Technology University of Ruhuna	**Dr Nalaka Ranasinghe Prof. K R Ranjith Mahanama Prof. Tilak Hewawasam**	Reconstruction of the quaternary climate variability in Sri Lanka using marine proxies	**MPhil**

11.	**NSF/SCH/2015/07** **3 years**	**Mr Nimesh Madushanka Deneththi** Department of livestock production Faculty of Agricultural Sciences Sabaragamuwa University of Sri Lanka	**Dr Manjula P Sumith Magamage** **Dr H A D Ruwandeepika**	Effect of angiogenic VEGF isoforms and Anti-angiogenic VEGF165B during development of porcine follicles originating from ovaries of newborn piglets and adult ovaries with cystic follicles *in-vitro*	**MPhil.**
12.	**NSF/SCH/2016/02** **3 years**	**Mr Ashoka Ranjeewa Deegoda Gamage** Faculty of Science University of Colombo	**Prof. Devaka Weerakoon** **Dr Prithiviraj Fernando**	The Asian elephant male: behavior and life stages of male Asian elephant in Udawalawa, Sri Lanka	**MPhil**
13.	**NSF/SCH/2016/04** **4 years**	**Ms Joanne Tiphania Kotelawela** IBMBB University of Colombo	**Prof. Kamani H Tennekoon** **Dr Kanishka De Silva**	Characterization of mitochondrial DNA mutations in the D-loop and mtDNA haplogroups in Sporadic Breast Cancer	**MPhil / PhD**
14.	**NSF/SCH/2017/04** **2 years**	**Mrs Fathima Sabrina Nazeer** Department of Building Economics Faculty of Architecture University of Moratuwa	**Dr Sachie Gunatilake** **Dr Thanuja Ramachandra**	Developing a capability framework to integrate sustainability in Facilities Management (FM) practice	**MPhil**
15.	**NSF/SCH/2018/10** **1 year**	**Ms A K I U Kapuge** Department of Oceanography and Marine Geology University of Ruhuna	**Dr Pradeep Nalaka Ranasinghe** **Prof. A LTilak Hewawasam** **Dr C H E R Siriwardana**	Studying paleoclimatic and paleoenvironmental changes in Ratnapura Basin during the quaternary period	**MPhil**
16.	**NSF/SCH/2019/05** **2 years**	**Mr Senthuran** Sivasubramanium Department of Physics Faculty of Science University of Jaffna	**Prof. M A K L Dissanayake** **Prof. G K R Senadeera**	Fabrication and characterization of nanostructured TiO_2 photoanode for dye-sensitized solar cells	**MPhil**

Post Graduate Research Fellowship Completed in 2021

No.	Grant No. & Duration	Scholar and Institution	Title
1.	**NSF/PDRS/2018/01** **3 years**	**Dr C L Vithana** Department Of Geology Faculty of Science University of Peradeniya	Occurrence of arsenic and its potential for mobility in soils in Muthurajawela marsh, Sri Lanka: Relationship with acid sulfate soil materials

Annex 5

Support Scheme for Supervision of Research Degrees (SUSRED) Awards 2021

No.	Names and affiliations of Supervisory Team	Title of the thesis	Student & awarding University
	- PhD -		
1.	**Prof. Menaka Hapugoda** Molecular Medicine Unit Faculty of Medicine University of Kelaniya **Prof. W Abeyewickreme** Department of Para Clinical Sciences Faculty of Medicine General Sir John Kotelawala Defence University	Study on effect of quality of water in Anopheles mosquito breeding habitats and control of Anopheles mosquitoes using larvivorous fish and carnivorous copepods	**Dr R M T B Ranathunge** University of Kelaniya
2.	**Prof. Lohini Vijayendran Athiththan** Department of Biochemistry Faculty of Medical Sciences University of Sri Jayewardenepura, **Dr Sunil Perera** The Central Hospitals Colombo **Prof. Hemantha Peiris** Department of Biochemistry Faculty of Medical Sciences University of Sri Jayewardenepura	Factors associated with herniation of the lumbar intervertebral discs in patients undergoing lumbar discectomy in a selected neurosurgical unit in Sri Lanka	**Dr N D Withanage** University of Sri Jayewardenepura
3.	**Prof. Rangika U Halwathura** Department of Civil Engineering Faculty of Engineering University of Moratuwa	The effectiveness of alternative stabilizer for mud concrete technology	**Dr C Dussantha Udawattha** University of Moratuwa
4.	**Prof. R K Sriyani Dias** Department of Zoology and Environmental Management Faculty of Science University of Kelaniya	Dynamics of nest attributes and worker occurrence in Aneuretus simoni Emery associated ant community in a selected region of two forest reserves in the wet zone, Sri Lanka	**Dr W S Udayakantha** University of Kelaniya
5.	**Prof. Pathmalal M Manage** **Prof. S M D A U De Alwis** **Prof. B G D N K De Silva** Department of Zoology Faculty of Applied Sciences University of Sri Jayewardenepura	Screening of selected antibiotics contaminations and characterization of antibiotic resistant bacteria in water and sediments	**Dr Gayani Y Liyanage** University of Sri Jayewardenepura
6.	**Prof. K K D S Ranaweera** Department of Food Science and Technology Faculty of Applied Sciences University of Sri Jayewardenepura	Identification and characterization of antioxidant and anti-inflammatory properties of under-utilized green leafy vegetables grown in Sri Lanka	**Dr K D P P Gunathilake** University of Sri Jayewardenepura
7.	**Prof. M Y Udugala-Ganehenege** Department of Chemistry Faculty of Science **Dr C S Kalpage** Department of Chemical and Process Engineering Faculty of Engineering University of Peradeniya	Utilization of environmental pollutants and biomass for the production of biofuels and industrial chemicals using heterogeneous catalysts	**Dr T M M Marso** University of Peradeniya
8.	**Prof. C A N Fernando** **Dr S N T De Silva** Department of Nano Science Technology Faculty of Technology Wayamba University of Sri Lanka	Fabrication of n-Cu_2O quantum dots (QDS) sensitized solar cells and enhancement of their photo-characteristic properties through deposition of CAC and p-Ag_2O thin films	**Dr P G D C K Karunarathna** Wayamba University of Sri Lanka

9.	**Prof. C A N Fernando** Department of Nano Science Technology Faculty of Technology Wayamba University of Sri Lanka	Investigation of photo-effects and their implications on solar energy conversion devices fabricated from low cost nano-materials	**Dr S P A U K Samarakoon** Wayamba University of Sri Lanka
10.	**Prof. L B D R P Wijesundera** **Prof. W P Siripala** Department of Physics and Electronics Faculty of Science University of Kelaniya	Interfacial properties of electrodeposited Cu_2O junctions and development of efficient homojunction solar cells	**Dr F S B Kafi** University of Kelaniya
11.	**Prof. Y K Weerakoon Banda** Department of Finance Faculty of Management Studies and Commerce University of Sri Jayewardenepura **Prof. A A Azeez** Department of Finance Faculty of Management and Finance University of Colombo	Determinants of dividend policy and its effect on stock price volatility evidence from Sri Lanka	**Dr D N Jayantha** University of Colombo
12.	**Prof. P V Udagama** Department of Zoology and Environment Sciences Faculty of Science University of Colombo **Prof. W D Ratnasooriya** Department of Basic Sciences Faculty of Allied Health Sciences General Sir John Kotalawala Defence University **Dr G A S Premakumara** Department of Basic Science and Social Science Faculty of Nursing University of Sri Jayewardenepura	Haematological, immunomodulatory and cancer chemopreventive **activities of the mature leaf concentrate of** *Carica papaya L* Sri Lankan wild type cultivar	**Dr Chanika D Jayasinghe** University of Colombo
13.	**Prof. R A R C Gopura** **Dr Y W R Amarasinghe** Department of Mechanical Engineering Faculty of Engineering University of Moratuwa	Development of a vision aided reach-to-grasp path planning and controlling method for trans-humeral robotic prostheses	**Dr D G Kanishka Madusanka** University of Moratuwa
14.	**Dr A G B P Jayasekara** Department of Electrical Engineering Faculty of Engineering University of Moratuwa	Enhancing interpretation of uncertain information in navigational commands for service robots using neuro-fuzzy approach	**Dr M A V J Muthugala** University of Moratuwa

No.	Names and affiliations of Supervisory Team	Title of the thesis	Student & awarding University
	-MPhil-		
1.	**Prof. S B Navaratne** Department of Food Science and Technology Faculty of Applied Sciences University of Sri Jayewardenepura **Prof. C M Navaratne** **Dr B M Jinendra Sirivijaya** Department of Agricultural Engineering Faculty of Agriculture University of Ruhuna	Assessment of post-harvest losses of paddy stored under different temperatures in compliance with global warming and possible adaptation techniques	**Ms M G G Awanthi** University of Sri Jayewardenepura
2.	**Dr R N Attanayake** Department of Botany **Dr C S K Rajapakse** Department of Chemistry Faculty of Science University of Kelaniya **Mr K P Somachandra** Deputy Director Regional Agricultural Research & Development Centre Banadarawela	Population diversity and carbon source dependent anaerobic soil disinfestation (ASD) of *Sclerotinia sclerotiorum* on cabbage	**Ms Thirega Mahalingam** University of Kelaniya
3.	**Dr D Romaine Jayewardene** **Dr Jayampathy K Ratnayake** Department of Mathematics Faculty of Science University of Colombo	On the initial algebras and final coalgebras of endofunctors arising from self-similar systems on the category of k-pointed metric spaces	**Mr M Annanthakrishna** University of Colombo
4.	**Dr K M Thilini Dhakshina Gunasekara** Department of Polymer Science **Dr Asitha T Cooray** Department of Chemistry Faculty of Applied Sciences University of Sri Jayewardenepura **Dr Dilru Ratnaweera** Head of Discovery Labs MAS Innovation Pvt. Ltd. Colombo 02	Polyacrylic acid-acrylamide based water purification systems for the removal of selected anions and cations from aqueous media	**Ms S K T Thathsara** University of Sri Jayewardenepura
5.	**Prof. Rupika Rajakaruna** Department of Zoology Faculty of Science University of Peradeniya	Trematode infections in common hourglass tree frog *(Polypedates cruciger):* multiple parasitism and age dependent resistance and tolerance	**Ms Nuwandi U K Pathirana** University of Peradeniya

Support Scheme for Publication Fees (SSPF)

Annex 6

No.	Authors /Institutions	Title of the Research Paper	Name of the Journal, Journal Impact Factor & Index	Grant Amount (Rs.)
1.	**Anoma Perera** Department of Botany Faculty of Science University of Peradeniya **Asanka Mudannayake** Department of Botany Faculty of Science University of Peradeniya **Lahiru Ranaweera** Prof. Preminda Samaraweera Suneth Sooriyapathirana Department of Molecular Biology and Biotechnology Faculty of Science University of Peradeniya	The morpho-genetic and ecological niche analyses reveal the existence of climatically restricted *Cycas zeylanica* complex in Sri Lanka. *https://doi.org/10.1038/s41598-019-53011-w*	Scientific Reports (Nature) 4.011 (2019) SCIE	**200,000/-**
2.	**Varuni Jayasooriya** Department of Forestry and Environmental Sciences Faculty of Applied Sciences University of Sri Jayewardenepura **Anne Ng** College of Engineering and Science Victoria University Australia **Shobha Muthukumaran** College of Engineering and Science Victoria University Australia **Chris Perera** College of Engineering and Science Victoria University Australia	Optimization of Green Infrastructure Practices in Industrial Areas for Runoff Management: A Review on Issues, Challenges and Opportunities *https://doi.org/10.3390/w12041024*	MDPI Water 2.544 (2019) SCIE	**150,000/-**
3.	**Subajiny Sivakanthan** **Jerrine Clare Pereira** **S Vasantharuba** Department of Agricultural Chemistry Faculty of Agriculture University of Jaffna	Effect of Star Fruit *(Averrhoa carambola L.)* By-product on Oxidative Stability of Sesame *(Sesamum indicum)* Oil under Accelerated Oven Storage and during Frying" *https://doi.org/10.5650/jos.ess19248*	Journal of Oleo Science 1.304 (2019) SCIE	**54,018/-**

No.	Name	Training programme	Duration	Institute
1.	Mr. S C S Fernando	NCT Electrical & Electronic Engineering NVQ 5 (Semester II) Examination	7 days	Technical College, Kalutara
2.	Ms. A N L Perera	Diploma in Graphic Design, Design, Develop and Create	One year	Sri Lanka Institute of Printing
3.	Ms. Maduka Senaratne	Improving productivity using ICT	11, 18 and 25th October (3 days)	Distence Learning Centre ltd (DLC)
4.	Ms. Nadeeja Wickramarachchi	Editorial processesfor journal editors	From 5th October 2021 to 8th November 2021 (4-5 hrs per week)	International Network for Advancing Science and policy (INASP)
5.	Ms. Upuli Ratnayake	Editorial processesfor journal editors	From 5th October 2021 to 8th November 2021 (4-5 hrs per week)	International Network for A dvancing Science and policy (INASP)
6.	Ms Thilina Kandanamulla	Public Awareness on STEM and Advancing the role of Women in STEM	10th and 11th August 2021	STEM
7.	Ms Thilina Kandanamulla	Writing Impactful Research (WIR)	22th April to 5th August 2021	Sabaragamuwa University of Sri Lanka
8.	Ms Dilushi Munasinghe	Research Writing in the Social Sciences online course (2021)	8th June to 26th July, 2021	AuthorAID and INASP
9.	Mr Pradeep Sapumohotti	Diploma course in Public Procurement and Contract Administration	December 2020 to April 2022	MILODA

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