



NATIONAL SCIENCE FOUNDATION

ANNUAL REPORT 2011

**47/5, MAITLAND PLACE, COLOMBO 07
SRI LANKA**

Chairperson's Message

It is my pleasant duty to present the Annual Report of NSF, for the financial year ended 31st December 2011.

During the fiscal year 2011 the nation's economy continued to challenge specially the institutions funded by the state. However despite the constraints experienced during the year, NSF relentlessly pursued the achievement of its goals, while achieving the laudable pursuits of transparency, and speedy decision making.

The strategic thinking and positioning necessary to enhance the future prospects of the NSF and its deliverables were a continued concern of the Board of Management. Avenues to strengthen the functioning of NSF, promoting innovation especially in high end technologies and serving the scientific community therefore have been pursued rigorously un-entrenched with any self – interests and ideological mind sets.

I am glad to mention that, due to the dedication of the Board of Management, the Advisory Boards, Research Panels and more importantly the Staff, NSF committed to many scientific projects during the year.

In addition, to the many activities that NSF has carried out during the year achieving its objectives, I wish to make a special mention on, the synergistic relationship that has been brought between the scientists, the business and the government, through Nano-Technology activities, that had been carried out at SLINTEC, an initiative of NSF.

The nano technology initiative established in 2006 was well under way during 2011 and have applied already for seven U.S. patents for the new products/processes that have been discovered at SLINTEC. This initiative brought about, the much needed collaboration with the private sector in bringing research to the market, and the positive role that government must play to support innovation for small, medium, and macro companies. The cornerstone of success, the synergistic relationship, between the scientists, the business, and the government, has been achieved through this attempt, providing the tripartite mix which is a necessary driver, for a sustained knowledge economy in the country. Further, arrangements were made to initiate the much needed Regulatory Framework for nano technology applications in Sri Lanka, through a project funded by IDRC in 2011.

However, some of the serious constraints faced by NSF during the year were;

- Non availability of the required staff especially the scientific staff to execute the activities envisaged, and
- Non availability of funds at the required time and the absence of a precursor on the release of budgetary provisions by the General Treasury.

Fortunately after incessant appeals and representations, the cadre for NSF was approved in 2011 and afforded an opportunity to NSF, to recruit some of the staff for its operations, though excluding some of the key positions requested. The effort taken to assign a specialist, for project development with broad responsibilities for designing projects, and related processes including quality assurance, was not successful as approval was not granted to the required carder position. However the effort to

establish this portfolio which is of paramount importance for the growth of the organization and scientific community at large, will be continued.

The NSF is not a revenue generating organization. It is basically a service provider dependent at present, on state funds. The government is faced with a challenge in allocating the available limited funds for various objectives based on its priorities, and the NSF is fully aware of this dilemma. Obtaining foreign funding for scientific activities and promoting active participation of private sector were options considered in this backdrop, at least partially and temporarily. Recognizing this, the NSF has applied for foreign funds for few projects and the project proposals were submitted to the Department of National Planning. Although the department of National Planning has approved the project, designed to accelerate the development of human resources for research and development, funding for implementation is yet to be received. The difficulty in obtaining even the foreign funds secured by the NSF, also had been a major issue in 2011.

At NSF we deal with, an inherent momentum as we go about our work. We seek to catalyze innovation and creativity in all fields of research and in the popularization of science. We place great value on the Foundation's sustained commitment to all fields of research, programmes and people.

I express my sincere gratitude to the staff of NSF at all levels, especially to Dr. Sarath Abayawardana the chief executive who has borne most of the responsibility of executing the activities under taken in achieving the Mission of NSF during the year 2011. I expect this commitment to continue to prevail.

I thank the members of the Board of Management, Advisory Boards and the Research panels for their energetic leadership, and their devotion, towards this achievement serving the scientific community and the country.

Chairperson
Prof. Sirimali Fernando

Director's report

This review focuses on the performance of National Science Foundation, during the financial year ended 31.12.2011

Financial overview

Due to the uncertainty in receiving funds from the government in a timely manner the management had to adopt stringent economy measures and exercise a cautious policy towards its commitments. The limited resources available, including the human resources were therefore directed towards a more intense involvement in monitoring the ongoing grants. The value of overall commitment for research activities, for the year was approximately Rs. 209 million.

Achieving the Objectives

To accomplish the objectives of NSF, the strategies adopted were vigorously pursued notwithstanding the financial uncertainties that prevailed. Across many of our programmes, the objectives of, facilitating research in both natural and applied sciences, achieving technological advancements, promoting entrepreneurship and start-up businesses, facilitating translational research, communicating science, and maintenance of scientific databases have been achieved.

Facilitating Research

During the year through the competitive research grants scheme – which is intended to provide assistance to supplement the financial, physical, and manpower resources available for scientific research – 68 research grants were awarded. A total of 20 research assistants and technical assistants were funded to facilitate the work of the research grants awarded. Obtaining eight PhD and M Phils by researchers have been facilitated while, 24 research papers arising from grants have been published during the year in both foreign and local journals. The commitment towards new projects in competitive research grants scheme was Rs.120 million while the overall commitment for competitive research grants during the year was Rs.170.8 million approximately.

National Thematic Research Programme (NTRP)

National Thematic Research Programme is intended to promote mission oriented multidisciplinary collaborative research that would address the national needs of the country through research, commencing from national needs and terminating in producing end-research products that can be harnessed for National Development. Food Security, Water Security, and Climate Change were identified as priority areas. The research gaps, priorities were identified, and suitable programmes and implementation strategies were developed for 05 programmes to be executed on food security as the first phase.

Support Scheme for Supervision of Research Degrees (SUSRED)

SUSRED was initiated to motivate, support and recognize the scientist/engineers engaged in supervising students conducting research in the areas of Science and Technology leading to postgraduate research degrees (MPhils and PhDs.). Applications were invited under the above programme and out of the 24 applications received 9 applicants who were eligible were selected for the awards.

Technology and entrepreneurial development

We continued our efforts to change the present trend of inquiry based research to demand driven research by introducing the technology grants and start-up business schemes, and the national thematic research programme and shifted the budgetary allocations more towards this aim. However the grants scheme for technology development, and start-up business, though was expected to be a pragmatic scheme, ensuring the much needed impact on the industry paving the way to improve the economy, could not forge ahead due to the stringent procedures specially the procurement procedures which did not allow the researchers/technologists to make use of even the allocated funds within a reasonable time frame, resulting in dampening the entrepreneurial pursuits. However action was taken to improve these systems to the extent possible to promote this programme, and is expected to be executed in a pragmatic manner supporting the emergence of technological innovations and new businesses having a positive impact on the economy even indirectly initially.

While applications that are received for technology grants are generally few in number, out of the 27 applications received for the year, 7 grants were awarded. Given below are few examples of the outputs of the Technology grants completed during the year.

- Design and construction of a signal meter.
- The initial prototype constructed for the 300- 1300 MHz (UHF) a wideband RF energy/power meter consisted of three main modules, a signal acquisition and energy estimation module, a microwave up/ down converter and a precision light weight wide band antenna, and the completion of this project, has proved that wideband microwave circuits & antennas and high speed digital circuits can be developed in Sri Lanka.
- Manufacture of an environmentally friendly motor boat to be used for transportation in inland waterways.
- An eco-friendly safety motor boat, which can transport about 50 passengers, has been designed and developed to be used in inland waterways without damaging the bank of the same ecosystem.

Nanotechnology initiatives

NSF has forged cooperative efforts with numerous groups including individuals, NGOs, state organizations, and the private sector, all of whom are integrally involved in the areas of activity in nanotechnology.

While there were three nanotechnology on-going grants which were monitored to enable achievement of the milestones as per the project proposal. Three new grants awarded during the year 2011.

A policy on nanotechnology and a regulatory framework for nanotechnology related activities which are vital in promoting the use of nanotechnology in Sri Lanka effectively were drafted, while awareness sessions were also conducted, to promote nanotechnology.

An effort was made to make aware, the local scientific and technological community, policy makers, and the relevant state officials, of the importance of use of technology foresight in S&T priority setting and national planning process.

An IDRC funded research programme on developing a governance structure and regulatory framework, in collaboration with India and Pakistan was initiated and the first instalment of funds was disbursed to partner institutions, based on the proposals submitted by the partner institutions and the activities were in progress.

Supporting SLINTEC, the nanotechnology R&D institution, which was part of the nanotechnology initiative, continued with this public-private partnership model, proving to be very successful.

In addition to the above a few local workshops were held to make the school children aware of Nanotechnology and its applications.

Intellectual Property Awareness

Activities to promote Intellectual Property (IP) awareness and protection, providing IP education in the universities, and providing advice for drafting and filing patent application etc. were carried out, including supporting international patent searches through the Patent corporation Treaty (PCT)—WIPO route. Nine inventors were facilitated for local patent filing and out of them 3 individuals were supported for international patent filing through PCT. The NSF guidelines on the subject have been rationalized during the year.

Communicating Science

- Popularization of Science & Technology among the masses and in particular among the school children to create a knowledge based culture, that incorporates science and technology in to everyday lives, products and services had been carried out though a series of programmes, including School Science Society Programme, promotion of scientific research among the school community, publications including Vidurawa Science Magazine, Vidaya Newsletter, Science Book Series, family science programmes involving children and parents, establishment of links between schools, industries and scientific research institutes and the science popularization programmes for the general public and the nanotechnology awareness programme. The number of school science societies was increased to 623 during the year, with an addition of 151 school science societies.
- NSF publications specially the Journal of National Science Foundation which is the only journal currently indexed in the Thomson Reuters databases, continued effectively communicating science among the relevant stake holders, and received its impact factor of 0.134 in 2011.

- A monthly e-news letter was developed for regular communication amongst the Sri Lankan S&T Community which will hopefully facilitate building strong networks in time to come. This has a subscription list of over 4000 scientists in Sri Lanka and abroad.
- E –Science and Technology
- “Mihimandala” a series of 12 video programmes on different aspects of Science & Technology telecast over the national television channels with the objective of creating a knowledge based society, won certificates of Special Merit at E-Swabhimani award ceremony 2011-Organized by ICTA and the Manthen Award, awarded by Digital Empowerment Foundation of India in new Delhi.

International Collaboration

International Coordination in science and technology was continued though pivotally important programmes including NSF travel grants providing opportunities to Sri Lankan scientists to present their research findings at international programmes or to acquire scientific knowledge on new developments, and Overseas Special Training Programme to enhance national capacities in science technology and innovation by providing opportunities for training in advance laboratory and research centres of excellence, abroad.

Harnessing local & International Scientific knowledge

An international conference on Global Forum of Sri Lankan Scientists : Empowering Sri Lanka through networking and knowledge sharing was held from 13th – 15th Dec 2011 involving 420 participants including expatriates , foreign scientists local scientists, policy makers and stake holders from both public and private sector, harnessing their knowledge for the post conflict economic and social development of the country. This exercise is being carried out on a continued basis, to build networks, facilitating knowledge sharing for the advancement of technology based research and industry, and to develop the economy. A Global Forum Cell has been established at the NSF to continuously monitor actions agreed and to ensure that the key projects discussed at the Forum are established on the ground, actively.

Science and Technology Policy Asian Network

The NSF, as the Chair of STEPAN organized an international workshop with the participation of ten countries in the Asia Pacific Region in November 2011. The objectives of this workshop was to provide the background knowledge to the STEPAN member country participants on the national innovation system and its role played towards socio-economic development of the countries, reviewing how national innovation system can be developed using private and public sector participation, and to discuss various methodologies involved in the innovation system studies, data analysis and interpretation. This effort taken to improve national innovation systems is to be continued.

Statistics for policy makers and academia

Legislative mandate to provide a central clearing house for the collection interpretation and analysis of data on scientific subjects, and to provide this vital information on the required subjects to the policy makers, researchers, and other stakeholders nationwide and make the society aware of the important issues relevant to science, technology, and innovation towards the socio-economic development of the country, was a challenging goal, but one that merit serious effort to achieve, despite the constraints faced by not having the required staff during the year.

Maintaining different databases on related areas of S&T, to provide upto date information, to the stakeholders also has been carried out specially with regard to “the national research and development survey 2010”.

Fulfilling the information needs

The National Science Library & Resource Centre continued to function as the focal point of Sri Lanka Science & Technology Information Network (SLSTINET). Several strategies were introduced and adopted during the year to cater the changing needs of the users keeping abreast of the new technological developments. We continued to add new programmes and collaborative partners. The latest projects leveraged collective expertise in “Management of Information” throughout the country, which included the following;

Upgrading of the Sri Lanka Science Index (SLSI) database into full text Digital Library through uploading of the local S&T literature with a view to be electronically connected online, with all Scientific counterparts in the country. The SLIS database won a special merit award under e-science category at the e-Swabhimani -2011 award ceremony organized by the Sri Lanka Information Communication Technology Agency (ICTTA).

Five year National Digitalization project to support the digitization of local Science & Technology literature, housed in individual S&T libraries in the country with a view to be electronically uploaded as individual institutional repositories (IR) maintained by the respective institutions. All IR are to be subsequently interconnected online to form a national network with federated search facilities.

Record of all papers read (with abstract) at Sri Lanka Association for Advancement of Science sessions during the last 25 years.

The national e-repository launched by the NSF was incorporated with federated searching facility, to search across other e-repositories and many other locally published online journals, facilitating searching one or several sites or all sites in one search.

Effective Project Management

The need to develop holistic view of managerial aspects of the projects funded by NSF has been recognized. Action has been taken to develop an online computer software programme integrating the NSF activities and with its successful completion, NSF will be able to make, a planned effort for storage & retrieval of information on management profiles of various projects, so that parameters of management appraisal could be better established.

Quality Management System

An effort was made to re-launch the QMS activities to ensure, achieving the quality of services provided by NSF. As QMS facilitated a structure, context and detailed guidelines for all those who work within it, paved the way for the plans and strategies to be linked, and better quality service to be delivered through day to day operations, this exercise is to be continued to achieve the benefit expected in full.

The Performance Management System

The Performance Management System at NSF was revisited and revamped. A system linking strategy driven goals with clarity of focus and commitment has been established, and the execution of same was in progress. The newly established performance management system is expected to drive the employee performance towards a sustainable organizational culture, which would enable the execution of business strategies of NSF. Employee development is expected to be effectively carried out without allowing it to be relegated, as it is the employee performance, that ensures the organizational success.

In conclusion, I should specially thank the Board of Management for its confidence placed on me, in the execution of my role as the Chief Executive. I would also like to thank the members of Advisory Boards, Research Panels and Technology Panels, and other numerous advisory bodies, where eminent Scientists and Technologists served in honorary capacities at considerable inconvenience to themselves. The hard work and commitment of the staff at all levels, inspired by the vision of NSF, to be the premier driving force in Science & Technology leading to competitive advantage and the rapid advancement of the nation for the welfare of the people, has been a source of strength and whilst thanking all of them I wish that they continue their cooperation, to further consolidate the team work and performance that we have achieved during the year. NSF will continue to contribute, evermore actively to the development of the scientific research, and deploying them in a pragmatic manner to ensure a positive impact on our motherland.

Director
National Science Foundation

Table of Contents

• Vision , Mission, Objectives and Functions	1
• The Board of Management	2
• Organizational Structure	3
• Science & Technology Research Highlights	4
Scientific Divisions	
1. Research Division - (RD)	10
2. Technology Division - (TD)	16
3. International Liaison Division - (ILD)	25
4. Science Popularization Division - (SPD)	29
5. Science and Technology Policy Research Division - (STPRD)	37
6. National Science Library & Resource Center - (NSLRC)	41
Supporting Divisions/Units	
7. Administration Division	45
8. Finance Division	46
9. Printing Unit	46
10. Information Technology Unit	46
11. Internal Audit Unit	47
Financial Statements	
12. Observations of the Accounting Officer on performance	47
13. Income and Expenditure Account For the Year Ended 31st December 2011	49
14. Balance Sheet As At 31st December 2011	50
15. Cash Flow Statement - 2011	51
Report of the Auditor General	63
NSF Comments on the Report of the Auditor General	72
Annexures	
Annex 1 A Summary of Research Grant Scheme of year 2011	79
Annex 1 B Research Grants awarded during 2011	80
Annex 1 C Details of Postgraduate degrees obtained during year 2011	94
Annex 1 D Research Grants Completed during year 2011	96
Annex 1 E Information on Grants under Technology	103
Annex 1 F Technology Grants Awarded 2011	104
Annex 1 G SPD Activities	105
Annex 2 Organizational Structure	110
Annex 3 Principal Staff	111
Annex 4 Staff Training during the Year 2011	115

VISION, MISSION & OBJECTIVES

The National Science Foundation (NSF) is a state funded institution under the Ministry of Technology & Research. The NSF established in 1998 by the Science and Technology Development Act No. 11 of 1994, is the successor to the Natural Resources, Energy and Science Authority of Sri Lanka (NARESA). NARESA itself succeeded the National Science Council established in 1968.

OUR VISION is to be the premier driving force in science & technology leading to competitive advantage and the rapid advancement of the nation, for the welfare of the people.

OUR MISSION

To promote research, development and innovation to create a knowledge-based economy by building public-private, institution-industry partnerships.

To facilitate capacity building, infrastructure development, technology transfer, knowledge creation and sharing in all fields of science and technology to improve the quality of life of our people.

To achieve our goals by nurturing a competent workforce in a conducive work environment, which is performance driven and results oriented.

OBJECTIVES AND FUNCTIONS

- ⤴ To initiate, facilitate and support basic and applied scientific research by universities, science and technology institutions and scientists, with a view to:
 - strengthening scientific research potential, including research in the social sciences, and science education programmes,
 - developing the natural resources of Sri Lanka,
 - promoting the welfare of the people of Sri Lanka and
 - training research personnel in science and technology
- ⤴ To foster the interchange of scientific information among scientists in Sri Lanka and abroad;
- ⤴ To award scholarships and fellowships for scientific study or scientific work at recognized science and technology institutions;
- ⤴ 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 information for policy formulation on science, technology and other fields;
- ⤴ To popularize science amongst the people by funding programmes for that purpose.

The NSF subscribes to the following principles in carrying out its functions:

Universality of Science:

The NSF observes and upholds the freedom of scientists as individuals to communicate and associate with other scientists, in the furtherance of their science, without discrimination on grounds other than scientific merits through international scientific activity.

Freedom in the Pursuit of Science:

The NSF observes and upholds the right of scientists to freely pursue science in a manner, which accords with the scientific process and is undertaken responsibly.

THE BOARD OF MANAGEMENT

The NSF is governed by a Board of Management, which consists of the Chairperson, Director, four members representing the UGC, SLAAS, IESL and the Ministry of Finance and four Members appointed by the Minister of Technology and Research. The Director functions as the Chief Executive Officer of the institution.

Prof. Sirimali Fernando – Chairperson

Professor of Microbiology, Faculty of Medicine, University of Sri Jayewardenepura.

Dr S.A.K.Abayawardana – Director/Chief Executive Officer

Deshabandu Prof. Tuley D. de Silva – Member

Retired Special Advisor, Chemical Industries Branch, UNIDO, Austria.

Former Professor of Chemistry, University of Sri Jayewardenepura.

Consultant, Link Natural Products.

Prof. Uma Coomaraswamy – Member

Emeritus Professor of Botany, The Open University of Sri Lanka.

Fellow, National Academy of Sciences

Consultant (OUSL) – Life Long Learning (L3) Project

Eng. (Prof.) A.K.W. Jayawardane – Member – From 14-09-2010

President, Institute of Engineers, Sri Lanka (IESL).

Prof. H. Abeygunawardena – Member – From 08-06-2011

Professor, Faculty of Veterinary Medicine & Animal Science, University of Peradeniya.

Dr Upali Sedera – Member – From 01-09-2010 up to 14-01-2011

Director General, National Institute of Education.

Prof. Rohan Rajapakse – Member up to 08-04-2011

Senior Professor, Department of Agricultural Biology, University of Ruhuna.

Member, University Grants Commission (UGC).

Executive Director, Council for Agricultural Research Policy (CARP).

Eng. Ananada Hettiarachchy – Member

Managing Consultant, P&E Consultants.

Mr Jagath D. Dias – Member – From 07-07-2010 up to 14-01-2011

Director (Parliamentary Affairs), Ministry of Finance & Planning.

Prof. Jayantha Wijeyaratne – Member – From 11-10-2010

Senior Professor of Zoology, University of Kelaniya.

Ms S.W.C Jayamini – Member – From 08-04-2011

Asst. Director, Department of Fiscal Policy, Ministry of Finance & Planning.

Mr C.M.R. Anthony – Member – From 10-06-2011

Director (Science & Health & Physical Education), Department of Science, National Institute of Education.

ORGANIZATIONAL STRUCTURE

The NSF is governed by a Board of Management (BOM) consisting of 11 members as per the stipulations in the Enabling Act. The Director, the CEO is also a member of BOM.

The six scientific divisions of the National Science Foundation (NSF) supported by Finance & Administration, Printing, and Information Technology and Internal Audit services assist the Board of Management in carrying out the objectives of the NSF. The scientific activities are thus carried out by the Scientific Divisions, viz. the Research, Technology, International Liaison, Science & Technology Policy Research, Science Popularization, while the National Science Library & Resource Centre, carries out the scientific information dissemination and networking activities, throughout the island. The need to maintain internal controls, in the organization leading to good governance has been met by establishing an independent Internal Audit Unit, reporting to the Board of Management / the Chairperson. The organizational structure of NSF is as per Annex 2.

Organization of the Scientific Functions

Accordant with its mission, NSF funds various scientific programmes serving Science & Technology broadly. For this purpose, the Board of Management is assisted by honorary committees and panels specially constituted, with given terms of references.

The Research/Technology Advisory Boards provide scientific oversight for the conduct of the activities of the Scientific Divisions, by reviewing, harmonizing, and prioritizing the recommended Research/Technology projects, and promote increased and more systematic communication among the stakeholder researchers. Advisory Panels also provide coordinated guidance, and a locus for both feedback from the research community and discussion of issues of common interest to NSF and the research community.

Research Panels constituted to administer activities of different areas of scientific research assist the Board of Management by guiding the project coordinators of NSF who are entrusted with the task of administering the research grants of the respective disciplines. Research Panels evaluate the quality of the research proposals and also oversee the activities connected with the research grant administration.

The National Committees of NSF assist the Board of Management in achieving its goals and objectives and provide scientific direction in the specified fields, and are expected to carry out its work plan based on the specific terms of reference and report the progress/out puts to the Board of Management periodically. The Committees are expected to identify any risk factors in carrying out its work, in order to avoid them and the key determinants of success to ensure fulfillment of its task. The collaborations with the relevant agencies to harness the cooperation required is a prerequisite in fulfilling the tasks of the Committees.

Editorial Board ensure regular publication of the Journal of the National Science Foundation and the Sri Lanka Journal of Social Sciences and other scientific materials published by NSF. The Editorial Board provide guidance for; editors, authors, reviewers and the editorial staff, of NSF

Science and Technology Research Highlights

Our budget for the year though not substantial, yet holding fast to a distinctive model for supporting scientific research, has served science and technology, creating a culture of inquiry that encourages the free and unfettered pursuit of knowledge.

While initiating, facilitating and supporting basic and applied scientific research is the main objective of the National Science Foundation, a concerted effort has been made to harness the benefits of some of the research outputs/outcomes, for the welfare of the people, by collaborating with the respective institutions of implementation.

The following are few of the noteworthy accomplishments during the year;

Global Forum of Sri Lankan Scientists: Empowering Sri Lanka through Networking and Knowledge Sharing

The National Science Foundation under the purview of the Ministry of Technology and Research, in collaboration with UNESCO, organized the Global Forum of Sri Lankan Scientists, to harness the knowledge of expatriate scientists, for the post-conflict economic and social development of the country. One of the main goals of this Forum was to bring the expatriate and local scientists together; to establish strong linkages and build networks to facilitate knowledge sharing, for the advancement of technology based research and industry, to develop the nation.

As at present only 1.5% of manufactured exports of Sri Lanka is based on high technology. In a post conflict development context, the need of the hour is to keep pace with modern trends and create new market opportunities based on Sri Lankan expertise and innovation. Therefore this Forum was an investment for continual collaboration for economic growth.



A global forum cell, has been established after the workshop, to further the activities recommended at the Global Forum, of Sri Lankan Scientists.

Expanding Scientific Research platform

Endeavouring to expand the scientific research platform, avoiding it to remain the preserve, of a narrow circle of specialists, and encouraging the scientific personnel to demonstrate their capabilities in basic, clinical and applied research, the NSF executed a series of activities expecting new scientific breakthroughs. Despite the efforts to fund scientific research through the various grant schemes including competitive research grants, research fellowships & Scholarships, postdoctoral research scientists, research equipment grants, spare parts grants for research equipment, and support scheme for supervision of research degrees, even workshops on project proposal writing have been conducted to achieve this objective.



Catalyzing Technology Innovation

NSF provided vital support and resources to the enterprises to involve in technology innovation as a competitive strategy and to the members of public, who are interested in technology, to defray the qualifying development costs of technology innovation, through the two technology grant schemes, aimed at strengthening the technological innovations.

- Support for Technology Development (Tech - D)
- Support for Start up Businesses based on novel technologies (Start Ups)

Protection of Intellectual property

Assistance, to acquire, protect and manage the rights of inventors and creators of intellectual property was provided through the following;

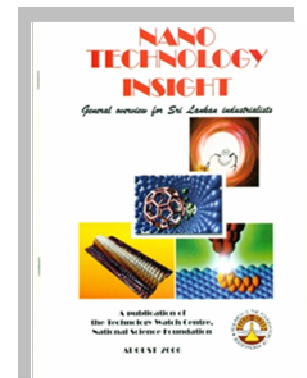
- Establishing centres to facilitate the process,
- IP audits in collaboration with National Intellectual Property Office of Sri Lanka,
- IP education in the universities and providing technical advice for drafting and filing patent applications,
- Establishing patent help desk facilitating PCT filing online and search for patent information and drafting,
- Financial support for patent renewing and patent drafting.

National Nanotechnology Initiative

With a vision to become a successful partner in the fast paced world of nanotechnology “National Nanotechnology Initiative” (NNI) was launched by NSF together with the Ministry of Technology & Research to promote making many high quality products at very low cost and at rapid speed. NSF is making an effort to prepare the country to reap the benefits of this marvelous exponential technology, with ability to reproduce its own means of production, and more over to be prudent and possibly to ensure more than the survival in the years to come.

Nanotechnology regulatory framework

Developing a regulatory framework for nanotechnology related activities in Sri Lanka was initiated with the collaboration of International Development Research Centre (IDRC) and project inception meeting was held at NSF from 08th - 09th of March to 2011 with the participation of The Energy & Resources Institute (TERI)/ India, Preston Institute of Nanoscience & Technology/Pakistan, IDRC and Sri Lanka partner institutions. Activities as per work package proposals with specific deliverables were in progress.



National Nanotechnology Policy

The essence of policy making being, bringing together the measures that have to be put in place, to ensure, transparent, open and unbiased activity and the parameters of functioning within a given discipline, all of which are critical in building the trust, and the direction that is required to enable the efficient & effective functioning of the relevant scientific field, NSF made an endeavour to fulfill this requirement in the area of Nanotechnology and the National Nanotechnology Policy was further improved in the year 2011.

NSF having pursued the initial work including policy formulation, regulatory framework awareness programmes through workshops and training programmes, etc. extended its effort to further the activities envisaged.

SLINTEC

Sri Lanka Nanotechnology Institute (SLINTEC) established in 2009 with 50% equity by NSF on behalf of the government and 50% by the private sector was performing well during the year. Five US patents have been applied for new products and processes that have been discovered in 2011.

Scientific publications

Significant advances in specific areas which demonstrate the breadth and quality of the research being undertaken by NSF funded research groups, and other scholarly scientific reports processed during the year, were published in the Journal of the National Science Foundation, the Sri Lanka Journal of Social Sciences and Vidurawa Science Magazines.

Journal of the National Science Foundation (JNSF)

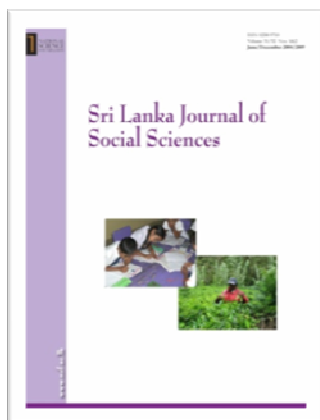
The JNSF is the only journal in Sri Lanka to be included in the Science Citation Index Expanded and all four issues Vol 39 No:1- 4 were published in 2011.

The Journal is indexed by the following Thomson Reuters databases:

- Science Citation Index Expanded: This database provides researchers, administrators, faculty, and students with quick, powerful access to bibliographic and citation information. It covers over 6,650 of the world's leading scientific and technical journals across 150 disciplines.
- Journal Citation Reports/Science Edition
- BIOSIS Previews
- Zoological Record
- Biological Abstracts
- Chemical Abstracts
- Scopus



Sri Lanka Journal of Social Sciences (SLJSS)



Quick dissemination of local research findings and promoting publications in social sciences was achieved through this publication.

The Volume 31/32 No. 1 & 2 of the Sri Lanka Journal of Social Sciences were published.

Man and Biosphere (MAB) Programme

Focused to improve mankind's relationship with nature, the MAB programme, includes access to shared base of knowledge, and incentives to integrate, and for conservation, development and scientific research on sustainably managed ecosystems. It predicts the consequences of today's actions on tomorrow's world and thereby increases peoples' ability to efficiently manage natural resources for the well-being of both human populations and the environment.

Nominating Kandy as a Biosphere Reserve was attempted in 2012 and the effort is ongoing.



Human resources in R&D

Research supervision involves a very discrete set of skills different from undergraduate teaching, while the research students are not expected to absorb the necessary knowledge only by intellectual osmosis between the minds of the superior and the student. Doctoral projects take many different shapes and has to be worked out separately, as there is no simple formula for supervision. Superiors are expected to take the initiative in updating their knowledge and skills, and good supervision should be rewarded.

The Post doctoral scientists who are of paramount importance, for current & continued excellence in research, was therefore rewarded by NSF through Postdoctoral Research Scientists Programme.

During the year two research fellowships, three PhDs. and five MPhil were achieved. Six graduate students, one post graduate student, and four technical assistants also received support from NSF being a part of the effort taken by NSF to improve the human resources in R&D under the Support Scheme for Supervision of Research Degrees (SUSRED), the award scheme, that recognizes the scientists/ Engineers, who engage in supervising the students conducting research in science & technology leading to postgraduate research degrees.

Translating Science and Engaging Stake holders

NSF policy brief is a useful tool aimed to convey the implications of NSF funded research & other available literature to policy makers, along with the important data to convey the message, with policy options where relevant. The recommendations of NSF, on these subjects have been continued yearly since 2009, and is circulated among relevant ministries institutions and libraries, as research is essentially unfinished unless the findings are synthesized and applied in practice to improve the situation.



Scinnotech Alert E-Newsletter



This electronic newsletter was continued as a powerful, lead nurturing tool to provide the latest information on science, innovation and technology as well as opportunities for career development, directly to the desktops of scientists. This is expected to be advanced to deliver original news and even analysis on the most important topics to the scientific community, as it could reach a number of people quickly & easily.

Mihimadala Video Series

Mihimadala Video Series produced by NSF won an international award under E-science category, at the Manthan Award South Asia 2011, recognizing the best practices in e – content and creativity. NSF has been thus recognized and acknowledged for its fruitful use of Information Communication Technology.

Sri Lanka Science Index - Digital Library Database

The Sri Lanka Science Index (Digital Library Database) won a special merit award at the e-Swabhimani 2011, National e-Content Award Ceremony organized by the Information and Communication Technology Agency (ICTA), recognizing NSF for its commendable use of Information Communication Technology.

Research Services

Science and Technology Management Information System (STMIS)

We continued to develop our research services which are a vital component of the infrastructure needed for research by the researchers, by improving the Science and Technology Management Information System (STMIS) database to enable researchers to apply for research grants confidently.

STMIS is a computerized information system developed and maintained by NSF. In the year 2011, initiatives were taken to update and modify the website of the STMIS (www.nsf.mis.ac.lk) and its associated databases in collaboration with UCSC under the IT Integration Programme of the NSF. Action was taken to improve the online data entry facilities and data search facilities and to update the database and expand the database capacity. Accordingly, the STMIS database contains updated information on scientists, S&T related R&D institutions, service providing institutions, higher education institutions, advanced scientific equipment available in the institutions, information on services and training programmes offered by the S&T institutions, research publications and information on the ongoing research in the country. By the end of 2011, the total number of scientists registered in the database was 4,250. Total number of Institutions provided information to the database was 191 and this includes 37 S&T faculties of the State universities and 46 institutions in the S&T sector including R&D institutions and service providing institutions.



National Digitization Project

A national Digitization Project (NDP) was launched with the aim of converting all locally generated S&T Literature in local Libraries into digital form with a view to provide online access for easy consultation by the scientific counterparts. The NDP is a five year project and Phase I of the project commenced in 2011. Under phase I, local S&T literature collections of six libraries in the country were identified for digitization. A steering committee was appointed to monitor the progress of the project and a Memorandum of Understanding was prepared to be signed between the NSF and each partnering library. Information on the relevant material in local libraries was gathered and the work plan for the five year project period was drawn up. A suitable supplier was also identified to outsource the task of digitizing.

Parallel to the digitization process establishment of Institutional Repositories (IR) was promoted; Providing the other scientific information required by them, on a timely basis, and establishing a National Network of Institutional e- Repositories to ensure that the total scholarly literature output in the country is made available to the scientific counterparts, are few contributions particularly noteworthy during 2011, as efforts to support and promote productive research.

Sri Lanka Science Index (SLSI) database

The SLSI database was converted into a digital library of full text documents showed rapid progress during the year. The total number of full text documents accessible online through NSF LAN as at 31 Dec. 2011 recorded 23553. This is 59% of the total number of records in the database.

The National e - repository

The National e-repository launched by the NSF was incorporated with federated searching facility to search across other e – repositories and many other locally published online journals (including all those in the SLJOL database). Facilitating searching one or several sites or all sites in one search.

SLAAS database

Information (reference & abstract) of all papers read at SLAAS sessions during the last 25 years was completed, facilitating and encouraging the researchers to pursue their task.

Scientific Divisions

Research Division (RD)

R&D based innovation has long been a pillar of the advanced economies, contributing importantly to the nation's wealth, employment and general quality of life.

The National Science Foundation has been supporting research in all fields of science & engineering and accordingly its research division, is mandated;

- To initiate, facilitate and support basic and applied scientific research by Universities, and Science & Technology institutions in Sri Lanka including mission oriented multidisciplinary collaborative research that address themes of national importance
- To award scholarships and fellowships to outstanding Sri Lankan postgraduate and postdoctoral researchers for scientific work at Universities and S&T institutions.

The Research Division performs its functions and activities implementing the following schemes/ programmes.

- Competitive Research Grants Scheme
- Research Fellowships
- Research Scholarships
- Postdoctoral Research Scientists
- Research Equipment Grants
- Spare Parts for Research Equipment
- National Thematic Research Programme (NTRP)
- Coordinated Thematic Research Programme (CTRP)
- NSF Research Awards
- Support Scheme for Supervision of Research Degrees (SUSRED)

1. Encouraging Quality Research

1.1 Competitive Research Grants Scheme

The scheme intends to provide assistance to supplement the financial, physical and manpower resources available for scientific research by supporting basic and applied scientific research in the scientists' own institutions. It facilitates to harness independent, individual intellectual capacity of scientists and encourages them to carry out research of high standard, directed towards socio-economic development of the country.

Processing of research grant applications was expedited during the second call for applications, by organizing a "Residential Evaluation" meeting. This mechanism, adopted for the first time by the NSF, proved to be very effective. It was a two day programme during which evaluation by the reviewers was done on the first day and meeting of the Research Panels was held on the second day to recommend suitable projects for funding.

During the year a total of 68 grants were awarded. The total allocations for the first year for these grants were Rs. 56.5 M.

Achievements under the Research Grant Scheme during 2011 are as follows:

Total no of ongoing grants as at 31.12.2011	145
Grants Awarded	68
Grants Completed	37
Grants terminated	-
RSs appointed / RSs to be appointed	10 / 34

RSs registered / to be registered for post graduate degree	03 / 31
TAs appointed / to be appointed	10 / 21
Post graduate degrees obtained	
• PhD	03
• MPhil	05
• MSc	-
• MD	-
No of publications arising from grants (Foreign)	16
No of publications arising from grants (Local)	08
Communications	114
No. of Committee Meetings held	40

1.2 Research Fellowships

The scheme supports to utilize the knowledge, experience and expertise of eminent senior scientists/ engineers for the national development and needs of the country and to enhance the research conducted in the country to the international level through publishing research outputs in International/ indexed journals.

Summary of the Research Fellowship Scheme:

No. of Fellowships awarded since 2005	10
No. of Fellowships awarded during 2011	02
No. of ongoing Fellowships as at 31.12.2011	03
No. of Fellowships completed in 2011	01
No. of Fellowships completed to date	07

1.3 Research Scholarships

The scheme will provide an opportunity for outstanding science/engineering graduates to conduct full time research in the country leading to postgraduate degrees.

Summary of the Research Scholarship Scheme:

No. of ongoing scholarships as at 31.12.2011	04
No. of scholarships awarded	01
No. of scholarships completed and dissertations received	02

1.4 Postdoctoral Research Scientists

The scheme provides an opportunity for scientists/ engineers with good research record and Doctoral degrees and good research record to carryout fulltime research within the country. Two applications were received, but the applicants were not successful in obtaining a grant.

1.5 Equipment Grants

Laboratories with modern infrastructure facilities are needed for research to be in par with the global S & T research. This scheme/programme intended to assist the acquisition of equipment for research too costly to be purchased by the Research Institutions and Universities. It facilitates and supports infrastructure development of research laboratories to create a sustainable research culture.

During the year, 31 awards were made at a total cost of Rs. 46. 8 M.

1.6 Spare Part Grants

Since the purchasing of spare parts for research equipment has become a major problem for universities and R & D institutions due to financial constraints, NSF initiated the Research Spare Parts Grants Scheme to enable the researchers to purchase necessary spare parts to repair/maintain the equipments.

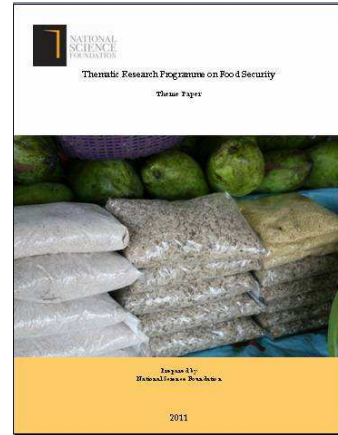
The scheme strengthens the facilities available for R & D activities leading towards the socio economic development of the country.

During the year, 06 grants were awarded. at a total cost of Rs 1.75 M.

2. National Thematic Research Programme (NTRP)

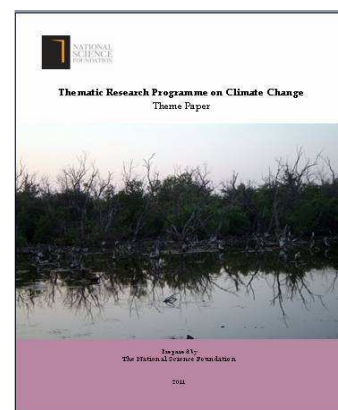
The National Thematic Research Programme (NTRP) promotes mission oriented, multidisciplinary collaborative research that would address the national needs of the country. The Programme is expected to promote research which commence from national needs and terminate in producing end-products that could be harnessed for National Development. The following themes have been identified as priority areas:

2.1 Food Security – The theme paper was finalized and a stakeholder meeting was held to identify the research gaps, priorities and suitable programmes under different sectors to address the issues/problems related to Food Security. Subsequently, five (05) programmes were identified. Detailed programme documents were prepared for each programme and the implementation strategy was developed.



2.2 Water Security – Based on the gaps and priorities identified at the National Forum on Water Research, the theme paper was developed and finalized. Seven (07) programmes were identified to address the issues /problems related to water security.

2.3 Climate Change – Several meetings of expert panels were conducted to identify the research gaps and priorities. Based on the discussions held the theme paper was developed. Eight (08) programmes were identified to address the issues related to climate change.



3. Coordinated Thematic Research Programme (CTRP)

This multidisciplinary thematic research programme was initiated by the NSF with the objective of producing well defined outputs that will directly contribute to the economic and social welfare of the country.

A total of 24 grants were awarded under 06 themes. By the end of 2011 the NSF received 18 Final Reports and the outcomes of these reports were conveyed to the relevant institutions to make the necessary arrangements for implementation.

A report was prepared based on the research projects carried out under the above scheme.

Table 1: Progress of research under each theme of CTRP

Theme	Final Report Due	Complete	Abandon /Terminated	Total
Alternative Agriculture for Self Reliance (AASR)		3	1	4
Sustainable Utilization of Natural Resources (SUNR)	1	1		2
Environment Protection & Sustainable Development (EPSD)	2	2		4
Theme	Final Report Due	Complete	Abandon /Terminated	
Non-Communicable Diseases (NCD)		2		2
Disaster Management and Mitigation (DMM)	1	8		9
Technologies for Rural Sector Development (TFRD)		2	1	3
Total	4	18	2	24

4. SUSRED Programme

Support Scheme for Supervision of Research Degrees (SUSRED) was initiated to motivate, support and recognize the scientists/ engineers engaged in supervising students conducting research in the areas of Science and Technology leading to postgraduate research degrees (MPhils and PhDs). Applications were invited under the above programme and applicants who are eligible for the above award were selected.

Total number of applications Received	-	24
Applications processed during 2011	-	14
Applicants qualified for the award	-	05 (MPhil degrees)
Applicants qualified for the award	-	04 (PhD degrees)

5. Chronic Kidney Disease of uncertain aetiology (CKDu)

An initiative has been taken to investigate the cause for the new form of chronic kidney disease (CKD) of uncertain aetiology that has emerged in several areas of Sri Lanka, especially in the North Central region, characterized by a slow, progressive, asymptomatic development sometimes starting in those less than 20 years of age and with the aim of finding a sustainable solution had been continued in 2011. The progress both physical and financial) was monitored and the final report is expected in 2012.

6. Special Activities

In addition to the task of administering research grants, many other special activities including, the Development of an Act to establish the National Biotechnology Policy, developing a database on ongoing Research Grants, making arrangements for the functioning of NSF National Committees and NSF Research Panels and the development of a database on NSF National Committees, were executed.

6.1 Publications

During the year 2011 the following publications were completed:

Sri Lanka Journal of Social Sciences (SLSS).

The volume 31/32 Nos 1 & 2 of the Sri Lankan Journal of Social Sciences was published.

7. Workshops/Seminars

Among the main workshops organized during the year were,

a) Workshops on project proposal writing

Two workshops on 'Effective Proposal Writing' to coincide with the calls for proposals for the competitive research grants scheme were held in February and October 2011. The objective of this programme was to create awareness among prospective applicants in submitting research proposals of high standard to the NSF in order to be successful in obtaining research awards.

b) Coordinating Workshop on Food Security – Research Gaps and Priority Projects

A two-day 'Coordinating Workshop on Food Security - Research Gaps and Priority Projects' was held on 21-22 June, 2011 at Galadari Hotel, with the objective of identifying the gaps and priority areas in research, related to food security as well as identifying priority research projects to be addressed within the purview of the National Thematic Research Programme (NTRP) under the theme of Food Security. The guest speakers presented various aspects of Food Security that included nutrition, safety and quality, vulnerability, production and social factors.

c) Biotechnology Conference for regulators/scientists – “From green revolution to gene revolution”

The conference was organized and held on 29 – 30 September in collaboration with the US embassy and Genetech.

d) A lecture on Sustainable Food Security in an Era of Climate Change

Prof. M.S. Swaminathan delivered the lecture which was held on 30 September.

e) Presentation by Dr Malla Rao

Presentations on research opportunities in global health at the National Institute of Health, USA and the global efforts on elimination of lymphatic filariasis by Dr Malla Rao from National Institute of Allergy and Infectious Diseases and Dr Gary Weil from Washington University School of Medicine respectively, were organized in collaboration with the University of Colombo and Ministry of Health and held on 11 February.

8. Committees facilitated by the Research Division

National Committees

- * National Committee on Research & Development
- * National Committee on MAB Programme
- * National Committee on Ocean & Marine Sciences
- * National Committee on Sustainable Use of Mineral Resources

Research Panels

- * Research Panel on Agriculture and Food Sciences
- * Research Panel on Basic Sciences
- * Research Panel on Biotechnology
- * Research Panel on Computer Science and Information Technology
- * Research Panel on Engineering Sciences and Architecture
- * Research Panel on Environmental Sciences
- * Research Panel on Health Sciences
- * Research Panel on Hydrology
- * Research Panel on Library and Information Sciences
- * Research Panel on Nanotechnology
- * Research Panel on Natural resources and Biodiversity
- * Research Panel on Science Education
- * Research Panel on Social Sciences
- * Research Panel on S and T Policy Studies

Special Committees

- * Advisory Board to the Research Division

Technology Division (TD)

Local enterprises including members of public, embanking on projects that involve science and technology, to develop and improve products, process and business models are funded to defray the qualifying development costs, through the technology grant schemes

1. Technology Grants

The two technology grant schemes executed to promote technology development and innovation also, promote the commercialization of the out puts of competitive research grant scheme.

1. Support for Technology Development (Tech - D)
2. Support for Start up Businesses based on novel technologies (Start Ups)

Technology Grants were advertised in 2011 and out of the 27 applications (19 for “Support for technology development” and 09 for “Support for start up businesses based on new technologies”) received, five grants under the scheme “Support for technology development” and one grant under the scheme “Support for start up businesses based on novel technologies” were awarded.

2. Research Grants

2.1 Nanotechnology

There were three ongoing grants on nanotechnology and progress of the research projects was monitored during the year to achieve milestones as per original project proposals.

Three new grants were awarded in December 2011.

2.2 Thematic Committee on Biofuel

There were two ongoing grants on biofuel and progress of the research projects was monitored during the year to achieve the milestones as per original project proposals.

3. National Nanotechnology Initiative

3.1 Nanotechnology policy

The essence of policy making being, bringing together the measures that have to be put in place, to ensure, transparent, open and unbiased activity and the parameters of functioning within a given discipline, all of which are critical in building the trust, and the direction that is required to enable the efficient & the effective functioning of the relevant scientific field. NSF has made an endeavour to fulfill this requirement in the area of nanotechnology by drafting the policy.

3.2 Awareness Programmes

Nanotech awareness session for economists and banking sector professionals was held on 20th October, 2011 at the Centre for Banking Studies.

3.3 IDRC Project on "Developing a regulatory framework for nanotechnology related activities in Sri Lanka"

Project inception meeting was held at NSF from 08th - 09th of March with the participation of TERI/ India, Preston Institute of Nanoscience & Technology/Pakistan, IDRC and Sri Lanka partner institutions. Preparation and signing of MoUs with partner institutions were completed. Signing of memorandum of grant conditions between IDRC and NSF was completed. Proposals under each partner institution were obtained with specific deliverables. First installment of funds was disbursed to partner institutions after signing MoUs. Regular meetings with Project Leaders and partner institutions were conducted to review the progress of the project. Activities as per the action plans were in progress.

4. Technology Foresight

4.1 Training Workshop on Foresight Analysis

The training workshop on "Technology Foresight" was held from 27-29 October 2011, in the NSF Auditorium with the participation of scientists, engineers, medical doctors, industrialists and Scientific Officers of NSF.

The Objectives were;

1. To make aware the local scientific and technological community, policy makers and other state officials of the importance of use of technology foresight in S & T priority setting and national planning process
2. To provide in depth training to researchers, academia and industrialists on foresight methodologies and application of foresight results for research prioritization and strategy development
3. To enhance the participation of actors in the national innovation system in the development process and to strengthen the interaction between these actors.

The workshop was conducted by two foreign resource persons; Dr Ozcan Saritas and Ms Elk Dall. 26 participants were selected out of 75 applications received from different institutions. The participants worked in three groups and three foresight exercises were proposed to be carried out in the future, and three conceptual draft proposals were developed for follow up. A better foundation was lead to carry out a National foresight activity with a pool of scientists and partnerships among different institutions.

- Climate change and its effect on communicable diseases in next 15 years.
- Research Hub of South Asia in 2020.
- Project to develop Nano-Solar Cell to meet 25% of energy consumption in the country by 2025.

5. Implementation of project on Intellectual Property (IP) awareness and protection

5.1 Implementation of "Vidatha" Centres centered IP facilitating project in collaboration with NIPO

A proposal on "Implementation of Vidatha Centres – Centred IP Facilitation Centres" (IPFCs) was prepared with the objective of assisting inventors and creators of intellectual property to acquire, protect and manage their rights by establishing centres to facilitate the process. Vidatha Resource Centres established at each divisional secretariat are proposed as IP facilitation Centres to promote this activity.

This is a collaborative project of Ministry of Industry and Commerce, National Intellectual Property Office of Sri Lanka (NIPO), Ministry of Technology & Research and National Science Foundation. The project is funded by the National Intellectual Property Office of Sri Lanka.

An Action plan was developed consisting of three stages extending till 2015.

Project is comprised of three stages.

Stage 1: Establishment of Provincial level IP facilitation centers (pilot project 2 Centers in 2012)

Stage 2: Establishment of centres in other provinces

Stage 3: Establishment of district level centres

The pilot project launching seminar was held on 22 December, 2011 in the Auditorium of the Sri Lanka Foundation. The programme was organized by the National Science Foundation in collaboration with the National Intellectual Property Office.

The seminar was attended by 115 Science and Technology Officers representing nine provinces. The programme was held to make aware the Science and Technology Officers (STOs) attached to Vidatha Resource Centres about the IPFCs.

Officers of the NIPO served as resource persons.

5.2 IP audit project in collaboration with NIPO & WIPO

A concept paper was drafted, to be deliberated and established for follow up.

5.3 IP education in the universities (Continuation of the existing project) Stage 2 (other faculties)

As per the proposal to introduce IP into the school and university curricula, IP module was prepared and introduced for science and science related faculties in the universities as stage 1. A progress review of stage 1 was carried out before implementing the second stage for non-scientific faculties of the universities.

5.4 Providing Technical advice for drafting and filing patent applications/ Patent information search

The NSF provides assistance to inventors to file patent applications locally and under Patent Cooperation Treaty (PCT).

In this connection, the Division assisted for drafting and filing PCT applications to Mr Prasad Peiris, Mr S.S.R. Jayathilake, Mr Harsha Kumara Gallage and Mr J.I Uyangoda and provided consultancy to draft two patent applications at the request by Udunuwara Vidatha Centre.

Patent searches were done for coconut plucking/ tree climbing devices and provided search results to Mr Harsha Kumara Gallage. Patent search results for coconut de-husking machines, energy generating pumps and sealing wax machines were provided to four other inventors.

Mr T.S.S. Gomes inventor who filed his PCT application with the help of NSF received his international search report and written opinion. (He was technically supported by the NSF in 2010). His PCT application (PCT/IB2010/052604) satisfied the patentability requirement. Therefore he was provided with necessary information to enter into national phase.

5.5 Establishing a Patent help desk facilitating PCT filings online and search for patent information and drafting.

Filed following two PCT applications electronically via PCT-SAFE software.

1. Visualization shopping portal of Mr Prasad Peiris (Application No: PCT/IB/2011/051356)
2. Safety tree climbing device for climbers of Mr Harsha Kumara Gallage (Application No: PCT/IB2011/051395)

Patent Help Desk was established through the NSF website and facilities were made available in the Division for inventors to search patent databases and file PCT applications online.

5.6 Financial support for patenting, renewing and patent drafting

The NSF provided financial support for University of Peradeniya to pay a patent fee of USD 2000 for a US patent “Novel alpha glucosidase inhibitors from lichens” as requested by Prof. Veranja Karunaratne.

6. Facilitating technology transfer mechanisms

6.1 Follow-up of all NSF completed projects/dissemination of project results

Forty one final reports of NSF completed research grants in 2010 were studied for follow-up by the Technology Division. Output of completed research grants were categorized as follows:

1. Publications only - 22 grants
2. Grantee has identified further research areas – 10 grants
3. Obtained patents – 2 grants
4. Potential for obtaining IP protection – 2 grants
5. Follow-up as prototype/ product development/ scale-up projects – 6 grants
6. Possible commercialization of IP/ product – 2 grants
7. Providing testing facility/ service – 1 grant

The Division set up follow up strategies for 9 grants.

6.2 Technology databank

The data bank was updated with new information obtained from Department of Commerce and Industry related exhibitions (Profood Propack, Construct 2011). Database contains details of around 5000 companies.

6.3 "Techwatch Lanka" e - News letter

This issue of Techwatch Lanka e-news letter was published in June and December. E- News letter contained the articles from the fields of **Food science & technology, Medicine and pharmaceuticals, Biotechnology, Nanotechnology, Waste management technology, Construction technology and Advanced materials.**

7. Knowledge Base Development

7.1 Sri Lanka National Innovation Survey (SLNIS 1) -continuation from 2010

42 companies had responded to the questionnaire 2 (Q2) by the end of the year and data was tabulated. The survey is being progressed.

7.2 Study of patent share and technology transfer from local R &D institutions

A questionnaire was developed and sent to 33 inventors in R &D institutions and received responses from 21.

8. Other activities

8.1 ScinnoTech alert

12 issues were released for the year 2011.

Developed the “Scinnotech” reader survey questionnaire. Prepared Scinnotech reader survey report and submitted to the Board of Management.

8.2 Technology Market Place

NSF participated in the “Technology Market Place” exhibition on October 24th -25th at the BMICH.

Prototypes/modules of outputs of successfully completed technology grants awarded by the NSF were showcased at the NSF stall. A Patent Help Desk was set up at the NSF stall to make industry aware about NSF support for intellectual property protection.

Relevant stakeholders were made aware of technology grants and other industry oriented services provided by the NSF through poster presentations and leaflets.

• National Committees

Technology division coordinated the activities of following National committees.

- National Committee on Innovation & Techno-entrepreneurship
- National Committee on Nanotechnology
- National Committee on Advanced Material
- National Committee on Robotics, Advanced Design and Manufacturing
- National Committee on Electronics and ICT
- National Committee on Electronics and Manufacturing
- National Committee on Biotechnology

The action plans were developed and finalized for the year 2012.

• National Committee on Innovation & Techno-entrepreneurship

07 meetings were held. An Action plan was developed and presented at the Chairpersons meeting held on October, 2011.

• National Committee on Advanced Material

Six Committee meetings were held in 2011 and finalized its action plan for the year 2011-2012. Preparation of a draft road map to achieve advanced materials capability in Sri Lanka was in progress.

An industry scan was done to identify potential Sri Lankan industries which can use advanced materials. The Committee organized a seminar on “Advanced Material: Benefits & Opportunities for Local Industry” for the potential industries on 26th November, 2011 at NSF auditorium to create awareness on advanced materials among industrialists and other stakeholders. There were 27 participants from the industry sector.

Major Outputs

1. **Grant No** : **RG/2006/TFRD/01**

Project Title : Improve living standards of rural community by increased milk production of dairy based farming systems

Grantee : Prof. H W Cyril, Department of Animal Science, Faculty of Agriculture, University of Peradeniya

Project locations

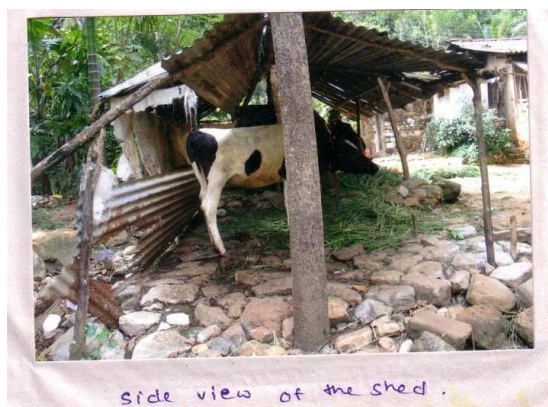
1. Department of Animal Science, Faculty of Agriculture, University of Peradeniya
2. Sarasavigama, Mahakanda, Galaha Road, Peradeniya.

Objectives of the project:

- To implement research findings to improve dairy based farming system
- To increase milk production through application of known technology and participatory approach
- To improve living standards of farming community

Project outputs/outcomes

- M.Phil thesis
- Increased milk production
- Improved quality of milk (reduced bacterial content)
- Healthy animals with no diseases
- Reduced calves mortality
- Increased farmer income
- Increased awareness and practice by farmers about good cattle management practices



One of the cattle sheds before project implementation



One of the cattle sheds after project implementation

2. **Grant No:** **RG/2006/TFRD/04**

Project title : Development of leguminous leaf meal block as an animal feed

Grantee : Prof. S Premaratne, Department of Animal Science, Faculty of Agriculture, University of Peradeniya, Peradeniya

Project locations : Faculty of Agriculture, University of Peradeniya, Peradeniya Coconut Research Institute

Objective of the project: To develop a leguminous leaf meal (LM) block as an animal feed.



Project output/outcome

- M.Phil thesis
- An optimized recipe to produce *Gliricidia* leaf meal block using *Gliricidia*, coconut and rice bran
- A method to produce *Gliricidia* leaf block
- Increased awareness among farmers on optimum utilization of *Gliricidia* leaf as an animal feed

Machine is useful for briquetting leaf meal block

3. Grant No: RG/2007/W&E/03

Project Title : Intensive study to make dye-sensitized solar cells (DSSC) practically viable devices.

Grantee : Dr V.P.S. Perera, Dept. of Chemistry, Open University

Scientific scope of the project

This project addresses the problems associated with dye sensitized photoelectrochemical solar cell and solid state solar cell. In this investigation, an effort has been made to overcome the existing problems associated with DSSCs and understand the unfavorable occurrences which are not very clear to the scientists.

Objectives of the project

- Resolve electrolyte leakage and dye degradation.
- Print metal grids for photoelectrochemical solar cells.
- Reason the cause of photovoltage and photocurrent degradation in DSSCs.
- Recognize the causes of high rate of recombination in solid state DSSC.

Findings/project outputs

- M.Phil
- A method to prevent leakage of electrolyte in DSSC
- A method for topping up the electrolyte and prevent the evaporation
- A method to reduce sheet resistance of CTO glass in large area solar panels to prevent the power losses.
- The reason for degradation of the photo voltage followed by the photocurrent is identified as formation of trap states at the grain boundaries and on the surface of the nanocrystalline semiconductor films which leads to recombination of charge carriers
- It was evident that the electron life time is short in solid state cells, although it has high diffusion coefficient.

4. Grant No : RG/2007/SI/02

Project Title : Design and construction of a signal meter

Grantee : Dr K.D.R. Jagath Kumara, Dr A.U.A.W. Gunawardena, Dr Disala Udawawala, Department of Electrical & Electronic Engineering, Faculty of Engineering, University of Peradeniya

Objective : To design a wideband RF energy/power meter which can be fabricated mainly in Sri Lanka.

Project output:

The initial prototype constructed for the 300 – 1300MHz (UHF) spectrum, consists of three main modules, a signal acquisition and energy estimation module, a microwave up/down converter and a precision light weight wide band antenna. During the project period, the following modules have been successfully fabricated and tested.

- Microwave circuit for up-converting UHF to 2.7GHz with image rejection
- Microwave circuit for down-converting from 2.7GHz to 1MHz
- USB signal reader and Display
- 5MHz digital clock
- Wide band loop antenna
- Frequency auto-scanner
- 1MHz high gain amplifier
- 5v, 12v and 18v regulated power supplies

The completion of this project ascertains that wideband microwave circuits and antennas and high speed digital circuits can be developed in the DEEE laboratory at the University of Peradeniya.



Conversion gain measurement of stage 1

5. Grant No : RG/2007/SI/03

Project Title : Height adjustable coconut plucking pole

Grantee : Mr H.M. Sugathadasa, Samagi Industries, Kumbuk Wewa, Negampaha

Objective : To develop a height adjustable coconut plucking pole to pluck coconuts or any other fruits at different heights ranging from 8 -10 feet to 60-80 feet.

Project output : Height adjustable coconut plucking pole developed by Mr H.M.Sugathadasa is an eco-friendly prototype which has easy movability when compared to current use of bamboo/wood. Its technical performance is also satisfactory and this concept is being considered for protection by intellectual property rights.

6. Grant No: RG/2008/SI/01

Project Title : Manufacture of an environmentally friendly motor boat to have a transport in inland waterways

Grantee : Mr G.I.Karunathileke, Demodara Road, Dewamulla, Govinna

Objective : To design and develop a safety motor boat for use in inland waterways without damaging the bank of the same ecosystem.

Project output : A safety motor boat which can transport about 50 passengers has been developed and field tested by Mr G.I Karunathileka. Inventor claims that this motor boat is eco-friendly and its effect on damaging shore banks is minimal.



Launch of the 'Eco-friendly motorboat' at Kala Nadi, Kaluthara

International Liaison Division (ILD)

1. Enhancing S&T Human Resources Capability

1.1 NSF Travel Grants

The objectives of this programme are to provide an opportunity to Sri Lankan Scientists to present their research findings at International fora and to acquire scientific knowledge on new discoveries, achievements, and developments and gain experience in the global efforts. During 2011, NSF provided 37 travel grants (121 applications processed) amounting to Rs 7.7 M as against Rs 0.5 M for six grants during 2010.

1.2 Overseas Special Training Programme (OSTP)

With the objective of enhancing national capacities in Science, Technology and Innovation, by providing opportunities for training to obtain advanced laboratory & research skills, industrial & technical experience S&T skills and science teaching & communication skills at centres of excellence abroad, OSTP was continued in the year 2011.

The programme is aimed at scientists & technical personnel in academia, research institutions, government bodies or industries and media personnel in relevant institutions, while preference is given to priority areas identified in the S,T & I strategy, for Sri Lanka.

During 2011, NSF provided 21 OSTP grants (29 applications processed) amounting to 1.8 M.

1.3 Annual TWAS/NSF Prize for Young Scientists

The NSF in concord with the Third World Academy of Sciences (TWAS) instituted the scheme for the annual award of prizes for talented young scientists who have attained a high level of excellence in research work, in the fields of Biology, Chemistry, Mathematics and Physics. All awards consist of a cash prize of the equivalent of US\$ 2000 granted by the Third World Academy of Sciences (TWAS) and a certificate from the NSF.

The prizes are intended to provide an incentive to talented young scientists to attain high levels of excellence in their research work and to reward such attainments. NSF has received 08 applications for the 2011 award. However none of the applicants were able to meet the necessary standards for the Annual TWAS/NSF Prize for Young Scientists 2011.

2. International Collaborations

Often, the best results came from collaborations and the activities of ILD contributed extensively to the broader scientific community nationally and internationally.

2.1 STEPAN

2.1.1 International Workshop on National Innovation systems: Operational Strategies and Management Aspects” and Informal Board Meeting

International Workshop on National Innovation systems: Operational Strategies and Management Aspects” was held from 2-3 November 2011 at Hotel Galadari, Colombo. It was represented by eleven member countries namely Thailand, Korea, China, India, Australia, Maldives, Pakistan, Malaysia, Philippines, Iran and Sri Lanka. There were about fifty participants including Officials from UNESCO Paris and UNESCO Jakarta. This was organized with the objectives of arriving at a clearer understanding of the

concept of the national innovation system, its research methodologies, analysis, use of analytical tools, and interpretation etc, and learn lessons from the success stories of other countries.

In the absence of the Chairperson, an informal Board Meeting of STEPAN was held after the second session of the first day (02.11.2011). The meeting was moderated by Ms Masami Nakata of UNESCO, Jakarta and Mrs Anusha Amarasinghe, Head/ International Liaison Division of the NSF.

2.2 SAARC

2.2.1 Fourth Meeting of the SAARC Working Group

The Fourth Meeting of the Working Group on Biotechnology was held in Colombo on 27 April 2011 at hotel Galadari. This Meeting was represented by six member countries namely Afghanistan, Bangladesh, Bhutan, India, Nepal and Sri Lanka. The Director of the SAARC Secretariat was also present at the meeting. The Working Sessions were chaired by Ms Dhara Wijayatilake, Secretary, Ministry of Technology and Research. The delegates reviewed the progress in the implementation of the recommendations contained in the report of the Third Meeting of the Working Group on Biotechnology held in Sri Lanka in 2009 and made recommendations.

2.3 International Council for Scientific Union (ICSU)

Dr M.C.N. Jayasuriya, Chairman, National ICSU Committee attended the ICSU-UNESCO Rio+20 Regional Science and Technology Workshop for Asia and the Pacific from 16 to 18 April 2011.

A workshop on Foresight as a formidable tool to identify emerging generic technologies which can have positive impact on society, economy and on the environment was held from 27th - 29th Oct. 2011. This was organized in collaboration with the Technology Division. ICSU identified the resource persons, Dr Ozacan Saritaz, University of Manchester and Ms. Elke Dall, Austria for this workshop.

Around 30 participants working in the field of S&T and between the age group 35 – 40 took part in this workshop conducted to develop a competent local resource pool, capable of conducting managing and monitoring foresight activities.

2.4 International Conference on Global Forum of Sri Lankan Scientists: Empowering Sri Lanka through Networking and Knowledge Sharing, 13th – 15th Dec. 2011.

The National Science Foundation (NSF) under the purview of the Ministry of Technology and Research in collaboration with UNESCO, organized the Global Forum of Sri Lankan Scientists to harness the knowledge of expatriate scientists for the post-conflict economic and social development of the country. One of the main goals of this Forum was to bring the expatriate and local scientists together to establish strong linkages and build networks to facilitate knowledge sharing for the advancement of technology based research and industry to develop the nation.

As at present only 1.5% of Sri Lanka's manufactured exports is based on high technology. In a post conflict development context, the need of the hour is to keep pace with modern trends and create new market opportunities based on Sri Lankan expertise and innovation. Therefore this Forum was an investment for continual collaboration for economic growth.

The Forum

Thirty nine expatriate and foreign scientists and around 225 local scientists along with policy makers and stakeholders from public and private sector, industrialists and entrepreneurs participated at the Global Forum held in Colombo during 13, 14 and 15th of December 2011.

The Forum was ceremoniously inaugurated by the Hon. Minister of Technology and Research Mrs Pavithra Wanniarachchi and Hon. Senior Minister of Scientific Affairs, Professor Tissa Vitarana, Mr Preethi Perera, the Secretary General UNESCO National Commission, the Chairperson and the Director of the NSF.

The expatriate and the foreign scientists were from United Kingdom, USA, Australia, New Zealand, Ireland, Japan, Hong Kong, Singapore, India, Korea, Taiwan, France and Norway. The morning of the first day was dedicated to the inauguration ceremony, followed by three days of plenary, panel discussions and key note addresses. The plenaries covered areas of policy and had scientific presentations of general thematic applicability. The panel discussions targeted more specialized scientific areas and involved scientists, institutes and industries with a particular focus on such areas.

Final day of the Forum was dedicated to the '*inno-vestor*' a forum where the inventors and the potential investors were brought together on to a common platform along with the public-private sector technologists, entrepreneurs, business community and industrialists. The efforts of the NSF were highly commended by many and wished this was the first of many such fora in the future. The discussions were beneficial highlighting technological needs of the country, many new pathways to initiate turnkey technologies, strengthening collaborations and concerted efforts leading to new ventures. Selected number of poster depicting novel discoveries were displayed during the Forum.

The main themes (depicted below) of the Forum reflects national interests that have a major bearing on the economic development through different sectors of energy, health care, agriculture, tourism, consumer goods, exports, etc.

- Nanotechnology & Nano Materials
- Biotechnology
- Information and Communication Technology
- Green Energy Technologies
- Advanced Design and Manufacture
- Natural resources
- Food and Water Security

Major Outputs comprised of the following,

- Partnerships with foreign institutions/ scientists to promote excellence in science and bridge the knowledge gap.
- Promote industry oriented research.
- Networks to utilize emerging opportunities to train local scientists abroad.
- Platform to enhance and integrate intellectual contribution.
- Agreed strategies and mechanisms that would pave the way towards effective collaboration, knowledge sharing and technology transfer.
- Well-developed plan for the establishment of a gateway to promote collaborative activities

2.5 National Man and the Biosphere (MAB) Programme

2.5.1 Nomination of Kandy as a Biosphere Reserve

Discussions and presentations were held on the feasibility of nominating Kandy as a Biosphere Reserve. The sub-committee appointed for the purpose is working on the preparation of the nomination dossier.

2.5.2 Establishment of Mannar Biosphere Reserve

Preparatory work has done to get the Gulf of Mannar Biosphere Reserve established and possibilities were explored for the creation of an Adam's Bridge Archaeological Site in Palks Strait Ocean between India and Sri Lanka. A Sub Committee consisting of ten members was appointed to work on the Mannar BR nomination.

The first stakeholder meeting in this regard involving around 35 personnel attached to various institutions that have a stake in the proposed Mannar Biosphere Reserve Region as well as researchers who have conducted research/ surveys within proposed Mannar Biosphere Reserve region was held at the NSF Auditorium with the objective of discussing biological, archaeological, cultural aspects of the proposed biosphere reserve region as well as to collect necessary information to be incorporated in the nomination form.

2.5.3 Submission of the Knuckles Biosphere Reserve nomination to UNESCO, Paris

Draft nomination dossier for the Knuckles Forest Reserve as an International Biosphere Reserve (BR) was prepared by the consultant. According to the new guidelines of UNESCO, Biosphere Reserves need to have spatially defined transition zones, because transition zone is the area where people live and there is a possibility to introduce development activities to upgrade the living standard of the community. Department of Forest Conservation has been requested to demarcate the transition zone for the proposed Knuckles BR. Submission had to be deferred until the completion of demarcation of the transition zone.

2.5.4 Nomination of the Ussangoda as a Geopark

A series of stakeholder discussions were held in the Ministry of Environment and Natural Resources to find the way of accelerating the nomination process. The area was Gazetted as a National Park. Sub-committee finalized the nomination dossier.

Science Popularization Division

1. Introduction

The Science Popularization division continued to disseminate a series of activities to the school community and the general public under the theme “Science for All” during the year under review.

Highlights

- **Mihimadala Video Series won two International and National awards**
 - Manthan Award South Asia 2011
 - Special Merit Award, e-Swabhimani 2011
- **School Science Societies:** 141 School Science Societies were registered during the year recording the highest number registered during a one year period. Significant progress was observed in the number (87) of Tamil medium School Science Societies registered with NSF.
- **Family Science programme :** An education program for primary school children and parents to learn science by means of hands-on science activities was introduced for the first time in the country. The programme was conducted at Seevali Maha Vidyalaya, Hindagala.
- **Awareness programme on Nanotechnology :** Phase one of the ‘*Awareness programme on Nanotechnology*’ was successfully completed. A total of 315 Provincial Science Directors, Zonal Science Directors and In-Service- Advisors covering all provinces of the country were trained through 6 workshops.
- **Olympiad Federation :** Sri Lanka Olympiad Federation was established to coordinate all Olympiad activities within the country and to bear the overall responsibility at the national level. The draft act was developed.
- **Sri Lanka National Science Centre :** Science Workz Exhibition was organized with interactive exhibits provided by the Singapore Science Centre. This is first exhibition of this nature in Sri Lanka providing hands on experience facilities.
- **Science Research Projects Competition (SRPC) :** SRPC has showed significant improvement compared to the previous years with 47 projects competing at the final competition. Quality of the projects had also improved immensely.

2. Publications

2.1 Vidurava Science Magazine

All three issues of Volume 28 (in all 3 languages) of the Vidurava Science Magazine were published on time. The issues were published on the themes *Chemistry for Everyday Life*; *Genetics: Present and Future* and *Innovation for Sustainable Development* respectively. The articles were written by experts in the respective fields in simple language to be easily understood by the students. Tamil version of the special issue of Vol. 27 on *Climate Change: Mitigation & Adaptation* and English version of Vol. 27, No. 02 on *Ocean Resources for National Development* were also printed in 2011. Copies of each issue were distributed among the School Science Societies registered with the National Science Foundation (446), University Science Libraries (25), and Vidatha Centers (240).

2.2 Vidya Newsletter

Four issues of the Vidya Newsletter were published in January, April, July and October covering information on NSF activities, such as recent events, workshops and seminars organized or conducted during the period. It also provided information on the Research Grants awarded, Research Projects completed and Travel Grants awarded during the year under review. Over 250 copies of each issue were distributed among NSF Committee Members, University Libraries and Science and Technology Institutes.

2.3 Science Book Series

Under the Science Book Series ශ්‍රී ලංකාවේ ආනුමාණශීලී ශාක was published during the year. The aim of the Science Book Series is to increase the availability of Science and Technology related reading materials to the general public.

3. School Science Society (SSS) Programme

Total number of School Science Societies registered as at 31 December 2011 recorded 630. New registrations during 2011 recorded 137. The numbers registered in Sinhala, Tamil, and English media were 53, 82 and 01 respectively. A significant improvement was observed in the number of Tamil medium School Science Societies registered, when compared to year 2010. Registrations in 2011 were 82 whereas the registrations in 2010 were only 03.

3.1 Service to Schools - Lecture series on current topics

Services of local scientists were provided to registered School Science Societies at 15 Science Day Programmes organized by schools. The aim was to equip students with the latest developments in various fields of Science and Technology. Lectures were delivered on ten (10) themes at the request of the schools. The topics covered were, Man and Environment (2); Impact of human being on environment (2) ; Nanotechnology (4); Products associated with plant community (1); Lightning and Thunder (1); Forests: nature at your service (1); Ocean Resources (1); Information Communication Technology (1); Chemistry: our life and our future (1) and NSF and the School Community (2).

3.2 Inter School Science Society Competitions

The World Science Day 2011 scheduled to be held in November was postponed to be celebrated in January 2012. However, competitions in association with the programme were conducted as scheduled under the theme selected for the year “*Innovation for sustainable development*”. The aim of the competitions was to foster students to acquire knowledge on latest developments in various fields of Science and Technology and to promote the applications of scientific knowledge in day to day activities. Following competitions were conducted among the School Science Societies registered with the NSF under the above theme. The competition on ‘Science Fiction’ was introduced for the first time.

- Short Science Drama
- Role Play of Scientists
- Manual Posters
- Digital Story Telling
- Science Fiction

The final competitions on Role Play and Short Science Drama were conducted in Colombo at the National Institute of Education (NIE), Maharagama (17 October) and at the Buddhist Cultural Centre, Havelock Road, (22 October), respectively. Contestants for the final competition were selected through satellite programmes conducted *in four locations in the country viz. Galle - Siridhamma Vidyalaya, Labuduwa , Kandy- Institute of Fundamental Studies , Anuradhapura- Open University and Colombo - National Institute of Education.* The panel of judges consisted of scientists, media personnel, artists and a representative of the NSF. Competitions on Manual Posters, Digital Story Telling, and Science Fiction were held at the NSF premises. List of the Winners is attached.

3.3 Awards for the best performing School Science Societies

The following School Science Societies were awarded with certificates and plaques for their high performance during the year 2010. Number of stars received is a measure of the performance. This programme is annually conducted with a view to motivate the NSF registered School Science Societies to conduct suitable activities to improve the capacity of students in Science related activities.

- 1) Sri Sangamitta Balika National School, Matale - 5 stars
- 2) Dudley Senanayake Vidyalaya, Colombo 05 - 5 stars
- 3) Gnanodaya Maha Vidyalaya, Kalutara - 5 stars
- 4) Swarna Jayanthi Maha Vidyalaya, Kegalle - 5 stars
- 5) Wickramabahu Central College, Gampaha - 5 stars
- 6) Ratnawali Balika Vidyalaya, Gampaha - 5 stars
- 7) Harischandra National School, Negombo - 4 stars

3.4 Award for Teachers Promoting Science among the School Children

Teachers of the School Science Societies registered with the National Science Foundation are evaluated annually based on their contribution to promote science amongst school children. Winner of the Teachers Award for the year 2010 was awarded in 2011 Ms Dilanthi Kaluarachchi, Swarna Jayanthi Maha Vidyalaya, Kegalle.

Commendation certificates were won by,

1. Ms D.D. Premakanthi, Dudley Senanayaka College, Colombo 05
2. Mr H.H. Thilakarathna, Wickramabahu Central College, Gampaha
3. Ms B.L. Chandrika Lalani, Harischandra College, Negombo
4. Mr P.J.L.G. Nonis, De Mazenod College, Kandana
5. Ms H.M.C. Bandumathi Menike, Maliyadeva Vidyalaya, Kurunegala

Appreciation certificates were won by,

1. Ms D.A. Lalitha De Silva, Siridhamma College, Labuduwa, Galle
2. Ms L.A.A. Pushpakanthi, Sri Nishshanka Madya Maha Vidyalaya, Indulgodakanda

3.5 Professor M T M Jiffry Memorial Award for Popularization of Science

The National Award for Popularization of Science was named as **Professor M T M Jiffry Memorial Award for the Popularization of Science** in honour of the late Professor Jiffry, who served as the chairman of the Advisory Board to the Science Popularization Division since its inception in 2005 and initiated various scientific activities at national level including the School Science Society programme. Dr Thilak Thusitha Ranasinghe, won the Award in 2011 for the service rendered at the national level to take science to the general public.

3.6 Teachers Training Workshop on Science Popularization through Drama

A Training Workshop for teachers (Science & Drama) on 'Science Popularization through Drama' was organized for teachers in the Central Province on 17 June 2011 in collaboration with the Institute of Fundamental Studies. The workshop was conducted in Kandy in the IFS Auditorium. 25 teachers from 18 schools in the Central Province participated. The workshop was conducted by Ms. Chandra Warakadeniya, a retired drama teacher, a Commonwealth Award Winner and NSF Grantee, assisted by Dr Jayantha Wattavidanage and Mr Thusitha Malalasekara both Science Communicators.

The workshop provided practical experience on the use of drama in transmitting scientific concepts to the society easily and in an acceptable manner. It is expected that the standard of drama competing at the School Science Competitions would be improved and the potential skills of students will be well utilized by teachers with the knowledge gained.

4. Promotion of Science Research among the School Community

4.1 Science Research Projects Competitions

4.1.1 Science Research Project Competition 2010

Science Research Project Competition 2010 was held on 20th January 2011 in the NSF Auditorium. Preceding the competition, in 2009, three workshops were conducted to guide the students and improve the projects. Best ten projects were selected among sixteen projects contested for competing at the Sri Lanka Science and Engineering Fair 2010. The projects were guided and evaluated by Prof. Janitha Liyanage, Dr Mayuri Wijesinghe, Dr Mahesh Edirisinghe, Dr G.A.S Premakumara and Ms Sunethra Perera/Head, SPD

4.1.2 Science Research Projects Competition 2011

Several new measures and strategies were introduced during 2011 to strengthen and improve the programme. As a result, a remarkable progress was observed in the quality and the quantity of projects presented in 2011 compared to the previous years. The number of projects selected for the final competition which will be held in early 2012, was 47 as against 16 in 2010. It was observed that scientific methodology had been satisfactorily followed by the students and their presentation skills significantly improved. The quality of the projects also had improved immensely.

4.2 Sri Lanka Science and Engineering Fair (SLSEF)

Sri Lanka Science & Engineering Fair 2010

Sri Lanka Science & Engineering Fair 2010 was held on 18th February 2011 at the Institute of Engineers Sri Lanka (IESL) auditorium in collaboration with IESL, Intel EM Pvt Ltd. and the Ministry of Education. Nine inventions from the 'Junior Inventor of the Year Competition' (JIY) conducted by the IESL and ten science research projects from the 'Science Research Projects Competition' (SRPC) conducted by the NSF were presented at the fair. The projects were evaluated by a seven-member panel chaired by Prof. Rezvi Sheriff, Director, Post Graduate Institute of Medicine (PGIM). Following three projects selected at SLSEF, 2010 contested at the Intel International Science & Engineering Fair 2011 which was held in Los Angeles, USA from 8-13 May 2011.

Name of the Student	Project	School
Master R M A P Keerthirathne	Drill press with cordless laser centering device	Vidyarthi Vidyalaya, Kandy
Mast. T. S. Thilakarathna	Computer Port Program	Ananda College, Colombo 10
Miss H.M.N. Sachintha Subhasinghe Miss H.M.N. Buddhini Subhasinghe	An investigation to find out most effective repellent to control cockroaches (<i>Periplaneta americana</i>) using different plant extracts	Sangamiththa Balika N.S. Matale

4.3 Vidunetha programme

Under the National Committee on Science, Technology and Mathematics Education, the Vidunetha programme was conducted with the objective of improving the investigative ability of junior secondary level students (grades 6-9) and to motivate them to conduct science research projects. The programme commenced in June 2011 and under the programme 04 workshops were conducted for 31 teachers from 30 rural schools in the

Hanwella Education Zone. Under the guidance of teachers, students were made to conduct research projects at school. At the final workshop 34 research projects were presented by 17 schools. The final event of the programme was an exhibition organized to showcase the best projects and the selection of the winners.

4.4 Family Science Programme

Family Science programme, an educational program for children and parents to learn science by means of hands-on science activities was introduced for the first time. The programme specifically aims at building interest in science among young children and parents. Dr Sunethra Karunaratne, member of the National Committee on Science Technology and Mathematics Education conducted the programme for a set of 60 primary school children of Seevali MV, Hindagala together with their parents. Three sessions of the programme were successfully conducted during the year. Seven more sessions will be continued in 2012.

5. Science Education Programmes for Schools

5.1 Establishment of links between Schools, Industries & Scientific/Research Institutes

Work started in 2010 on this activity was continued. A meeting was organized with representatives of several industries to discuss how they could contribute to the programme. Eleven industries expressed their willingness to participate including facilitation of visits of students to their factories. A form was prepared to be filled in by the teachers and students before and after the visit in order to evaluate the benefit of the programme in developing knowledge and skills of the students. Ministry of Education has taken necessary steps to inform the schools and link them with institutes. Science Directors of the provinces and zones were made responsible on this activity. It is expected that the programme will provide an opportunity for the school children to learn applications of basic scientific concepts in research and industry.

5.2 Olympiad Federation

Sri Lanka Olympiad Federation was established on 24th November 2011 facilitated by the NSF. The federation is authorized to coordinate all Olympiad activities within the country and to bear the overall responsibility at the national level. A draft Act was formulated for incorporation of the Federation via a parliament Act.

Registration fees

Sponsorship was provided for the registration of three Olympiad candidates for participation at the 12th Asian Physics Olympiad (Israel), International Informatics Competition (Thailand) and 8th international Junior Science Olympiad Competition (South Africa) respectively.

5.3 Awareness Programme on Nanotechnology

Phase I of the Awareness programme on Nanotechnology was successfully completed during the year under review. A total of 315 Provincial Science Coordinators, Zonal Science Directors, and In-Service Advisors covering all provinces of the country were provided with a basic understanding on the principles of Nanotechnology and its applications in a series of six workshops. Prof. K.M. Nalin De Silva, and Dr Rohini De Silva (Department of Chemistry, University of Colombo), Dr Rohan Munasinghe, (Department of Electronics & Telecommunication, University of Moratuwa) and Dr Shantha Amarasinghe (Sri Lanka Institute of Nanotechnology Institute (SLINTEC)) conducted the programme. One of the main objectives of the programme was to equip the participants with adequate knowledge to cover the new sections included in the OL and AL curricula of schools.

5.4 Sri Lanka National Science Centre: “Science Workz” Exhibition

The “Science Workz” Exhibition was organized in collaboration with the Ministry of Technology & Research, and Science Centre Singapore, from 21 October to 01 November 2011 at the BMICH ‘C’ Hall. The exhibits were provided by the Singapore Science Centre free of charge and they were in the fields of Light, Optical Illusions, Mathematics and Magnetism. The objectives of the exhibition were to provide the opportunity to students to experience the environment of a Science Centre. The school children were given exposure to interactive exhibits enabling them to learn simple concepts of science through hands-on experience. This was the first exhibition in Sri Lanka of this nature.

Around 3000 school children and teachers and almost 1500 general public visited the exhibition. They had left many messages of appreciation highlighting that the exhibition was very useful and that it provided a different kind of experience.

6. Survey on Public Understanding of Science

Work on the ‘Survey on Public Understanding of Science’ was continued. Data collection was completed in both Colombo and Kurunegala districts. Data were collected from a total of 554 persons covering the general public and 645 students based on a structured questionnaire. A technical report was prepared and submitted to the Management.

7. Science Popularization programmes for the General Public

7.1 Award winning Mihimandala Video Series

7.1.1 e-Swabhimani Special Merit Award

Mihimandala Video Series (13 documentaries) developed by the SPD won a Special Merit Award under e-Science and Technology category at the e-Swabhimani 2011 Award ceremony organized by Information and Communication Technology Agency of Sri Lanka (ICTA) on 22 November 2011.

7.1.2 Manthan award South Asia 2011

Mihimandala Video Series won an international award, ‘Manthan Award South Asia 2011’ under e-Science category at the award ceremony held at habitat Centre, New Delhi, India on 1&2 December 2011. The Manthan Award South Asia is first of its kind initiated in India which recognizes and facilitates emerging and best practices in e-content for education and development across South Asia.

8. Training Workshop on Science Communication to the Public

A two day Training workshop on the theme *Science Communication to the Public* was organized at Rajarata University on 18 &19 August 2011. The objective was to train scientists as science communicators in order to bridge the gap between the scientists and the society (general public) so that science will make a part of their everyday life. 30 scientists from universities and scientific institutes in the North-Central Province attended the workshop. The workshop was a part of the programme introduced in year 2005 to train 100 scientists to form a pool of Science Communicators. Mr Percy Jayamanna (former Chief Editor, Lankadeepa), Dr Jayantha Wattavidanage, Mr Thusitha Malalasekara, and Dr Palitha Bandara served as the resource persons of the workshop. The workshop consisted of lectures, discussions and practical exercises.

9. NSF Stall at Deyata Kirula 2011 Exhibition

NSF actively participated at the Deyata Kirula 2011 exhibition organized at Buttala from 04-10 February 2011. In addition, NSF also participated in several development oriented programmes parallel to the Deyata Kirula 2011 and 2012.

9.1 Science Day Programmes organized in Parallel to Deyata Kirula 2011

Two Science Day Programmes were organized in collaboration with the Ministry of Technology & Research for school children at Thanamalwila and Buttala on 07th and 21st January 2011 respectively. Total numbers of participants for the two programmes were around 250. The objectives of the programmes were to provide scientific knowledge on selected topics and make school children and teachers aware of activities conducted by the NSF for the school community. The Vidurava Science Magazine (Vol. 27, Special Issue, Sinhala Version) was distributed among the participants. Presentations were made on Human activities and the environment protection (Dr Jayantha Wattavidanage); Non communicable diseases (Mr Thusitha Malalasekara); National Science Foundation and school community (K.G. Janaka Karunasena) and Nanotechnology (Dr Rohan Munasinghe).

9.2 Science Day Programmes organized in Parallel to Deyata Kirula 2012

Two Science Day programmes were organized in collaboration with the Ministry of Technology & Research to the general public (mainly farmers) at Rambawewa and Kebithigollewa in the Anuradhapura district on 01 August and 15 November 2011 respectively. Total numbers of participants for the two programmes were around 200. Presentations were made on How Scientific Knowledge can be used in day to day life (Dr Jayantha Wattavidanage); Healthy Lifestyle (Mr Thusitha Malalasekara); Irrigated Agriculture in the Dry Zone (Dr P.B. Dharmasena) and Kidney Diseases prevailing in the Dry Zone (Dr Palitha Bandara).

10. NSF activities conducted in collaboration with Media Institute

10.1 Sri Lanka Rupavahini Corporation (SLRC)

- The two winning school dramas of the inter school science society competition held in 2010 were recorded and telecast via Rupavahini channel. The two dramas were from Medirigiriya Central, Polonnaruwa and Sri Sangamitta Balika National School, Matale and they were recorded on 03 March 2011.
- Arrangements were made to publicize NSF activities through News Line of Rupavahini.

10.2 Sri Lanka Broadcasting Corporation (SLBC)

Eight (08) live interactive discussions were broadcast through the “Subarathi” Programme of the SLBC to publicize the services of the NSF.

10.3 Wijaya Newspaper

Several newspaper articles were published in the Wijaya Children’s Newspaper. One article provided publicity on the services of the NSF while the other three provided information on research findings of grantees of the NSF. The articles were written in simple language to be easily read and understood by children. Details of the articles are as follows.

- I. National Science Foundation (Wijaya newspaper on 05 April 2011).
- II. Prevalence of diabetes mellitus and its risk factors in Sri Lanka (RG/2005/HS/16) - based on discussion with Dr Prasad Katulanda, a member of the research team (Wijaya newspaper on 24 May 2011).
- III. Evaluation of Biomarkers in food fish *Tilapia* as potential tools in biological monitoring of aquatic pollution in Sri Lanka (RG/2003/Zoo/05) - based on the discussion with Prof. Asoka Pathiratne.
- IV. Pharmaceutically important compounds from Sri Lanka Lichens (RG/2005/FR/02) - based on the discussion with Prof. Veranja Karunaratne.

11. Visit to Science Centre Singapore

Dr Jayantha Wattavidanage, member of the Technical Committee on Science Centre, and Mr K.G. Janaka Karunasena, Scientific Officer and Coordinator of the Technical Committee on Science Centre visited Science Centre Singapore on 01st and 02nd June 2011, and recommended to organize the *Science Workz* Traveling exhibition in Colombo. The exhibition consisted of interactive exhibits to be used by children to self learn simple scientific concepts.

Science and Technology Policy Research Division (STPRD)

The mission of the Science and Technology Policy Research Division (STPRD) is to provide information on science, technology, education and other related fields to the policymakers and other stakeholders nationwide and make the society aware of the important issues relevant to science, technology and innovation (STI) towards the socio-economic development of the country. Accordingly, the Division undertook research projects mainly through island-wide surveys to analyze problems, situations, and the past, present and future scenarios related to STI and provides evidence based data and recommendations for necessary policy formulation and planning activities. The Division also maintained different databases on related areas of S&T to provide up to date information to policy planning bodies and stakeholders (scientists, researchers, students, foreign donor agencies etc.,) as and when required.



1. National Research and Development Survey

The Division has been conducting the regular National Research and Development Surveys once in two years since year 2004. This survey measures and reports the status of science and technology sector in the country in terms of investment and expenditure for Research and Development, Human Resources and the Outputs of the S&T sector.

Based on the analysis of data and other related information collected by the national R&D Survey 2008, the indicators of science, technology and innovation were developed and the book titled “*Sri Lanka Science, Technology and Innovation Statistical Handbook 2008*” was published in 2008. The detailed Technical Report on R&D survey 2008 was compiled during 2011.

In May 2011, the subsequent fourth survey, *the national research and development survey 2010* was commenced. This survey collects the data pertaining to the year 2010. During the year 2011, the data collection was conducted covering the higher education sector, S&T institutions, R&D institutions and local and foreign non government organizations (NGOs). The data collection in the Industrial sector will be completed in collaboration with the Department of Census and Statistics in year 2012.

2. Science, Technology and Innovation Policy Research Projects

2.1 Tracer study on Women Scientists in Sri Lanka

The survey was conducted to study the distribution of women scientists in various sectors in Sri Lanka and the problems and constraints faced by them. The data collection and analysis were completed and the technical report with policy recommendations was compiled in 2011.

2.2 Small and Medium Industrial (SME) Cluster Studies

2.2.1 Case study on Mushroom based Industry

This study was initiated in 2010 to investigate and understand the innovation process and their institutional context pertaining to mushroom farming and the mushroom based industries in the country. The study looked into the role and involvement of the government institutions, ministries, R&D institutions, SME promoting policy planning bodies, universities, non-government organizations, exporters, farmers and all the other actors that are networked into the proper functioning of the existing system. Data were analyzed to measure: a) the strengths and weaknesses of the linkages, b) barriers and problems in the system and c) research and technology gaps. The study was completed in 2011 and the relevant Technical Report highlighting the policy recommendations to improve the industry was compiled.

2.2.2 Case study on the Rattan (Cane) based Industry

The study was commenced to understand the distribution, linkages and the actors involved in the rattan based small and medium industry in Sri Lanka plus the problems, constraints, gaps existing in the network. The data collection was started in May 2011 and will be continued in year 2012 as well. The policy recommendations targeted on the development of the industry and its sustainability will be conveyed to the relevant authorities by the end of the project in 2012.

2.3 Assessment of NSF Research grants awarded during 1998-2008: Process, output, outcome and socio-economic impact

This research project was initiated in 2011 aiming at performing a comprehensive assessment of the NSF research grants scheme in the direction of i) knowledge creation and technology generation, ii) S&T capacity building and sustaining national research system to engage in research, development and innovation thrust, iii) national productivity, product development and quality improvement and iv) S&T information generation, collation, processing and dissemination.

A pilot study was conducted by the Division and based on the information received from the Pilot Study, a comprehensive research project was developed under the guidance of the Board Sub-Committee appointed for same. This project proposal was submitted to the NSF Board of Management for approval in December, 2011.

3. Other S&T related databases:

- Database on Sri Lankan Expatriate Scientists – Ongoing project and data collection continued throughout the year.
- Database on Technical Persons – data collection was commenced in May 2011 and continued throughout the year.
- Database on A/L science graduate teachers – data collection started in June 2011 and temporarily stopped due to heavy staff shortage
- Database on inventors in Sri Lanka – Ongoing project and routine data updating was done.

4. Competitive Research Grants on S&T Policy

Four (4) grant applications on Science and Technology Policy Research were received during the year and 2 projects as given below were approved for funding.

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2011/STP/01	Dr Parakrama Samaratunge Institute of Policy Studies	Intellectual Property rights in protecting plant varieties and farmers traditional knowledge: a case study of rice in Sri Lanka	702,400
RG/2011/STP/02	Prof. Ajith de Alwis , University of Moratuwa	An extended analysis of Biofuel for Sri Lanka transportation sector: Techno-economic and national opportunity for carbon trading	2,967,000

5. National Committee on Social Sciences

The National Committee on Social Sciences established in 2011 prepared its Activity Plan for a three year period, especially focusing on promoting social science research in the country and getting social scientists' work together to work towards the national development. During the year 2011, this committee completed and conducted the following activities:

5.1 Compilation of the nationally important priority research areas

5.2 Conducted a two-day training workshop for young scientists on “Social Sciences research and comprehensive research proposal development”, on 7-8 November 2011.

5.3 Participation of committee members at two radio programmes (*Subarathi*) on the 7th and 8th December at SLBC - Sinhala National Service on following themes respectively:

- i. Social science research and national development
- ii. Social science research and national priorities

6. STEPAN International workshop on “National Innovation Systems: operational strategies and management aspects” (02-03 November 2011)

National Science Foundation chaired the Science & Technology Policy Asian Network (STEPAN) for a period of three (03) years from October 2008 to September 2011. The Science and Technology Policy Research Division (STPRD) and the International Liaison Division (ILD) jointly organized an international workshop on “National Innovation Systems: operational strategies and management aspects from 2-3 November 2011, which was held at Hotel Galadari, Colombo. The workshop was participated by 11 STEPAN member countries including Sri Lanka. The following issues were identified and endorsed at the workshop.

- Importance of conducting various studies at micro, medium and macro level overarching the National Innovations System (NIS) of Sri Lanka
- Necessity of gearing the university education system focusing more on the innovation processes.
- Develop a system to grant concessions for R & D through a cess from the value added export goods, providing incentives for exports at national level, strengthening the education and higher education system by developing and enhancing creativity, and inclusion of development of entrepreneurial skills in curricular.
- Develop appropriate operational strategies to strengthen the NIS, which is country specific. Experts working in the field may consider different approaches.

- When designing NIS studies, focus should be made on identifying purpose for research, its contextual considerations and the national importance as well as social responsibility, plus other imperatives. The need of sustaining commitment, conviction and the Political Will also was emphasized.
- Importance of the involvement of UNESCO in strengthening the innovation stakeholder link and facilitate innovation accreditation with an Innovation Award System under a specific title such as UNESCO Discovery Award etc., was highlighted for a lasting sustainable innovation model.

7. Major outputs

7.1 Technical Reports

- Tracer Study of Science and Technology Doctoral degree holders in Sri Lanka
- Tracer Study of Women scientists in Sri Lanka

7.2 Publications (Refereed):

Seetha I. Wickremasinghe (2011). The status of SMEs in Sri Lanka and promotion of their innovation output through networking of S&T institutions. *Tech Monitor*, July-Aug 2011, pp 11-19.

8. Staff represented at various national and institutional committees:

- Dr Seetha I. Wickremasinghe, Head/ STPRD served as:
 - i. Council Member and the President of the Section-D (Life and Earth Sciences) Committee 2011 of Sri Lanka Association for the Advancement of Science (SLAAS), Vidya Mandiraya, Colombo-07 for the year 2011.
 - ii. Member of the Senior Scientific Forum, National Science & Technology Commission (NASTEC), Nawala, Nugegoda for the year 2011.
- Dr P.R.M.P. Dilrukshi, Scientific Officer/STPRD served as:
 - i. Secretary, of the Section-D (Life and Earth Sciences) Committee 2010 of Sri Lanka Association for the Advancement of Science (SLAAS), Vidya Mandiraya, Colombo-07 for the year 2011.

9. Staff extra curricular activities:

- **Dr Seetha I. Wickremasinghe, Head/STPRD** continued to serve as:
 - i. Assistant Editor of the Journal of National Science Foundation of Sri Lanka
 - ii. Chairman, NSF Minor Procurement Committee since 2009.
 - iii. Project Supervisor of two students registered for MSc degree in Science Education, Postgraduate Institute of Science (PGIS), University of Peradeniya.
 - a). Mrs Sujeewa Polgampola - PGIS/SE/MSc/BE/08/07 - Completed
 - b). Mr Sabanayagam Ahilan - PGIS/SE/MSc/PE/08/05 – Thesis submitted
- **Dr P.R.M.P. Dilrukshi, Scientific Officer** served as:
 - i. Member of the Core Group of Quality Management System (QMS) of National Science Foundation.
 - ii. Project Supervisor of M.Phil student (Full –time) registered under the Board of Study in Biochemistry and Molecular Biology, Post Graduate Institute of Science , University of Peradeniya.

National Science Library & Resource Centre (NSLRC)

1. Introduction

The National Science Library & Resources Centre continued to function as the focal point of the Sri Lanka Science & Technology Information Network (SLSTINET) during the year under review. Several strategies were introduced and adopted during the year to cater to the changing needs of the users keeping abreast of the new technological developments.

Highlights: Following significant achievements were made during the year.

Sri Lanka Science Index: The conversion of the Sri Lanka Science Index (SLSI) database into a digital library of full text documents showed a rapid progress during the year. The total number of full text documents accessible online through NSF LAN as at 31 Dec 2011 was recorded as 23553. This is 59% of the total number of records in the database.

National Digitization Project: A five year National Digitization project was launched under the leadership of the NSF. The project aims at digitizing all locally generated Science & Technology literature accommodated in institutions and libraries in the country. The objective is to make full text online access to documents to be shared by all scientific counterparts in the country to promote innovation and productive research.

E- Swabhimani Award: The SLSI database won a special merit award under e-Science category at the e-Swabhimani – 2011 Award ceremony organized by the Sri Lanka Information Communication Technology Agency (ICTA).

The National e-repository: The database was incorporated with federated searching facility to search across other e-repositories and many other locally published online journals (including all journals in the SLJOL database). Searching one/several/all sites in one search is thus facilitated

National Network of Institutional e-Repositories: The National Network of e-repositories was strengthened.

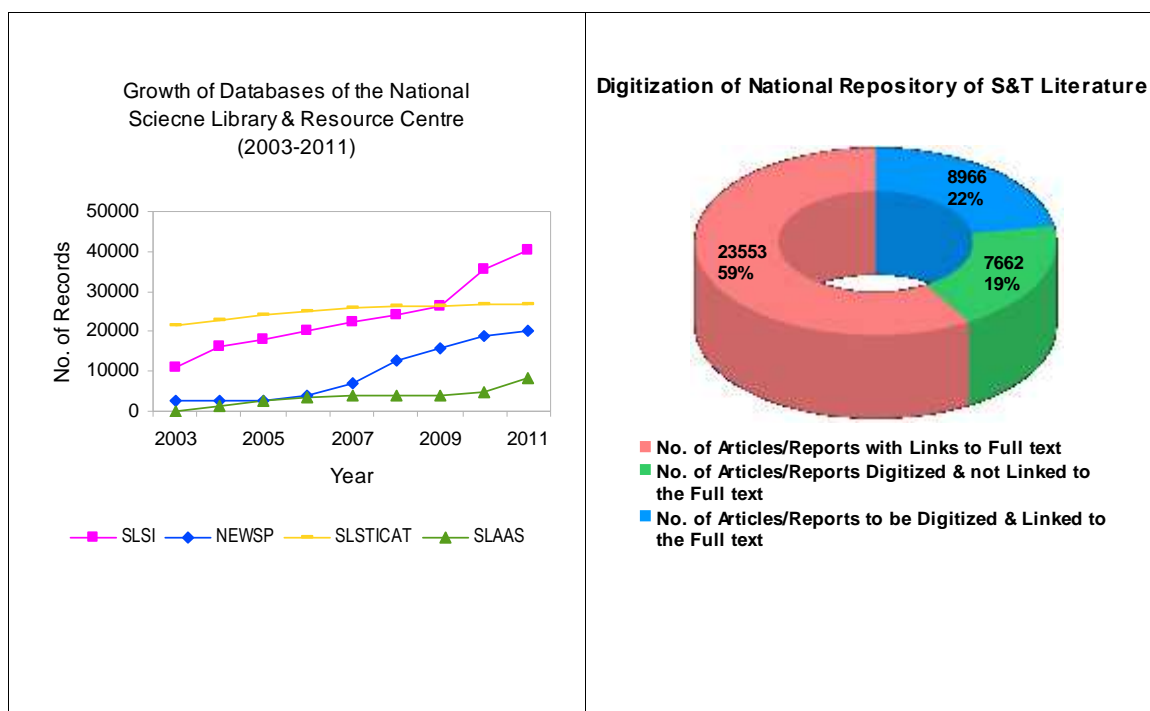
SLAAS Database: SLAAS database showed a significant progress. Recording of information (reference and abstract) of all papers read at SLAAS sessions during the last 25 years was completed.

2. Database development

2.1 Sri Lanka Science Index (SLSI)

The SLSI database showed remarkable progress during the year under review. Both the number of records and the full text documents in the database showed a high growth rate. The number of records added and full text documents uploaded during the year recorded 5616 and 7086, respectively.

Since its inception in 2006, the database has gradually developed into a digital library of full text documents. The highest growth rate was recorded in 2010 and 2011. As at 31 December 2011, full text of 59% (23553 documents) of items in the database were accessible within the NSF LAN. Of these, full texts of 15 local journals were given remote access through the internet. Work is underway to obtain copyright permission from other publishers to provide remote access.



2.2 SLAAS Database

The SLAAS database showed a significant expansion during the year. The database as at 31 December 2011 recorded 8311 items. The number of records added during 2011 was 3601. It covered meta data (references) on all papers presented at SLAAS sessions during the last 25 year period (1976-2010). Records for the period 1987-2010 were further enriched with abstracts. The database is accessible through the internet.

2.3 Research Grants database (RGRA)

The RGRA database was streamlined and the internet interface to RGRA was improved. The total number of records as at 31 December 2011 was 1881. The full text reports and theses accessible within the NSF LAN were 967.

2.4 Newspaper Articles Database

The number of records added during the year was 1587 while the total number of records as at 31 December 2011 was 20250. This meta data database is gradually evolving into a digital library.

2.5 SLSTIC catalogue

The number of records as at 31 December 2011 was 26777.

2.6 National e-repository

Federated searching facility to search across other local e-repositories was incorporated into the database. Accordingly at the NSF e-repository site, a single search enables searching across two or more selected local e-repositories/online journals. The repository was transferred into a larger server to allow local scientific counterparts to upload their research and technical papers. The interface was improved to give a more convenient and attractive user interface.

3. Services

The NSLRC web site continued to serve as a central gateway to all local library catalogues, network catalogues and special databases online. More useful links to both local and international resources were added for the convenience of researchers.

3.1 Current Awareness services (CAS)

A monthly current awareness service was provided through the ScinnoTech e-newsletter to reach over 4000 researchers in the country. Information around 40 new items added to the NSLRC collection every month is taken to the desktop of researchers and academics through this service.

3.2 Literature search Service

In response to user requirements, 316 literature searches were made and 120 queries were answered. The searches were conducted on local and international databases. A copy duplication service was offered parallel to the literature search and reference services.

3.3 Hosting of Library catalogues

The online catalogues of the following three institutions were hosted in the NSF server to support them to bring their resources into visibility of scientific counterparts with a view of resource sharing.

- Centre for the Study of Human Rights – University of Colombo
- Family Planning Association
- Central Environmental Authority

3.4 Visitors

Since facilities are in place to access and search all NSF databases, visitors to the Library were observed to be low during the last few years. The number of visitors during 2011 was 124.

3.5 Seminars

One seminar was organized on 'Ethics for Information Professionals' which was attended by 52 librarians.

4. Collection Development

The NSLRC collection was strengthened with the addition of 176 new books and reports. Special emphasis was placed on acquisition of books in the fields of 'Innovation' and 'Nanotechnology'. Nine final reports of NSF funded research grants were received. The library continued to receive 65 journal titles (local and foreign) regularly throughout the year. A new journal title on 'Innovation Management' was added to the subscription list.

Access to International Databases: Access to the following international databases were provided within the NSF premises during the year.

HINARI Full Text Journal Database: HINARI programme is offered by World Health Organization (WHO) together with major publishers and provides online access to the major journals in biomedical and related social sciences. Access to more than 8500 journals and 7000 e-books are offered through HINARI.

AGORA Full Text Database: The AGORA program, set up by the Food and Agriculture Organization of the UN (FAO) together with major publishers, enables access to an outstanding digital library collection in the fields of food, agriculture, environmental science and related social sciences. Access to a collection of 1900 journals is provided.

A number of other free databases and free resources on the internet were identified and linked to the central NSLRC web site to facilitate literature searching and downloading of full text of documents.

5. National Digitization Project

A National Digitization Project (NDP) was launched with the aim of converting all locally generated S & T literature in local libraries into digital form with a view to provide on-line access for easy consultation by the scientific counterparts. The NDP is a five year project and Phase I of the project commenced in 2011. Under phase I, local S & T literature collections of six (06) libraries in the country viz Coconut Research Institute, Council for Agriculture Research Policy, Arthur C Clerk Centre for Modern Technologies, Post Graduate Institute of Agriculture, Central Environmental Authority and the Industrial Technology Institute were identified for digitization. A steering committee was appointed to monitor the progress of the project and a Memorandum of Understanding was prepared to be signed between the NSF and each partner library. Information on the relevant material in local libraries was gathered and the work plan for the five year project period was drawn up. A suitable supplier was also identified to outsource digitizing. Parallel to the digitization process establishment of Institutional Repositories (IR) was promoted. Necessary training to establish e-repositories on D-space had already been provided in 2009 for a selected set of Librarians. Digitization activity however could not commence in 2011 as planned due to delays in administrative procedures. The digitization of the materiel will commence in early 2012.

6. Enhancing IT Applications in SLISTINET Libraries

6.1 Software distribution: 32 copies of the CDS/ISIS (windows version) Library management software were distributed among libraries in the country.

6.2 Training Programmes/Workshops

6.2.1 WINISIS Workshops: Three workshops on the basic application of WINISIS software were conducted during the year to train 29 Library professionals.

6.2.2 Workshop on D-Space Software for Developing Open Archives: The Regional workshop on D-space software was organized for Library/IT professionals in the Asian region from 27 – 30 July 2011. The programme was sponsored by UNESCO. Nine participants from Malaysia, Thailand, Cambodia, Laos, Vietnam, Nepal and Iran participated in the programme. Number of local participants was four. The workshop was organized with the aim of providing necessary knowledge to participants on D-space open source software in order to establish national e-repositories in each country to be in turn developed into a network of the region enabling resource sharing within the Asian region. The International Network for the Availability of Scientific Periodicals (INASP) UK co-sponsored the programme. Professor A. R. D. Prasad & Dr Devika Medalli, from the Statistical Institute, Bangalore, India experts on D-Space software served as resource persons of the workshop.

7. Publications/Presentations

Ms Sunethra Perera, Head/NSLRC made a presentation and a demonstration on 'Information Gateway' of the NSF at the AGRINET user seminar conducted by the Council for Agriculture Research Policy on 30 September 2011.

Administration Division

For the purpose of providing the services required and to enable fulfillment of the core functions of the NSF at optimum level, the Administration Division discharged the following key functions;

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

Further, it strived to strengthen the linkages and communication between the relevant government and statutory bodies in the external environment. An effort was made to develop the ability and productivity of our staff and maintained a result oriented open culture, which helped to uplift employee contribution effectively in order to achieve the mission of NSF.

1. Staff

The NSF had staff strength of 94 out of 144 approved cadre and 23 of them were scientific staff.

The principal staff list as at 31.12.2011 is given in Annex 3.

One executive staff member resigned during the period.

1.1 Representations by the Staff

The staff represented NSF at 11 foreign meetings/workshops/seminars, etc. Various national and institutional committees were also represented by the NSF staff.

The staff of NSF attended local seminars, conferences and workshops representing the NSF.

2. Re-Launching of Quality Management System (QMS)

The re-launching of QMS programme for the NSF continued in 2011. The QMS work was re-launched under the advice of the Director, NSF in November 2009. A co-group of twelve members with representatives from each division were assigned with the responsibility of re-establishing the system. Following activities were done in the year 2011 targeting to achieve ISO 9001:2008 certification. Some planned activities for the year 2011 were not carried out, due to time and staff constraints.

- Reviewed and updated the Standard Operating Procedures.
- Prepared Master List of documents and Quality Record Matrix.
- QMS field visit was arranged to ISO certified Homagama Divisional Secretariat.
- Part of the Coding was completed.

Finance Division

Finance Division administers all the financial activities, so as to provide an efficient financial service ensuring prompt and timely action relating to all financial activities of the Foundation within the prevailing Financial Regulations.

1. Main functions of the Finance Division

- Maintenance of Books of Accounts e.g.: Fixed Asset Register, General Ledger, Grant Ledger, Stock books etc.
- Preparation of all financial reports including annual financial statements, estimates etc., and submitting them to the relevant Authorities on due dates.
- To make payments in relation to all the Divisions of the Institution.
- To make general payments such as salaries, overtime etc.
- Maintenance of the stores.
- Maintenance of publication stores and sale of publications, while organizing publication sales outlets at exhibitions, book fairs and sales desks at workshops.
- Liaise with the Finance Ministry and line Ministry Officials for obtaining funds for the institution.

2. Manpower of the Division

Head Admin/Finance, Accountant, Accounts Officer, Management Assistants and Office Aids constitute the manpower of the Division.

Printing Unit

The Printing Unit continued to support the activities of all Divisions of the NSF.

It undertook the printing of 20 publications namely books, journals and 80 other printing works as against 25 publications and 63 other printing works performed during the year 2010.

Information Technology Unit

The Information and Communication Technology Unit continue to harness the technological advancement and manage all ICT facilities to support the organization activities.

This Unit serves the NSF Secretariat with providing Internet facilities, web/database hosting facilities, end user IT support and electronic communication of the organization. The Unit is responsible to evaluate and upgrade existing ICT infrastructure and forecast future needs.

During the year, an agreement was signed with the University of Colombo, School of Computing (UCSC) to develop an integrated online software solution to improve the performance of organizational business process. The major activities of the Finance, Administration and Scientific divisions will be integrated in this project. The website of the foundation was also redesigned and re-launched as a part of the project.

Internal Audit Unit

The internal audit division established to maintain the internal controls of the organization leading to good governance, the internal auditor reporting directly to the Board of Management/Chairperson discharged its duties during the year with special emphasis on the following;

1. General Internal Controls of the organization.
2. Progress on scientific activities.
3. Scrutiny on sale of publications.
4. Regular checks on debtors, creditors, & cash advances.
5. Adherence to tender procedure for supplies.
6. Implementation of the stores procedure.

Observations of the Accounting Officer on Performance

Recurrent Expenditure		Rs. '000
	Estimate	Expenditure
Personal Emoluments	46,520	44,710
Other recurrent	30,480	24,121
	-----	-----
	77,000	68,831
	-----	-----

Funds received from the Treasury for Recurrent Expenditure Rs. 68,951

Capital Treasury	Estimate	Funds Received	Expenditure	Expenditure from the
Object Code – 133-02-05-3-2201		300,000	110,710	154,948
		-----	-----	-----
Supplementary Allocations				
IDRC			5,864	
UNESCO			1,402	
Revenue		379		

Details of Capital Expenditure as against the Funds Received during the year

	Description	2011 Expenditure
1	Grants for Research & Other Scientific Work	46,122
2	Science & Technology Policy Research Division	1,412
3	Technology Division	8,303
4	National Science Library & Resource Centre	2,653
5	Science Popularization Division	5,118
6	International Liaison Division	19,058
7	Information Technology Division	2,004
8	Office Furniture fittings & Equipment	4,493
9	Rehabilitation of Capital Assets	885
10	Vehicle	4,800
11	Director's Office Vote	4,986
12	Integrated Software Programme	2,999
13	Investigate & evaluate Chronic Kidney disease in the North Central Region in Sri Lanka	46,000
14	National Science Centre	4,303
15	Overseas Special Training Programme	1,812
	Total	154,948

Financial Issues

NSF is a funding organization which is dependent on government funds. During year 2011 Department of National Budget recommended to release Rs.68.9 m for Recurrent expenditure and Rs. 215.9 m for Capital expenditure. Department of Treasury Operations released the Rs. 68.9 m recommended for Recurrent expenditure, but only Rs.110.7 m was released for capital expenditure. As such NSF was able to fund only few grants which were approved during the month of December.

Nonetheless, NSF has achieved significant success over the programs which were continued and newly started in line with organizational objectives as given in the respective divisional activities.

NSF was able to obtain Rs.5.9 m from IDRC to develop a regulatory frame work for Nanotechnology related activities in Sri Lanka, Rs. 1.4 m from UNESCO for the Regional workshop on Development of e – repositories using D – Space Open Software and Rs. 2.0 m from UNDP and UNESCO for the Global Forum.

Year	Approved Budget	Revised Budget	Funds Received	% of approved budget	% of revised budget
	Rupees '000				
2007	307,500	257,500	153,999	50.08	59.80
2008	320,000	297,600	138,653	43.33	46.59
2009	217,192	184,613	68,350	31.47	37.00
2010	238,000	238,000	107,000	44.96	44.96

Management Issues

- The beneficiaries of research grants were basically those in academia and research institutes and research is carried out under the supervision of the respective Heads of Department of those research institutions and NSF does not have direct control over them. In spite of clear guide lines for grant schemes timely implementation of projects is affected to some extent due to the procedures and systems within the grantees' institutions. NSF is improving the systems on an ongoing basis to address the obstacles faced by the researchers, which are within the control of NSF.
- Although there is an immense potential for obtaining foreign funds by the NSF, lengthy and discouraging processes has hampered the opportunity.

Income and Expenditure for the Year Ended 31ST December 2011

		Rs.000
Revenue	2011	2010
Government grant	68,951	60,976
Other Income		
Interest received	201	195
Sundry income	53	25
Sale of publications	(1,127)	(1,639)
Photocopy receipts	18	47
Internet membership fees	24	14
NSLRC income	39	9
Profit from sale of fixed assets	3	166
Excess provisions	123	8,682
Receipts from school science societies	-	-
Receipts from printing outside	42	-
Differed revenue	8855	9,283
	77182	77,758
Expenditure		
Personal Emoluments		
Salaries & allowances	38559	34,695
Employees Provident Fund	4211	4,054
Employees Trust Fund	842	811
Provision for retiring gratuity	2983	1,450
Overtime	709	617
Holiday payment	43	49
Uniforms	108	111
Staff training	185	448
	47640	42,235

Travelling	496		338	
Supplies	2697		913	
Maintenance	1618		3,159	
Contractual Service	8235		7,845	
Others	10315		8,715	
Depreciation	10840		9,832	
	34201	81841	30,802	73,037
Surplus Deficit over the income				
before extraordinary items		(4,659)		4,721
Extraordinary items (Net profit or loss)		-		-
Net Surplus/ Deficit for the period		(4,659)		4,721

Balance Sheet as at 31st December 2011

(Detailed balance sheet attached)

				Rs.'000
ASSETS	2011		2010	
Non Current Assets				
Property plant and equipment	442,743		335,553	
		442,743		335,553
Investments		661,522		631,522
Current Assets				
Inventories/ Stock	4,096		5,214	
Trade and other receivables	17,246		10,528	
Prepayments	1,024		17,379	
Cash and cash equivalents	13,351		33,811	
		35,717		66,932
Total assets		1,139,982		1,034,007

Net assets & Liabilities

Capital and Reserves

Accumulated Fund	6,256		21,476	
Reserves - Revaluation Reserve	422,549		316,061	
Government Grant	661,522		631,522	
		1,090,327		969,059

Noncurrent liabilities

Provision for gratuity	19,178	17,294	
Differed revenue	21,074	37,811	
		40,252	55,105
Current liabilities			
Payables	2,835	6,676	
Accrued Expenses	6,568	3,167	
		9,403	9,843
		1,139,982	1,034,007

Cash Flow Statement - 2011

	2011	2010	Rs'000
<u>Cash flows from operating Activities</u>			
Net excess of income over expenditure	(4,659)	4,721	
Add; NSF fund prior year adjustments	(270)	33,037	
	(4,929)	37,758	
<u>Adjustments for</u>			
Depreciation	(10,840)	(9,832)	
Loss from publications	(1,127)	(1,640)	
Gratuity paid during the year	1,099	-	
Provision for Gratuity	(2,983)	(1,450)	
Provision for doubtful debts	123	7,367	
Excess provisions	-	1,315	
Bad debts	-	(1)	
Profit on sale of fixed assets	3	166	
Loss from sale of fixed assets	-	(19)	
Deferred Revenue	8,855	9,283	
Stock of magazines & journals written off	(1,301)	(1,307)	
Operating profit/loss before working capital changes	1,242	33,876	
Net increase/decrease in trade other receivables	9,761	(2,230)	

Decrease in inventories	1,117	1,291
Net decrease/increase in trade payables	(440)	(7,409)
Cash generated from operations	10,438	(8,348)
Net cash from operating activities	11,680	25,528

Cash flows from Investing Activities

Outflow from activities	(143,575)	(110,403)
Purchase of assets	(4,482)	(4,712)
Investments	(30,000)	(147,000)
Excess provisions re. Building	-	10
Proceeds from sale of equipments	5	215
Proceeds from sale of books	404	581
Net cash used in investing activities	(177,648)	(261,309)

Cash Flows from Financial Activities

Contribution from Government	110,710	107,000
Government Grant	30,000	147,000
Foreign Aid	4,797	-
	145,507	254,000
Net cash from financing activities	(20,461)	18,219
Cash & cash equivalent at beginning period	33,812	15,593
Cash & cash equivalent at end of period	13,351	33,812

Notes on Accounts

1 General Accounting

The Financial Statements have been prepared in accordance with generally accepted accounting principles on a historical cost basis. The fundamental accounting assumptions and policies relevant in accounting have been adhered to on a consistent basis as in the previous year.

The treatment of depreciation related to assets has been treated as differed income which is recognized as income on a systematic and rational basis over the useful life of the asset as per SLAS 24.

1.1 Documentation Unit Capital Fund Expenditure

	Rs.
1 NSLRC Equipment (Library)	491,571.00
2 NSLRC Books	398,870.30
3 Conversion of printed documents into digital files	669,801.53
4 Advisory Board	13,065.00
5 NSLRC staff training	11,500.00
6 Database	637,370.00
7 NSLRC workshops & Seminars	157,365.02
8 Union List Database	273,688.29
	2,653,231.14

1.2 Grants for Research & Other Scientific Work

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

	Rs.
Research Grants & other Scientific work expenditure	41,752,302.07
Research Scholarships & Fellowships	3,629,410.00
Chronic Kidney Disease Project	46,000,000.00
Actual expenditure for the year	91,381,712.07
Accrued expenditure	741,254.63
	92,122,966.70

1.3 Miscellaneous Fund Expenditure

	Rs.
1 International contacts	7,639,644.72
2 Science Popularization Division	5,118,156.39
3 Information Technology Unit	2,004,157.18
4 Rehabilitation & Improvements for assets	885,265.84
5 Director's Office Vote	4,985,987.95
6 Science & Technology Policy Research Division	1,412,278.02
7 Technology Division	7,956,202.99
8 International Liaison Division	4,493,860.94
9 Global Forum	6,926,145.00
10 IDRC NSF Expenditure	347,140.00
11 Intergrated Software Programme	2,999,000.00
12 International Contacts OSTP	1,811,766.69
13 National Science Centre	4,303,443.04
	50,883,048.76

2 Assets and the Basis of Their Valuation Depreciable Assets and Depreciation

Depreciation has been provided on original cost or at valuation on a straight line basis consistent with that of the previous year and is calculated to write off the assets over their estimated useful lives.

Capitalization of Assets

Treatment of accounting in capitalizing of equipment purchased out of Capital Budget Votes is to debit the relevant category of equipment.

Prior to year 2003 equipment purchased under other votes other than office equipment furniture & fittings vote has been capitalized by debiting the equipment vote & crediting the relevant fund account. But at the time of disposal, the relevant fund accounts have not been affected. In the year 2010, the relevant adjustments have been made.

NSF premises (Land), building and five vehicles have been revalued during year 2011. The valuation was done by the valuation Department. Revaluation has been effected through the Revaluation Reserve account.

3 Debtors

	Rs.
Total debtors	10,722,754.68
Less: Provision for doubtful debts	-
	10,722,754.68

Provisions have been provided for the debts outstanding over 3 years.

4 Liabilities

Creditors

Creditors amounting to Rs. 2,832,587.91 represents monies held by NSF as given below,

	Rs.
1 European Union Workshop	9,804.00
2 SIDA/RFC A/c	9,795.79
3 SIDA	608.05
4 Sundry Creditors	869,146.66
5 Staff Creditors	-
6 INASP A/C (2010)	76,800.42
7 Research Project on Energy	24,476.05
8 LOICZ/RFC	1,501,109.86
9 LOICZ	91,387.49
10 National Symposium on Social Protection Policy	39,357.41
11 Identifying Priority Water Sector Research in Sri Lanka	68,047.52
12 Study on the Bundala National Park- 2003	37,300.76
13 IFAP Committee (2008)	104,753.90
	2,832,587.91

5(a) Publications

These are published mainly to disseminate scientific knowledge to school children in particular and 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. Eg. Competitions. Such releases are effected always with Director's approval.

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

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

5(b) Sale of Publications

	Rs.
1 NSF Journal	1,430.00
2 Other Publications	36,007.50
3 SSR Journal	1,700.00
4 Vidurawa Vol. 23(1)	6,710.00
5 MAB Publication	2,395.00
6 Vidurawa	32,035.00
7 Food Security	2,640.00
8 Noise Pollution	400.00
9 Natural Resources of Sri Lanka (2000)	8,689.19
10 Waders of Sri Lanka	4,465.64
11 <i>Ficus bengalensis</i>	312.87
12 Lankawe Swabhavika Vipath	2,691.28
13 Sustainable Agriculture	1,627.56
14 Sale of Muhuda Kalu Una	200.00
15 Sale of Medicinal Plants used in Sri Lanka	23,499.00
16 Sale of VCDs	675.00
17 Vidyathmaka Elawalu Vagawa	4,847.60
18 Sithiyam Vidyawa	3,970.40
19 Sale of JNSF Vol. 35	260.00
20 Sri Lanka Medicinal Plants & Monographs	(210.00)
21 Sales of Atoms for Peace	(201.55)

22	Guide to Research & Scientific Institutions	(6,361.72)
23	Sale of NSF Journal Vol. 36	1,730.00
24	Sale of JNSF Vol. 37	230.00
25	Agantuka shaka vishesha	(5,863.80)
26	Sale of Alternative Energy	1,593.34
27	Sale of Ecosystems Based on Indigenous Water Management	2,146.00
28	Sale of Ground Water Conditions in Sri Lanka	(5,722.50)
29	Sale of JNSF Vol. 38	(47,160.00)
30	Sale of Infant & Young Child Nutrition	(1,718.00)
31	Sale of Medicinal & Aromatic Plants	2,530.00
32	Sale of Rubber Diseases	5,340.00
33	Sale of Some Elementary Hints	2,300.00
34	Sale of Sri Lankawe Kanija Sampath	3,045.57
35	Sale of Tradition & Livelihood	(2,590.00)
36	Sri Lanka Science & Technology Innovation Statistical Indicator 2008	395.00
37	Sale of Sri Lanka Journal of Social Sciences 29/30	929.94
38	Sale of DVD's	590.00
39	Sale of JNSF Vol. 39	(221,124.14)
40	Sale of Ritipanna	1,190.24
41	Sale of Kadukaraya saha Nayayam	1,429.40
42	Sale of SSR Journal - Vol.31-32	(50,881.62)
43	Sale of Vidurawa - Vol. 27-2 (T)	(60,207.77)
44	Sale of Vidurawa - Vol. 27 Special Issue (E)	(88,515.61)
45	Sale of Vidurawa - Vol. 28 (E)	(87,522.64)
46	Sale of Vidurawa - Vol. 28-1 (T)	(115,483.11)
47	Sale of Vidurawa - Vol. 28-2 (T)	(120,709.65)
48	Sale of Vidurawa - Vol. 28 Special - (S)	65.00
49	Sale of Vidurawa - Vol. 26-1 (T)	470.00

50	Vidurawa Vol. 26 (Special Issue) (T)	520.00
51	Vidurawa Vol.27 I (E)	1,290.00
52	Vidurawa Vol.27 I (S)	2,565.00
53	Vidurawa Vol.27 I (T)	285.00
54	Vidurawa Vol.27- 2 (E)	1,185.00
55	Vidurawa Vol.27- 2 (S)	1,819.43
56	Vidurawa Vol. 27 (Special Issue) (S)	(85,948.96)
57	Vidurawa Vol. 27 (Special Issue) (T)	(28,420.00)
58	Vidurawa Vol. 28-2 (E)	(108,635.61)
59	Vidurawa Vol. 28-2 (S)	(128,792.75)
60	Vidurawa Vol. 28-1 (S)	(127,248.60)
61	Sale of Zoonotic Diseases in Sri Lanka	(32.48)
		(1,127,145.55)

5.1 National Committee Expenditure

		Rs.
1	National Committee on the MAB Programme	45,378.00
2	National Committee on Sustainable Use of Mineral Resources	17,500.00
3	National Committee on Innovation & Techno-Entrepreneurship	35,500.00
4	National Committee on Robotics, Advanced Design & Manufacturing	12,000.00
5	National Committee on Advance Material	40,000.00
6	National Committee on Electronic & ICT	14,000.00
7	National Committee on ICSU	17,500.00
8	National Committee on International Partnerships	24,993.21
9	National Committee on Basic Sciences	9,000.00
10	National Committee on Ethics & S & T	35,500.00
11	National Committee on Nanotechnology	18,000.00
12	National Committee on Research & Development	18,500.00
13	National Committee on Library & Information Services	11,000.00

14	RGB/GEN	36,677.88
15	National Committee on Science & Technology Mathematics Education	78,058.65
16	National Committee on Social Sciences	105,917.62
17	Fundamental Research Committee	30,000.00
18	National Committee on Agriculture & Food Science Research	28,000.00
19	Research Committee on Water & Energy	3,000.00
20	Research Committee on Environment & Biodiversity	47,000.00
21	National Committee on Ocean & Marine Sciences	29,000.00
22	National Committee on Science Popularization	38,500.00
23	Research Committee on Health Science	35,000.00
24	Editorial Board of JNSF	90,067.07
25	National Committee on Biotechnology	90,000.00
26	National Committee on Engineering & Manufacturing	19,000.00
		929,092.43

5.2 National Science Library & Resource Centre

	Rs.
1 Maintenance & Repairs	10,152.74
2 Periodicals Local & Foreign	636,279.38
3 Paper & Board	7,466.00
4 Consumables	17,564.25
5 Miscellaneous	49,540.42
6 Document delivery services	3,000.00
	724,002.79

5.3 Printing Unit

	Rs.
1 Consumables & Chemicals	348,708.74
2 Paper & Boards	64,710.05
3 Maintenance & Repairs	71,490.20
	484,908.99

- 6 NSF received Rs. 79,521,657/=, Rs. 65,000,000/= and Rs. 65,000,000/= respectively in years 2008, 2009 and 2010 from Ministry of Science & Technology to be transferred to Sri Lanka Institute of Nanotechnology (Pvt.) Limited (SLINTEC). These funds have been transferred to SLINTEC.

NSF received Rs. 92,000,000/= and Rs. 248,000,000/= respectively in year 2008 and year 2009 from Ministry of Science & Technology to be transferred to NANCO. National Science Foundation received Rs. 82,000,000/= in year 2010 from Ministry of Technology and Research to be transferred to NANCO. These funds have been transferred to NANCO.

SLINTEC has been amalgamated with NANCO (Pvt.) Ltd. effective from 31st March 2011. NSF received Rs. 30,000,000/= from Ministry of Technology & Research in year 2011 to be transferred to NANCO (Private) Ltd. These funds have been transferred to NANCO.

7 Employees Benefit

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

8 Retiring Gratuity

Provisions have been made in the accounts in respect of liability for retiring gratuity

	Rs.
Amount paid for the year	1,099,372.50
Provision for the year	2,983,350.00

- 9 The publication stock out on consignment basis is Rs. 79,380/=.

- 10 NSF owns 06 vehicles.

11 Funds Drawn from the Treasury during - 2011

Consolidated Funds	Rs.	110,710,000.00
Recurrent Funds	Rs.	68,951,000.00
Foreign Aid- IDRC	Rs.	4,797,300.00
UNESCO	Rs.	1,401,600.00

Funds drawn from the Treasury from 1968 to 2011

Consolidated funds Rs. 1,066,580,911.45

Foreign Aids Rs. 333,857,064.13

12 Prior period adjustments have been effected as per SLAS 10 (Revised 2005). Following adjustments have been made to the fund accounts.

1 Documentation Unit Capital Fund

Rs.

Balance as at 01.01.2011 4,479,261.10

Less; Prior year Adjustments 1,401.12

4,477,859.98

2 Research Grant Fund

Rs.

Balance as at 01.01.2011 31,509,306.79

Add: Prior year adjustments 7,809,767.23

39,319,074.02

Rs.

3 Man & the Biosphere Fund

Balance as at 01.01.2011 1,837,977.19

Less; Net prior year adjustments 8,000.00

1,829,977.19

4 Miscellaneous Fund

Rs.

Balance as at 01.01.2011 11,243,200.43

Less: Net Prior year Adjustment 920,280.37

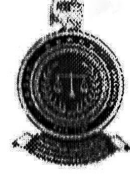
10,322,920.06

5	<u>Scientific Reserve Fund</u>	
	Balance as at 01.01.2011	4,624,384.31
	Add; Net prior year adjustments	-
		4,624,384.31
6	<u>Foreign Aid</u>	Rs.
	Foreign Aid Fund as at 01.01.2011	15,561,559.59
	Less: Net Prior Year Adjustments	6,095,395.49
		9,466,164.10
7	<u>NSF Fund</u>	Rs.
	Balance as at 01.01.2011	(47,779,330.09)
	Add: Net Prior Year Adjustments	27,018,766.26
		(20,760,563.83)

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கணக்காய்வாளர் தலைமை அறிப்பி திணைக்களம்
AUDITOR GENERAL'S DEPARTMENT



මගේ අංකය }
 எனது இல } EL/F/NSF/FA/2011
 My No }

ඔබේ අංකය }
 உமது இல }
 Your No. }

දිනය }
 திகதி } 06 July 2012
 Date }

The Chairperson
 National Science Foundation

Report of the Auditor General on the Financial Statements of the National Science Foundation for the year ended 31 December 2011 in terms of Section 14(2)(c) of the Finance Act, No. 38 of 1971.

The audit of financial statements of the National Science Foundation for the year ended 31 December 2011 comprising the balance sheet as at 31 December 2011 and the income statement, statement of changes in equity and cash flow statement for the year then ended and a summary of significant accounting policies and other explanatory information was carried out under my direction in pursuance of provisions in Article 154(1) of the Constitution of the Democratic Socialist Republic of Sri Lanka read in conjunction with Section 40 of the Science and Technology Development Act, No. 11 of 1994 and Section 13(1) of the Finance Act, No. 38 of 1971. My comments and observations which I consider should be published with the Annual Report of the Foundation in terms of Section 14(2)(c) of the Finance Act appear in this report. A detailed Report in terms of Section 13(7)(a) of the Finance Act was furnished to the Chairperson of the Foundation on 30 April 2012.

1:2 Management's Responsibility for Financial Statements

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

අංක 306/72 පොල්දුව පාර,
 බත්තරමුල්ල, ශ්‍රී ලංකාව

දුරකථන }
 தொலைபேசி } 2887028 - 34
 Telephone }

இல. 306/72, பொல்துவ வீதி,
 பத்தரமுல்லை இலங்கை

ෆැක්ස් අංකය }
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ඉලෙක්ට්‍රොනික් තැපෑල }
 #- மெயில் } oaggov@sltnet.lk
 E-mail. }

1:3 Auditor's Responsibility

My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with Sri Lanka Auditing Standards. Those Standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements.

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

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

1:4 Basis for Qualified Opinion

My opinion is qualified based on the matters described in paragraph 2.2 of this report.

2. Financial statements

2:1 Qualified Opinion

In my opinion, except for the effects of the matters described in paragraph 2:2 of this report, the financial statements give a true and fair view of the financial position of the National Science Foundation as at 31 December 2011 and its financial performance and cash flows for the year then ended in accordance with Sri Lanka Accounting Standards.

2:2 Comments on Financial Statements

2:2:1 Sri Lanka Accounting Standards

According to Sri Lanka Accounting Standard No. 16, provision for gratuity should be made even for officers who had completed service of one year. But that requirement had been ignored in making provision for gratuity in respect of the current year.

2:2:2 Accounting Deficiencies

Action had not been taken for the transfer of a tractor valued at Rs.42,250 made available to the University of Peradeniya in the year 1984 for a Research Project or to eliminate that from the accounts.

2:2:3 Accounts Receivable and Payable

Out of the sum of US\$52,000 received for the Asia Pacific Network, a sum of US\$ 41,562 had been returned and the unsettled sum out of the money received from LOICZ in the year 2005 for the Workshop on South and South Eastern Asian River Basins amounted to Rs.1,501,109.

2:2:4 Lack of Evidence for Audit

The evidence indicated against the following items of account had not been furnished to audit.

Item	Value	Evidence not made available
-----	-----	-----
	Rs.	
Lands	370,000,000	Title Deed to the Land
Fixed Assets (Excluding Buildings)	96,938,423	Schedules showing the value
Stocks	4,096,309	Physical Stock Verification Reports
Creditors	2,832,588	Confirmations of Balance from the Parties concerned.
Investments	112,000,000	Share certificates.

2:2:5 Non-compliance with Laws, Rules, Regulations and Management Decisions

Non-compliance with the following laws, rules, regulations and management decisions were observed.

Reference to Laws, Rules, Regulations	Non-compliance
-----	-----
(a) Employees Provident Fund Act, No. 1 of 1985 and the Employees Trust Fund Act, No. 47 of 1988.	Even though the salary inclusive of the cost of living allowance should be taken into consideration in the computation of the contributions of 91 employees of the Science Foundation to the Employees' Provident Fund and the Employees' Trust Fund, the contributions had been computed only on the basic salary.

- (b) Paragraph 9.10 of the Public Enterprises Circular No. PED/12 of 02 June 2003. Even though the approval of the Secretary to the Treasury should be obtained for the recruitment of employees on contract basis or casual basis, recruitments had been made on the assignment basis without approval over a number of years due to the delay in obtaining the approval.
- (c) Section 3.4 of the Procurement Guidelines of 25 January 2006 and Section 2.14 of the Procurement Manual. Even though quotations should have been called from at least 05 institutions for the supply of security services to the Foundation it had not been so done.
- (d) Financial Regulations 102 and 103. Inquires had not been instituted in terms of the Financial Regulations in connection with the accident to motor vehicle No .253-7182 and the persons responsible for the loss of Rs.80,464 not covered by insurance had not been determined.

3. Financial Review

3:1 Financial Results

According to the financial statements presented, the working of the Foundation for the year ended 31 December 2011 had resulted in a deficit of Rs.4,658,685 as against the surplus of Rs.4,721,202 for the preceding year and as such a decrease of Rs.9,379,887 in the financial results for the year under review was indicated. The main reasons affecting this situation are the increase of personal emoluments by a sum of Rs.5.677 million and other expenditure by a sum of Rs.3.241 million and the decrease of income by a sum of Rs.0.576 million.

3:2 Analytical Financial Review

The difference stages of the financial results according to the financial statements presented as compared with the preceding year are given below.

Item	2011	2010	Percentage of Variance against the preceding year
	Rs.	Rs.	%
Government Grants	68,951,000	60,976,000	13
Other Income	8,231,000	16,782,000	51
Total Recurrent Expenditure excluding Taxes	81,840,530	73,037,239	12
Surplus/ (Deficit) from Operating Activities	(4,658,685)	4,721,203	198

4. Operating Review

4:1 Management Inefficiencies

- (a) Even though the Department of Management Services had approved the cadre on 20 April 2011, forty seven vacancies had not been filled even up to the end of the year under review.
- (b) Even though an applicant had been selected on 26 August 2011 for appointment to the post of Human Resources Development Officer, the appointment had not been made even by 31 May 2012.
- (c) A stock of 25,200 DVDs and VCDs valued at Rs.2,810,000 had been idling in the stores from the year 2008 and a large number out of this stock remained unsold. Certain DVDs and VCDs were not in working order and stocks valued at Rs.1,744,000 had been distributed free in the years 2009 and 2010. Stock not in working order valued at Rs.47,300 remained in the stores by December 2011.

4:2 Idle and Underutilised Assets

- (a) An examination of the Publications Store revealed that publications had been printed without considering the quantities issued. A stock of 7,698 books valued at Rs.3,132,907 remained idle in the stores over a long period.
- (b) Out of the Journals of the National Science Foundation printed in the years 2010 and 2011, only a limited number of copies had been sold or issued free and a quantity exceeding 50 per cent of the quantity printed remained unsold.
- (c) A stock of publications valued at Rs. 68,380 had been sent to shops on the sale or return basis. Even though periods exceeding 09 years had elapsed after the handover of certain books action had not been taken either to obtain money or for the recovery of books.

4:3 Uneconomic Transactions

Recruitment of Consultants

The Science Foundation had procured the services of 03 Specialist Consultants and a sum of Rs.1,201,408 had been spent in that connection in the year under review. The following observations are made in this connection.

- (i) Even though a Consultant had been recruited with effect from 01 August 2006 for the establishment of a Science Centre for the National Science Foundation, the specified activity had not been done even after the elapse of 05 years since the recruitment.
- (ii) A monthly payment of Rs.60,000 had been paid to the Consultant appointed for Accounting and Administrative functions and she had been employed continuously from March 2009 to 31 December 2011. It was observed that the Advance Programmes presented were of identical features while there was no evidence of any consultancy provided for the improvement of the work of the Administration Division and the Accounts Division.

- (iii) The officer who was in charge of the Science Dissemination Division had been appointed as a Consultant of the Science Foundation after her retirement.

4:4 Identified Losses

According to a decision of the Board of Directors taken in the years 2010 and 2011, fifty per cent of the Journals and Magazines in the stores older than 06 months, 100 per cent of those older than 01 year, books valued at Rs.1,301,163 older than 05 years since printing and reached zero value had been written off from the accounts. The write off in the preceding year amounted to Rs.1,306,824.

4:5 Delayed Projects

An agreement had been entered into with the University of Colombo on 15 February 2011 for a sum of Rs.2,999,000 in connection with the computerizing of the activities of the Science Foundation and a sum of Rs.599,800 had been paid. Only 10 per cent of the work had been completed by 31 May 2012.

4:6 Resources of the Foundation Supplied to other Government Institutions

- (a) An officer temporarily attached from the National Youth Corps and an officer released from the Provincial Teachers' Service and temporarily attached, had been released to the Ministry of Technology and Research and sums of Rs.156,501 and Rs.203,971 respectively had been paid as the salaries of those officers.
- (b) Despite the existence of vacancies in the approved cadre, a Typist of the Science Foundation had been released to the Ministry of Technology and Research.

5. Systems and Controls

Special attention is needed in respect of the following areas of systems and controls.

- (a) Research Grants
- (b) Recruitments
- (c) Stocks of Publications

H.A.S. Samaraweera
Auditor General

-/dk.

2. Financial Statements

2.2 Our Observations

2.2.1 **Sri Lanka Accounting Standards**

According to the Gratuity Act of 1983, the employees who have served the organization for five completed years are entitled for payment of gratuity. As such provision for gratuity was made only for the employees who have completed five year of service. From 2012, provision for gratuity will be made according to Sri Lanka Accounting Standard No. 16.

2.2.2 **Accounting Deficiencies**

During the year 2012, the Rs. 42,250/= being the cost of the Hand Tractor will be written off from our Books of Accounts.

2.2.3 **Accounts Receivable & Payable**

This balance of Rs. 1,501,109/= remains from the funds received from LOICZ for the workshop on South & South Eastern Asian River Basins held in 2005. NSF inquired from LOICZ whether this balance should be refunded, but a reply was not received. Action will be taken to remove this Rs. 1,501,109/= from the creditors account in 2012.

2.2.4 **Lack of Evidence for Audit**

Land

Action is being taken to obtain the Title Deed. Director has been requested to sorting out the issue, seeking legal advice where necessary.

Fixed Assets

All assets purchased by the Institution are entered into Fixed Asset registers maintained according to the Kalamazoo System. Every year a schedule is prepared for purchases during the year. At present schedules are being prepared (Division wise) to confirm the accuracy of already prepared schedules, while verifying the physical availability of these assets.

Accordingly the under mentioned schedules have been prepared.

1. Total value of Motor Vehicles – Rs. 12,292,250/=
2. Documentation equipment – Rs. 10,658,500/=

Schedules have prepared for documentation equipment purchased during the years 1997 to 2011.

3. Office equipment - Rs. 23,921,818/=

Schedules have been prepared for office equipment purchased during the years 2007 to 2011.

4. Schedules have been prepared for miscellaneous & accessories items purchased for the value of Rs. 371,931/=
5. Library books Rs. 4,830,670/= - For all library books an acquisition register is maintained in the library.

Accordingly NSF has schedules for the value of Rs. 52,075,175/=. Division wise schedules are being prepared for the balance assets.

Stocks

A physical stock verification had been conducted at the end of the year. The report has been submitted.

Creditors – Rs. 2,832,588/=

These are not normal creditors. Most of these balances represent balances after conducting workshops which funds are received from foreign donors to organize workshops. During 2012 action will be taken to remove these balances from the creditors account.

Investments 112 million.

Of this amount share certificates for Rs. 82 million had been issued on 12th July 2011. This share certificate had been received in September 2011. NANCO has informed that the balance Rs. 30 million had been obtained to make the Nano Science park & it will be shown in their accounts as a long term liability under the name of NSF. Action will be taken during 2012 to obtain instructions from the Ministry of Technology & Research & to act accordingly.

2.2.5 Reference to Laws, Rules, Regulations and Management Decisions.

a) Contributions to Employees Provident Fund & Employees Trust Fund

The Board of Management at its meeting held in 2012 March granted approval to consider the salary inclusive of cost of living allowance when computing EPF & ETF for NSF employees. Accordingly since April 2012 salary inclusive of Cost of Living had been considered, when computing the contributions to the above funds.

b) Recruitment of employees on assignment basis.

Considerable time was taken to grant approval for the new Scheme of Recruitment and Promotions prepared according to DMS Circular No. 30. During this period there were several vacancies as new recruitments were not made. As such with the approval of the Board of Management, 18 employees were recruited to continue the services given to the Scientific Community. All these recruitments were made on temporary & assignment basis. Now action is being taken to recruit employees for the permanent posts. After recruitments are made the services of these temporary staff will be discontinued. After the recruitment of the Scientific Officers action was taken to discontinue the appointments of the Research Assistants recruited for NSF routine work on assignment basis.

(c) **Supply of Security Services**

As the period of the security service agreement of NSF was due to expire on 31.10.2011, quotations were requested on 13-10-2011 according to the circular No. 445 of the Ministry of Finance from Govt. affiliated Rakna Security Lanka Company Ltd. & from L R D C Services (Pvt.) Ltd. to obtain the security services for the following year. Although these letters requesting quotations were delivered by hand replies were not received. There is evidence in our file to show that the letters requesting for the quotations were accepted.

The present Company who is supplying the security services was selected from the quotations called during last year. As this company (Crown Security) agreed to supply their service at the same rates that they have quoted for the previous year, NSF awarded them the security service. Action will be taken to obtain quotations and select a security company prior to the expiry of the period of the present Security Company.

(d) **Vehicle accident re. 253-7182**

Action had been taken as per Financial Regulations 102 & 103 in connection with the accident. An internal inquiry was held to ascertain whether the driver is at fault. This inquiry report will be submitted to the Board of Management and action will be taken according to their decision.

The vehicles of our Institution are insured considering the value given by the Valuation Department. The insurance cover had been granted accordingly.

3. Financial Review

3.1 **Financial Results.**

The 2010 surplus amounting to Rs. 4.172 million had changed into a deficit of Rs. 4.658 million in 2011. The main reason for this is the 2010 over provision adjustment of Rs. 8.682 million. This is an adjustment impartial only for that year. The reason for the deficit of Rs. 4.658 is due to the depreciation charge and the gratuity provision made during the year.

The necessary funds have been received from the government for the increase of staff salaries & for other expenses. As such this is not a reason for the deficit of the financial result at the end of the year.

3.2 Analytical Financial Review

<i>Item</i>	<i>Percentage of variance</i>	<i>against the preceding year.</i>
1. Government Grant Government	13%	As a result of the increase in the Recurrent expenditure the grant was increased.
2. Other Income excess	51%	Provision for doubtful debts & provisions for audit fees had effected the increase of the prior year income.
3. Total Recurrent expenditure excluding taxes.	12%	This is due to the increase in the actual Recurrent expenditure.
4. Surplus/ Deficit from operating in Activities	198%	Due to the over provision adjustment the previous year, operating result shows a surplus.

4. Operating Review.

4.1 Management Inefficiencies

a) Filling of Vacancies

Of these vacancies, post of Director & 8 posts of Scientific Officers have already been filled. For balance 38 vacancies applications have been called and necessary action is being taken for recruitments.

b) Applications were requested for the post of Human Resources Development Officer, & the interviews were held & a suitable applicant was selected & the approval of the Board of Management was obtained. The selection was forwarded to the Ministry on 26/08/2011 for approval. As the Ministry approval was not received applications were called again.

c) The series of Mihimadala Video programme is an important scientific programme which talks about timely topics. These were broadcasted on National Television, Independent television, TNL & Derana television in all three languages. According to the response given by the spectators of these programmes it was decided to copy these into DVD's & VCD's with the intention to popularize science. It was decided to sell only 10% out of this & the balance to be distributed free of charge.

School children from all parts of Sri Lanka participates at the World Science Day School Programme which is organized by the National Science Foundation. It was decided to distribute these DVD's & VCD's in 2009 & 2010 at the World Science Day School Programmes. The balance 72 Nos. DVD's & 768 Nos. VCD's will be distributed in the future.

4.2 Idle & Underutilized Assets

- a) Action has been taken to print the publications considering the quantity which will actually be required.
- b) It was decided to print a lesser amount of journal copies (300 Nos.) of JNSF June, September & December volumes for the year 2012. NSF will distribute the present remaining stock to the Universities & Research Institutions under the Science Popularization Programme. From this the transparency of the JNSF will be increased and it will induce the Scientific community to publish new research articles in the JNSF.
- c) A copy of the consignment note had been forwarded to Bookland, at their request to obtain the refund of Rs. 14,950/=. Action is being taken to recover this money in the near future. Bookland is the only private shop which we have given books. All the other books were given to government Institutions. Action is being taken to obtain all the books given to these institutions.

4.3. Uneconomical Transactions.

Recruitment of Consultants.

- (i) This consultant was appointed on 1st August 2006 as a consultant to the International Liaison Division. In 2009 this consultant was entrusted to establish a Science Centre & all the work related has been completed, but due to lack of a suitable land, it was not possible to continue the work.
- (ii) The consultant who was appointed for Administration & Finance had accomplished her duties according to the prescribed TOR. During her period of service a special task has been allocated every 6 months and a TOR stating the special tasks had been issued.

The discharge of duties entrusted to the consultant assigned with administrative activities has been consistently good, and to the satisfaction of the management, as has been reported to the Board of Management by the Director periodically.

The functions carried out by her included;

Preparation of the Manual of Procedure covering, Finance & Administration Procedures
Preparation of the Project Proposal for funding by the government to provide an integrated computer software system for all activities of NSF, and obtaining approval and coordinating the activities to commission the software programme being developed by the University of Colombo School of Computing.
Drafting the various legal documents including the Research Grants Agreement to be used for the activities for NSF and obtaining required approvals.
Assisted the management in;
Revising Performance Management System
Preparing the Scheme of Recruitment and Promotion
Formulating the Training Policy for NSF
Compiling Standard Operating procedures.
The effort towards improving the efficiency of the staff members attached to administrative function.
Drafting corporate communications in main organizational documentation
Revamping the Annual Reports.

NSF officials headed by the Chairperson presented the above facts with documentary evidence to the Assistant Auditor General Mr. M Munasinghe and a copy of the letter confirming acceptance of the facts presented and that this comment will not be included for the Committee on Public Enterprises, by the Auditor General's Department was received in this office on 04th September 2012.

- (iii). At the time this officer retired from service, she was in charge of the Research Division. A permanent senior officer was not available to undertake & to continue the Divisional work appropriately. As such she was recruited as a consultant to establish the programmes which were started by her.

4.4 **Identified Losses**

The intention of printing scientific books Journals & Periodicals have been to popularize science among people & not to earn a profit. The cost of these books have been included in the accounts as an asset, hence it was written – off from the books according to the accounting procedures. But these books & periodicals will be distributed free of charge to the libraries for the benefit of the school children & to the public at their request. Therefore it should be considered not as a loss for the Institution but as an expense incurred for a definite purpose.

4.5 **Delayed projects**

It was decided to computerize the activities of the National Science Foundation. University of Colombo was selected for this job. Accordingly on 15.02.2011. the relevant contractual agreement was signed & on 30/06/2011 NSF has paid a 20% advance amounting to Rs. 599,800/=. According to the project proposal submitted by the University of Colombo Computing. Institute, work should have been completed by 16/04/2012. But due to practical difficulties that occurred during the process it could not be completed in time. Action is being taken to complete this project as early as possible.

According to the present time schedule the first stage of the project includes four Scientific Divisions & the Finance Division. It is expected to complete the first stage by 05/09/2012 & the second stage in the first quarter of the year 2013.

4.6. **Reasons of the Foundation Supplied to other Government Institutions.**

- a) The officer temporally attached from the National Youth Corps.

As per the letter No. ST/2/1/MS dated 01/02/2011 of Additional Secretary of the Ministry of Technology & Research, the above officer was released to the Ministry of Technology & Research for 6 months by the Secretary of the Ministry of Youth Affairs & Skills Development.

From 01/02/2011 this officer was released to NSF by the Ministry of Technology & Research to fulfill the services of the vacant posts. Later action was taken to get her attached to the Ministry of Technology & Research.

Instructions were given by the Additional Secretary of the Ministry by the letter dated 09/06/2011 for NSF to reimburse the salary of this officer from February to July 2011. Reimbursement was made accordingly to National Youth Corps.

- b) Although there were vacancies in the approved cadre, as per the request made by the Ministry of Technology & Research this typist was released to the Ministry of Technology & Research. On 02/07/2012 this typist was released to NSF.

5. Systems and Controls

- a) Research Grant
 - b) Recruitments
 - c) Stocks of Publications
- } Relevant action is being taken with special attention on these areas.

SUMMARY OF RESEARCH GRANTS SCHEME - 2011

		Agriculture & Food Science	Computer Science & Information	Health Science	Hydrology	Energy	Environmental Sciences	Library & Information Sciences	Natural Resources & Biodiversity	Nanotechnology	Social Sciences	S&T Policy Studies	Science Education	Basic Sciences	Biotechnology	Engineering Sciences & Architecture	Total
01	Total no of ongoing grants as at 31.12.2011	22	01	26	02	01	15	-	08	06	12	02	-	13	30	07	145
02	Grants Awarded	11	01	19	-	-	04	-	08	03	01	02	-	06	11	02	68
03	Grants Completed*	06	-	06	-	01	14	-	-	-	-	-	-	07	02	-	36
04	Grants withdrawn	-	-	-	-	-	-	-	-	-	-	-	-	-	-	01	01
05	Grants terminated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06	RSs appointed/ to be appointed	02 / 06	00 / 01	02 / 08	-	-	00 / 04	-	01 / 04	-	-	00 / 01	-	02 / 01	03 / 07	00 / 02	10 / 34
07	RSs registered for Post graduate degree/ to be registered for post graduate degree	02 / 04	00 / 00	01 / 03	-	-	00 / 04	-	00 / 04	-	-	00 / 01	-	00 / 03	00 / 11	00 / 01	03 / 31
08	TAs appointed // to be appointed	02 / 05	00 / 00	08 / 06	-	-	00 / 00	-	00 / 03	-	00 / 01	-	-	00 / 02	00 / 03	00 / 01	10 / 21
09	Post graduate degrees obtained	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PhD			01			02										03
	MPhil					01	04										05
	MSc						-										-
	MD						-										-
10	No of publications arising from grants (Foreign)	02	-	06	-	-	06	-	-	-	-	-	-	02	-	-	16
11	No of publications arising from grants (Local)	05	-	-	-	-	01	-	-	-	-	-	-	02	-	-	08
12	Communications	11	-	23	-	01	39	-	-	-	-	-	-	25	10	05	114
13	No of Committee Meetings held	04	02	03	-	-	04	02	04	02	02	02	03	04	05	03	40

Grants Completed* – Final report accepted

GRANTS AWARDED DURING – 2011

GRANTS AWARDED DURING – 2011

RESEARCH PANEL ON AGRICULTURE AND FOOD SCIENCE

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2001/AG/01	Prof. JM Udith K Jayasinghe Department of Agribusiness Management Wayamba University	An economic assessment of firms realization on the intended benefits of adoption of food quality metasystems in the agri-food processing sector in Sri Lanka 01 Year	668,800
RG/2011/AG/02	Dr. Jaanaki Gooneratne ITI Bauddhaloka Mawatha	Value addition to fruits and vegetables by clarifying, concentrating, separation of bioactive components using membrane filtration technology and process modeling 03 Years	1,920,000
RG/2011/AG/03	Prof. Nelum Deshappriya Department of Botany University of Kelaniya	Damping off disease of big onions in Sri Lanka and its biological control using <i>Trichoderma</i> sp 03 Years	2,429,571
RG/2011/AG/04	Prof. R.M.C.P. Rajapaksha Department of Soil Science Faculty of Agriculture University of Peradeniya	Isolation and screening of beneficial arbuscular mycorrhize for exotic vegetables grown in the up country of Sri Lanka and production of mass cultures for inoculation 03 Years	1,364,700
RG/2011/AG/05	Dr. K.S. Hemachandra Mr. H.N.P. Wijayagunasekera Dept. of Agri. Biology Faculty of Agriculture Univ. of Peradeniya	Selection and evaluation of potential egg parasitoid species for biocontrol of crucifer feeding caterpillar species 02 Years	1,484,952

RG/2011/AG/06	Dr. C.M. Nanayakkara Dept. of Plant Sciences University of Colombo Dr. H.A. Sumanasena Dr. D.N. Samaraweera Dept. of Export Agriculture	Development of phosphate biofertilizer for some selected export agricultural crops 03 Years	1,914,250
RG/2011/AG/07	Dr. Jaanaki Gooneratne ITI Prof. Jeniffer Perera Dept. of Microbiology Fac. of Medicine Univ. of Colombo	Formulation of therapeutic probiotic foods as an alternative treatment for <i>H.pylori</i> infection 03 Years	1,360,000
RG/2011/AG/08	Dr. S.M.W. Ranwala Dept. of Plant Sciences Dr. S.S.N. Perera Dept. of Mathematics Faculty of Science Univ. of Colombo	Forecasting growth and yield performance of Sri Lankan grown Sesame/Thala (<i>Sesamum indicum</i> L.) and its wild relatives to water deficit conditions: A Mathematical Modelling Approach 02 Years	829,000
RG/2011/AG/09	Dr. Ruvinin Liyanage IFS Dr. Janak K Vidanarachchi Dept. of Mathematics Faculty of Science Dr. Baran Jayawardana Dept. of Food Science Univ. of Peradeniya	Investigating anti-obesity effect of commonly consumed cowpea varieties in Sri Lanka using animal experimental model 01 Year	923,737
RG/2011/AG/10	Dr. V.H.L. Rodrigo Head/Dept. of Biochemistry & Physiology Dr. S.M.M. Iqbal RRI	Addressing the needs of rubber (<i>Hevea brasiliensis</i>) grown in drier regions of Sri Lanka through the assessments on physiological parameters and the quality of raw rubber produced 03 Years	2,893,900
RG/2011/AG/11	Dr. Priyantha Weerasinghe Division of Chemistry HORDI Dr. Sujitha Weerasinghe Agriculture Research Station Dept. of Agriculture	Assessment of potassium availability in Banana growing soils and fitting potassium management to enhance the productivity under annual planting system 2Years 06 Months	1,801,500

RESEARCH PANEL ON COMPUTER SCIENCE & INFORMATION TECHNOLOGY

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2011/CSIT/01	Dr. Srinath Perera Research Scientist Mr. Chanaka Rupasinghe Research Engineer University of Colombo School of Computing	Ninithi Nano Studio modeling and simulation software 01 Year	306,000

RESEARCH PANEL ON HEALTH SCIENCES

Grant No.	Applicants/Institution	Project Title /Duration	Total allocation (Rs.)
RG/2011/HS/01	Dr. Gathsaurie Neelika Malavige Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayawardanapura	Identifying biomarkers for predicting severe disease in dengue infections 02 Years	1,306,000
RG/2011/HS/02	Prof.S.G.Yasawardene Department of Anatomy Faculty of Medical Sciences University of Sri Jayawardanapura Mrs.Mythree Thayabaran Department of Human Biology Faculty of Health-Care Sciences Eastern University of Sri Lanka	Immunohistochemical characterization of neuronal cholinergic system in immune tissues – An animal and postmortem human study 03 Years	885,000
RG/2011/HS/03	Prof. Rohini De A. Seneviratne Dr.H.M.R.C. Sampath Department of Community Medicine Faculty of Medicine University of Colombo	Pre hospital care, functional disability, community reintegration and household cost profile of road traffic injury patients admitted to the National Hospital of Sri Lanka 01 Year	765,630

RG/2011/HS/04	Prof. Rohini De A. Seneviratne Department of Community Medicine Faculty of Medicine University of Colombo Prof. S, Sivayogan Department of Community Medicine Faculty of Medicine, University of Sri Jayawardenapura	Safety performance, correlates and cost of construction injuries of male building-construction trades workers working in Colombo Municipal Council area 01 Year	361,962
RG/2011/HS/08	Prof. V Thevanesam Department of Microbiology Faculty of Medicine University of Peradeniya Dr R T R Chinniah Department of Microbiology Faculty of Medicine University of Colombo	Use of a commercial interferon gamma release enzyme linked immunospot assay in diagnosis of active and latent tuberculosis in a Sri Lankan adult population 02 Years	3,162,103
RG/2011/HS/09	Dr Sharmini Gunawardena Prof. Nadira Karunaweera Department of Parasitology Faculty of Medicine University of Colombo	Screening for Glucose-6- Phosphate Dehydrogenase (G6PD) enzyme deficiency among a selected population within the districts of Kurunegala and Anuradhapura 02 Years	985,700
RG/2011/HS/10	Dr. Pushpa Ranjan Wijesinghe Consultant Epidemiologist 231, Epidemiology Unit Ministry of Health Dr. Aindralal Balasuriya Consultant Community Physician Institution: Medical Faculty, Kothalawala Defence Academy	Adverse events following immunization (AEFI) in infants attending general hospitals in Kaluthara district : Epidemiology and potential spatial accessibility to clinical management services 01 Year	1,000,000
RG/2011/HS/11	Dr Sulochana Wijetunga Department of Pathology Dr K B Galketiya Department of Surgery Faculty of Medicine University of Peradeniya Peradeniya	Helicobacter pylori detection by histology in endoscopic biopsy specimens: assessment of the detection rate and an analysis of associated problems 02 Years	615,800

RG/2011/HS/12	Prof. R P V J Rajapakse Dr Susiji Wickramasinghe Division of Parasitology Department of Pathobiology Faculty of Veterinary Medicine and Animal Sciences University of Peradeniya	Use of irradiated larval vaccine to control Hamemonchosis in goats in Sri Lanka 03 Years	2,075,314
RG/2011/HS/13	Dr Yamuna Siriwardana Prof. Nadira Karunaweera Department of Parasitology Faculty of Medicine University of Colombo	Development of a serological assay for the diagnosis of leishmaniasis in Sri Lanka 02 Years	990,000
RG/2011/HS/14	Dr V Pujitha Wickramasinghe Department of Paediatrics Dr Tharanga Thoradeniya Department of Molecular Biology Dr Carukshi Arambepola Department of Community Medicine Faculty of Medicine University of Colombo	Effects of vitamin A and iron supplementation during first 24 months of life in an urban area of Sri Lanka 2 Years 6 Months	3,300,313
RG/2011/HS/15	Dr N K Carukshi K Arambepola Dr P B V R Kumari Department of Community Medicine Faculty of Medicine University of Colombo	Risk factors and risk assessment of breast cancer among women in the district of Colombo 01 Year	993,780
RG/2011/HS/16	Dr N S Gunawardena Department of Comm Med Faculty of Medicine University of Colombo	Nutrition literacy, its correlates and effectiveness of a skill development intervention to improve nutrition literacy among females aged 25-45 years in Colombo District 1 Years 6 Months	453,890
RG/2011/HS/17	Dr D W N Dissanayake Dr P M Atapattu Department of Physiology Faculty of Medicine University of Colombo Colombo 08	The effects of vitamin B ₁₂ deficiency on the central and peripheral neurophysiological parameters in patients on long term metformin treatment 02 Years	883,800

RG/2011/HS/18	<p>Prof. Sagarika Ekanayake Department of Biochemistry Faculty of Medical Sciences University of Sri Jayawardenepura</p> <p>Dr Aruna Kapuruge Cardio-thoracic Unit Sri Jayawardenepura General Hospital</p> <p>Dr C S Wanigatunge Department of Pharmacology Faculty of Medical Sciences University of Sri Jayawardenepura</p>	<p>Determination of association of risk factors for development of coronary artery disease and nutritional status & immune status on the recovery followings coronary artery bypass surgery (CABG)</p> <p>2 Years 6 Months</p>	2,589,500
RG/2011/HS/19	<p>Dr Shiroma Hadunnetti IBMBB University of Colombo</p> <p>Prof. Senaka Rajapakse Department of Clinical Medicine Faculty of Medicine University of Colombo</p> <p>Prof. Sunil Premawansa Department of Zoology Faculty of Science University of Colombo</p> <p>Prof. Janaka De Silva Faculty of Medicine University of Kelaniya</p>	<p>Studies on comparing immunodiagnostic methods and immune status of leptospirosis patients in Colombo and Gampaha Districts</p> <p>03 Years</p>	2,997,625
RG/2011/HS/20	<p>Prof. P Hettiarachchi Department of Physiology Faculty of Medical Sciences University of Sri Jayawardenepura</p> <p>Dr S Wasalathanthri Department of Physiology Faculty of Medicine University of Colombo</p>	<p>Assessment of taste sensitivity for sucrose in pre-diabetics and in patients with diabetes mellitus</p> <p>01 Year</p>	405,300
RG/2011/HS/21	<p>Dr P R P Perera Department of Biochemistry Faculty of Medical Sciences University of Sri Jayawardenepura</p>	<p>Establishment of serums Cystatin C reference range for healthy adults - a preliminary study</p> <p>01 Year</p>	597,500

RG/2011/HS/22	Dr Neelika Malavige Department of Microbiology Faculty of Medical Sciences Dr Vathsala Jayasuriya Department of Community Medicine Faculty of Medical Sciences Prof. Krishan Deharagoda Department of Geography Faculty of Humanities & Social Sciences University of Sri Jayawardenepura	Defining protective immune responses to the dengue virus 03 Years	5,277,598
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RESEARCH PANEL ON ENVIRONMENTAL SCIENCES

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2011/ES/01	Dr H M S P Madawala Dr. Thilanka Gunarathne Prof. IAUN Gunatilleke Department of Botany Faculty of Science University of Peradeniya	Impacts of forest edge characteristics on regeneration and plant invasion in an isolated lowland rainforest remnant in the Knuckles range, Sri Lanka 03 Years	1,772,050
RG/2011/ES/02	Prof. M M Pathmalal Department of Zoology University of Sri Jayawardenepura	Effect of catchment's characteristics, anthropogenic activities and industrial discharges on ground water quality in Kelani river basin 03 Years	3,686,880
RG/2011/ES/03	Prof. D M H Ranasinghe Prof. Hiran Amarasekera Department of Forestry and Environmental Science University of Sri Jayawardenepura Prof. Ajith De Alwis Department of Chemical and Process Engineering University of Moratuwa	An assessment of Green House Gas mitigation options through Life Cycle Analysis (LCA) approach for forestry sector in Sri Lanka 03 Years	1,433,600

RG/2011/ES/04	Dr. P. Vinobaba Mrs. Sangeetha Ashan Department Zoology Eastern University	Check list preparation of finfish, shellfish and plankton population of the Batticaloa lagoon along with study on water quality parameters 2 Years 6 Months	999,700
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RESEARCH PANEL ON NATURAL RESOURCES & BIODIVERSITY

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2011/NRB/01	Dr(Mrs) W.A. Inoka P. Karunaratne Dr. (Mrs) A. M. Thilanka A. Gunaratne Dept. of Zoology , Faculty of Science, Univ. of Peradeniya	Impact of tropical forest fragmentation of figs and their wasp-pollinator interaction 2 Years 6 Months	763,800
RG/2011/NRB/02	Dr(Mrs) R. Gnaneswaran Dr. (Mrs) N. A. J. P. Karunaratne Department of Zoology, University of Jaffna,	The role of mangrove ecosystem in connecting other ecosystems by maintaining above ground invertebrate biodiversity 02 Years	771,840
RG/2011/NRB/03	Prof. Deepthi Yakandawala Dr. Kapila Yakandawala Department of Botany, University of Peradeniya,	Development of monographs on widely used endemic medicinal plants in Sri Lanka 03 Years	2,407,322
RG/2011/NRB/04	Dr. T.D.C.M.K. Wijayasiriwardena Dr. G. A. S. Premakumara Industrial Technology Institute,	Pharmacognostic studies on 10 endemic medical plants inducing genetic bar-coding 03 Years	718,000
RG/2011/NRB/05	Dr. T.N. Kasun De Zoysa Dr. H. B. S. Ariyaratne Univ. of Colombo School of Computing	Investigation and analysis of infrasonic sounds of Sri Lankan elephants in relation with their health and physiological status 02 Years	970,000

RG/2011/NRB/06	Ms. S.P. Senanayake Dr. M. Jayatilleke Dr. R.G.S.C. Rajapakse Department of Molecular Biology University of Peradeniya	Exploring biological and chemical diversity of genera Flueggea and Tephrosia (vern:Pila) and to develop effective propagation system 03 Years	1,277,329
RG/2011/NRB/07	Dr. Sevvandi Jayakody Ms. R.M.G.N. Thilakaratne Dr. R.G.S.C. Rajapakse Wayamba University	Preparation of a national collection and evaluation of the current distribution and species diversity of regular and irregular chinoids (Class: Echinoidea Phylum: Echinodermata) 03 Years	2,255,740
RG/2011/NRB/08	Dr. K.M.G.G. Jayasuriya Prof. C.V.S. Gunatilleke Prof. I.A.U.N. Gunatilleke Department of Botany University of Peradeniya	Seed Biology of twenty five selected tropical true mangrove or mangrove associate species of Sri Lanka, towards restoration of Degraded mangrove systems 03 Years	1,905,310

RESEARCH PANEL ON NANOTECHNOLOGY

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2011/NANO/01	Dr. L. Karunanayake Sri Lanka Institute of Nanotechnology (Pvt.) Ltd.,	Water based UV – curable polyurethane latex coatings with nano – particles to impart special properties 03 Years	1,908,500
RG/2011/NANO/02	Dr. Masilamani Koneswaran Sri Lanka Institute of Nanotechnology (Pvt.) Ltd.,	Synthesis and evaluation of functionalized nano particles as optical sensors” 03 Years	980,133

RG/2011/NANO/02	Dr. Shehan de Silva	Near atmospheric plasma enhanced chemical vapor deposition for surface medication and thin film deposition 02 Years	1,000,000
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RESEARCH PANEL ON SOCIAL SCIENCES

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2011/SS/01	Dr. Jagath Edirisinghe Dept. of Agribusiness Management Faculty of Agriculture & Plantation Management Wayamba University Mr. Keminda Herath Biometrician Rubber Research Institute Prof. J.M.U.K. Jayasinghe Dept. of Agribusiness Management Faculty of Agriculture & Plantation Management Wayamba University	Policy options to enhance production of number one rubber grades by smallholder rubber farmers 01 Year	843,188

RESEARCH PANEL ON S&T POLICY STUDIES

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2011/STP/01	Dr. Parakrama Samaratunge Institute of Policy Studies	Intellectual Property rights in protecting plant varieties and farmers traditional knowledge-the case study of rice in Sri Lanka 1 Year 6 Months	702,400
RG/2011/STP/02	Prof. Ajith de Alwis , University of Moratuwa	An extended analysis of Biofuel for Sri Lanka transportation sector: Techno-economic and National opportunity for carbon trading 03 Years	2,967,000

RESEARCH PANEL ON BASIC SCIENCES

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2011/BS/01	Dr. K.G. Nadeeshani Nanayakkara IFS	Development of an electrochemical technology to remove nitrate from contaminated groundwater 03 Years	981,020
RG/2011/BS/03	Dr. Varuni A. Seneviratne Dept. of Physics Univ. of Peradeniya	Synthesis and characterization of novel polymer electrolytes with possible applications in electrochemical devices such as rechargeable batteries, super capacitors and solar cells 02 Years	1,940,000
RG/2011/BS/04	Dr. Nilmini Jayasena Dept. of Basic Veterinary Sciences Faculty of Veterinary Medicine & Animal Science University of Peradeniya	Who listens to whom? Interspecific communication between common palm squirrels and yellow-billed babblers for predator awareness 1 Year & 6 Months	556,124
RG/2011/BS/05	Prof. K M S Wimalsiri Department of Food Science & Technology Faculty of Agriculture University of Peradeniya Prof. H.M.Namal Priyantha Dept. of Chemistry Faculty of Science University of Peradeniya	Assessment of occurrence and risks associated with Potentially Toxic Elements (PTEs) in aquaculture systems in Sri Lanka. 03 Years	230095

RG/2011/BS/06	Dr (Mrs) Pradeepika S Saputhanthri Department of Plant Sciences Faculty of Science University of Colombo Colombo 03 Dr.G.A.S.Premakumara ITI, Colombo 07 Dr.H.S. Kathriarachchi University of Colombo	Bioassay guided fractionation and isolation of bioactive natural compounds from bryophytes 03 Years	1915000
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RESEARCH PANEL ON BIOTECHNOLOGY

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2011/BT/01	Dr Devika M. De Costa Dept. of Agricultural Biology Fac. of Agriculture Univ. of Peradeniya	Development of a molecular detection system of causal agents for controlling virus and virus-like diseases of chilli (<i>Capsicum annum</i> L.) in Sri Lanka 03 Years	3,581,997
RG/2011/BT/02	Dr. N.S. Kottearachchi Dept. of Biotechnology Fac. of Agriculture and Plantation Management Wayamba University Dr. Gamini Samarasinghe Biotechnology Unit RRDI	Molecular mapping for improved salinity tolerance in rice 03 Years	1,519,000
RG/2011/BT/03	Prof. Kamani Tennekoon Inst. of Biochemistry Molecular Biology and Biotechnology (IBMBB) Dr. Shamy de Silva Dept. of Paediatrics Dr. Faiz Marikar IBMBB Univ. of Colombo	Characterization of mutations and sequence variants of Growth Hormone (GH) and Growth Hormone Releasing Hormone Receptor (GHRH-R) in a cohort of Sri Lankan children with GH deficiency 03 Years	2,997,926

RG/2011/BT/04	Dr. S.N. Surendran Dept. of Zoology Univ. of Jaffna	Development of DNA based techniques to differentiate <i>Anopheles culicifacies</i> species B from species E, and <i>An. subpictus</i> from <i>An. Sundaicus</i> 03 Years	3,780,020
RG/2011/BT/05	Dr. (Mrs) Radhika Samarasekera Industrial Technology Institute Dr. O. V. D. S. Jagath Weerasena IBMBB University of Colombo	Development of <i>Bacillus thuringiensis</i> (Bt) microbial pesticide with enhanced and broad spectrum activity to control rice and vegetable pests 03 Years	4008000
RG/2011/BT/06	Dr. Shyama R. Weerakoon Dept. of Botany The Open University of Sri Lanka Anuruddhika S. K. Abeysekera Rice Research Development Institute	Assessment of Genetic diversity and tracing the origin of weedy rice population found in rice fields in Sri Lanka 03 Years	2289852
RG/2011/BT/07	Dr. Ruwan J. Illeperuma Genetech Research Institute Dr. Neil D. Fernandopulle Genetech Research Institute	Development of a cost effective analysis method for degraded forensic DNA evidence of Sri Lanka 02 Years	976,500
RG/2011/BT/08	Dr. C. D. Wijayarathna Dr. N. V. Chandrasekharan Dept. of Chemistry Faculty of Science University of Colombo	Molecular characterization of bacteria involved in bioremediation of heavy metals and elucidation of possible bioremediation mechanism 03 Years	1899500

RG/2011/BT/09	Dr. P. N. Dassanayaka Dept. of Botany University of Sri Jayewardenepura S. A. C. N. Perera Coconut Research Institute	Assessment of the genetic diversity among finger millet (<i>Eleusine coracana</i> (L.) Gaertn.) accessions of Sri Lanka using morphological and molecular markers 2 Years 6 Months	2001500
RG/2011/BT/10	Dr. T. D. Silva Dept. of Plant Sciences Faculty of Sciences University of Colombo N. P. S. de Silva Regional Rice Research and Development Center	Anther culture with local <i>Oryza sativa</i> subsp. <i>Indica</i> (rice) germplasm for doubled haploid production 03 Years	3,000,000
RG/2011/BT/11	Prof. H. B. S. Ariyaratne Dr. D. M. S. Munasinghe Dr. L. G. Sampath Lokugalappatti Dr. Anura P. Jayasooriya Dept. of Basic veterinary Sciences Faculty of Veterinary Medicine and Animal Sciences University of Peradeniya	Genetic characterization of Sri Lankan indigenous goats (<i>Capra hircus</i>) using DNA based technologies 02 Years	2,190,000

RESEARCH PANEL ON ENGINEERING SCIENCES & ARCHITECTURE

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2011/ESA/01	Dr. J. J. Wijetunga Dept. Of Civil Engineering University of Peradeniya	Disaster risk assessment and mitigation strategy for tropical cyclone induced storm surge hazard in Sri Lana 02 Years	1,554,800
RG/2011/ESA/02	Dr. K. T. M. U. Hemapala Dept. of Electrical Engineering Faculty of Engineering University of Moratuwa Dr. R. A. R. C. Gopura Dept. of Mechanical Engineering University of Moratuwa	Agent based control and protection for smart grids 01 Year	311,000

DETAILS OF POSTGRADUATE DEGREES OBTAINED DURING 2011

RESEARCH PANEL ON HEALTH SCIENCES

Grant No.	Grantee/s	Project Title	Degree	Institution/s
RG/2005/HS/06	Prof. Preethi Randeniya Dept. of Zoology Univ. of Colombo Dr. Anusha Munasinghe-Gunasekera Harvard University, USA Dr. Shiroma Handunnetti Institute of Biochemistry, Molecular Biology & Biotechnology	Strain – specific immunity to <i>Plasmodium vivax</i> asexual erythrocytic stage antigens in Sri Lanka	PhD	University of Colombo

RESEARCH PANEL ON ENERGY

Grant No.	Grantee/s	Project Title	Degree	Institution/s
RG/2007/W&E/03	Dr. V P S Perera Dept of Physics OUSL	Intensive study to make dye-sensitized solar cells practically viable devices.	M.Phil	Open University of Sri Lanka

RESEARCH PANEL ON ENVIRONMENTAL SCIENCES

Grant No.	Grantee/s & (Research Student)	Project Title	Degree	Institution/s
RG/2003/BM/01	Prof. I.A.U.N. Gunatilleke Dept. of Botany, UOP Mr. K.B. Ranawana Dept. of Zoology, UOP Dr C. Bambaradeniya IUCN	A comparative study of the biodiversity of selected isolated hills in the lowland Penneplain of Sri Lanka	PhD	University of Peradeniya
RG/2003/ZOO/07	Prof. Charles Santiapillai, UoP	Status and Taxonomy of Herpeto fauna and their conservation in Jaffna Peninsula, Sri Lanka	PhD	University of Peradeniya
RG/2004/TM/04	Prof. (Mrs.) K. Hirimburegama University of Colombo Dr. M.C.N. Jayasuriya Dr. R.O.B. Wijesekera Link Natural Products Pvt. Ltd.	Determinants of a National Strategy for Sri Lanka for Systematic Cultivation of medicinal and Aromatic Plants	MPhil	University of Colombo
RG/2005/EB/01	Dr. Rohan Fernando Dr. H.M.T. Pitawala UOP	Study of mineralization in and around Matale district aiming at discovery of new occurrences and value addition possibilities	MPhil	University of Peradeniya
RG/2005/EB/02	Dr. Rupika S. Rajakaruna Dept. of Zoology, UOP Dr. Ayanthi N. Nawaratne Dept. of Chemistry UOP	Effect of pesticide exposure and trematode infection on the development of limb deformities in frogs	MPhil	University of Peradeniya
RG/2006/EB/07	Prof. Asoka Pathiratne Dept. of Zoology Fac. of Science, Univ. of Kelaniya	Application of biomarkers in feral fish to assess seasonal trends and spatial variations in water pollution in two selected water bodies in Sri Lanka	MPhil	University of Kelaniya

GRANTS COMPLETED DURING – 2011

RESEARCH PANEL ON AGRICULTURE & FOOD SCIENCE

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2005/AG/08	Dr RS Dharmakeerthi, RRISL	Simple protocol for fertilizer recommendation to immature rubber with a simulation model based on ecophysiological parameters 03 Years	2,981,760
RG/2005/AG/14	Dr SMM Iqbal, RRISL	Expansion of rubber cultivation in the Eastern Province of Sri Lanka 03 Years	1,101,080
RG/2006/AG/05	Dr SMCPU Subasinghe, Dept. of Forestry and Environmental Sciences USJP	Site classification and construction of a yield table for <i>Alstonia macrophylla</i> wall. (Hawarinuga) in Sri Lanka 02 Years	679,413
RG/2006/AG/07	Dr VHL Rodrigo, RRISL	Development of efficient low frequency tapping systems to address the tapper shortage and to reduce the cost of production in the rubber industry in Sri Lanka 03 Years	2,140,069
RG/2007/AG/01	Dr HA Sumanasena, Dept. of Export Agriculture.	Development of an integrated nutrient management system for export agriculture crops by increase in the nutrient uptake efficiency of plant roots using mycorrhizae 03 Years	2,947,500

RG/2008/AG/05	Prof. Udith K. Jayasinghe Dept of Agri Business Management, Wayamba Univ. of SL.	Economic incentives for firms to adopt an enhanced food safety & quality metasystem : The case of adoption of HACCP in Agri-food processing sectors in Sri Lanka 02 Years	669,575
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RESEARCH PANEL ON HEALTH SCIENCES

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2005/HS/06	Dr. Preethi Randeniya Dept. of Zoology Univ. of Colombo Dr. Anusha Munasinghe- Gunasekera Harvard University, USA Dr. Shiroma Handunnetti Institute of Biochemistry, Molecular Biology & Biotechnology	Strain – specific immunity to <i>Plasmodium vivax</i> asexual erythrocytic stage antigens in Sri Lanka 03 Years	2,116,500
RG/2005/HS/10	Dr(Mrs) M.I.P. Jayawardena Dept. of Biochemistry Fac. of Medical Sc., USJP Dr. N.K.V.M. Ruvin Kumara Dept. of Biochemistry Univ. of Ruhuna	Investigation of antioxidant activity of some medicinal plants used in traditional medicine for the treatment of cardiovascular diseases in Sri Lanka 02 Years	447,000
RG/2005/HS/12	Dr. S.R.U. Wimalaratne Deputy Director Dr. U.S. Usgodaarachchi Dental Institute, Colombo 07, Mr. J.P. Padmasiri Community Water & Environmental Forum	Effects of excessive intake of fluorides in people living in endemic areas in Sri Lanka 01 Year	902,382

RG/2006/HS/02	Prof. S.H.P. Parakrama Karunaratne Dept. of Zoology Univ. of Peradeniya	Effective control of dengue fever vectors in Sri Lanka 03 Years	1,289,925
RG/2007/HS/04	Prof. V. Thevanesam Dept. of Microbiology Fac. of Medicine Univ. of Peradeniya Dr. G. Gunawardene VRI	Validation of PCR method for diagnosis of Rickettsial disease and its application to map the disease in Sri Lanka 03 Years	1,637,700
RG/2007/HS/10	Dr. K.A.P.W. Jayatilaka Dept. of Biochemistry Fac. of Medicine Univ. of Ruhuna	Screening of twenty-five medicinal plant extracts for their total polyphenol content and <i>in vitro</i> antioxidant activity 01 Year	117,640

RESEARCH PANEL ON ENERGY

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2007/W&E/03	Dr. V P S Perera Dept of Physics OUSL	Intensive study to make dye-sensitized solar cells practically viable devices.	

RESEARCH PANEL ON ENVIRONMENTAL SCIENCES

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2001/C/05	Dr. K.A.S.Pathiratne Dept. of Chemistry UoK	Studies on polycyclic aromatic hydrocarbon pollution in Bolgoda Lake 03 Years	1,000,000

RG/2003/BM/01	Prof. I.A.U.N. Gunatilleke Dept. of Botany, UOP Mr. K.B. Ranawana Dept. of Zoology, UOP Dr C. Bambaradeniya IUCN	A comparative study of the biodiversity of selected isolated hills in the lowland Penneplain of Sri Lanka 03 Years	1,405,760
RG/2003/FR/02	Dr. (Ms.) G. A. D. Perera Dept. of Botany, University of Peradeniya	Structure and diversity of Montane rain forest communities at the Knuckles mountain range, Sri Lanka 03 Years	444,594
RG/2003/ZOO/07	Prof. Charles Santiapillai, UoP	Status and Taxonomy of Herpeto fauna and their conservation in Jaffna Peninsula, Sri Lanka 03 Years	437,540
RG/2004/TM/04	Prof. (Mrs.) K. Hirimburegama University of Colombo Dr. M.C.N. Jayasuriya Dr. R.O.B. Wijsekera Link Natural Products Pvt. Ltd.	Determinants of a National Strategy for Sri Lankan for Systematic Cultivation of medicinal and Aromatic Plants 03 Years	900,500
RG/2004/V/06	Dr. A.J. Rajaratne Fac. of Medicine, UOP Dr. Ashoka Dangolla Faculty of Veterinary Medicine & Animal Science, UOP	Study on the mechanisms of thermoregulation in domestic Asian elephants 02 Years	473,044
RG/2004/Zoo/03	Dr. Deepthi Wickramasinghe Dept. of Zoology, UOC	A study of some ecological aspects of endemic and threatened frogs, <i>Lankanectes corrugate</i> and <i>Fejvarya kirtisinghei</i> with special reference to their tadpoles 02 Years	364,203

RG/2005/EB/01	Dr. Rohan Fernando Dr. H.M.T. Pitawala UOP	Study of mineralization in and around Matale district aiming at discovery of new occurrences and value addition possibilities 02 Years	658,850
RG/2005/EB/02	Dr. Rupika S. Rajakaruna Dept. of Zoology, UOP Dr. Ayanthi N. Nawaratne Dept. of Chemistry UOP	Effect of pesticide exposure and trematode infection on the development of limb deformities in frogs 03 Years	636,000
RG/2005/EB/04	Dr Jayantha Wattavidanage OUSL Mr. A.B. Kotalawala Univ. of Sri Jayawardenepura	Distribution, man-made threats and reproductive biology of theraphosid spiders in forest covers of Moneragala district 01 Year	470,908
RG/2006/EB/02	Dr (Ms.) G. A. D. Perera Dept. of Botany, University of Peradeniya	Some factors affecting the plant diversity of dry forests in Sri Lanka 02 Years	791,000
RG/2006/EB/07	Prof. Asoka Pathiratne Dept. of Zoology Fac. of Science, Univ. of Kelaniya	Application of biomarkers in feral fish to assess seasonal trends and spatial variations in water pollution in two selected water bodies in Sri Lanka 2 Years 6 Months	1,216,440
RG/2007/EB/03	Dr. R.K. Sriyani Dias Dept. of Zoology, Univ. of Kelaniya	The diversity and community composition of worker ants collected from selected habitats in four districts in the Dry zone and Intermediate zone and implementation of a database on ants of Sri Lanka 03 Years	1,216,880

RG/2007/EB/05	Prof. Gamini Seneviratne IFS	Soil carbon sequestration and green house gas emissions from paddy and forest ecosystems in Sri Lanka. 03 Years	1,112,005
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RESEARCH PANEL ON BASIC SCIENCES

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2005/FR/06	Prof. B.M. Ratnayake Bandara Prof. Savitri Kumar Dept. of Chemistry Prof. Vasanthi Thevanesam Dept. of Microbiology Univ. of Peradeniya	Tea Polyphenols for clinical applications : Activity against antibiotic-resistant bacteria and human fungal pathogens 03 Years	1,246,100
RG/2006/FR/01	Prof. Jayantha Welihinda Dept. of Biochemistry Faculty of Medicine Univ. of Colombo	Isolation and identification of the diuretic principle of an Ayurveda drug and elucidation of its mode of action 02 Years	1,938,735
RG/2006/FR/02	Dr (Mrs) Manawadevi Y. Udugal- Ganehenege Dept. of Chemistry Univ. of Ruhuna	Synthesis of covalently linked transition metal macrocyclic and polypyridyl complexes suitable for the reduction of water and small hazardous molecules like CO ₂ . 03 Years	2,539,354
RG/2007/FR/03	Dr M.K. Jayananda Dr D.U. Sonnadara Dept. of Physics Univ. of Colombo	Development of field programmable gate array (FPGA) based systems for computational physics applications 02 Years	260,000

RG/2007/FR/05	Dr A. D. L. Chandani Perera Dr D.N. Karunaratne Dept.of Chemistry Univ.of Peradeniya	Synthesis of glycolipids for use as liquid crystals and surfactants. 03 Years	1,484,750
RG/2007/FR/06	Prof. Namal Priyantha Dept. of Chemistry Univ. of Peradeniya Peradeniya	Mechanistic investigation of interaction of chromium species and thermally heated brick clay 03 Years	785,205
RG/2008/BS/03	Dr. Jinasena W. Hewage Dept. of Chemistry University of Ruhuna	Determination of structure, dynamics and energetic of mixed transition metal clusters 01 Year	540,000

RESEARCH PANEL ON BIOTECHNOLOGY

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
SIDA/2005/BT/05	Dr DMD Yakandawala Dept. of Botany Dr. P. Samarajeewa Dept. of Molecular Biology & Biotechnology Univ. of Peradeniya Mr. K. G. G. Wijesinghe Dept. of Export Agriculture	Phylogenetic relationships of the genus Cinnamomum and the characterization of different Cinnamon accessions in cultivation 03 years	698,200
SIDA/2006/BT/02	Dr. W Abeywickreme Dept. of Parasitology Prof. H.J. de Silva Dr. Aresha Manamperi Molecular Medicine Unit Univ. of Kelaniya	Investigation of dengue virus serotype and genetic variability in relation to disease severity and transmission 03 years	1,340,864

1). INFORMATION ON GRANTS

A) Technology Grants

Grant Schemes	No. of applications processed	No .of new grants awarded	No. of on going grants	No. grants completed	Details of grants with significant output (attach details with photographs if any)
Support for Technology Development	19	05	02	-	-
Support for Innovation	-	-	01	02	Grant RG/2008/SL/01 (Pg 38)
Support for start up businesses based on novel technologies	09	01	-	-	-

B) Research Grants

Committee	No. of application s/ received*	No. of grants <u>pending approval</u> approved for funding	No. of new grants awarded	No. of on going grants	No. grants completed	Details of grants with significant output (attach details with photographs if any)
National Committee on Energy	-	-	-	-	01	
National Nanotechnology Committee	13	01(grant being evaluated)	03	02	-	-
Thematic Committee on Bio fuel	-	-	-	02	-	-
Thematic Committee on Technologies for rural sector development	-	-	-	-	02	Grant RG/2006/TFRD/01 (Pg 35) Grant/RG/2006/TFRD/04 (Pg 36)

* No grants were terminated under both schemes in the year 2011

Technology Grants Awarded 2011

Grant No	Grantee	Project Title/ Duration	NSF Allocation
TG/2011/Tech-D/01 Individual	Sarath Uyanhewa 3, New Hospital Road Pamunuwa Maharagama.	Quality improvement of a prototype diesel fuel pump test bench 06 months	Rs.402,640.00
TG/2011/Tech-D/02 State Sector	Dr.K.S.P. Amaratunga, University of Peradeniya	Improvement and field testing of a solar powered, lift and carry type milking machine 2 Years	Rs.1,545,500.00
TG/2011/Tech-D/03 State Sector	Prof. N D Kodikara, UCSC	Cop-Sayura: The three dimensional coastal surveillance system for SLN high command 2 years	Rs.2,078,000.00
TG/2011/Tech-D/04 Individual	Nissanka Rajapaksa 155/7, Eksath Mawatha Mahara Kadawata	Develop an economical and reliable Ammonia-Water Diffusion Absorption Refrigeration System (DARS) driven by waste heat for food transportation applications in Sri Lanka 2 1/2 years	Rs. 809,000.00
TG/2011/Tech-D/05 Individual	Dileepa Jayathilake 22/4 1/1, Neelammahara Road Godigamuwa Maharagama.	Development of a generic mind map based software log file analyzer 06 months	Rs.315,234.50
TG/2011/Start- Ups/01 Individual	Riyad Ismail 503/5, Halbarawa Gardens Thalahena Malabe.	Manufacture and marketing of cost effective, environmentally friendly cooking stoves for domestic and commercial cooking purposes 2 years	Rs.1,350,000.00

**Science Day 2012-Schools Programme
award winners-24-01-2012-BMICH**

Prof. M.T.M. Jiffry Memorial Award for Popularization of Science

Place	Name of Winner
Award	Dr Thilak Thusitha Ranasinghe
Commendation	Mr Segarajasingam Roopasingam
Commendation	Mr Ashvin Kamal Wickramasooriya
Commendation	Dr S. Surendrarajith

Teacher's Award for Promoting Science

Place	Name of Teacher	Name of School
Award	Ms K.D. Achala Kaluarachchi	Swarna Jayanthi Maha Vidyalaya, Kegalle
Commendation	Ms D.D. Premakanthi	Dudley Senanayaka College, Colombo 05
Commendation	Mr H.H. Thilakarathna	Wickramabahu Central College, Gampola
Commendation	Ms B.L. Chandrika Lalani	Harischandra College, Negombo
Commendation	Mr P.J.L.G. Nonis	De Mazenod College, Kandana
Commendation	Ms H.M.C. Bandumathi Menike	Maliyadeva Vidyalaya, Kurunegala
Appreciation	Ms D.A. Lalitha De Silva	Siridhamma College, Labuduwa, Galle
Appreciation	Ms L.A.A. Pushpakanthi	Sri Nishshanka Madya Maha Vidyalaya, Indulgodakanda

COMPETITION: Poster

Place	Name of Student	Name of School
1 st Place	Hiruna Himantha Pallage	Sri Sumangala Vidyalaya, Panadura
2 nd Place	Kavindu Neeran Vidanapathirana	Harishchandra National College, Negombo
3 rd Place	W. Piyumi Madhushika Fernando	Holy Cross College, Gampaha

COMPETITION: Digital Story Telling

Place	Name of Student	Name of School
1 st Place	M.S.P.M. Bandara	Swarna Jayanthi M.V., Kegalle
2 nd Place	R.P.S. Vimala Bandara	Swarna Jayanthi M.V., Kegalle
3 rd Place	Achini Nawarathna	Sri Sangamitta Balika N.S., Matale

COMPETITION: Role Play of a Scientist

Place	Name of Scientist	Name of Student	Name of School
1 st Place	Sir Galileo Galilee	M.D. Sumudu Roshini (English)	Ratnavali Balika Maha Vidyalaya, Gampaha
2 nd Place	Sir Isaac Newton	Pasan Malinda Wijewardena (English)	Maliyadeva College, Kurunegala
3 rd Place	Antoine Lavoisier	Pavithra Meenadchisundaram (Tamil)	Sri Shanmuga Hindu Ladies College, Trincomalee
3 rd Place	Archimedes	K.B. Kalpa Udayanga (Sinhala)	Gnanodaya Maha Vidyalaya, Kalutara
3 rd Place	Charles Darwin	Abilashi Ragumohan (Sinhala)	Sri Shanmuga Hindu Ladies College, Trincomalee

COMPETITION: Science Fiction

Place	Name of Student	Name of School
Sinhala Medium		
Merit Award	B.M. Prineetha Bandaranayake	Devi Balika Vidyalaya, Colombo 08
Merit Award	J. Ishara Chamika	Dudley Senanayaka M.V., Colombo 05
English Medium		
Merit Award	R. Abinayah	Sri Shanmuga Hindu Ladies College, Trincomalee
Tamil Medium		
Merit Award	M.H.F. Shahnaz	Azhar Central College, Akurana
Merit Award	Kubenusha Sutharsan	Holy Family Convent, Vembady Road, Jaffna

COMPETITION: Drama

Place	Name of Drama	Name of School
1 st Place	අළුත් ලොවට පෙරවදනක්	Sri Sangamitta Balika National School, Matale
1 st Place	සිහිනයක් නොවේ මෙය	Kegalu Vidyalaya, Kegalle
3 rd Place	සිතමු යමක්කර කරමු යමක්	Siridhamma Vidyalaya, Labuduwa

Performance of School Science Societies - Star Rating

Name of School	Star Rating
Wickramabahu M.V., Gampola	05 stars
Dudley Senanayaka M.V., Colombo 05	05 stars
Rathnavali B.V., Gampaha	05 stars
Sri Sangamitta Balika N.S., Matale	05 stars
Gnanodaya M.V., Kalutara	05 stars
Swarna Jayanthi M.V., Kegalle	05 stars
Harischandra National School, Negombo	04 stars

Sri Lanka Science & Engineering Fair – List of students

Name of the student	School	Award
R M A P Keerthirathne	Vidyarthi Vidyalaya, Kandy	National winner
T S Thilakarathna	Ananda College, Colombo-10	National winner
H.M.N. Sachintha Subhasinghe	Sri Sangamiththa Balika N.S., Matale	National winner
H.M.N. Buddhini Subhasinghe	”	National winner
M M Sachini Mirihagoda	”	Finalist
Deshan Rangajeewa	Gnanodaya Maha Vidyalaya, Kalutara	Finalist
Dinesh Niroshana	”	Finalist
Isuru Shanaka Samarawickrama	”	Finalist
Duminda Fernando	”	Finalist
G Sameera Kasun	”	Finalist
Pamitha Ruwanga	”	Finalist
S.L.A. Nayani Fernando	Harischandra National School, Negambo	Finalist

Name of the student	School	Award
M T Gaynthi Wathma Karunaratne	”	Finalist
Manoj Lakshan	”	Finalist
Chamath Malshan	”	Finalist
S.M. Dickmendra Bandara Nagahapitiya	”	Finalist
H M D Rumedha Sandeshani	De Mezenod College, Kadana	Finalist
C Kushani Dilsha Dabare	”	Finalist
E. Isuru Priyaranga Silva	”	Finalist
Nipun Kawishka	”	Finalist
Lisy Levitha Xavier	J/ Holy Family Convent , Jaffna	Finalist
Peranandarajah Deneshan	Jaffna Hindu College, Jaffna	Finalist
Genhatharan Nisaharan	”	Finalist
Brihadiswaran Gunavaran	”	Finalist

Sri Lanka Science & Engineering Fair – List of teachers

Name of the teacher	School
Mr Sunil Nonis	Vidyarthi Vidyalaya, Kandy
Mr Amith Dharmapala	Ananda College, Colombo 10
Ms Sepali Alagoda	Sri Sangamiththa Balika N.S. , Matale
Ms PRL Guruge	Sri Sangamiththa Balika N.S. , Matale
Ms ULVP Perera	Gnanodaya Maha Vidyalaya, Kalutara
Ms Lalani Balasooriya	Harischandra National School, Negambo
Mr L Nonis	De Mezenod College, Kadana
Ms A Jebarathnam	J/ Holy Family Convent , Jaffna
Mr S Harishankar	Jaffna Hindu College, Jaffna

Olympiad Competitions

No	Competition	Name	School
1	National Junior Science Olympiad Competition	D.H.S.K Ambhashana	Royal College, Colombo 7
		D.P.D.H Liyanage	Royal College, Colombo 8
		E.J.P.L.P Ediriweera	Ku/ Maliyadewa Boys College
2	National Junior Mathematics Olympiad Competition	W.A.M. Samitha Yohan Abeysinghe	Ku/Maliyadewa Vidyalaya, Kurunagala
		Ruwimal Yasantha Pathiraja	Royal College, Colombo 8
		K. W Ayusha Shasthrika Fonseka	Royal College, Colombo 7
3	Sri Lankan Physics Olympiad Competition	Miss .Vahine Nithiananthan	J / Vembadi Girls high School, Jaffna
4	Sri Lankan Astronomy and Astrophysics Olympiad Competition	L.B Meegahapola	Dharamaraja College, Kandy
		D.S.L Karunasekara	Anada College, Colombo -10
		P.G.T.R Rajasooriya	Dharamaraja College, Kandy
		H.M.K.S Herath	Dharamaraja College, Kandy
5	Sri Lankan Junior Science Olympiad Competition	Vinuri Chndana Attygalla	Mahamaya Girl's College, Kandy
		W.A.M. Kavindu Nadeeshana Kumara	Maliyadeva College, Kurunagala
		Sunthareswaran Viithyasahar	Jaffna Hindu College, Jaffna
		Anantharajah Harishankar	Jaffna Hindu College, Jaffna
6	Sri Lankan Informatics Olympiad Competition	K.A Navin Shamendra Gunatillaka	Gateway College,185, Koswatta. Road Off Royal Gardens, Rajagiriya
7	Sri Lankan Mathematical Olympiad Competition	I.D Fernando	St.Sebesthian College, Moratuwa
		P.G.A.M.P. Pathegama	Rahula College , Matara
8	Sri Lankan Biology Olympiad Competition	Mr. P S Ruwanpathirana	Royal College,Colombo 7
		Mr. D P Vithanage	Ananda College,Colomobo 10
		Mr P L S Peiris	Ananda College,Colombo 10

PRINCIPAL STAFF – Year 2011

Chairperson

Prof. Sirimali Fernando
MBBS (Col.). Dip. Med Micro (Col), M.Sc (London)

Director

Dr. S.A.K.Abayawardana - Up to 31.12.2011
B.Sc (Eng.) Hons, DipChemEng.(UCL), DIC.,PhD(Lond.)CEng., FICHEM.(Lond.),
FIE.(Sri Lanka), IntPESri Lanka)

Research Division

Ms. P R Wijayaratna	Head (Up to 26.06.2011)
B.Sc Special (Hons.) Peradeniya	
Dr. C G Yapa	Principal Scientific Officer
B.Sc (Hons.) (Colombo) Ph.D	
Mr. S M A W Anuruddha	Scientific Officer
B.Sc (Hons.) (Colombo), M.Sc (Colombo)	
Dr. S A V Moorthy	Scientific Officer
B.Sc (Jaffna). M.Sc (Colombo), Ph.D (Colombo)	
Dr. P V S Panawala	Scientific Officer
B.V.Sc (Peradeniya), B.V.Sc MPhil	
Ms. D N Jayaweera	Scientific Officer
B.Sc (Hons.) (J'pura)	
Dr. H I Sandanayake	Scientific Officer
B.V.Sc (Peradeniya)	
Ms. Amali Ranasinghe	Scientific Officer
B.Sc (Hons.) Bangalore, M.Sc (Peradeniya),	
Ms. Amali Bandara	S & T Officer
B.Sc (Bangalore)	

Science and Technology Policy Research Division

Dr. S I Wickremasinghe	Head
B.Sc Special (Hons) (Peradeniya), M.Sc (Agric.) (Peradeniya), Ph.D (New Delhi)	
Dr. P R M P Dilrukshi	Scientific Officer
B.Sc Special (Hons.) (Peradeniya), Ph.D (Peradeniya)	
Mr. L Weerasooriya	S & T Officer
B.Sc (Kelaniya)	

Science Popularization Division

Ms. P A S F Perera B.Sc (Colombo), M.Sc (UK)	Head
Mr. K G J Karunasena B.Sc (Hons.), M.Phil (Agric) (Peradeniya)	Scientific Officer
Ms. Chamika Hettiarachchi B.Sc (Hons.) Delhi, M.Sc (Peradeniya)	Scientific Officer
Ms. W M U K Rathnayake B.Sc Special (Wayamba)	Scientific Officer
Ms. M N S Jayaweera B.Sc Special (Hons) (Peradeniya)	Scientific Officer
Ms. Uthpala Karunarathne B.Sc Special (Hons.) Kelaniya	Scientific Officer

International Liaison Division

Ms. H A U Amarasinghe B.Sc (Ruhuna), M.Sc (Colombo)	Head
Ms. U G S T Gamage B.Sc (Hons.) (Colombo)	Scientific Officer
Ms. W L C Dasanayake B.Sc (Peradeniya), M.Sc (Peradeniya)	Scientific Officer
Ms. E M D C K Ekanayake B.Sc (Hons) (Peradeniya), M.Sc (Peradeniya)	Scientific Officer
Ms. A M N S Nadugala B.Sc (Hons.), Peradeniya M.Sc (Asian Institute of Technology)	Scientific Officer

Technology Division

Dr. T F Dias M.Sc (Hons.) (Moscow), Ph.D (Moscow),	Head
Dr. S R Fernando M.Sc (Hons) (Moscow), Ph.D(Moscow), MBA (Colombo)	Scientific Officer
Mr. J G Shanthasiri B.Sc (Hons.) (Colombo), MSc (Kelaniya)	Scientific Officer
Ms. D N Wickremaarachchi B.Sc (Open University), M.Sc (J'pura)	Scientific Officer
Ms. M M G N K Abhayaruwan B.Sc Special (Hons.) (Colombo)	S & T Officer

National Science Library and Resource Centre

Ms. P A S F Perera B.Sc (Colombo), M.Sc (UK)	Head
Ms. V N Perera B.Sc (Open University), ASLLA	Information Officer
Ms. A Tennakoon B.Sc (Kelaniya)	Information Officer
Ms. R P Sugathadasa B.Sc (J'pura)	Information Officer
Ms. V N Dharmarathne ASLLA	Information Officer
Ms. Jayanthi Weerathunga ASLLA	Information Officer

Administration Division

Mr. P Sapumohotty B.Sc (Peradeniya)	Administrative Officer
Mr. S C Senevirathne B.Sc (J'pura)	S & T Officer
Ms. B T Wickremasinghe	Accounting Assistant

Finance Division

Ms. K C J T K Fernando FCMA	Chief Accountant
Miss. T D P P Samaranayake Professional Part II of ICASL	Accountant
Ms. Y J Pathirana	Accounting Assistant

Internal Audit Unit

Ms. Aruni Bandaragoda B(Com.) , ACA	Internal Auditor
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Printing Unit

Mr. K P Senanayake	Printing Manager
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IT Unit

Mr. H M M Perera	Network Administrator
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Confidential Secretaries

Ms. Ayomi Palihawadana
Ms. Seetha Wijesinghe

Confidential Secretary (Chairperson's Office)
Confidential Secretary (Director's Office)

Retired during the year 2011

Mrs. S H W De Silva – Management Assistant from 15.01.2011
Mrs. P R Wijayaratne – Senior Scientific Officer (Head RD) from 26.06.2011
Mrs. A V B Rajapakshe – Management Assistant from 03.10.2011

Resigned during the year 2011

Mrs. G S N De Silva – Management Assistant from 03.06.2011

TRAINING DURING THE YEAR 2011

Local Training, Seminars, Workshops

Name of the employee	Title of the Programme	Period
Mrs. Mahesha Nadugala	Intellectual Property Rights (IPRS) for Growth & Prosperity	07 February, 2011 – 09 February, 2011, Main Auditorium, ITI
Dr. Inoka Sandanayake	UNESCO Forum of Ministers attended as an observer	20 th - 22 nd February, 2011
Dr. Sachie Panawala	Conference on Water Security and Climate Change Challenges for South Asian Women	2 nd February, 2011
Ms. Amali Ranasinghe	Conference on Water Security and Climate Change - Challenges for South Asian Women	2 nd February, 2011
Mrs. H A U Amarasinghe	National Convension on Organic Framing , Ensuring Safe, Healthy and Nutritional Food for Future	24 th - 25 th February, 2011
Mrs. Mahesha Nadugala	National Convension on Organic Framing , Ensuring Safe, Healthy and Nutritional Food for Future	24 th - 25 th February, 2011
Staff	Tamil Training Programme	Commencing from 09.03.2011 (108 hrs)
Ms. Dilani Jayaweera	16 th IGM/SPG Meeting of APN attended as an observer	6 th - 8 th April, 2011
Mr. Madhawa Perera	Training for ISOC Workshop on Transitioning to Ipr 6 on 22.05.2011 at Sri Lanka Chapter of the Internet Society	22.05.2011
Dr. Sachie Panawala	Seminar on Making Climate Resilient Built Environment	12 th May, 2011
Dr. Sachie Panawala	Seminar on Food Safety Standardization	20 th May, 2011
Mrs. Dilani Jayaweera	Seminar on Food Safety Standardization	20 th May, 2011
Mrs. S Perera Mr. KGJ Karunasena	Seminar on Activities conducted by Scientific Institution	14 th June 2011
Mr. K G J Karunasena	Workshop on Sampling and Basic Principals of Sample Selection	22 nd June, 2011

Dr. S A V Moorthy	Seminar on Elimination , Emergence and Re-emergence of Infectious Diseases	7 th July, 2011
Mr. S M A W Anuruddha	Conference – Solar Asia 2011	28 th - 30 th July, 2011
Dr. Sachie Panawala	Seminar on Elimination , Emergence and Re-emergence of Infectious Diseases	7 th July, 2011
Mrs. D N Wickremarachchi	Innovation and Entrepreneurship	01 day , Hotel Taj Samudra
Dr. S I Wickremasinghe Miss K C J T K Fernando	Awareness Programme on Public Procurement Management for Senior level Officers	22.09.2011
Dr. S A V Moorthy	From Green Revolution to Gene Revolution	29 th September - 30 th September, 2011
Ms. Amali Ranasinghe	From Green Revolution to Gene Revolution	29 th September - 30 th September, 2011
Dr. Inoka Sandanayake	Training Programme on Preparation of Greenhouse Gas Inventory	22 nd - 29 th November, 2011
Mr. K G J Karunasena	Workshop on Sampling and basic Principles of Sample Selections	22 nd June, 2011 at SLAAS
Miss K C J T K Fernando	Awareness Programme on Public Procurement Management for Senior Level Officers	22.09.2011
Mrs. Mahesha Nadugala	UNESCO E-Learning Course on Energy for Sustainable Development	Online programme
Mrs. Nadeera Jayaweera	Workshop on Science Education Outreach	13 th October, 2011
Ms. Dilani Jayaweera	Training Workshop on Foresight Analysis	27 th -29 th October, 2011
Mrs. Aruni Bandaragoda	National Seminar on International Management System at Sri Lanka Standard Institution	15.11.2011
Mrs. H A U Amarasinghe	National Seminar on International Management System at Sri Lanka Standard Institution	15.11.2011
Mr. S N P K Sapumohotti	Master's degree in Public Management (02 years degree programme)- Sri Lanka Institute of Development Administration	Two years Commencing from 03.09.2009
Dr. S I Wickremasinghe Miss K C J T K Fernando	Staff Training for Awareness Programme on Corporate Planning & Budgeting Academy of Financial Studies	1 st & 2 nd December, 2011

Mrs. Aruni Bandaragoda	Staff Training for Awareness Programme on Corporate Planning & Budgeting Academy of Financial Studies	1 st & 2 nd December, 2011
Mr. J G Shantha Siri	Training Programme on Patent Drafting	Continued to two months of 2011 from 7 th - 11 th December, 2010

- Mr Lasantha Weerasooriya, STO/STPRD completed M.Sc. in Applied Statistics, University of Colombo in October 2011.

Foreign Training during the year 2011

Name of the Officer	Title of the Training Programme	Country , Duration
Dr. Sachie Panawala	SAARC Workshop on Science and Technology Issues on Climate, Change	Pakistan 19 th - 24 th March, 2011
Mrs. Amali Manori Ranasinghe	ISTIC Training Workshop on Science, Technology and Innovation (STI)- Embracing Structured Innovation for Socioeconomic Transformation	Malaysia 12 th - 18 th June, 2011
Mrs. H A U Amarasinghe	International High Level Conference and International Coordinating Council ICC of the Man and the Biosphere Programme	Germany 25 th June -3 rd July, 2011
Dr. Inoka Sandanayake	International Training Programme for Environmental Protection and Energy Technology	Hsinchu, Taiwan 14 th - 28 th August, 2011
Mr. C A B Wickremasinghe	Training on Dspace Software, Indian Statistical Institute	Bangalore, India 30 th August, 2011 - 17 th September, 2011
Mrs. D Nadeeja Wickramaarachchi	Training Workshop on Technopreneurship for South Countries	Malaysia 25 th September, 2011 - 1 st October, 2011
Dr. S A V Moorthy	Workshop on IV Congress of Eurobiotech 2011	Poland 11 th October, 2011 - 17 th October, 2011

Mrs. H A U Amarasinghe	2 nd International Workshop on South Cooperation for sustainable Development	Indonesia 3 rd October, 2011 - 9 th October, 2011
Mrs. W M U K Rathnayake	Regional Workshop on Effective Strategies for Intellectual Property	Regional Workshop on Effective Strategies for Intellectual Property 18 th - 21 st October, 2011 Singapore
Mrs. P A S F Perera	Conference on Asian Science Educator Academy, 2011	29 th November, 2011 - 4 th December, 2011, Seoul, Korea