



NATIONAL SCIENCE FOUNDATION

ANNUAL REPORT 2010

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

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)	13
2. Science Popularization Division - (SPD)	18
3. International Liaison Division - (ILD)	25
4. Technology Division - (TD)	28
5. Science and Technology Policy Research Division - (STPRD)	34
6. National Science Library & Resource Center - (NSLRC)	39
Supporting Divisions/Units	
7. Administration Division	44
8. Finance Division	45
9. Printing Unit	45
10. Information Technology Unit	46
11. Internal Audit Unit	46
Financial Statements	
12. Observations of the Accounting Officer	47
13. Income and Expenditure Account For the Year Ended 31st December 2010	50
14. Balance Sheet As At 31st December 2010	52
15. Cash Flow Statement – 2010	53
Report of the Auditor General	62
NSF Comments on the Report of the Auditor General	70
Annexures	
Annex 1 A Summary of Research Grant Scheme of year 2011	76
Annex 1 B Research Grants awarded during 2011	77
Annex 1 C Details of Postgraduate degrees obtained during year 2011	81
Annex 1 D ResearchGrants closed during year 2011	84
Annex 1 E Summary status of Thematic Grants under CTRP	91
Annex 1 F Information on Grants under Technology	92
Annex 1 G NSF Research Awards	93
Annex 1 H Best Performed School Science Societies	97
Annex 2 Organizational Structure	98
Annex 3 Principal Staff	99
Annex 4 Staff Training during the Year 2010	102

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 while;

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 being;

- 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, Department of Microbiology, Faculty of Medicine,
University of Sri Jayewardenepura*

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

Prof. Tuley D. de Silva - Member

*Retired Special Advisor, Chemical Industries Branch, UNIDO, Vienna, Austria
Former Professor of Chemistry, University of Sri Jayewardenepura*

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*

Prof. M.T.M. Jiffry – Member – expired in September 2010

*Senior Professor of Physiology, Faculty of Medicine, University of Sri Jayewardenepura
Member, University Grants Commission*

Eng. M. Zubair – Member – upto May 2010

Chartered Engineer

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

President, Institute of Engineers, Sri Lanka – From 14-09-2010

Dr. (Mrs.) I.L. Ginige – Member – upto August 2010

*Asst. Director-General, Faculty of Science and Technology, National Institute of Education,
Maharagama*

Dr. Upali Sedera – Member – From 01-09-2010

Director-General, National Institute of Education, Maharagama

Prof. Rohan Rajapakse - Member

*Senior Professor, Department of Agricultural Biology, University of Ruhuna
Member, University Grants Commission*

Mr. Ananada Hettiarachchy - Member

Consultant, P&E Consultants, 306/38, Bird Park Road, Off Thalawtugoda Road, Madiwela.

Mr. Rohitha Uduwawala – upto April 2010

Deputy Director, Dept of National Budget

Mr. Jagath D. Dias – Member – From 07-07-2010

Director (Parliamentary Affairs), Ministry of Finance & Planning, The Secretariat, Colombo 01.

Prof. H.D. Gunawardena – Member – Upto August 2010

Senior Professor of Chemistry, University of Colombo

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

Senior Professor of Zoology, University of Kelaniya

ORGANIZATIONAL STRUCTURE

The NSF is governed by a Board of Management (BOM) comprising of 11 members as per the stipulations in the Enabling Act. The Director, the CEO is also a member of BOM. There were six Scientific Divisions with a principal/Senior Scientific Officer as the Head in 2010 but it has been planned to have only five scientific divisions in the future.

The scientific divisions of the National Science Foundation (NSF) supported by Finance & Administration, Printing, and Information Technology 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 yet another division, the National Science Library & Resource Centre, carries out the scientific information dissemination and networking activities, through out 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.

Research Assistants and Consultants hired on need-basis carry out special tasks and assignments as required by the Board of Management. The organizational structure of NSF is given as Annexure 2

Organization of the Scientific Functions

Congruent with its mission, NSF funds various scientific programmes serving science & Technology broadly. For this purpose, the Board Of Management is also 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 stake holder researchers. Advisory Panels also provide coordinated guidance, and a locus for both feed back from the research community and discussion of issues of common interest to NSF & 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 all other activities connected with the research grant administration.

The National Committees of NSF assist the BOM 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 relevant specific Terms of Reference and report the progress/out puts to the BOM 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 Boards

Ensure regular publication of the Journal of the National Science Foundation and the Sri Lanka journal of Social Sciences and other scientific matter published by NSF. The Editorial Boards 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.

NSF Research Awards - 2010

Scientists of exceptional talent and imagination make fundamental discoveries of lasting scientific value and benefit to humanity if they are given the resources, time, and freedom to pursue challenging questions. In essence, we nurture the creativity and intellectual daring of scientists, and recognizing the extra/ordinary professional accomplishments through the research projects funded by NSF, the Research Awards were given in 2010, for the following activities carried out under NSF research grants, in 2008&2009.

- **Computational study of the Non-Linear Optical (NLO) properties of organic macromolecules and transition metal complexes.**
The interest in discovering and designing new materials for use in nonlinear optical (NLO) applications such as optical switches and high-density optical recording has been achieved by this project, while the prediction of molecular properties of materials before the synthesis is becoming more important as the cost to design such materials continues to rise.
- **Wave overtopping on rock slopes of coastal structures without crown walls.**
This project has made a valuable contribution towards making available the information required for the coastal designers on the overtopping performance of the type of rubble-mound structures used in Sri Lanka. The study has quantified the overtopping performance of rubble-mound coastal structures without crown walls over the practically important ranges of the relevant dimensionless parameters, and has recommended a functional relationship for estimating overtopping rates for such structures commonly used in Sri Lanka.
- **A study of the efficacy and factors affecting drug compliance in the mass drug administration programme against lymphatic filariasis in the Western Province of Sri Lanka.**
This descriptive, comparative, cross-sectional, randomized community based study has found that the major difference in drug compliance between the urban and rural areas appeared to be due to the lower drug compliance in the urban areas when compared to the rural, due to lack of volunteers from the urban areas. The need to develop, separate MDA strategies for the urban areas in order to improve compliance in these areas, as the nature, composition and dynamics of the urban population are different from the rural population, has been advocated by this project.
- **Prevalence of diabetes mellitus and its risk factors in Sri Lanka.**
The absence of National level data on diabetes prevalence in Sri Lanka even by the year 2005 and the need to determine the relevant data, has been fulfilled by this study. According to this cross sectional study, the prevalence of diabetes and pre-diabetes were found to be high among Sri Lankan adults with more than one third with diabetes undiagnosed. The projected diabetes prevalence for the year 2030 is 13.9%.
The study has found the urgent need for public health programs for diagnosis of diabetes prevention and for clinical care. In addition to diabetes the study has documented a relatively high prevalence of overweight and obesity, particularly, abdominal obesity among adults in Sri Lanka.

Certificates of commendations – 2008&2009

- Evaluation of Biomarkers in food fish *Tilapia* as potential tools in biological monitoring of aquatic pollution in Sri Lanka.
- Prevalence of reproductive endocrine disorders, health, care seeking behavior consequences and risk factors of Polycystic Ovary Syndrome among women at reproductive age in the Gampaha District, Sri Lanka.
- A study of IgA Nephropathy in Sri Lanka.
- Effect of local bathymetry and topography on Tsunami run – up and overland flow.
- Investigation of use of composite trusses in multi-storey buildings in Sri Lanka.
- 3D reconstruction and shape analysis of electrical discharges through image processing.
- Use of molecular markers for the detection of chloroquine resistant *P. falciparum* infections in Sri Lanka.
- Computer simulation of a 2 – stroke gasoline direct injection engine, to optimize the injection timing in order to minimize harmful emissions.
- Determination of lipo-polysaccharide core types of avian pathogenic *E. coli* and their immunogenicity.
- Study on the influence of Zinc (Zn) concentrations in serum and seminal plasma on semen parameters and sexual behavior.

National Science & Technology Awards

Those who have made wide and profound contributions, towards economic and social development of the country were honored through a variety of awards, under the National S&T awards scheme. In the year 2010 the Ministry of Technology & Research in collaboration with the National Science Foundation invited applications/nominations under fifteen different categories of science & technology achievements and gave away awards under five categories, to those who have made seminal contributions to the respective fields.

Award Category 1: Innovative advanced technologies with commercial potential,

“Green nano fertilizer systems for slow and sustained release of nitrogen and other macro nutrients”

Award Category 4: Development of eco material/eco friendly processes for industry,

“Weed control mat, “Power mat” based a natural rubber latex dipped products”.

Award Category 9: Locally developed technologies, which have resulted in a successfully marketed products/services,

“A new technology for debittering of lime juice resulted in the formulation of an isotonic drink for sports/active persons that was successfully manufactured and marketed by a local industry”.

Award Category 11: Science and technology contribution to improve sustainable social development,

“eleAlert : Sensor network for monitoring fences”.

Award Category 14: Outstanding leadership in introducing technologies/services,

“Renewable energy generation-design, construction and commissioning of a 20MW wind power plant:”

Coordinated Thematic Research programme (CTRP)

A total of 24 grants were awarded under the eight themes that were identified during the year under this multidisciplinary thematic research programme initiated by the NSF, expected to produce well defined outputs that will directly contribute to the economic and social welfare of the country.

By the end of 2010, 16 Final Reports were received and outcomes of these reports including the example given below were conveyed to the relevant institutions for necessary arrangements for the implementation.

Project Title : Improvement of unproductive coconut lands through livestock integration in the southern region

Research Outcome: This research has proven that integrating coconut lands with grazing livestock is a viable option for improving unproductive coconut lands in the wet zone of Sri Lanka. It was found that, those cattle integrated systems can reduce the cost of applying fertilizer by 60% and a near double of the coconut yield is obtainable.

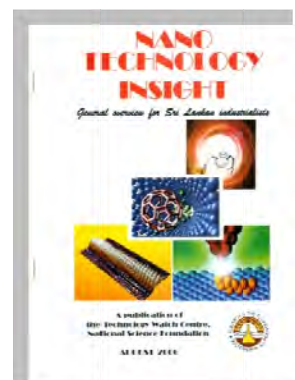
The Coconut Research Institute has been informed of these findings in order for them to take necessary action to make use of the findings. Arrangements are being made to convey this valuable information to small-holder coconut growers living in similar climatic and soil fertility conditions.

National Nano Technology Initiative

The NSF together with the Ministry of Technology & Research launched the “National Nanotechnology Initiative” (NNI) with a vision to become a world leader in this field. Being the initial stage, the NSF was engaged in policy formulation, awareness programmes through workshops and training programmes, etc. The National Nanotechnology Policy has been drafted and was being improved further. Also, four awareness programmes on Nanotechnology were conducted for over 190 officials of the Ministry of Education, including Science Directors and in-service Science Instructors.

IDRC supported Project on “Developing a regulatory framework for nanotechnology related activities in Sri Lanka” was prepared with the collaborative work of the 7 partners from Sri Lanka including IPS, SLINTEC, Practical Action, SLSI, Prof Anoja Fernando, NIOSH, and NSF and the approval of External Resources Department for same was sought.

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. They were well on their way to complete five major projects with plans for applying for five US patents in 2011 (done).



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 Biotechnology.

The National Biotechnology Policy was developed by the National Science Foundation (NSF) together with the National Science and Technology Commission (NASTEC) through an extensive consultation process, and was approved by the Cabinet of Ministers at its meeting held on 21 July 2010. The document was made available for the public.

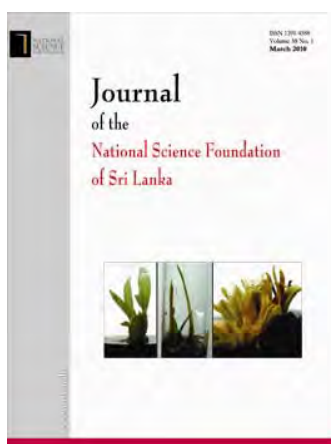


Scientific publications

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 National Science Foundation, the Journal of Social Sciences and Vidurawa Science Magazines in addition to the 35 publications in foreign journals and 40 publications in local journals that have been achieved during the year. Proceedings of the National Forum on Water Research 'Identification of Gaps and Priorities' and Sri Lanka Science, Technology and innovation Statistical Handbook 2008, Creative story books and Science Books Series were included among other publications of NSF.

- **Journal of 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 38 No:1- 4 were published in 2010.



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

- **Sri Lanka Journal of Social Sciences (SLJSS)**

The Volume 29/30 Nos. 1 & 2 of the Sri Lanka Journal of Social Sciences has been published.



- **Proceedings of the National Forum on Water Research ‘Identification of Gaps and Priorities’**
obtained ISBN 978-955-590-109-3

- **NSF (2010). Sri Lanka Science, Technology and innovation Statistical Handbook 2008.**



The National R&D Survey 2008 completed in the year 2010, features impressive display of graphics and scientific content, and valuable and useful information on research and development infrastructure of the country. Such analytical innovations will continue to yield important advances, being assistance to policy making in the country.



Sciencetech Alert E-Newsletter

The publication of this electronic newsletter was continued, with the objective of developing a reliable and quick communication system among the scientific community which is geared to provide the latest information on science, innovation and technology as well as opportunities for career development directly to the desktops of scientists.

Creative Story Books

The following books published under the awareness programme in mitigation and management of natural disasters were translated from Sinhala to Tamil language during the year under review.

නියතය හා අපි
දෝතළ කන්ද පාලල

Science Books Series

Under the Science Book Series the following were published during the year.

- Infant & young child nutrition – Prof. Chandrani Liyanage
- Atoms for peace – Mrs. Asoka Samaranyake
- ශ්‍රී ලංකාවේ ඛනිජ සම්පත් – Dr. Rohan Fernando & Dr. A. Pitawala

The aim of the scheme was to increase the availability of printed material in Science and Technology relevant to local needs and to improve the quality of the publications on Science and Technology. The scheme also aimed at encouraging potential writers in Science and Technology.

MAB Programme



This Programme develops the basis within the natural and social sciences for the rational and sustainable use and conservation of the resources of the biosphere and for the improvement of the overall relationship between people and their environment. It predicts the consequences of today's actions on tomorrow's world and thereby increases people's ability to efficiently manage natural resources for the well-being of both human populations and the environment.

Being the culmination of the efforts made in several years, the following were the attempts of the programme for the year 2010

- Nomination of Kandy as a Biosphere Reserve
- Establishment of Mannar Biosphere Reserve
- Submission of the Knuckles Biosphere Reserve nomination to UNESCO, Paris
- Nomination of Ussangoda as a Geopark -

Science Popularization

Knowledge that results from NSF support for science education has considerable value beyond the funds spent for a given project. Dissemination of knowledge in variety of forms, and that it occur is essential to share the knowledge created by the researchers. The NSF carried out a series of activities to the school community and the general public accomplishing the objective of popularizing science amongst the people. The activities conducted included many programmes to increase communication and outreach, interacting with students, teachers, scientists, policy makes, and media. Included among the activities carried out for this purpose were;

School Science Society (SSS) Programme

A series of programmes were conducted with the aim of fostering students to acquire knowledge on latest developments in various fields of science and technology and to make them aware of the applications of scientific knowledge in day to day activities.

World Science Day 2010 Schools Programme

World Science Day – Schools Programme was conducted to popularize science amongst school children to cultivate an appreciation of the value of science, scientific method, technology and the integral role that science play in modern society.

Promotion of Science Research Projects among the school community

The Sri Lanka Science and Engineering Fair (SLSEF) was organized on the 19th February for the second consecutive year in collaboration with the Ministry of Education, Institution of Engineers, Sri Lanka (IESL) and Intel. SLSEF as a platform for science students (age 14 - 21) to discover their scientific genius and win public recognition at national and international level.

Vidunetha programme

The Vidunetha programme was conducted for the purpose of improving the investigative ability of junior secondary level students (grades 6-9) and to motivate them to conduct science research projects.

Sharing Knowledge

Focused on recent, exciting, advances in few of the areas of scientific importance to the country, several conferences and workshops were conducted during the year including;

The National Forum in Water Research, Identification of gaps and priorities to prioritize the research needs to enhance water security in the country,

National Symposium on Social Protection to analyze the present status of social protection policies in Sri Lanka & recommendations for improvement.

A Policy Nexus on Social Sciences Research to explore the possibility to bridge the gap between policy and research to promote evidence based policy making at national & institutional levels,

The world Science Day 2010 and D-space training workshop as basic foundation for a national net-work of institutional e-repositories.

Human resources in R&D

The development of a Programme titled ‘Accelerated programme to expand the Postgraduate Training in Research and Development in advanced Technology’ was another noteworthy achievement during the year and is expected to be launched to broaden the scientific human resource capability in the country, which has been a felt need for the advancement of scientific research.

The post doctoral scientists who are of paramount importance, for current and continued excellence in research are supported by NSF through its Postdoctoral Research Scientists Programme. While fourteen PhD, nineteen Mphil, and two MSc. were achieved during the year. 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.

Research Services

We continued to develop our research services which are a vital component of the infrastructure that is required for the research that is undertaken by the researchers. Improving the Science and Technology Management Information System (STMIS) database to enable researchers to apply for research grants confidently and providing the other scientific information required by them, and on a timely basis, & 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 2010, to support and promote productive research.

Science and Technology Management Information System (STMIS)

STMIS which is now online is a computerized information system on S&T. this national database aims at collecting, storing and disseminating information pertaining to the S&T sector with particular reference to S&T manpower. It also stores information relating to R&D expenditure, S&T organizations, S&T graduates, S&T resources etc.



National Network of Institutional e-Repositories:

A foundation for National Network of Institutional e-Repositories among the universities and research institutions in the country was laid down, the objective being to ensure that the total scholarly literature output in the country is made available for easy access to the scientific counterparts in order to support and promote productive research. As at 31 December, six institutions had established their institutional e-repositories.



Research Division (RD)

In a year of continued National Economic uncertainty, NSF continued to exhibit the promise of a strong future, in both our research funding mission and other new activities. The economic situation in the country affected funding of scientific research but despite the downturn in funding, its activities continued to be important and productive. NSF's lead role initiating, facilitating and supporting 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, and to award scholarships and fellowships to outstanding Sri Lankan postgraduate and postdoctoral researchers for scientific work at the Universities and S&T institutions, was continued implementing the following schemes of programmes, for the benefit of the scientific community and people of Sri Lanka, in particular.

1. Competitive Research Grants Scheme

Support for basic scientific research remained fundamentally an enterprise of curiosity, while upholding the rights of scientists to freely pursue sciences in a manner, which accords with the scientific process and is undertaken responsibly.

NSF continued to build on its very strong tradition of providing assistance to supplement the financial, physical and manpower resources available for scientific research by supporting basic and applied scientific research in the scientist's own institution. This scheme facilitated to harness independent, individual intellectual capacity of scientists and encouraged them to carry out quality research directed towards the socio economic development of the country. The details of the painful but effective effort taken during the year in managing the Research Grant Scheme is given in Annexure A.

During the year a total of sixteen grants were awarded with an allocation of Rs 15.2m for the first year.

Total no of ongoing grants as at 31.12.2010	140
Grants Awarded	16
Grants Completed*	41
Grants withdrawn	02

2. Research Fellowships Scheme

Supported to utilize the knowledge, experience, and expertise of the eminent scientists/ engineers for the national development needs of the country. Enhanced the research conducted in the country to the international level through publishing research outputs in the indexed International journals. The details on managing research fellowships scheme during the year is given in Annexure A. NSF, intends to provide a better support to the Sri Lankan scientific through this scheme in the years to come.

No. of Fellowships awarded since 2005	-	08
No. of Fellowships awarded during 2010	-	01
No. of ongoing Fellowships as at 31.12.2010	-	01
No. of Fellowships completed in 2010	-	01

3. Research Scholarships Scheme

Provided an opportunity for outstanding science and engineering graduates to conduct full time research in the country leading to postgraduate degrees. The detail of the research scholarships scheme which strengthen the knowledge hub of Sri Lanka, carried out during the year is given below.

No. of ongoing scholarships as at 31.12.2010	-	05
No. of scholars registered for M.Phil	-	01
No. of scholars registered for PhD	-	04
No. of scholarships completed and dissertations received -		03(1-MPhil, 2- PhD)

4. Postdoctoral Research Scientist Scheme

Introduced in 2006 this scheme provided an opportunity for scientists/ engineers with a good research record and postdoctoral degrees to carryout fulltime research within the country, with potential research outputs leading to the improvement of the standard of living of the people of Sri Lanka.

5. Equipment Grants Scheme

Intended to assist the acquisition of equipment for research that is in general too costly to be purchased by the Research Institutions and Universities, as laboratories with modern infrastructure facilities are needed for research to be in par with the global S & T research. Accordingly the scheme encouraged the scientists to carry out and strengthen the research base for R & D activities directed towards socio economic development of Sri Lanka, and during the year, 04 awards were made at a total cost of Rs. 3,193,922/=.

6. Spare Parts Scheme

As 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 also strengthened the facilities available for R & D activities in the country, and during the year, 03 grants were awarded, at a cost of Rs. 678,180/=.

7. National Thematic Research Programme (NTRP)

The National Thematic Research Programme (NTRP) promoted mission oriented, multidisciplinary collaborative research that would address the national needs of the country. The Programme is expected to promote research, on subjects relating to the national needs and expected to produce end-products that are to be harnessed for national Development. Food Security, water security and climate change have been identified as priority areas.

Food Security – A Panel of Experts in the area was appointed to improve the theme paper on Food Security and to identify the gaps, priorities and suitable mission oriented multidisciplinary projects to address the problems/issues in the area. The theme paper was improved and the Panel recommended to conduct an Island-wide surveys to assess the status of food security in a provincial basis, giving emphasis to poorer provinces.

In the meantime, a proposal titled ‘A programme to address Food Security issues of Sri Lanka, by identifying gaps, priority research areas and implementing a mission oriented research programme’ was submitted to the National Planning Department in September 2010, seeking funds to carryout the key-projects that was outlined by the Theme Paper.

Further, it was suggested to convene a two-day meeting with the stakeholders and key personnel who have worked on the subject, in order to review the present status of research by identifying the gaps, priorities and future research needs for addressing the issues/problems related to Food Security in the country.

Water Security – A National Forum on water research, titled ‘Identification of Gaps and Priorities’ was held in September 2010 to prioritise the research needs to enhance water security in the country. The report was synthesized based on the review papers presented at the Forum, which outlined the mission oriented research projects to be supported through the NTRP.

A proposal titled ‘A programme to address Water Security issues of Sri Lanka, by identifying gaps, priority research areas and implementing a mission oriented research programme’ has been submitted to the National Planning Department in December 2010, seeking funds to carryout the projects that were identified by the Theme Paper.

Climate Change – A proposal titled ‘**Identification and addressing Research Gaps in Climate Change in Sri Lanka**’ was submitted to the Climate Change Secretariat (CCS) to incorporate in to the climate Change Adaptation Intervention of CCS. It had been informally conveyed to the NSF that the proposal was selected to be incorporated as the research component of the Climate Change Adaptation Intervention.

8. Coordinated Thematic Research Programme (CTRP)

This multidisciplinary thematic research programme initiated by the NSF is expected to produce well defined outputs that will directly contribute to the economic and social welfare of the country.

A total of 24 grants were awarded under the eight themes that were identified during the year. By the end of 2010, 16 Final Reports were received and the outcomes of these reports were conveyed to the relevant institutions for necessary arrangements for the implementation.

The summary status of the Thematic Programme

Ongoing grants as at 31/12/2010		01
Final reports awaited		05
Grants Completed		16
No of publications arising from grants:	foreign	07
	local	05
No. of communications	foreign	01
	local	31
No. of patents obtained		01

9. NSF Research Awards

The NSF Research Awards are given annually to researchers who have made outstanding contributions for advancement of science through NSF funded projects.

In order to bestow on researchers the recognition they deserve for the contribution made for the advancement of science and thereby helping to achieve one of the main objectives of the National Science Foundation, Research Awards are given annually. The awards are also meant to motivate recipients of research grants to consciously maintain high standards of scientific research while at the same time helping them to enhance their own career prospects as recognized scientists.

During the year, 3 Research Awards for work carried out during the year 2008, under the categories of basic sciences engineering sciences, and health e sciences were given while and award in the category of Health sciences was given for 2009. In addition 5 commendation certificates were given for the work carried out in 2008 in the categories of Environment and Biodiversity, Health Sciences and Engineering Sciences while 5 commendation certificate were given for 2009 in the categories of Basic Sciences, Biotechnology Engineering Sciences and Health Sciences. The details are given in the Annexure 1G.

10. SUSRED Programme

In order to develop human resources in R&D with a view to establishing a sustainable and viable research culture in the country, this scheme has been initiated. Under this scheme assistance is provided to the experienced senior scientists and engineers to train outstanding young graduates for post graduate degrees leading to research careers.

11. Special Activities

In addition to the task of administering research grants, many other special activities such as publications developing policy documents, conducting workshops on important subject and creation of databases have been undertaken during the year. Included among them are developing a National Biotechnology Policy in collaboration with National Science and Technology Commission, Publishing of Sri Lanka journal of Social Sciences and publishing of Proceeding of the National Forum of Water Research 'Identification of Gaps and Priorities', creating a database on experts in Biotechnology in Sri Lanka and a database on reviewers for NSF research grant applications and drafting an Act to establish a National Biotechnology Council.

Among the main workshops organized during the year were the following;

Dialogue on Social Sciences research - Policy Nexus, with an objective of initiating a critical discussion at national level to explore the possibility to bridge the gap between policy and research and to promote evidence based policy making at national and institutional levels;

National Symposium on Social Protection Policies - in collaboration with UNESCO with an objective of reviewing the present status of Social Protection Policies in Sri Lanka and to create a platform for exchange of views and coordination among several government and non-government agencies and;

National Forum on Water Research 'Identification of Gaps and Priorities'- with an objective of prioritizing the research needs to enhance water security in the country.

Chronic Kidney Disease of uncertain aetiology (CKDu)

An apparently new form of chronic kidney disease (CKD) of uncertain aetiology has emerged in several areas of Sri Lanka, especially the North Central region. This chronic kidney disease of uncertain aetiology (CKDu) is characterized by a slow, progressive, asymptomatic development sometimes starting in those less than 20 years.

As this is of national importance, the NSF collaborated with WHO and the Ministry of Health to investigate the cause for this disease with the ultimate aim of finding a speedy yet sustainable solution with a contribution of Rs. 70 m.

12. Committees Facilitated by the Research Division

National Committees

- * Biotechnology
- * Hydrology (in collaboration with ILD)
- * Basic Sciences
- * Marine Science and Oceanography (In collaboration with ILD)
- * Social Sciences
- * Quality Assurance in Research

Research Committees

- * Agriculture and Food Science
- * Engineering Science
- * Environment and Biodiversity
- * Health Science

Thematic Committees

- * Alternative Agriculture for Self Reliance
- * Sustainable Utilization of Natural Resources
- * Disaster Management and Mitigation
- * Environment Protection and Sustainable Development
- * Non Communicable Diseases
- * Quality Assurance for Consumer Protection

Special Committees

- * Advisory Board to the Research Division

Science Popularization Division (SPD)

Introduction

The Science Popularization division carried out a series of activities to the school community and the general public accomplishing the objective of popularizing science amongst the people. The activities conducted included many programmes to increase communication and outreach, interacting with students, teachers, scientists, policy makers, and media.

1. School Science Society (SSS) Programme

A series of programmes were conducted under the School Science Society Programme with the aim of fostering students to acquire knowledge on latest developments in various fields of science and technology and to make them aware of the applications of scientific knowledge in day to day activities.

The number of School Science Societies registered with the NSF during year 2010 showed a significant improvement. Total number of SSS registered in 2010 was 84 (Sinhala medium: 77; Tamil medium: 04; and English medium: 03) exceeding the target of 50 for the year. The total number of SSS registered as at 31 December recorded 482.

1.1 Lecture series on current topics:

Services of local scientists were provided to the registered School Science Societies at 15 Science Day Programmes organized by the schools. Lectures were delivered on the themes, Nanotechnology, Food & Nutrition, SPD services – School Science Society Programme, Climate, Genetics, and Conducting Scientific Research – methodology.

1.1.1 Video Conferencing facility

The potential of introducing the Video Conferencing facility to conduct the above lecture series and for similar educational programmes was explored in collaboration with Mobitel Pvt. Ltd. An interactive pilot programme was successfully conducted among the students of the four schools -*Sangamitta Balika National School, Matale, St. Joseph Balika M.V., Kegalle, Dudley Senanayaka M.V., Colombo 14, Gnanodaya M.V., Kalutara* on 22 June 2010. Possibility of using this technology in future programmes will be explored.

1.1.2 Awareness Programme on Nanotechnology

A sub-committee was appointed under the Advisory Board to the Science Popularization Division to develop an **awareness programme on nanotechnology**, at the national level. The target groups of Teachers (*In-Service Advisors, and Zonal Educational Directors, and A/L teachers*) school children, General public, Academics and Decision makers, were planned to be addressed in several phases under the awareness programme.

A programme was drawn up to train *In-Service Advisors, and Zonal Educational Directors, and A/L teachers* under phase one of the project in 08 workshops of 03 day duration and the programme will be implemented in year 2011.

1.2 Inter School Science Society Competitions

In association with the World Science Day 2010 programme, a series of Inter School Science Society Competitions were conducted under the theme “Climate Change”. Five Satellite programmes in various districts of the country were conducted. Competitions were conducted in the fields of Short Drama, Poster (Manual), Digital Storytelling (to convey scientific concepts), and Role-play (play the character of an eminent scientist). The final competition among the winners of the satellite competitions took place in Colombo at the Sarasavipaya and the Elphinistan Hall. The panel of judges consisted scientists, media personal, artists and a representative of the NSF.

1.3 Awards (Star rating) for Best performing School Science Societies

This programme is annually conducted with a view to motivate the NSF registered school science societies to conduct suitable activities to improve the scientific capacity of students and 09 Schools Science Societies were awarded with certificates and plaques for their high performance during the year 2009 as per the details in Annexure 1H.

2. World Science Day 2010 Schools Programme

2.1 WSD main programme

World Science Day – Schools Programme is one of the key activities conducted by the National Science Foundation (NSF) to popularize science amongst school children to cultivate an appreciation of the value of science, scientific method, technology and the integral role that science play in modern society.

World Science Day Schools Programme was conducted for the 7th consecutive year at the Sugathadasa Indoor Stadium on 12 November 2010 under the theme ‘Resilience to Climate change’. 2300 students were invited representing schools in all parts of the country and the participation marked a significant increase compared to the previous years.

The event was held under the auspices of Prof. Tissa Vitarana, Senior Minister of Scientific Affairs (then Hon. Minister of Science & Technology) and with the participation of Sir John Daniel, President of the Commonwealth Education, Hon. Bandula Gunawardana, Minister of Education and Mr. Lalith Disanayake, Hon. Deputy Minister (then). Over 200 invitees and special guests from the scientific community also participated in the event.

The winners of the following competitions conducted among the School Science Societies were rewarded with plaques, certificates and cash awards.

- World Science Day 2010 – Schools Competitions
 - Short Drama
 - Posters
 - Digital Story telling
 - Role play of eminent scientists

- Science Research Project Competitions
- National winners of the Sri Lanka Science and Engineering Fair
- NSF Award for Teachers for promoting science amongst school children
- National Award for Popularization of Science
- Star Rating Awards for School Science societies – 2009

The first two winning dramas were staged at the WSD main programme providing the opportunity to students to showcase their skills and capabilities. The opportunity was also provided to the first two winners of role play competition to showcase their talents.

2.2 World Science Day Programmes in Northern and Eastern Provinces

Parallel to the WSD 2010 main programme, two regional programmes were conducted on the 08th and 10th December 2010 in Batticaloa (An-noor National School) and in Jaffna (Vembadi Girl's School) districts respectively with a view to have higher collaboration with the North and East regions.

Each programme was attended by around 500 students and teachers. Each programme covered two lectures on Biodiversity and a topic related to the area accompanied by a quiz competition and a poster competition (at two levels). A drama depicting climate change was also staged to give both knowledge and entertainment to the participants. The Tamil version of the special issue of Vidurava on 'Climate change' was distributed among the participants.

3. Promotion of Science Research Projects among the school community

3.1 Sri Lanka Science and Engineering Fair (SLEF)

The Sri Lanka Science and Engineering Fair (SLSEF) was organized on the 19th February for the second consecutive year in collaboration with the Ministry of Education, Institution of Engineers, Sri Lanka (IESL) and Intel. SLSEF is a platform for science students (age 14 - 21) to discover their scientific genius and win public recognition at national and international level.

The following two inventions and the research project (group) were selected to compete at the Intel International Science and Engineering Fair (Intel ISEF) and International Exhibition for Young Innovators (IEYI) 2010 held in the USA representing Sri Lanka. Sponsorship for participation was provided by the Intel Sri Lanka.

- Advanced Stand for bicycle by *R A D Maduranga Karunajeewa* (Ruwanwella Rajasinghe Maha Vidyalaya)
- Wireless access technology for horologe by *Ganidu Nanayakkara* (Ananda College, Colombo)
- Effect of position of the moon on the composition of bee honey in the bee hives
By *Winushi Lakmali Kulawansa, Thotage Lasith Lakmak & Gamekankanamge Adeesha Udayarekha* (Gnanodaya Maha Vidyalaya, Kalutara)

Ganindu Nanayakkara, won the first Award in the computer Science category at the Intel International Science and Engineering Fair (Intel ISEF) and three other awards at the same series of competitions.

Four workshops organized during the year guided the students and teachers, on the development and conducting of successful research projects. The services of a panel of scientists were offered through the workshops and this resource persons further served as mentors for the students to enable them to improve their projects to compete at the national level.

3.2 Vidunetha programme

The Vidunetha programme was drawn up 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 aims to conduct a series of workshops to educate teachers on how to improve investigative ability of the students *via* science projects and the programme will be conducted in 2011.

4. UNESCO Malta Project: Development of science kits to facilitate hands on science in secondary schools of Sri Lanka

A Memorandum of Understanding (MOU) was signed between the UNESCO and the NSF for the receipt of funds (US\$ 77,000) for a project for training of 320 trainers on the Development of *low cost science kits to teach scientific concepts effectively at the secondary school level*. The programme will be implemented in collaboration with the Ministry of Education and the National Institute of Education during a period of 18 months. The expected outcome is to make learning of science joyful to the students through hands on experience.

5. National Olympiad Competitions

A number of activities were performed in relation to Olympiad activities conducted in the country.

5.1 Felicitation of Olympiad winners & Sponsorship

Fourteen (14) Olympiad Gold medal winners of the national competitions held for **Astronomy and Astrophysics, Physics**, Biology, Informatics, Mathematics, Junior Science (Grade 6), Junior Mathematics (Grade 6) were felicitated at the WSD 2010 held on 12 November.

The programme also Sponsored the registration of two Olympiad candidates for participation at the International Informatics competition and International Biology Olympiad Competition respectively.

5.2 Olympiad Federation

A sub committee was established to prepare the back ground work for the establishment of a National Olympiad Federation. The federation will be authorized to coordinate all Olympiad activities within the country and to bear the overall responsibility at the national level. A draft constitution was formulated for the proposed national Olympiad Federation.

6. Publications

6.1 Vidurava Science Magazines

All three issues of Volume 27 were published on the themes, Science Journalism, Ocean Resources for National Development , Climate Change: Mitigation & Adaptation and Science and National Security, in Sinhala, English & Tamil languages. It was ensured that the articles were written by scientists in the field in simple language to ensure that students get the benefit of the contents.

Copies of Vidurava were distributed among the School Science Societies registered with the National Science Foundation, University Libraries, and Vidatha Centres. An increased number of copies of the special issue on *Resilience to Climate change* was printed and distributed among the participants of the World Science Day main programme and the parallel programmes conducted in the North and East regions.

6.2 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 provide information on the Research Grants and Travel Grants administered during the year under review. Over 2000 copies of each issue of the newsletter were distributed among NSF Committee Members, University Libraries and Science and Technology Institutes.

6.3 Publication of the Creative Story Books

The following books published under the awareness programme in mitigation and management of natural disasters were translated from Sinhala to Tamil language during the year under review.

නියතය හා අපි
දෝතළු කන්ද, පාලුළු

6.4 Science Books Series

Under the Science Book Series the following were published during the year.

Infant & young child nutrition – Prof. Chandrani Liyanage
Atoms for peace – Mrs. Asoka Samaranayake
ශ්‍රී ලංකාවේ ඛනිජ සම්පත් – Dr. Rohan Fernando & Dr. A. Pitawala

The aim of the scheme was to increase the availability of printed material in Science and Technology relevant to local needs and to improve the quality of the publications on Science and Technology. The scheme also aimed at encouraging potential writers in Science and Technology.

6.5 Journal of the National Science Foundation

All for volumes of the Journal of the National Science Foundation (JNSF) of Sri Lanka publishing the results of research in Science and Technology, containing research articles, feature articles, general articles, opinions, review/short review articles, short communications, research notes, commentaries and notes, book reviews and other correspondences, have been published during the year.

From the first issue (March 2008) of this volume, the Journal is indexed by the following Thomson Reuters databases:

- ScienceCitation 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

The JNSF is the only journal in Sri Lanka to be included in the Science Citation Index Expanded™.

6.6 NSF Policy Brief

This publication focused on policy issues that are significant in the local and/or global context and of current interest, bridges the communication gap between the scientists/ researchers and policymakers by making the policymakers aware of research results that would help them in formulation of national policies.

During the year 2010; 3 issues on Alternative Energy, Women in Science & Technology and Sustainable Agriculture have been published.

7. Sri Lanka National Science Centre

Initial work related to the establishment of a National Science Centre for Sri Lanka was conducted. The Feasibility study, the business plan, discussion with business scientific and academic communities for Collaboration were completed, and the Project proposal was submitted to the Government during the year.

Twelve themes are to be covered by the Science Centre and major topics under the respective themes for the development of exhibits were identified as; Big bang to today, Wonders of nature, Development of technology, past and present , Our scientific and technological heritage, Understanding the modern world I , Understanding the modern world II , Marvels of the human body, Science in day today life, Science and technology for kids (play-learn areas), Sri Lanka Hall of Fame , Innovation celebration/ current achievements – exhibits of inventions and patent products and 12 Careers / opportunities in science.

8. Deyata Kirula (දෙයාට කිරුල)Exhibition 2010

A stall was arranged and actively participated at the above exhibition held from 04-10 February 2010 at Pallekelle.

9. Survey on Public Understanding of Science

The second stage of the ‘*Survey on Public understanding of Science*’ was conducted in the Kurunegala district. Data were collected from the general public and students in six schools in nine GN divisions. Data collection in three schools is still pending. The Statistics Department of the University of Sri Jayewardenepura has agreed to analyse the data. Data collection in the Colombo district was completed during the previous year.

10. Media Coordination

Publicity and media coverage was provided to the following NSF activities during the year under review.

- A press release on National Innovation Survey was made in the print media.
- Arranged media coverage for the National Forum on “Water research: Identifying Gaps and Priorities” held on 16 -17 September 2010.
- Arranged media coverage for the National Science & Technology Awards, held on 16 November 2010.
- Arranged media coverage for the National Symposium on Social Protection Policies, held on 30 November 2010

10.1 Collaborative work with Sri Lanka Rupavahini Corporation

Following collaborative works were conducted during the year.

- Live telecasting of the TV discussion with Mr. Pole Rose (a Presenter & public speaker, BBC) and Prof. M.T.M. Jiffry on 15 February 2010.
- SLRC provided media sponsorship for the World Science Day 2010 Schools Programme (12 November 2010)
- Publicity was provided to the National S&T Awards 2010 through SLRC
- Recording and telecasting of the schools' Sinhala drama, of Christ Church College, Baddegama, which won the first place in the Inter School Science Society Competition 2010 held on 14 February 2010.

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 present their research findings at International forums and to acquire Scientific Knowledge on new discoveries, achievements, and developments in order to experience global efforts as well as to arrange for expatriate scientists to work in Sri Lanka on fellowships. During early part of 2010 this grant scheme was suspended due to financial constraints faced by the NSF and during the last four months in 2010, NSF provided 06 travel grants (out of 12 applications processed) amounting to Rs 0.5 million as against zero grants during 2009.

1.2 Overseas Special Training Programme (OSTP)

The objective of the OSTP is to enhance national capacities by providing opportunities for training, acquiring advanced laboratory skills, industrial experience, and international exposure. This programme is mainly for scientists & technical personnel in academia, research institutions, government bodies, or industry; and media personnel in relevant institutions, while preference is given for the NSF's thrust areas, of biotechnology & nanotechnology. This grant scheme was also "on hold" during 2010 due to financial constraints faced by the NSF.

1.3 Annual TWAS/NSF Prize for Young Scientists

The NSF in concord with the Third World Academy of Sciences (TWAS) has instituted a scheme for the annual award of prizes for the 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. The winner for the year 2010 Dr Neil Fernandopulle, Senior Scientist, Genetech Molecular Diagnostics Ltd., Colombo 08 was selected from 08 applications received.

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 NSF Coordinating Committee on STEPAN

Coordinated the first STEPAN Informal Board Meeting under the Sri Lanka Chair, which was held on the 18th June 2009 at Hotel Galadari, Colombo. It was represented by five member countries namely Australia, Republic of Korea, Philippines, Thailand and Sri Lanka. The meeting reviewed its ongoing projects and activities and discussed its work programme for 2009-2011.

As for the work programme for 2009-2011, the meeting agreed to prepare a proposal for a regional innovation system study by Sri Lanka, and was submitted to UNESCO Jakarta. This study could not be initiated as many countries were not interested as they were concentrating on their National Innovation Systems. A STEPAN workshop has been proposed for 2011.

2.2 SAARC

2.2.1 Fourth Meeting of the SAARC Working Group

ILD was in the process of organizing this meeting, which would be rescheduled to be held on 27th April 2011. ILD was in the process of finalizing a venue for the meeting.

2.2.2 International Workshop on Application of Nanotechnology

This meeting has been scheduled to be held during the first week of June 2011 and ILD was in the process of organizing this event in liaison with Technology Division.

2.3 International Council for Scientific Union (ICSU)

Dr M.C.N. Jayasuriya, Chairman, National ICSU Committee attended the 9th meeting of the ICSU Regional Committee in April 2010 in Kuala Lumpur, Malaysia.

Dr M.C.N. Jayasuriya also attended the 10th meeting of the ICSU Regional Committee for Asia and Pacific from 11 - 12 November 2009. The meeting was held in Canbara, Australia.

2.4 International Conference on Global Forum of Sri Lankan Scientists: *Empowering Sri Lanka through Networking and Knowledge Sharing*, 2nd – 5th august 2011.

The ILD was involved in the process of organizing this event. It developed the Concept Note, an expatriate data base and had facilitated the development of the Forum website. ILD was also actively engaged in inviting key resources persons, developing the programme and seeking potential donors to secure funds for the event.

3. National Committees

3.1 National Committee on Oceanography and Marine Sciences

The Intergovernmental Oceanography Commission celebrated its 50th Anniversary in year 2010. In conjunction with this event the National Committee on Oceanography and Marine Sciences recommended to dedicate the June 2010 issue of *Vidurawa* for the theme “Ocean Resources for National Development”.

3.2 National Man and the Biosphere (MAB) Programme

3.2.1 Nomination of Kandy as a Biosphere Reserve

Discussions and presentations were held on the feasibility of Kandy being nominated as a Biosphere Reserve. A sub-committee was appointed, to process the nomination dossier.

3.2.2 Establishment of Mannar Biosphere Reserve

Preparatory work was done to get the Gulf of Mannar Biosphere Reserve established and possibilities were being 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 during latter part of 2009. Also Prof. Shantha Hennayake was entrusted with preparing the nomination dossier on the Gulf of Mannar Biosphere Reserve.

The first stakeholder meeting in this regard was held on the 26th July 2010 at the NSF Auditorium. The objectives of having this meeting were to discuss biological, archaeological, cultural aspects of the proposed biosphere reserve region as well as to collect necessary information to be incorporated in the nomination form.

Around 35 personnel attached to various institutions that have a stake in the proposed Mannar Biosphere Reserve Region as well as researchers who are involved in research/ surveys within the proposed Mannar Biosphere Reserve region participated at this meeting.

3.2.3 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 standards of the community. Forest Department has been requested for demarcation of the transition zone for the proposed Knuckles BR. Submission has to be delayed until the completion of demarcation of the transition zone.

3.2.4 Nomination of Ussangoda as a Geopark

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

3.3 National Ethics of Science & Technology Programme

A common Code of Ethics for Researchers and Practitioners in Science & Technology was drafted by the National Committee on Ethics of Science & Technology of the NSF.

Technology Division (TD)

1. Technology Grant Schemes

Widening the scope and the target groups, the existing five grant schemes were revised and merged into two schemes, viz. Support for Technology Development (Tech D) and Support to Start up Businesses based on novel technologies (Start Ups).

Awarding of New Technology Grants was limited due to financial constraints experienced during the year.

Prepared programme briefs for the two schemes. Application forms, guidelines for applicants and evaluation forms for grant applications were also revised to suit to the scope of the two schemes.

2. Research Grants

2.1 Nanotechnology

2.1.1 New Grants Awarded

Grant no	Title of the project	Grantee	period
RG/2010/NANO/04	<u>Development of basic techniques for Nano-encapsulation of bioactive compounds</u>	Dr. Nedra Karunaratne Dept. of Chemistry, University of Peradeniya	3 years

2.2 Thematic Committee on Bio-fuel

2.2.1 New Grants Awarded

Grant no	Title of the project	Grantee	period
RG/2009/BioFuel/01	Bio-diesel production using waste oils and fats	Dr. (Ms) S H P Gunawardena Dept. Of Chemical & Process Engineering University of Moratuwa	2 years
RG/2010/BioFuel/002	Economic, agronomic and environmental feasibility of producing bio-diesel from Jatropha in Sri Lanka	Dr. Jeevika Weerahewa Dept. of Agricultural Economics & Business Management University of Peradeniya	3 years

3. National Nanotechnology initiative

3.1 Nanotechnology policy

Preparation of the draft policy (technical content) was completed.

3.2 Awareness programmes

-for industries

Date	Title	Venue	No. of participants
24 th June 2010	Nanotechnology applications to the construction industry	ICTAD Auditorium	40

-for schools (A/L Science teachers)

Date	Title	Venue	No. of participants
15 th July, 2010	Training workshop for A/L Science Teachers in the Sri Jayewardenepura Education Zone	Janadhipathi Balika Vidyalaya, Rajagiriya	100
3 rd December, 2010	Training workshop for A/L Science Teachers in Piliyandala Educational Zone	Presbyterian Girls School, Dehiwala	80

3.3 Nanotechnology Phase II

A project proposal was prepared on “Developing a regulatory framework for nanotechnology related activities in Sri Lanka” and a grant application on the same was submitted to the International Development Research Centre (IDRC), Canada. The project proposal was approved by the IDRC for funding. Approval of External Resources Department was sought simultaneously.

4. Inter-ministerial Committee on Biofuel

A report on Committee recommendations was submitted to the Hon. Minister of Technology and Research.

5. Thematic Committee for Technologies for Rural Sector Development

5.1 Completed grants

Grant no	Title of the project	Grantee	period
RG/2006/TFRD/01	Improve living standards of rural community by increased milk production of dairy based Farming systems	Prof. H. W. Cyril Dept. of Animal Science, University of Peradeniya	3 years
RG/2006/TFRD/04	Development of Leguminous leaf meal block as an animal feed	Prof. Sujatha Premaratne Dept. of Animal Science, University of Peradeniya	3 years

6. Awards for excellence

6.1 National S & T Awards

To recognize the significant contribution made by Sri Lankan scientists and technologists towards economic and social development, the Ministry of Technology & Research (successor to the Ministry of Science & Technology) in collaboration with the National Science Foundation organized the National Science & Technology Awards ceremony on 16th November 2010 at Hotel Cinnamon Lakeside, Colombo.

This ceremony was graced by the Hon. D.M. Jayaratne, Prime Minister of Sri Lanka, Prof. Tissa Vitarana, Hon. Minister of Technology & Research, Ambassadors, Secretaries of Ministries and distinguished scientists. Keynote address was delivered by Prof. Ravi Silva, University of Surrey, UK.

The National Science & Technology Awards scheme was launched in year 2005 and awards ceremony was conducted as an annual event until 2008, when it was decided to be held as a biennial event.

In 2010 applications/ nominations were invited under 15 different categories. A total of 120 applications were received and the evaluation panel selected only five successful applicants for the awards.

The National Science & Technology Awards were given under 5 categories for the following scientists and technologists.

Award Category 1: Innovative advanced technologies with commercial potential

Dr. Nilwala Kottegoda, Ms. Imalka Munaweera, Mr. Nadeesh Madusanka and Prof. Veranja Karunaratne of Sri Lanka Institute of Nanotechnology for “Green nano fertilizer systems for slow and sustained release of nitrogen and other macro nutrients”.

Award Category 4: Development of eco material/ eco friendly processes for industry

Dr.A.Nugawela, Mrs. D.G.Edirisinghe and Mrs.M.K.Mahanama of Rubber Research Institute, SL for “Weed control mat, “Power mat” based a natural rubber latex dipped products”.

Award Category 9: Locally developed technologies, which have resulted in a successfully marketed products/ services

Ms. Mahavidanage Jaanaki Gooneratne of Industrial Technology Institute awarded for “A new technology for debittering of lime juice resulted in the formulation of an isotonic drink for sports/active persons that was successfully manufactured and marketed by a local industry”.

Award Category 11: Science and technology contribution to improve sustainable social development

University of Moratuwa, Dialog Axiata and The Sri Lanka Wildlife Conservation Society for “eleAlert: Sensor network for monitoring fences”.

Award Category 14: Outstanding leadership in introducing technologies/ services

Seguwantivu Wind Power Pvt. Ltd awarded for “Renewable energy generation-design, construction and commissioning of a 20MW wind power plant”.

7. Technology Foresight

7.1 Foresight awareness workshop in collaboration with UNIDO (Focus - food technologies)

A concept note was prepared and submitted to the UNIDO- Sri Lanka office through the Ministry of Industry and Commerce to obtain funds to conduct programme for capability building in Application of Technology Foresight for strategic decision making in Sri Lanka.

A letter of intent was submitted to APN to obtain funds for National programme for capability building in application of technology foresight for sustainable development.

7.2 Follow up work of the seminar conducted for rice-based products

Draft criteria were developed to prioritize identified technologies at the stakeholder workshop held in 2009.

8. Intellectual property awareness & protection

8.1 IP education in the universities & schools

As per the proposal to introduce IP into the school curriculum and universities, IP education was introduced to science and science related faculties in the universities at stage 1. To implement second stage (for their faculties of the universities) a progress review of stage 1 was carried out.

8.2 Awareness building activities

8.2.1 Workshops for “Vidatha” Centers

Second seminar (in the series of seminars to be conducted for provinces) for Science & Technology Officers of "Vidatha" Centers was held on 30th April 2010 in the Cultural Centre, Matara. Target group was the S & T Officers in the Southern Province. About 40 S & T Officers participated in the workshop. Resource persons were invited from the National Intellectual Property office of Sri Lanka. Ms N. Abhayaruwan / STO was one of the resource persons at this seminar attended from NSF.

8.3 Provide consultancy on patenting/patent information

Consultancy on IP protection and filing patent applications was provided to 09 Vidatha Centers. Patent search information and assistance provided to following inventors to draft their local patent applications.

Mr. Keerthi Silva - “Dry cell hydrogen and oxygen injector for combustion engines”

Mr. Kamal Raja - “Plant fiber extraction machine”

Consultancy on how to search for patentability was provided to Prof. Hema Pathirana, University of Ruhuna and consultancy on ownership of IP was provided to Prof. Ratnayake Bandara, University of Peradeniya.

Assistance provided for following inventors to draft their PCT applications.

Mr Prasad Pieris- "Vizushop"

Mr Harsha Kumara Gallage – “Tree climbing device”

Mr J.I Uyangodage - “Water/ air pump for energy generation”

Mr Dinesh Katugampala - “Radius Meter”

8.4 Patent desk to provide facilities for submitting PCT applications online/search facilities through a special web page

The Technology Division provided advice and assistance to inventors who sought protection to their inventions internationally through the PCT system.

Accordingly, Mr. T.S.S. Gomes was assisted in drafting his PCT application titled “Technology of eco-design spherical for latex handling” using PCT-SAFE Editor in XML format in accordance with PCT requirements. Application was transmitted (filed) on-line to International Bureau of WIPO on 11/06/2010 (International application No.PCT/IB2010/052604) using PCT-SAFE software.

9. Facilitating technology transfer mechanisms

9.1 National policy for development of university, institute - industry partnerships (UI-IP) for the promotion of innovation and transfer of technology in Sri Lanka (UI-I Partnership policy)

Work on the policy was in progress.

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

Summary reports of completed projects in 2009 were studied and major achievements were recorded for taking follow up actions in next year if the funds for research/experimental development will be available.

9.3 Technology databank

The database was updated with details of registered companies in Sri Lanka; records are about 3000 which were collected from various sources. These data were useful in sending questionnaire – 1 of Sri Lanka National Innovation Survey- 1.

9.4 "Techwatch Lanka" e - News letter

"Techwatch Lanka" e - News letter December volume was ready to publish. E- News letter contained the articles from the fields of **Food Science & Technology, Aquaculture Technology, Environmental Technology, Polymer Science & Technology and Electronic & Telecommunication.**

9.5 Collaborative activities with the "Vidatha Centres"

Information provided for STOs who inquired regarding the NSF activities, which are relevant/ useful to Vidatha Centers. Eg: Nanotechnology awareness for schools, IP awareness programmes etc.

10. Knowledge Based Development-

10.1 Surveys & Studies

A proposal was prepared and submitted to obtain funding support from UNESCO Participation Programme for awareness and capability building in promotion of innovation in Sri Lanka.

10.1.1 Sri Lanka National Innovation Survey -1

Sri Lanka National Innovation Survey (SLNIS 1) is the first of its kind being conducted in the country. The survey was planned to cover many public and private business organizations located all over the country. Data collection was in progress for a five year period from 2005-2009. Two questionnaires (Q1 & Q2) were designed to collect data through postal surveys and personal interviews.

Q1 was posted to about 3300 registered companies in Sri Lanka. Company addresses were collected from various sources, eg. National Chamber of Commerce of SL, Ceylon Chamber of Commerce, European Chamber of Commerce (ECCSL), Ministry of Industries, Export Development Board, Vidatha Centres, Rainbow pages of SLT, Exhibitions at BMICH etc. More than 2000 reminders were sent in order to ensure satisfactory participation. About 365 responses were received for Q1 and Q2 was sent for about 310 companies who were willing to participate in the survey. 42 companies had responded by completing the Q2 at the end of the year and the survey is being progressed.

10.1.2 University contribution to economic development - study on University patent share

A study of University patents was conducted and an abstract on “Commercial Exploitation of University Inventions- A Sri Lankan perspective” was submitted for SLAAS Annual Session. It was accepted and presented at 66th Annual Session in December 2010.

10.1.3 Patent share and Technology transfer from local R &D institutions

The questionnaire was developed, to be sent to R & D institutions.

11. Staff involvement as resource persons

Ms. N. Abhayaruwan/ STO gave a presentation on “Patent Information & Patent Information Searching” at Intellectual Property Awareness seminar for “Vidatha” Centres in the Southern Province, held on 30th April, 2010 in Cultural Centre, Matara.

12. Other activities

Scinno Tech Alert

11 issues were released for the year 2010. Ms. Nadeeja Wickramarachchi coordinated the release of each issue and compiled information obtained from Editorial Team members of same.

Science and Technology Policy Research Division (STPRD)

Being mandated to;

- Maintain a current register of scientific and technical personnel
- 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, Science and Technology Policy Research Division continued its activities conducting studies, surveys and maintaining databases, also to support policy formulation on Science Technology and Other fields.

Main activities carried out by the division included studies on selected areas of importance to Science Technology and Other fields, conducting surveys, maintaining databases, and releasing various publications on related subjects.

1. Research:

- Brain Drain of Sri Lankan scientific community – completed and a research paper was published in an international Journal.
- Women in science – completed and presented a paper at an international conference in Beijing, China in June 2010 and the Abstract was published in the conference proceedings. One international book chapter was also published.
- Tracer study of science and Technology doctoral degree holders – data were being analyzed by the Science & Technology Officer attached to the Division for his Masters Degree project.
- Study on problems and constraints faced by indigenous medical researchers in Sri Lanka – Completed and a research paper was presented at the 66th SLAAS Annual Research Sessions in Decemebr 2010.
- Bibliometric analysis of papers presented at the SLAAS annual conferences during the past 10 years - completed and presented a paper at the 66th SLAAS Annual Research Sessions in December 2010.
- SME cluster studies - Mushroom cluster - a book chapter was published.
- Study on Innovation activities of Industrial Sector in 2008 – relevant indicators were developed and published.

2. Surveys:

- National R&D Survey 2008 – completed.
- Survey on Indigenous medical researchers in Sri Lanka – completed.

3. Databases:

- Science and Technology Management Information System (STMIS): This includes the information on. Sri Lankan Scientists, b) S&T Organizations in the country, c) advanced equipments available in S&T sector institutions, d) research activities carried out and technologies available etc. By the end of the year 2010, updating of information of scientists registered in the database (~ 3100) was initiated.
- Database on Sri Lankan Expatriates – data collection for expansion was commenced in December.
- Database on Inventors - data collection and updating was commenced in December.
- Database on Technical Persons – data collection was commenced in December.

4. Major outputs

4.1 Technical Reports

- Brain Drain of Scientific Community from Sri Lanka
- Contribution of Women scientists in Sri Lanka
- Employer's perceptions on S&T graduate employees

4.2 Publications:

Books

NSF (2010), *Sri Lanka Science, Technology and innovation Statistical Handbook 2008*. National Science Foundation, 47/5, Maitland Place, Colombo -07.

Book Chapters

Dilrukshi P.R.M.P. & Wickremasinghe Seetha I. (2010). The Current status of Women Scientists in Sri Lanka In: *Empowerment of women through Science and Technology interventions*, (Eds. Nerupama Prakash, Betty McLellan and Barbara Wejnert). Center for Science and Technology of the Non-Aligned and other Developing countries, New Delhi, India.

Wickremasinghe Seetha I. (2010 a). Mushroom cultivation and marketing by rural community in Sri Lanka: actors and linkages. In: *compendium of case studies on innovation based entrepreneurship* (Eds. Fortunato T. de la Pena and Paz H. Diaz). Department of Science and Technology, Gen, Santos Ave., Bicutan, Taguig City, Republic of the Phillipenes.

Research (refereed full papers)

Anas M.U.M. & Wickremasinghe Seetha I. (2010). Brain Drain of scientific community from developing countries: the case of Sri Lanka. *Science & Public Policy Journal* **38**(5):381-388.

Research (refereed Abstracts)

Wickremasinghe Seetha I. & Srikumaran Nanthaki (2010). Bibliometric indicators of science and technology output: the case of abstracts from natural sciences presented at SLAAS annual sessions from 1998-2009. *The 66th Annual Scientific Session, 8-10 December, Sri Lanka Association for the Advancement of Science*, Vidya Mandiraya, Colombo-07.

Dilrukshi P. R.M.P., Rankothge C. & Wickremasinghe Seetha I. (2010). Problems associated with Ayurveda research and indigenous Medical System in Sri Lanka. *The 66th Annual Scientific Session, 8-10 December, Sri Lanka Association for the Advancement of Science*, Vidya Mandiraya, Colombo-07.

Shiyana M.Z.S. & Wickremasinghe Seetha I. (2010). A Case Study on School Research Projects of the GCE (A/L) curriculum (science stream): views and constraints of students. *The 66th Annual Scientific*

Session, 8-10 December, Sri Lanka Association for the Advancement of Science, Vidya Mandiraya, Colombo-07.

Vathanie M.S. & Wickremasinghe Seetha I. (2010). A case study of feasibility of school research projects of the GCE (A/L) curriculum (science stream): views of teacher community. *The 66th Annual Scientific Session, 8-10 December, Sri Lanka Association for the Advancement of Science, Vidya Mandiraya, Colombo-07.*

Wickremasinghe Seetha I. & Dilrukshi P.R.M.P. (2010). Women entrepreneurship and innovation system: case study of mushroom enterprise in Sri Lanka. *Third World organization for Women in Science (TWOWs) Abstracts, International Conference on Women in a Changing World, 27-30 June 2010, Beijing, China. p 108.*

Dilrukshi P.R.M.P. & Wickremasinghe Seetha I. (2010). Contribution of women scientists for the research and development activities in Sri Lanka. *Third World organization for Women in Science (TWOWs) Abstracts, International Conference on Women in a Changing World, 27-30 June 2010, Beijing, China. p.123.*

Wickremasinghe Seetha I. (2010 b). Science and technology policy initiatives of pre-independent Sri Lanka: an over view with special reference to the British era. *Proceedings of the 12th International Conference on Sri Lanka Studies, 18-20 March 2010, Royal Asiatic Society, Colombo, Sri Lanka, p. 232.*

Wickremasinghe Seetha I. (2010 c). Sociological perspectives of scientists in laboratories: the case of rice scientists in Sri Lanka. *Proceedings of the 12th International Conference on Sri Lanka Studies, 18-20 March 2010, Royal Asiatic Society, Colombo, Sri Lanka, p. 233.*

Wickremasinghe Seetha I. (2010 d). External Brain Drain of scientific community in Sri Lanka: a case study. *Proceedings of the 12th International Conference on Sri Lanka Studies, 18-20 March 2010, Royal Asiatic Society, Colombo, Sri Lanka, p. 234.*

News Letter

Wickremasinghe Seetha I. (2010 e). Scientific community and professionalism. *Vidya, 12 (3), National Science Foundation of Sri Lanka*

5. Papers presented at Seminars/Workshops:

The International Conference on Women in a Changing World, 27-30 June 2010, Beijing, China

- Women entrepreneurship and innovation system: case study of mushroom enterprise in Sri Lanka.
- Contribution of women scientists for the research and development activities in Sri Lanka.

The 66th Annual Scientific Session – SLAAS (08-10 December 2010)

- Bibliometric indicators of science and technology output: the case of abstracts from natural sciences presented at SLAAS annual sessions from 1998-2009.
- Problems associated with Ayurveda research and indigenous Medical System in Sri Lanka.

The 12th International Conference on Sri Lanka Studies, Royal Asiatic Society, Colombo, Sri Lanka (18-20 March 2010)

- Science and technology policy initiatives of pre-independent Sri Lanka: an over view with special reference to the British era.
- Sociological perspectives of scientists in laboratories: the case of rice scientists in Sri Lanka.
- External Brain Drain of scientific community in Sri Lanka: a case study.

6. Staff represented at various national and institutional committees:

- Dr. Seetha I. Wickremasinghe, Head/ STPRD served as:
 - i. Elected Council Member, Sri Lanka Association for the Advancement of Science, Vidya Mandiraya, Colombo-07 for the year 2010.
 - ii. Chairman of the Science Education Committee, Sri Lanka Association for the Advancement of Science, Vidya Mandiraya, Colombo-07 for the year 2010.
 - iii. Vice President of the Section-D (life sciences) Committee 2010, Sri Lanka Association for the Advancement of Science, Vidya Mandiraya, Colombo-07 for the year 2010.
 - iv. Member of the Senior Scientific Forum, National Science & Technology Commission (NASTEC), Nawala, Nugegoda for the year 2010.
 - v. Council Member of Sri Lanka Institute of Ayurveda and Traditional Medicine (SLIAT), Rajagiriya for the year 2010.
 - vi. Member of the Editorial Board of Sri Lanka Journal of Ayurveda and Traditional Medicine
 - vii. Council Member of the Royal Asiatic Society (RAS) of Sri Lanka, 96, Ananda Coomaraswamy Mawatha, Colombo-07 (up to May 2010)
 - viii. Member of the Editorial Board of Journal of the Royal Asiatic Society of Sri Lanka (up to May 2010).
- Dr. P.R.M.P. Dilrukshi, Scientific Officer served as:
 - i. Secretary, Science Education Committee, Sri Lanka Association for the Advancement of Science, Vidya Mandiraya, Colombo-07 for the year 2010.

- ii. Member of the Section-F (social sciences) Committee, Sri Lanka Association for the Advancement of Science, Vidya Mandiraya, Colombo-07 for the year 2010.
- iii. Member of the Committee for Popularization of science, Sri Lanka Association for the Advancement of Science, Vidya Mandiraya, Colombo-07 for the year 2010.
- iv. Steering Committee Member of the Young Scientific Forum 2009, National Science & Technology Commission (NASTEC), Nawala, Nugegoda.

7. Comparison of the performance during 2007- 2010

- Number of Publications

2007	2008	2009	2010
01	08	07	13

- Number of scientists registered in the national STMIS database

2007	2008	2009	2010
3100	3450	3510	3678

- Number of IDs issued to registered scientists

2007	2008	2009**	2010**
450	650	-	~

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. High emphasis was placed on meeting the changing needs of the scientific community in the country.

Highlights: Following significant achievements were made during the year.

1.1 Digitization Project:

The digital Library of the NSF showed a very significant progress. The number of full text document available through the NSF digital library as at 31 December 2010 recorded **17280** and the number of full text articles (appearing in 26 locally published journal titles) uploaded to the database during the year under review was 7965.

1.2 Sri Lanka Science Index Database:

The progress of the Sri Lanka Science Index database showed a remarkable improvement with the addition of **9073** records - the highest growth recorded during a one year period. The total number of records as at 31 December 2010 was **35565**.

1.3 National Network of Institutional e-Repositories:

The foundation for National Network of Institutional e-Repositories among the universities and research institutions in the country was laid down, the objective being to ensure that the total scholarly literature output in the country is made available for easy access to the scientific counterparts in order to support and promote productive research. As at 31 December, six institutions had established their institutional e-repositories.

1.4 Services to other libraries on computer catalogues/databases:

The services provided to libraries in the county in developing new databases, improving the existing databases and providing support in trouble shooting needs were very significant. The libraries were provided help on **73 occasions**.

1.5 New catalogues

Three new catalogues of other libraries were hosted in the NSF server to increase visibility of the resources in the respective libraries.

2. Collection Development

The National repository of S & T literature collection was strengthened with the addition of 1964 articles. The number of S & T newspaper clippings added during year 2010 was 3296. The number of new books and technical reports added to the collection was 214 and the total number of records in the SLSTICAT database was 26572. The number of Final reports & Post Graduate theses added during the year based on NSF funded research projects were 48 and 11 respectively. The Centre continued to receive sixty four (64) locally published and six (6) internationally published S & T periodicals on a regular basis.

3. Services

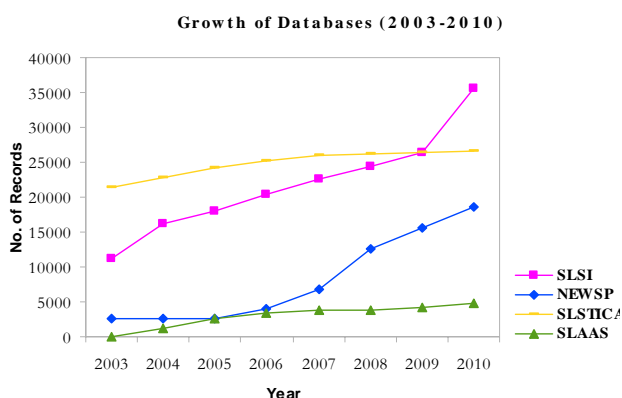
- **The NSLRCweb site was improved** through the addition of more links to both local & international information sources. The web site served as a central gateway to all local library and Network catalogues and special databases available online.
- **Current Awareness Service (CAS)** – Ten monthly CAS lists were prepared and made available to the scientific community through the ScinnoTech Newsletter. The CAS were based on the items added to the National repository during each month and were listed under major categories for easy location by users.
- **Visitors/Users** - The number of visitors received during 2010 was 178. This shows a slight increase compared to the previous year. Facilities available for **online access to NSF resources** tend to keep the number of visitors at the NSLRC at a low level.
- **Literature searches and Document Delivery** – 314 Literature searches were made for users and 79 telephone queries requesting information were answered. The searches were done on the in-house databases, CD ROM databases, and International databases and on the Internet. A satisfactory copy duplication service was offered parallel to search services.
- Three **new catalogues** of other libraries were hosted in the NSF server to increase visibility of the resources in the respective libraries. The web interface for the databases were developed free of charge. The SLSI database web search interface was redeveloped to provide a more attractive appearance

4. Access to online databases

4.1 HINARI database:

Access to the HINARI database (Programme for Access to Health Research) was provided to users through registration to a three month trial version. NSF Board approval was obtained to subscribe to HINARI at a concessional rate. HINARI provides online access to the major journals in biomedical and related social sciences to local, not-for-profit institutions in developing countries. Free databases and resource sites were identified and linked to the central NSLRC web site for easy location/access.

5. Database Developments:Improvements to databases



5.1 Sri Lanka Science index (SLSI):

The number of records as at 31 December 2010 was 35565. The database has shown a continuous & significant growth over the years. The full text of over 17000 articles, reports and conference papers can be viewed online within the NSF premises & a considerable number of articles are linked directly to the web sites of the respective publishers.

5.2 Newspaper articles database:

The number of new articles added to the database was 3296. The total number of records as at December 2009 was 18663. A CD was produced incorporating full text of articles appearing in local newspapers during year 2008. The CD produced in year 2009 with Full text of newspaper articles (on Science and Technology and allied fields) published in local newspapers during the year 2008 was improved to offer a friendlier user interface. The new version covers four volumes under 4 main subjects – Agriculture, Life Sciences and Environmental Sciences; Health & Medical Sciences; Chemical, Physical & Engineering Sciences and Social Sciences supplemented by a list of Sinhala titles arranged alphabetically to support easy searching and location of complete articles.

5.3 SLAAS database:

The SLAAS database has shown significant improvement. Complete references and abstracts to all papers presented at SLAAS annual sessions in years 2005 and 2009 were added to the database. The total number of records added during the year was 546 and the number of records as at 31 December 2010 was **4710**. The database can be searched and abstracts can be downloaded and printed on-line.

5.4 SLSTIC catalogue:

The total number of records as at 31 December was 26573

5.5 Research Grants database:

The database was updated with the addition of 48 new reports and 11 theses. The total number of records as at 31 December was 1887. The full text of a total of 1033 final reports and 69 theses were accessible online within the NSF LAN as at 31 December.

5.6 National e-repository database:

The NSF e-repository was customized to give a more attractive appearance to the search interface and the number of items was increased up to **1970**. All NSF monographs and Journal articles published prior to 2006 were made available online facilitating remote access. The database supports accommodation and search of documents in any language. ,

6. Enhancing IT applications in SLSTINET member libraries

6.1 Software distribution:

Eight (8) copies of the CDS/ISIS (Windows version) were distributed to private and public sector libraries in the country.

6.2 Training programmes/workshops:

Three workshops on WINISIS basic applications and one workshop on Dspace Digital Library software were conducted. The total number of persons trained on WINISIS and Dspace were 26 and 24 respectively.

The Dspace training programme was of significant importance as the basic foundation for a national network of institutional e-repositories was laid down. A national team of twenty four IT and Library Professionals from the universities and research institutions in the country were provided training on the establishment of institutional e-repositories. It anticipated that such a network will provide easy access to the collective literature output in the country to support productive research and development. Professor A R D Prasad and Dr. Medalli of the Indian Statistical Institute, Bangalore, experts on Dspace served as resource persons. The programme was funded by the INASP (International Network for the Availability of Scientific Periodicals Programme), UK under its small grants scheme.

6.3 Assistance in Trouble shooting:

SLSTINET libraries were assisted in the establishment of new databases, modification of existing databases and overcoming problems in existing databases during 73 instances.

7. Library Networks

NSLRC actively contributed to the following Information networks during the year.

AGRINET – Actively participated in Agricultural Information Network (attended 03 meetings).

HELLIS – Health Literature & Library Information Services. (attended 03 meetings)

Asia Pacific Information Network (APIN): NSLRC served as the National Focal Point of the Asia Pacific Information Network

8. Conferences/Workshops attended:

- **UNESCO workshop on Information Policy and Statistics**, 13–15 and meeting of Media and Information Literacy experts from 15-17 September 2010 Bangkok
Sunethra Perera, Head, NSLRC
- **5th Asia Pacific Information Network (APIN) Meeting**, 23-26 November 2010
Manila, Philippines
Sunethra Perera, Head, NSLRC
- **SLLA Golden Jubilee International Conference**(06 -08 October 2010 – *Ceylon Continental Hotel*)
Ms. Nanda Perera, (IO)
Ms. J Weerathunge (IO)
- **Knowledge sharing seminars and workshops (Information Sources for Innovation)** 21 July 2010 ITI Auditorium
Ms. J Weerathunge (IO)
Mr. Chanaka Wickramasinghe (LA)

9. Contributions of NSLRC Staff at seminars/Conferences

Following papers were presented

- **Information for Innovation. Paper presented** by Ms. Sunethra Perera, Knowledge Sharing seminar Series Industrial Technology Institute, 21 July 2010
- **National Science Foundation - Towards ISO 9001:2008.** Presentation made at the Launching of the Quality Management System at the NSF, 13 October 2010
- **Country Report :Sri Lanka.** 5th Session of the Asia Pacific Information Network, *23-26 November 2010*, Manila, the Philippines
- **Outcomes of the APIN meeting 2007 held in Hanoi, Vietnam. Paper presented at the** 5th Session of the Asia Pacific Information Network, *23-26 November 2010*, Manila, the Philippines

Administration Division

For the purpose of providing the services required to enable fulfillment of the core functions of 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. We made an effort 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 reach the mission of NSF.

1. Staff

The NSF had staff strength of 99 out of 157 approved cadre and 24 of them were scientific staff.

The principal staff list as at 31.12.2010 is given at Annex 3.
One executive member resigned during the period.

2. Representations by the Staff

The staff represented NSF at 09 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.

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

Steps were taken to re-establish the QMS programme for the NSF, which initiated in 2007 but not continued since 2008. Setting up of the QMS system was re-launched under the advice of the Director, in November 2009. A co-group of twelve members with representatives from each Division was assigned with the responsibility of re-establishing the system. A refresher/awareness programme was conducted for all the staff to ensure the support of all employees towards reestablishing the system. A road map was thus developed targeting to achieve ISO 9001:2008 certification by December 2010.

- 2009 Nov.: Re-launched, a core group established with representation from all the Divisions
- Trained all staff with, in-depth training for core group
- Communication and promotional work carried out.
- Documentation completed
- implementation of the system with the launch on October 13, 2010 - declared as the 'Quality Day'

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 are,

- 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 fares 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

The Chief Accountant, Accountant, Accounting Assistant, nine Accounts Clerks, Assistant .Store keeper, Stenographer & a peon.

Printing Unit

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

It undertook the printing of 25 publications namely books, journals and 63 other printing works as against 25 publications and 67 other printing works performed during the year 2010.

Information Technology Unit

The Information Technology Unit continued to facilitate IT requirements of the NSF with the intention of quick accession to information.

This Unit serves the NSF Secretariat with providing Internet facilities, web hosting facilities, and database hosting facilities .Additionally, the Unit provides services at conferences sponsored by NSF, both in-house and externally. While this Unit provides the bare minimum , it must be upgraded to improve the existing infrastructure facilities, such as upgrading the Internet bandwidth; upgrading and replacing all personal computers and printers with modern versions to facilitate the growing demand of NSF and strengthening the backup facilities of the NSF servers.

During the year an effort was made to establish an improved website and an integrated online software system for NSF, which has been a felt need, to improve the performance of NSF, working with the University of Colombo School of Computing (UCSC)Preliminary System Study was completed.

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/Chair person discharged its duties during the year with special emphasis on the following;

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

Observations of the Accounting Officer on performance

			Rs.'000
Recurrent Expenditure	Estimate		Expenditure
Personal Emoluments	47,233.00		40,227.00
Other recurrent	33,767.00		20,200.00
	81,000.00		60,427.00
Capital Expenditure	Estimate	Funds Received	Expenditure
Object Code – 133-02-05-3-2201			
	238,000.00	107.00	79,206.00
Revenue	766		456

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

	Description	2010 allocation according to funds recd. Rs mn	2010 actual exp. Rs. mn
1.	Grants for Research & Other Scientific Work	49	35.1
2.	Science & Technology Policy Research Division	3	1.9
3.	Technology Division	11	8.1
4.	National Science Library & Resource Centre	1	0.4
5.	Science Popularization Division	10	8.1
6.	International Liaison Division	4	2.2
7.	Information Technology Division	1	0.2
8.	Office Furniture fittings & Equipment	3	2.2
9.	Rehabilitation of Capital Assets	1	0.1
10.	Land & Land Improvements	1	0.006
11.	Vehicle	-	-
12.	Building & Building Renovation	1	0.7
13.	Director's Office Vote	2	1.2
14.	Integrated Software Programme	1	-
15.	Investigate & evaluate Chronic Kidney disease In the North Central Region in Sri Lanka	19	19
	Total	107	79.206

Financial Issues

NSF being a funding organization, which is solely dependent on the Government funds, faced numerous difficulties due to the financial constraints during the year. The following financial data amply testifies the magnitude of hardships that NSF has gone through, resulting in not being able to meet at least the minimum requirements of the scientific community. This not only hampered the progress of activities planned for the year, but to some extent affected the confidence that the scientific community had in the stewardship role played by NSF over the years.

A research grant duration is generally 2-3 years and the provisions for a given year, therefore have to be based on current year grants and allocations for grants of previous years. The non receipt of funds in a timely manner therefore affected not only the current year grants but also the current year progress of the grants awarded in the previous years, seriously affecting project progress.

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

The approved capital budget of Rs. 238.0m was also allocated in 03 tranches viz. Rs 72.4m for January -April, Rs. 54.3m for May – July and Rs. 112m during the balance period of 05 months.

Further, out of the Rs. 238.0m allocated for the 12 months, only Rs. 107.0m was released for the year to be used by NSF. During the first half of the year only Rs. 20.0m was released by the Treasury at the rate of Rs. 10.0m each during the months of February and May while no funds were released for the balance 04 months of the first half of the year. 58.9% of the funds granted (Rs. 63.0m) was made available only in September to December of the year, and the poor provision of funds drastically affected the progress of activities.

Since NSF did not have funds during the early part of the year funds were released only for the activities which were in progress. NSF suspended travel grants scheme during early part of the year. Also the overseas special training programme (OSTP) was kept on hold. NSF could not advertise for the award of new research projects as the time needed to release funds for new projects after the evaluation procedure followed in awarding research grants, from the time of advertising in the local print media is around 2-3 months. The expenditure of the Research grants division & Technology division was affected due to non award of new research projects. NSF funded only sixteen projects for which applications were received in the year 2008 after reviewing the validity of the projects in 2010.

Management Issues-

Staff recruitment and promotions were suspended from 2008, pending the finalization of the implementation of the DMS 30 Circular. This seriously affected the staff strength (substantially below the cadre, 99 against 156) and the inability to finalize the salaries and promotions also affected the morale of the staff who has been offering their services despite the constraints over the years. Approval for the Scheme of Recruitment and Promotion was granted only in October 2010. The inability to fill vacancies and high turnover of staff affected the expenditure of NSF.

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

Other Issues

- The beneficiaries of research grants were basically those in academia and research institutes and NSF does not have direct control over them while research is carried out under the supervision of the respective Heads of Departments of those research institutions. In spite of strong grant scheme conditions, timely implementation of projects is affected due to this and to some extent due to procedures and systems within the grantee's institution. We are improving our systems on an ongoing basis to address this.

FINANCIAL STATEMENTS

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST DECEMBER 2010

Rs.000

Revenue	2010	2009	
Government Grant	60,976	61,551	
Other Income			
Interest received	195	193	
Sundry Income	25	156	
Sale of Publications	(1,639)	(403)	
Photocopy receipts	47	10	
Internet membership fees	14	13	
NSLRC Income	9	30	
Profit from sale of Fixed Assets	166	20	
Excess provisions	8,682	502	
Receipts from school science societies	-	4	
Receipts from printing outside	-	32	
Differed Revenue	9,283	8,026	
	77,758		70,134
Expenditure			
Personal Emoluments			
Salaries & allowances	34,695	35,737	
Employees Provident Fund	4,054	4,217	
Employees Trust Fund	811	843	
Provision for retiring gratuity	1,450	1,504	
Overtime	617	730	
Holiday payment	49	51	
Uniforms	111	123	
Staff training	448	355	
	42,235	43,560	
Traveling	338	127	
Supplies	913	943	
Maintenance	3,159	2,913	
Contractual Service	7,845	7,804	
Others	8,715	6,923	
Depreciation	9,832	10,350	

	30,802	73,037	29,060	72,620
Surplus Deficit over the income before extraordinary items		4,721		(2,486)
Extraordinary items (Net Profit or loss)				
Net Surplus/ Deficit for the period		-		-
		4,721		(2,486)

BALANCE SHEET AS AT 31ST DECEMBER 2010

			Rs.'000
ASSETS	2010	2009	
Non Current Assets			
Property Plant and Equipment	335,553	340,415	
	335,553		340,415
Investments	631,522		484,522
Current Assets			
Inventories/ Stock	5,214	6,505	
Trade and other receivables	10,528	17,344	
Prepayments	17,379	991	
Cash and cash equivalents	33,811	15,593	
	66,932		40,433
Total assets	1,034,007		865,370
Net assets & Liabilities			
Capital and Reserves			
Accumulated Fund	21,476	(8,182)	
Reserves - Revaluation Reserve	316,061	316,061	
Government Grant	631,522	484,522	
	969,059		792,401
Non current liabilities			
Provision for gratuity	17,294	15,844	
Differed revenue	37,811	39,873	
	55,105		55,717
Current liabilities			
Payables	6,676	12,870	
Accrued Expenses	3,167	4,382	
	9,843		17,252
	1,034,007		865,370

CASH FLOW STATEMENT - 2010

	2010	2009	Rs'000
<u>Cash flows from operating Activities</u>			
Net excess of income over expenditure	4,721	(2,173)	
Add; NSF fund prior year adjustments	33,037	-	
	37,758	(2,173)	
<u>Adjustments for</u>			
Depreciation	(9,832)	(10,350)	
Loss from publications	(1,640)		
Gratuity paid during the year	-	2,703	
Provision for Gratuity	(1,450)	(1,504)	
Provision for doubtful debts	7,367	502	
Excess provisions	1,315		
Bad debts	(1)	(65)	
Profit on sale of fixed assets	166	20	
Loss from sale of fixed assets	(19)	-	
Deferred Revenue	9,283	8,026	
Stock of Magazines & Journals written off	(1,307)	-	
Operating profit/loss before working capital changes	33,876	(1,505)	
Net increase/decrease in trade other receivables	(2,230)	28,824	
Decrease in inventories	1,291	1,499	
Net decrease/increase in trade payables	(7,409)	(9,246)	
Cash generated from operations	(8,348)	21,077	
Net cash from operating activities	25,528		19,572
<u>Cash flows from Investing Activities</u>			
Outflow from activities	(110,403)	(78,036)	
Purchase of assets	(4,712)	(9,002)	
Investments	(147,000)	(484,522)	
Excess provisions re. Building	10		
Proceeds from sale of equipments	215	5	
Proceeds from sale of books	581	-	
Net cash used in investing activities	(261,309)		(571,555)
<u>Cash Flows from Financial Activities</u>			
Contribution from Government	107,000	68,350	
Government Grant	147,000	484,522	
	254,000		552,872
Net cash from financing activities	18,219		889
Cash & cash equivalent at beginning period	15,593		14,704
Cash & cash equivalent at end of period	33,812		15,593

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 have been treated as deferred in come 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)	1,624.00
2. NSLRC Books	230,311.04
3. Conversion of printed documents into Digital files	163,875.00
4. Advisory Board	20,703.00
5. NSLRC staff training	6,000.00
	<u>422,513.04</u>
<i>Less:</i> Receipts from NSLRC workshops & Seminars	(14,879.41)
	<u>407,633.63</u>

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	33,908,499.32
Research Scholarships & Fellowships	1,211,778.83
Chronic Kidney Disease Project	19,000,000.00
Actual expenditure for the year	<u>54,120,278.15</u>
Accrued expenditure	27,629.59
	<u>54,147,907.74</u>

1.3 Miscellaneous Fund Expenditure

	Rs.
1. International contacts	1,505,375.70
2. Science Popularization Division	8,067,380.07
3. Information Technology Unit	228,295.00
4. Rehabilitation & Improvements for assets	135,709.00
5. Director's Office Vote	1,214,714.18
6. Science & Technology Policy Research Division	1,925,788.95
7. Technology Division	8,147,419.51
8. International Liaison Division	770,707.34
	<u>21,995,389.75</u>

2. Assets & the basis of their valuation

Depreciable assets & 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.

3. Debtors

	Rs.
Total debtors	7,243,867.40
Less: Provision for doubtful debts	123,387.91
	<u>7,120,479.49</u>

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

4. Liabilities

Creditors

Creditors amounting to Rs. 6,673,953.32 represents monies held by NSF as given below,

	Rs.
1. SIDA/RFC A/c	9,486.32
2. SIDA	608.05
3. Sundry Creditors	125,506.66
4. Staff Creditors	18.40
5. INASP A/C (2010)	76,800.42
6. Research Project on Energy	119,476.05
7. LOICZ/RFC	5,989,178.69
8. LOICZ	91,387.49
9. National Symposium on Social Protection Policy	28,357.41
10. Identifying Priority Water Sector Research in Sri Lanka	91,079.17
11. Study on the Bundala National Park- 2003	37,300.76
12. IFAP Committee (2008)	104,753.90
	<u>6,673,953.32</u>

5. Publications

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

Therefore in many occasions publications have to be given free of charge to schools & other relevant various organizations especially as prizes/ awards for science related activities.

Eg. Competitions. Such releases are affected 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.

- (b) Sale of Publications

	Rs.
NSF Journal	970.00
Other Publications	60,455.45
SSR Journal	2,826.56
Vidurawa Vol. 23(1)	(13,992.00)
MAB Publication	3,095.00
Vidurawa	39,305.00

Food Security	20.00
Checklist of Flowering Plants	1,005.00
Natural Resources of Sri Lanka (2000)	(58,496.82)
Waders of Sri Lanka	(588.02)
Ficus bengalensis	38.61
S & T Statistical Hand Book - 2004	(104.00)
S & T Statistical Hand Book - 2006	227.00
Sale of Muhuda Kalu Una	6.57
Sale of Posters	-
Sale of Medicinal Plants used in Sri Lanka	21,131.00
Sale of VCDs	(249,610.00)
Vidyathmaka Elawalu Vagawa	(175.60)
Sithiyam Vidyawa	(3,301.52)
Sale of JNSF Vol. 35	(6,350.00)
Sri Lanka Medicinal Plants & Monographs	(690.00)
Sales of Atoms for Peace	(3,830.04)
Guide to Research & Scientific Institutions	864.99
Sale of NSF Journal Vol. 36	(28,247.28)
Sale of JNSF Vol. 37	(4,303.14)
Sale of rsámkakh	(2,802.88)
Sale of Alternative Energy	(659.05)
Sale of Ecosystems Based on Indiginous Water Management	(650.00)
Sale of Ground Water Conditions in Sri Lanka	(7,540.00)
Sale of JNSF Vol. 38	(267,816.46)
Sale of lýlrh iy kdhdđi	(1,451.10)
Sale of Medicinal & Aromatic Plants	3,090.00
Sale of Rubber Diseases	38,965.00
Sale of Some Elementary Hints	3,115.00
Sale of Sri Lankawe Kanija Sampath	(7,932.51)
Sale of Tradition & Livelyhood	(3,170.00)
Sri Lanka Science & Technology Innovation Statistical Indicator 2008	(55,965.00)
Sale of Sri Lanka Journal of Social Sciences 29/30	(55,265.25)
Sale of Vidurawa - Vol.26-1 (T)	(82,814.42)
Sale of Vidurawa - Special Issue (T)	(114,189.24)
Sale of Natural Disasters (Swabavika Vipath)	(4,307.44)
Sale of Sustainable Agriculture	(3,595.62)

Vidurawa Vol. 27 (2)	(105,535.26)
Sale of Infant & Young Child Nutrition	(6,721.80)
Vidurawa Vol. 27 (Special Issue) (S)	(143,441.45)
Vidurawa Vol. 27 (Special Issue) (T)	(163,745.65)
Vidurawa Vol.27 I (T)	(107,745.86)
Vidurawa Vol.27 I (E)	(94,298.14)
Vidurawa Vol.27 I (S)	(125,754.94)
Vidurawa Vol.27 II (E)	(87,338.11)
Sale of Zoonotic Diseases in Sri Lanka	(2,211.96)
	<u>(1,639,525.38)</u>

5.1 National Committee Expenditure

	Rs.
National Committee on Basic Sciences	60,192.00
Agriculture & Food Science	59,740.00
National Committee on Bioethics	27,500.00
Biotechnology	81,000.00
Editorial Board of JNSF	79,165.50
Engineering & Built Environment	31,834.00
Health Science	35,829.30
Social Science Research	57,159.00
Science Education	52,408.04
Environment & Biodiversity	30,000.00
Fundamental Research	7,000.00
National committee on Nanotechnology	21,000.00
Marine Science	35,736.29
National committee on Hydrology	42,000.00
Water & Energy	10,000.00
National Committee on Ethics of Science & Technology	58,250.00
Quality Assurance	8,000.00
National Committee on ICSU	2,000.00
	<u>698,814.13</u>

5.2 National Science Library & Resource Centre

	Rs.
Maintenance & Repairs	4,958.72
Periodicals Local & Foreign	558,199.80
Paper & Board	9.20
Consumables	269,805.77
Miscellaneous	69,451.59
	<u>902,425.08</u>

5.3 Printing Unit

	Rs.
Consumables & Chemicals	387,173.71
Paper & Boards	(58,542.20)
Maintenance & Repairs	118,054.46
	<u>446,685.97</u>

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

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.

These Investments have been shown as investments.

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	-
Provision for the year	<u>1,450,220.00</u>

9. Publications for the value of Rs. 4,095,832.50 (Valued at selling price) is available. This amount includes the stock out on consignment basis for the value of Rs. 75,580/=.

10. NSF owns 05 vehicles.

11. Funds Drawn from the Treasury during - 2010

Consolidated Funds	Rs. 107,000,000.00
Recurrent Funds	Rs. 60,976,000.00

Funds drawn from the Treasury from 1968 to 2010

Consolidated Funds	Rs. 955,870,911.45
Foreign Aids	Rs. 327,658,164.13

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

i. Documentation Unit Capital Fund

	Rs.
Balance as at 01.01.2010	3,889,394.73
Less; Prior year Adjustments	(2,500.00)
	<u>3,886,894.73</u>

ii. Research Grant Fund

	Rs.
Balance as at 01.01.2010	19,192,195.67
Less; Prior year Adjustments	(3,684,981.14)
	<u>15,507,214.53</u>

iii. Man & the Biosphere Fund

	Rs.
Balance as at 01.01.2010	2,152,446.34
Less; Prior year Adjustments	(314,469.15)
	<u>1,837,977.19</u>

iv. Miscellaneous Fund

	Rs.
Balance as at 01.01.2010	3,124,644.26
Less; Net Prior year Adjustment	(1,574,155.00)
	<u>1,550,489.26</u>

v. Scientific Reserve Fund

	Rs.
Balance as at 01.01.2010	2,708,663.21
Add; Net Prior year Adjustments	1,915,721.10
	<u>4,624,384.31</u>

vi. Foreign Aid

	Rs.
Foreign Aid fund as at 01.01.2010	46,287,935.05
Less; Net Prior year Adjustments	(30,726,375.46)
	<u>15,561,559.59</u>

vii. NSF Fund

	Rs.
Balance as at 01.01.2010	(85,537,581.28)
Add; Net Prior year Adjustments	33,037,048.78
	<u>(52,500,532.50)</u>



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கணக்காய்வாளர் தலைமை அறியுதி திணைக்களம்
AUDITOR GENERAL'S DEPARTMENT



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Your No.

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திகதி } 12 July 2011
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 2010 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 2010 was carried out under my direction in pursuance of provisions in Article 154(1) of the Constitution of the Democratic Socialist Republic of Sri Lanka read in conjunction with Section 13(1) of the Finance Act, No. 38 of 1971 and Section 40 of the Development of Science and Technology Act, No. 11 of 1994. My comments and observations which I consider should be published with the annual report of the Foundation in terms of Section 14(2)(c) of the Finance Act appear in this report. A detailed report in terms of Section 13(7)(a) of the Finance Act was issued to the Chairperson on 28 March 2011.

1:2 Responsibility of the Management for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Generally Accepted Accounting Principles. This responsibility includes; designing, implementing and maintaining internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatements, whether due to fraud or error, selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

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1:3 Scope of Audit and Basis of Opinion

My responsibility is to express an opinion on these financial statements based on my audit. Audit opinion, comments and findings in this report are based on review of the financial statements presented to audit and substantive tests of samples of transactions. The scope and extent of such review and tests were such as to enable as wide an audit coverage as possible within the limitations of staff, other resources and time available to me. The audit was carried out in accordance with Sri Lanka Auditing Standards to obtain reasonable assurance as to whether the financial statements are free of material misstatements. The audit includes the examination on a test basis of evidence supporting the amounts and disclosures in financial statements and assessment of accounting policies used and significant estimates made by the management in the preparation of financial statements as well as evaluating their overall presentation. I have obtained sufficient information and explanations which to the best of my knowledge and belief were necessary for the purpose of my audit. I therefore believe that my audit provides a reasonable basis for my opinion. Sub-sections (3) and (4) of Section 13 of the Finance Act, No.38 of 1971 give discretionary powers to the Auditor General to determine the scope and extent of the Audit.

2. Financial Statements

2:1 Opinion

So far as appears from my examination and to the best of information and according to the explanations given to me, I am of opinion that the National Science Foundation had maintained proper accounting records for the year ended 31 December 2010 and except for the effects on the financial statements of the matters referred to the paragraph 2:2 of this report, the financial statements have been prepared in accordance with the Generally Accepted Accounting Principles and give a true and fair view of the state of affairs of the National Science Foundation as at 31 December 2010 and the financial results of its operations and cash flows for the year then ended.

2:2 Comments on Financial Statements

2:2:1 Accounting Deficiencies

Stocks of publications valued at Rs.4,095,833 had not been brought to account.

2:2:2 Accounts Receivable and Payable

The following observations are made.

The balance of the sundry debtors as at the end of the year under review amounted to Rs.1,646,250 while the recoverable advances amounted to Rs.98,195. Out of the sundry debtors a sum of Rs.1,576,469 had been less than 01 year old while the debtors balance old between 01 year to 05 years amounted to Rs.69,780. In addition, advances lapsed over periods ranging from 01 year to 05 years amounted to Rs.65,995 while the advances older than 05 years amounted to Rs.30,000.

2:2:3 Lack of Evidence for Audit

The following items of account could not be satisfactorily vouched / verified or accepted in audit due to the unavailability of evidence indicated against each item.

Item	Value	Evidence not made Available
-----	-----	-----
	Rs.	
Lands	252,701,586	Unavailability of title deed
Fixed Assets (Excluding Buildings)	85,502,354	Non-submission of Schedules showing the Value
Stocks	5,213,690	Physical Verification Reports

Creditors	6,673,953	Confirmation of Balance from the parties concerned.
Equipment Grants	2,063,126	Certified copy of the Inventory Register
Investments – NANCO	82,000,000	Share certificates

2:2:4 Non-compliance with Laws, Rules, Regulations and Management Decisions

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

Reference to Laws, Rules, Regulations and Management Decisions	Non-compliance
(a) Public Enterprises Circular No. PED/12 of 02 June 2003.	
(i) Section 9.4	A Scientific Officer of the National Science Foundation had been released to the SARRC Power Centre for 03 years without the approval of the Cabinet of Ministers.
(ii) Section 9.10	The approval of the Secretary to the Treasury had not been taken for the recruitment of 22 employees on the assignment basis.
(iii) Section 8.8	Even though the delegation of financial authority should be approved by the Board of Directors at the beginning of each year it had not been so done.

- | | |
|---|---|
| (b) Section 2.14.1 of the National Procurement Guidelines No. 9 of 1 March 2006 | Even though the shopping procedure can be adopted only for procurement of Goods and Services valued less than Rs. 2 million, the quotation for the expenditure of Rs.2,823,500 in connection with the World Science Day had been called for under this procedure. |
| (c) Financial Regulation 371(2) | Even though the imprests issued should not exceed Rs.20,000 a special imprest of Rs.50,000 for use continuously had been granted. |
| (d) Agreement on Award of Researches | A test check of 15 files out of the completed research awards relating to the period from 2003 to 2005 revealed that the final research reports had not been submitted within 90 days from date of the completion of the researches in respect of 08 researches. |

3. Financial and Operating Review

3:1 Financial Review

3:1:1 Financial Results

According to the financial statements presented, the working of the Foundation for the year ended 31 December 2010 had resulted in a surplus of Rs.4,721,202 as against the deficit of Rs.2,485,631 for the preceding year. Thus, an increase of the financial results for the year under review by a sum of Rs.7,206,833 was indicated. The major factors that affected such position had been the write back to income the over-provisions made in respect of doubtful debts and audit fees amounting to Rs.7,367,059 and Rs.1,315,241 respectively in the year under review.

3:2 Operating Review

3:2:1 Performance

<u>Item</u>		<u>Amount</u>	<u>Observations</u>
		Rs.	
Theme Based Tests		--	Even though the Programme had been planned for implementation from the year 2009 by identifying in 04 fields of food , security, the climate changes, power and water, it had not been possible to obtain funds for the purpose even up to 31 December 2010. The Chairperson informed that is a project covering several years.
Completed Researches		21,181,124	The Research Papers and the Final Reports on the completed researches had not been submitted.
Research Fund	Award	70,150,000	Out of the money received for the research awards only a sum of Rs.9,836,532 had been given for new researches. The Director of the National Science Foundation informed that the total amount could not be provided for researches as the money was received from the Treasury only during the last quarter.
Researches commenced	not	2,248,554	Out of the 03 researches approved for the year, 01 research had expired while 02 had not been commenced.

3:2:2 Management Inefficiencies

The following observations are made.

- (a) A long period had been taken for the evaluation of the reports on completed researches.
- (b) Action had not been taken with the respective researchers to secure the patent rights for the results of researches. The Director informed that the patent rights can be secured only by the researchers and the institution employing the researchers.

3:2:3 Operating Inefficiencies

The following observations are made.

- (a) In view of the delays in providing the financial provisions in due time for researches in the years 2004 to 2008, the final project reports on 27 research grants valued at Rs.24,987,968 awarded during that period to the research institutions and the Universities had not been received by the National Science Foundation even by the end of the year under review despite the expiry of the period of completion of those researches.
- (b) Three scholarships awarded under research grants valued at Rs.922,000 had been stopped due to reasons such as sickness and researchers leaving the country.

3:2:4 Identified Losses

National flags, GI pipes, conference tables, canteen equipment and the lightning conductor system, of the National Science Foundation, the value of which had not been computed had been lost due to the negligence of the Security Officers.

3:2:5 Unidentified Balances

Even though scientific research equipment valued at Rs.7,900,931 had been transferred to the Universities and other research institutions, action had not been taken to identifying such transfers and adjust the accounts.

4. Systems and Controls

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

- (a) Recruitment
- (b) Stock Control
- (c) Accounting
- (d) Procurement of Services

H.A.S. Samarawecera
Auditor General

Comments for the Auditor General's report on the Financial Statements for the year end 31stDecember 2010.

Comments on Financial Statements

2.2.1 Accounting Deficiencies

Until the year 2009 the policy of our institution was to account the expenditure incurred on publications, printed in house, included in the relevant divisional expenditure, as the Budgetary provisions were also made under the relevant divisions, and hence the cost of these publications were not capitalized as stocks. Since the year 2010, the value of all publications printed in-house are being capitalized and accounted as stocks.

2.2.2 Accounts Receivable and Payable

(a) Given below are the balances under sundry debtors and cash advances as at 31.07.2011. Action is being taken to obtain settlements without delay.

	<i>Less than 1yr.</i>	<i>Between 1-5 yrs.</i>	<i>Over 5 yrs.</i>	<i>Total</i>
	<i>Rs.</i>	<i>Rs.</i>	<i>Rs.</i>	<i>Rs.</i>
<i>Sundry Debtors</i>	638,762	41,383	-	680,145
<i>Advances</i>	-	65,995	30,000	95,995
Total	638,762	107,378	30,000	776,140

2.2.3 Lack of evidence for Audit

<i>Item</i>	<i>Value</i>	<i>Comment</i>
(1) Land	282,701,586.00	<p>Action is being taken to obtain Title Deeds for the land. A copy of the letter informing the conveyance of the title to the land by the government had been requested from the Provincial Secretary Thimirigasyaya and Registrar of Lands in November 2010 & March 2011, after a discussion with them on the subject.</p> <p>Provincial Secretary Thimirigasyaya in turn by his letter dated 23/3/2011 has inquired whether the title to the land has been conveyed to NSF and if not advice on conveying the title of the land to NSF from the Western Province Land Ministry.</p> <p>Western Province Land Ministry by its letter dated 12/07/2011 had informed the provincial secretariat to submit its recommendations for the granting of a long term lease under sec 200 of the State Lands Ordinance. Accordingly the title to the land on a long term lease is expected to be conveyed in due cause.</p>

(2) Fixed Assets (excluding buildings)	85,502,354.00	All the fixed assets of the organization have been recorded in the fixed assets registers. Arrangements will be made to prepare a schedule of total assets in future;
(3) Stock	5,213,690.00	Out of the reported stock, stocks valued at Rs. 849,132 is the stationary and other stocks available at our stores and has been hundred percent physically verified. The balance stock to the value of Rs. 4,364,558.00 represents the cost of the publications which has also been properly verified using the sampling technique which is a universally accepted practice. The stocks have been physically verified by the Internal Audit division also periodically, during the year.
(4) Creditors	6,673,953	96% of these balances represents balances of the foreign grants. The said balances have been confirmed by the relevant authorities by accepting the final project reports, denoting the financial position. Funds received for LOICZ project will be returned if this project can not be activated.
(5) Equipment grants	2,063,126	Copies of certified inventory folios have been received except for purchases amounting to Rs. 454,513/=. Action is being taken to obtain the certified copies, of these purchases also.
(6) Investments – NANCO	82,000,000	The share certificates for 34,000,001 shares are available with NSF. The share certificates for the Rs. 82,000,000 paid during the last month of year 2010 are to be issued after the two companies, SLINTEC& NANCO are amalgamated.

2.2.4 Non compliance with Laws, Rules, Regulations and Management decisions.

	<u>Comment</u>
<p>(a) Public Enterprises Circular No. PED/12 of 2nd June 2003</p> <p>(i) Section 9.4</p>	<p>This Scientific Officer had been released to the SARRC Energy Centre according to the provisions in the Memorandum of understanding (Mou) signed between the SARRC countries, effective from 1st March 2009, on the advice of the Ministry of Science & Technology, also after obtaining the approval of the Prime Minister.</p>
<p>(ii) Section 9.10</p>	<p>NSF having only 99 staff members could not fill any vacancies with permanent employees as NSF had been instructed not to make any new recruitments until the Recruitment & Promotions scheme is approved by DMS.</p> <p>Since we need to continue the services to the scientific community, the services of twenty employees were obtained on assignment basis, including three NAITA trainees. None have been employed on contract basis.</p> <p>Though the approval for the new Recruitment & Promotion scheme was granted on 29th October 2010, the approval for the cadre was granted only on 20th April 2011. All temporarily appointments will be terminated with the new recruitments to the permanent Cadre.</p> <p>Action is being taken to fill the vacancies.</p>
<p>(iii) Section 8.8</p>	<p>Board of Management approval for the delegation of the Financial Authority was obtained in July 2011. In the future approval of the Board of Management for the delegation of financial authority will be obtained at the beginning of each year.</p>
<p>(b) Section 2.14.1 of the National Procurement Guidelines No. 9 of 1st March 2006.</p>	<p>Tenders to provide services for the world Science Day had been processed according to section 3.4 of the National Procurement guidelines. Accordingly goods or services up to the value of Rs. 5mn could be obtained using shopping procedure.</p>
<p>(c) Financial Regulation 371(2)</p>	<p>This is not a cash imprest for office use as per the F.R 371. Scientific committees, of NSF play a major role in the management of scientific activities, and these research committees & panels meet regularly. Two special cash imprests are maintained to make the honorarium payments to the members of these committees, one under the vote for recurrent expenditure and the other under the vote for capital expenditure.</p> <p>This arrangement has been made to carry out the scientific activities efficiently. Stringent internal control measures are in place to ensure safety and efficient management of these funds.</p>

(d) Agreement on Award of Research grants	The final reports of these eight projects have been now received and are displayed in our library. Submission of these reports had been delayed due to acceptable technical problems encountered by them & NSF not been able to provide funds for the research on time etc. However action is being taken to avoid such lapses in the future.
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3 Financial & Operating Review

3.1 Financial Review

3.1.1 Financial Results

The annual financial result which was a deficit in the previous year had resulted in a surplus in the year under review mainly due to the write back of the provisions that had been made in the previous years in respect of doubtful debts and audit fees amounting to Rs. 7,367,059/- and Rs.1,315,241/- respectively to the income account during the year under review as these provisions are no longer required.

3.2 Operating Review

3.2.1 Performance

Thematic Research

Under the stage one, of the Thematic Programme Food Security, Water Security and Impact on Climate Change had been considered to explore the possibility of implementing some appropriate projects to achieve the required objectives. Project proposals prepared under the themes, Food Security & Water Security have been already submitted to the National Planning & Implementation Department for approval and submission for funding.

The project proposal Climate Change has been submitted to the Climate Change Secretariat to be incorporated as the research component of the programme which Climate change Secretariat is expected to implement.

The other research programs to be conducted under these three themes have been already identified and proposals are to be called before the end of this year, although, NSF is confronted with a serious constraint of not having sufficient funds for the programme.

Completed Projects

The Publications relevant to completed research projects are attached to the Final reports of the particular research projects. Once the final reports are evaluated and accepted by NSF those reports along with the publications are deposited in the digital library of the NSF for the use of scientists in the field. Usually the publications are made after the research is completed. The publications for all these research grants, have been received.

Funds for Research

A major portion of the limited funds was received during the last quarter of the year. Processing of applications for new grants takes about 2 -3 months. Funds could be allocated to new grants only to the extent funds were available, having allocated the funds committed for the on- going grants.

Research not commenced

The delay in awarding grants was due to non availability of funds. A major portion of the funds received for 2010 even was received in the last quarter of the year. Research grants were awarded in year 2010, based on the applications received, processed, and approved in the year 2008 and applications for grants were not called in 2009 also due to non availability of fund. Out of the nineteen grants that were approved in the year 2008, sixteen grants were awarded, having assessed the relevance of the projects in the year 2010, Out of the balance three grants, one grantee had obtained funds from other sources and completed the grant. Of the balance two grants one researcher has left the country and the other declined to accept the grant, in the year 2010.

3.2.2 Management Inefficiencies

- (a) It has taken more time than expected to obtain the evaluations on the final reports. Acton has been since taken to minimize the time utilized for the evaluation process. According to the new procedure if the evaluated report is not received on the due date, action has to be taken to obtain the relevant assessment from another evaluator.

According to the new procedure the final report from the grantee and the evaluated report from the evaluator are to be obtained on predetermined dates, although, the non- availability of sufficient resource for evaluation of scientific research projects is a constraint faced by NSF at present.

- (b) Patent rights could be obtained only by the Institution or the individual who has the ownership of the new finding. The role of the NSF is to guide and encourage the relevant Institutions and individuals to secure patent rights and to transfer the technology.

However provisions have been made in the new Research Grant Agreement to enable NSF to be instrumental in obtaining the patent rights even through a third party to ensure benefits to the public through such research.

3.2.3 Operating Inefficiencies

- (a) Out of the twenty seven research projects: –
- Seven final reports have been received.
 - Four projects are still ongoing.
 - Nine final reports are receivable. Grantees have been informed in writing to submit the final reports and action is being taken to obtain them.
 - Three grants have not been awarded.
 - Three grants been terminated and action is being taken to obtain the refunds.
 - One final report has been received and is being reviewed by the committee.

- (b) Out of the three scholarships reported, one had been terminated due to ill health of the Scholar. The other scholarships have been cancelled as the two Scholars are not in the Country. Reports containing research data for the work done and the research publications on these researches have been obtained by NSF, for further follow up.

3.2.4 Identified Losses

Except for the cost of the lightening arrestor system, the losses reported have been recovered from the relevant Institution, which provided security services to NSF.

The investigation conducted by the police on the lost lightening arrestor has not been completed yet. However, the service provided by this institution were terminated, with effect from 1/11/2012.

3.2.5 Unidentified Balances

The reported transfer of equipment will be identified and relevant adjustments will be made during the year 2011.

4 Systems and Control

The observations made have been noted for follow up.

SUMMARY OF RESEARCH GRANTS SCHEME - 2010

		Agriculture & Food Science	Health Science	Hydrology	Environment & Biodiversity	Social Sciences	Basic Sciences	Biotechnology	Engineering Sciences	Marine Sciences	Total
01	Total no of ongoing grants as at 31.12.2010	23	22	02	33	12	14	21	09	03	140
02	Grants Awarded	05	02	-	01	-	02	05	-	-	15
03	Grants Completed*	07	04	02	11	01	07	05	06	-	43
04	Grants withdrawn	-	-	-	-	-	-	-	-	-	02
05	Grants terminated	-	-	-	02	-	-	-	-	-	-
06	RSs appointed	-	02	-	-	-	01	03	-	-	06
07	RSs registered for Post graduate degree	-	-	-	-	-	-	01	-	-	01
08	TAs appointed	02	-	-	01	-	-	01	-	-	04
09	Post graduate degrees obtained PhD MPhil MSc MD	01	01		07		02	01	02	-	14
		04	02	01	05		05	01	01	-	19
				01			-	01	-	-	02
							-	-	-	-	-
10	No of publications arising from grants (Foreign)	02	05	-	19	-	04	-	05	-	35
11	No of publications arising from grants (Local)	03	03	-	1	-	02	01	04	-	14
12	Communications	28	03	03	44	-	45	10	14		147
13	No of Committee Meetings held	04	05	10	3	05	06	11	05	05	54

Grants Completed* – Final report accepted

Grants Awarded During – 2010

1. Research Committee on Agriculture and Food Science

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2010/AG/01	Dr G.P.P. Seneviratne Actg. Head S.P. Withanage K.K. Liyanage Genetic & Plant Breeding Dept. RRI, Nivitigalakele Matugama	Identification of recommended <i>Hevea</i> Clones grown in Sri Lanka by Morphological and Physiological Analysis 11/2 years	617, 445/- (1 st year allocation 422,103)
RG/2010/AG/02	Prof. Arthur Bamunuarachchi Dept. of Food Science & Technology, USJP Dr Ranjith Edirisinghe, NARA	Characterization of lipids in under utilized fresh water fish in Sri Lanka 01 year	485,000/-
RG/2010/AG/03	Dr (Ms) D.S.M. de Silva Prof. (Mrs) S. Wimalasena Dept. of Chemistry Univ. of Kelaniya	Selenium content and the effect of selenium in the soil on the agricultural crops consumed by Sri Lankans 03 years	1,230,020/- (1 st year allocation 643,020)
RG/2009/AG/01	Mr Alex Thanthriarachchi MPIS (Movement for Protection of Indigenous seeds) Govipasala, Eppawala. Mr P.G. Somaratne 1/02, Orutota, Gampaha Dr W.L. Weerakoon Seva Lanka Foundation Boralasgamuwa	Promotion of indigenous paddy varieties with farmer participation using appropriate farming practices. 01 year	969,600/- (1 st year allocation 969,600)
RG/2009/AG/02	Dr. R. S. Wilson Wijeratnam Head/Food Technology Division ITI, 363, Bauddhaloka Mw Col-07. Ms. Namagal Krisnapillai Dept of Botany Univ. of Jaffana	Study on latex composition and sap burn injury of different varieties of mangoes 02 years	1,906,080/- (1 st year allocation 1,437,880)

2. National Committee on Basic Sciences

Grant No:	Grantee(s)/ Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2009/BS/01	Prof. Anura Wickramasinghe Prof. Veranja Karunaratne Prof. B. M. Ratnayake Bandara Dept. of Chemistry University of Peradeniya	Chemistry and Bioactivity of the endemic genus <i>Schumacheria</i> 03 years	3,145,000
RG/2010/BS/01	Dr. S. Ranwala Ms H.I.U. Caldera Dept. of Plant Science Univ. of Colombo Prof. W. A. J. M. De Costa Dept. of Crop Sciences Univ. of Peradeniya	Investigating plant responses to changing atmospheric carbon dioxide with special emphasis on anatomical and physiological adaptations of stomata in different ecotypes across a range of altitudes 03 years	1,887,586

3. Research Committee on Environment & Biodiversity

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2009/EB/01	Mr. M. Sumanadasa Ministry of Child Development and Women's Empowerment Mr S A K N Jayathilaka Ministry of Enviorenment and Natural Resources	The case of managing wet zone coastal wetlands in Sri Lanka 03 months	319996

4. National Committee on Biotechnology

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2009/BT/01	Dr. Menaka Hapugoda Molecular Medicine Unit Fac. of Medicine Univ. of Kelaniya	Performance of recombinant proteins as diagnostic intermediates for chikangunya, dengue and leptospirosis 03 years	927,000
RG/2009/BT/02	Dr. W.T.P.S.K. Senarath Dept. of Botany Univ. of Sri Jayawardenepura Nugegoda	Clonal propagation of Santalum album to get high and uniformly yielding plants 03 years	1,457,750
RG/2010/BT/02	Dr. (Mrs) D. H. N. Munasinghe Dept. of Zoology University of Ruhuna Matara	Population genetic structure analysis of <i>Penaeus monodon</i> in Sri Lanka 02 Years	1,050,352
RG/2010/BT/03	Dr. A.A.L. Ratnatilleke Dept. of Chemistry Univ. of Kelaniya Kelaniya	Isolation and typing of efficient rock phosphate solubilizing bacteria 02 Years	1,591,250
RG/2010/BT/04	Dr. Sarath R. Sirimanne Dr. Sulochana Wijesundera Dept. of Biochemistry & Molecular Biology Faculty of Medicine Dr. V. Chandrasekaran Dept. of Chemistry University of Colombo	Construction and Characterization of expression vector cassettes containing genes for wheat proteins, gliadin and glutenins – towards the development of Wheat – like rice 03 Years	2,607,456

5. Research Committee on Health Sciences

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2009/HS/01	<p>Prof. R.P.V.J. Rajapakse Dept. of Veterinary Pathobiology Faculty of Veterinary Medicine & Animal Science</p> <p>Dr. S.A.M. Kularathne Dept. of Medicine Faculty of Medicine University of Peradeniya Peradeniya</p>	<p>Preliminary investigation of Rickettsial infections in human in Sri Lanka: Special References on species Identification, Diagnosis, Transmission and Reservoir Animals Studies</p> <p>02 years</p>	2,185,000
RG/2009/HS/02	<p>Prof. Hemamali Perera Dept. of Psychological Medicine</p> <p>Dr. Sulochana Wijesundera Dept. of Biochemistry and Molecular Biology Fac. of Medicine Univ. of Colombo Colombo 08</p>	<p>Screening for Fragile x syndrome among children presenting with learning difficulties a preliminary study</p> <p>02 years</p>	1,599,600

6. National Committee on Hydrology

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2009/HY/01	<p>Dr A. M. Mubarak Mr Bandulasoma Wijegunasekera</p> <p>Ms. G. V. V. Liyanaarachchi Industrial Technology Institute Colombo 07</p>	<p>Assessment of trihalomethane formation in chlorinated water supplies of National Water Supply and Draining Board</p> <p>01 Year</p>	1,966,000.00

Details of Postgraduate Degrees Obtained During 2010

1. Research Committee on Agriculture & Food Science

Grant No.	Grantee/s & (Research Student)	Degree	Institution/s
RG/2005/AG/10	Dr. Sagarika Ekanayake Dept. of Bio Chemistry fac. Of Medicine USJP Prof. Jayantha Welihinda UOC	02 M. Phils and 01 Ph D	USJP UOC
RG/2003/V/01	Prof. T. Wijewardena Prof. Preeni Abeynayake Fac. Of Vet. Medicine	01 M.Phil	University of Peradeniya
RG/2005/AG/12	Dr (Mrs) M. K. B. Weerasooriya Dept. of Chemistry UOK	01 M. Phil	Dept. of Chemistry UOK
RG/2006/AG/08	Dr Bimali Jayawardena Dept. of Botany UOK		Dept. of Botany UOK
RG/2004/FS/03	Prof. S. Wimalasena		Dept. of Chemistry UOK
RG/2003/V/04	Dr Anoja Wanigasekera Dr A. W. Kalupahana Dr A Jayasooriya Fac. of Vet. Medicine UOP		UOP
RG/2004/FS/01	Dr Janaki Goonaratne ITI Dr Chandrani Piyasena MRI		ITI MRI

2. National Committee on Basic Sciences

Grant No.	Title of thesis	Grantee/s & (Research Student)	Degree	Institution/s
RG/2005/FR/08		Dr MDP de Costa Dr RP Perera RS - Mr. V. N. P. Liyanage	M. Phil	Univ. of Colombo
RG/2005/FR/08		Dr Samantha Weerasinghe RS – Mr. W. M. R. Sanjeewa	M. Phil	Univ. of Colombo

3. National Committee on Hydrology

Grant No.	Title of thesis	Grantee/s & (Research Student)	Degree	Institution/s
RG/2005/W&E/04		Dr (Mrs) Sithy S. Iqbal Mrs Meena Thayaparan	M.Phil	Department of Chemistry Open University of Sri Lanka, Nugegoda

4. Research Committee on Engineering Sciences

Grant No.	Title of thesis	Grantee/s & (Research Student)	Degree	Institution/s
RG/2005/E/05	Investigation of the Interaction Effects of Sitting Comfort and Discomfort Factors	Prof. Harsha Munasinghe (Mr. M.G.M. Thariq)	PhD	Faculty of Architecture University of Moratuwa
RG/2007/E/03	Application of computer vision and fuzzy logic on vehicle control	Prof. D.U.J. Sonnadara (Ms. C.T. Wannige)	MPhil	Faculty of Science Dept. of Physics University of Colombo

5. Research Committee on Environment & Biodiversity

Grant No.	Title of thesis	Grantee/s & (Research Student)	Degree	Institution/s
RG/2004/C/02	Screening of basidiomycetes / other fungi in search of biologically active compounds	Dr D T U Abeytunga (Ms Inoka Menikpurage)	MPhil	University of Colombo
RG/2004/V/02	Endocrinological, behavioral and morphological changes associated with puberty and sexual maturity in female elephants at Pinnawala Elephant Orphange	Dr N K Jayasekera (G U S P Mendis)	MPhil	University of Peradeniya
RG/2004/ZOO/01	Studies on species composition, abundance and distribution of macrobenthos in Negombo estuary	Dr S C Jayamanne (D D G L Dahanayaka)	MPhil	University of Kelaniya
RG/2004/BM/01 RG/2008/EB/02		R G U Jayalal	PhD	University of Peradeniya
RG/2006/EB/04		Dr L Karunanayake Dr W S J Silva Dr M Printhan	PhD	University of Sri J'Pura
RG/2003/ZOO/01		Dr P K T N S Pallewatte (Dr Chandima Dangalle)	PhD	University of Colombo
RG/2003/BM/02		D M D Yakandawala (S C K Rubasinghe)	MPhil	University of Peradeniya

RG/2004/P/01	Correlation between the optical and current signature of electric discharges with special attention to remote sensing of lightning flashes	Dr I M K Fernando (J P Liyanage)	PhD	University of Colombo
RG/2004/P/01	Electromagnetic fields radiated by lightning in tropical and temperate regions	Dr I M K Fernando (Shri Ram Sharma)	PhD	University of Colombo
RG/2004/P/01	Behavior of low voltage surge protective device in fast transient and repetitive current impulse environment	Dr I M K Fernando (Chaminda Mahesh Edirisinghe)	PhD	University of Colombo
RG/2004/P/01	A study of tunder generated by cloud and ground lightning flashes	Dr I M K Fernando (J A P Bodhika)	PhD	University of Colombo
RG/2004/P/01	Study of tropical lightning using photographic techniques	Dr I M K Fernando (Chandana Perera)	MPhil	University of Colombo

6. Research Committee on Health Sciences

Grant No.	Title of thesis	Grantee/s & (Research Student)	Degree	Institution/s
RG/2004/M/07	The relationship between bronchial asthma and gastrointestinal function in a Sri Lankan population	Dr. C. Ranasinghe Prof. H.J.de Silva, Dr. WADA Amarasiri Research Student: Dr. WADA Amarasiri	PhD	Faculty of Medicine , University of Kelaniya
RG/2006/HS/06	Atopy, allergic diseases and helminth infection in children in Sri Lanka	Prof. A. Weerasinghe Prof. NR de Silva Dr. NDDM Amarasekera Research Student: Dr. NDDM Amarasekera	MPhil	Fac. of Medicine Univ. of Kelaniya
RG/2003/M/03	Effect of non-surgical periodontal treatment on Haemoglobin glycosylation	Dr. A. Chandrasekera, Faculty of Dental Sciences, University of Peradeniya Research Student: Dr. BP Galahena	MPhil	Fac. Of Dental Sciences University of Peradeniya

Grants Closed During – 2010

1. Research Committee on Agriculture & Food Science

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2003/V/01	Prof. T. Wijewardena Prof. Preeni Abeynayake Fac. Of Vet. Medicine UOP	Investigation of the involvement of bacteria in diseases of shrimp in Sri Lanka	763560/-
RG/2004/FS/03	Prof. S. Wimalasena Dept. of Chemistry UOK	Fish and leafy vegetables as a source of long chain polyunsaturated fatty acids and antioxidants.	1,238,460/-
RG/2003/V/04	Dr Anoja Wanigasekera Dr A. W. Kalupahana Dr A Jayasooriya Fac. of Vet. Medicine UOP	Effect of Feeding different dietary levels of coconut oil on the conjugated acid in goats milk.	687,500/-
RG/2004/FS/01	Dr Janaki Goonaratne ITI Dr Chandrani Piyasena MRI	Polysaccharides of coconut kernel as a functional food and its blood cholesterol and blood glucose lowering effects of human subjects.	2,583,200/-
RG/2005/AG/10	Dr. Sagarika Ekanayake Dept. of Bio Chemistry fac. Of Medicine USJP Prof. Jayantha Welihinda UOC	Study of Glycaemic indices of basic starchy food items and typical Sri Lankan Mixed diets.	1,758,260/-
RG/2005/AG/12	Dr (Mrs) M. K. B. Weerasooriya Dept. of Chemistry UOK	Identifying potential inhibitors for polyamine biosynthetic enzymes of the fungus species of Colletotrichum gleosporioides.	1,301,500/-
RG/2006/AG/09	Dr Bimali Jayawardena Dept. of Botany UOK	Enzyme assisted extraction of essential oils from selected plants and their use in the management of post harvest decay of leafy vegetables	660,000/-

2. National Committee on Basic Sciences

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2004/P/03	Dr. L.S.G. Liyanage Dr. V.P.S. Perera Department of Physics Open University Prof. K. Tennakone Institute of Fundamental Studies	Study of Semiconductor Nanostructures for Optoelectronic Devices 03 years	720,000/-
RG/2004/C/04	Dr G. Bandarage Dept. of Chemistry The Open University Nawala Nugegoda.	A theoretical study of mechanisms of ionization, charge transfer and excitation in classical hydrogen atom-bare nuclei collisions in two dimensions 03 years	641,750/-
RG/2005/FR/02	Dr Veranja Karunaratne Dept. of Chemistry Univ. of Peradeniya Peradeniya Dr D.S.A. Wijesundara Royal Botanic Gardens Peradeniya	Pharmaceutically important compounds from Sri Lankan lichens 03 years	942,000/-
RG/2005/FR/04	Prof. RMG Rajapakse Dept. of Chemistry Prof. BSB Karunaratne Dept. of Physics Prof. DTB Tennakoon Prof. HMN Bandara Prof. BMR Bandara Dept. of Chemistry Univ. of Peradeniya Peradeniya	Clay-polymer nanocomposites : Investigation of their electrical, mechanical , thermal and green catalytic properties for industrial and technological applications 03 years	4,811,463/-
RG/2005/FR/08	Dr MDP de Costa Dr RP Perera Dept. of Chemistry Univ. of Colombo	Preparation of anthracene based pyridinium salts and their fluorescence behavior in cyclodextiene and cellular systems 03 years	1,082,000/-
RG/2006/FR/03	Dr. L. Karunanayake Dept. of Chemistry Univ. of Sri Jayewardenepura Prof. G.M.K.B. Gunaherath Dept. of Chemistry Open University	Use of locally available fatty acids and their derivatives as a plasticizer/stabilizer for PVC 03 years	929,400/-
RG/2007/FR/01	Dr Samantha Weerasinghe Dept. of Chemistry Univ. of Colombo Colombo 03	Investigation of atomic level description of the effect of denaturing agents on hydrophobic interaction by molecular simulation 03 years	892,900

3. National Committee on Biotechnology

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
SIDA/2003/BT/01	Dr B.G.D.N.K. de Silva Univ. of Sri Jayawardenapura Mr S.N. Surendran Univ. of Peradeniya	Development of micro-satellite DNA markers for distinguishing species B and E of <i>Anopheles culicifacies</i> 02 years	1,374,958/-
SIDA/2004/BT/05	Dr G.A.U. Jayasekera Dept. of Plant Sciences Faculty of Science Univ. of Colombo	Production of transgenic rice plants from Sri Lankan rice varieties mediated by <i>Agrobacterium tumefaciens</i> gene transfer 03 years	913,991/-
SIDA/2005/BT/01	Mr. Ranawana Dr R. Rajakaruna Dept. of Zoology Dr. P. Samaraweera Dept. of Mol. Biology & Biotechnology Univ. of Peradeniya	Genetic diversity and nest paternity of the green turtle (<i>Chelonia mydas</i>) populations in Sri Lanka 03 years	1,465,532/-
SIDA/2005/BT/04	Dr. Vajira H.W. Dissanayake Prof. Rohan W Jayasekera Dept. of Anatomy Univ. of Colombo	A study of the association of genetic thrombophilic polymorphisms with recurrent pregnancy loss (recurrent abortions/still births) 01 Year	945,220
SIDA/2005/BT/06	Dr. V.A. Sumanasinghe Faculty of Agriculture University of Peradeniya Dr. D.S.A. Wijesundara National Botanical Gardens Peradeniya	DNA typing, molecular characterization and ex-situ conservation of the Genus <i>Exacum</i> in Sri Lanka 02 Years	1,144,400

4. Research Committee on Engineering Sciences

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2004/E/01	Dr G.A.C. Gomes Dept. of Physics Univ. of Colombo. Dr M.A.R.M. Fernando Dept. of Electrical & Electronic Engineering Univ. of Peradeniya. Dr I.M.K. Fernando Dept. of Physics Univ. of Colombo.	Investigation of earthing systems of lightning protection. 03 Years	769,000/-
RG/2005/E/04	Dr H.P. Munasinghe Faculty of Architecture Univ. of Moratuwa Moratuwa.	Study of ergonomic needs in designing and constructing chairs for tertiary education institutes 03 Yrs.	689,144/-
RG/2005/E/05	Vidya Jothi Prof. K.K.Y.W. Perera Dr D.A.I. Munindradasa Dept. of Electronic & Telecommunication Univ.of Moratuwa	Electronic devices for energy saving design and prototype fabrication 02 Yrs.	600,200/-
RG/2005/E/07	Prof. S.B.S. Abayakoon Dept.of Civil Engineering Univ. of Peradeniya	Determination of mechanical properties and size effects of Sri Lankan timber used in construction 02 Yrs.	762,550/-
RG/2006/E/03	Dr. K. P. P. Pathirana Dr. U. R. Rathnayake Dept. of Civil Engineering University of Peradeniya	Experimental investigation on the transport of nonuniform sediments 02 Yrs.	693,000/-

5. Research Committee on Environment & Biodiversity

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2004/BM/01	Prof. Veranja Karunaratne University of Peradeniya Dr. Siril Wijesundara, Royal Botanical Gardens, Peradeniya	Study of diversity and taxonomy of lichens in the Horton Plains National Park with a view to bio monitor the ecosystem health 3 years	50,2000.00
RG/2008/EB/02	Prof. Veranja Karunaratne University of Peradeniya Dr. Siril Wijesundara, Royal Botanical Gardens, Peradeniya	Study of diversity and taxonomy of lichens in the Horton Plains National Park with a view to bio monitor the ecosystem health. 1 year	300,000.00
RG/2004/V/02	Dr Niromi K Jayasekera University of Peradeniya	Development of endocrinological changes associated with puberty and sexual maturity in female elephants at the Pinnawala elephant orphanage 2 years	433,000.00
RG/2004/ZOO/01	Dr S C Jayamanne NARA	Studies on species composition, abundance and distribution of macrobenthos in Negombo estuary, with the view of identifying indicator organism of environmental conditions 3 years	966,183.00
RG/2004/C/02	Dr D T U Abeytunga University of Colombo	Screening of basidiomycetes / other fungi in search of biologically active compounds 2 years	967,600.00
RG/2003/ZOO/06	Dr R K Sriyani Dias University of Kelaniya	Taxonomic study of the worker ants collected from three districts from Sri Lanka and a survey on the distribution and relative abundance of <i>Aneuretus simoni</i> in Ratnapura district. 3 years	1,024,110.00

RG/2004/ZOO/02	Dr Mayuri R Wijesinghe University of Colombo	A study of the small mammal communities in rainforests of Sri Lanka in relation to human disturbance and their implications for conservation 3 years	607,650.00
RG/2006/EB/04	Dr L Karunanayake University of Sri J'Pura Dr W S J Silva University of Sri J'Pura Dr M Printhan Eastern University	Utilization of Tannis obtained from locally available plant materials in the manufacture of formaldehyde based resins 3 years	1,318,692.00
RG/2003/ZOO/01	Dr P K T N S Pallewatte University of Colombo	Taxonomy diversity and distribution of Tiger beetles of Sri Lanka 3 years	446,000.00
RG/2003/ZOO/08	Mr Rohan Pethiyagoda Mr Madhava Meegaskumbura Mr Mohamed M Bahir Wildlife Heritage Trust of Sri Lanka	National freshwater crab survey 3 years	1,043,221.00
RG/2006/EB/06	Mr P M C S de Silva Dr N J de S Amarasinghe University of Ruhuna	Effects of frequently used fungicides on earthworms and modification of earthworm ecotoxicity test methods for tropical regions 2 years	1,162,804.00
RG/2003/BM/02	Dr D M D Yakandawala University of Peradeniya Dr D S A Wijesundara Royal Botanical Gardens	Biodiversity and conservation studies of the endemic genus Stemonoporus (family a; Dipterocarpaceae) 3 years	784,280.00

6. Research Committee on Health Sciences

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2004/M/03	Prof. Sivakanesan, Faculty of Medicine, University of Peradeniya	Frequency of Microalbuminuria and the associated risk factors for microalbuminuria among newly diagnosed type II diabetes mellitus patients 2 years	472,780
RG/2007/HS/07	Prof. P. S. Wijesinghe Dr. GS Padumadasa Dr. TS Palihawadana Dept. of Obstetrics & Gynaecology Univ. of Kelaniya Kelaniya	Efficacy of surgical versus expectant management in incomplete miscarriage 1 ½ years	386,000
RG/2004/M/07	Dr. C. Ranasinghe Prof. H.J.de Silva, Dr. WADA Amarasiri Faculty of Medicine , University of Kelaniya	The relationship between bronchial asthma and gastrointestinal function in a Sri Lankan population 1 Year	647,700
RG/2005/HS/02	Dr. CDA Goonasekera Dr. KS WAlgama Ms. A. Senevirathne Faculty of Medicine, University of Peradeniya	Developing a fuzzy logic based medical intensive care decision support system and its clinical validation 2 years	= 373, 300.00

7. National Committee on Hydrology

Grant No:	Grantee(s)/Institute	Project Title/Duration	Total Allocation (Rs.)
RG/2007/W&E/01	Dr (Ms) Sardhanee V. Dias Ms. S.A.M.S. Dissanayake Mr. I.A.V.P. Iddamalgoda NBRO, Colombo 05	Risk of microbial quality deterioration of potable water in the State Initialed public housing schemes 02 years	986,700.00
RG/2005/W&E/04	Dr (Mrs) Sithy S. Iqbal Mrs Meena Thayaparan Department of Chemistry Open University of Sri Lanka Nugegoda	Phytoremediation of toxic heavy metals in the polluted aquatic environment 03 years	503,000.00

Summary Status of Thematic Grants Under CTRP

	Total no of grants awarded	Ongoing Grants	Final Reports awaited	Final Reports received	No of grants terminated
Alternative Agriculture for Self Reliance	4	-	-	3	1
Disaster Management and Mitigation	9	-	2	7	-
Environment Protection & Sustainable Development	4	0	3	1	-
Non-Communicable Diseases	2	-	0	2	-
Sustainable Utilization of Natural Resources	2	1	-	1	-
Technologies for Rural Sector Development	3		0	2	1
	24	1	5	16	2

Information on Grants

A) Technology Grants

Grant Schemes	No of applications processed	No of grants <u>pending approval</u> /approved for funding	No of new grants awarded	No of on going grants	No grants terminated	No grants completed	Details of grants with significant output (attach details with photographs if any)
Support for Research into Technology Development*	3						
Support for Scaling-up Studies*							
Support for Industrial R & D*							
Support for Innovation*	3	=	-	3	-	-	-
Support for start up Businesses by Entrepreneurial scientists*							

B) Research Grants

Committee	No of applications/ received*	No of grants <u>pending approval</u> approved for funding	No of new grants awarded	No of on going grants	No grants terminated	No grants completed	Details of grants with significant output (attach details with photographs if any)
National Committee on Energy				2			
National Nanotechnology Committee			1	2			
Thematic Committee on Biofuel			2				
Thematic Committee on Technologies for rural sector development						2	

* No call for applications was made in 2010.

NSF Research Awards

NSF Research Awards – 2008

1) **Discipline: Basic Sciences**

Grantee/s: Prof. K.M. Nalin de Silva

Dr. W. Rohini M de Silva

Dept. of Chemistry
University of Colombo
Colombo - 03

Title: Computational study of the Non-Linear Optical (NLO) properties of organic macromolecules and transition metal complexes

2) **Discipline: Engineering Science**

Grantee/s: Dr. J. J. Wijetunga

Dept. of Civil Engineering
University of Peradeniya
Peradeniya

Title: Wave overtopping on rock slopes of coastal structures without crown walls

3) **Discipline: Health Sciences**

Grantee/s: Prof. N.D. Karunaweera

Dr. G. S.A. Gunawardene

Dept. of Parasitology
Faculty of Medicine
University of Colombo
Colombo - 08

Title: A study of the efficacy and factors affecting drug compliance in the mass drug administration programme against lymphatic filariasis in the Western Province of Sri Lanka

NSF Research Awards – 2009

1) **Discipline: Health Sciences**

Grantee/s: Prof. Rezvi Sheriff

Dr. Prasad Katulanda

Dr. G.R. Constantine

Dept. of Clinical Medicine
Faculty of Medicine
University of Colombo

Title: Prevalence of diabetes mellitus and its risk factors in Sri Lanka

Certificate of Commendations -2008

1) **Discipline: Environment and Biodiversity**

Grantee/s: Prof. Asoka Pathiratne

Dept. of Zoology
University of Kelaniya , Kelaniya

Title: Evaluation of Biomarkers in food fish *Tilapia* as potential tools in biological monitoring of aquatic pollution in Sri Lanka

- 2) **Discipline:** Health Science
Grantee/s: Prof. Rohini de A Seneviratne
Prof. Chandrika N. Wijeyaratne
Dr. Vindya Kumarapeli
Dept. of Community Medicine
Faculty of Medicine
University of Colombo, Colombo - 08
Title: Prevalence of reproductive endocrine disorders, health, care seeking behavior consequences and risk factors of Polycystic Ovary Syndrome among women at reproductive age in the Gampaha District, Sri Lanka
- 3) **Discipline:** Health Science
Grantee/s: Prof. N.V.I. Ratnatunga
Dept. of Pathology
Faculty of Medicine
Univ. of Peradeniya, Peradeniya.
Dr. D.T. D.J. Abeysekera
Dr. A.W.M. Wazil
General Hospital
Kandy
Title: A study of IgA Nephropathy in Sri Lanka
- 4) **Discipline:** Engineering
Grantee/s: Dr. J. J. Wijetunga
Dept. of Civil Engineering, University of Peradeniya
Peradeniya.
Title: Effect of local bathymetry and topography on Tsunami run – up and overland flow
- 5) **Discipline:** Engineering
Grantee/s: Dr. (Mrs.) M. T. P. Hettiarachchi
Dr. (Mrs.) M. D. Weerasinghe
Dept. of Civil Engineering
University of Moratuwa, Moratuwa
Title: Investigation of use of composite trusses in multi-storey buildings in Sri Lanka

Certificate of Commendations -2009

- 1) **Discipline:** Basic Sciences
Grantee/s: Dr. D. U. J. Sonnadara
Dept. of Physics
University of Colombo, Colombo
Title: 3D reconstruction and shape analysis of electrical discharges through image processing.
- 2) **Discipline:** Biotechnology
Grantee/s: Prof. N.R. De Silva
Prof. W. Abeyewickreme
Dept. of Parasitology

Dr. Aresha Manamperi
Dr. H.A.C. Hapuarachchi
 Molecular Medicine Unit
 Univ. of Kelaniya, Kelaniya.

Title: Use of molecular markers for the detection of chloroquine resistant *P. falciparum* infections in Sri Lanka

3) **Discipline:** **Engineering Sciences**

Grantee/s: **Dr. A. G. T. Sugathapala**
 Dept. of Mechanical Engineering
 University of Moratuwa, Moratuwa.

Title: Computer simulation of a 2 – stroke gasoline direct injection engine, to optimize the injection timing in order to minimize harmful emissions

4) **Discipline:** **Health Sciences**

Grantee/s: **Dr. T.G. Wijewardana**
Dr. R.D.A Dissanayake
 Dept. of Pathobiology
 Faculty of Vet. Medicine & Animal Science
 Univ. of Peradeniya, Peradeniya.

Title: Determination of lipo-polysaccharide core types of avian pathogenic *E. coli* and their immunogenicity

5) **Discipline:** **Health Sciences**

Grantee/s: **Prof. P.S. Wijesinghe**
 Faculty of Medicine
 University of Kelaniya
Prof. W.D. Ratnasooriya
 Department of Zoology
 University of Colombo
Prof. S. Wimalasena
 Department of Chemistry
 University of Kelaniya, Kelaniya

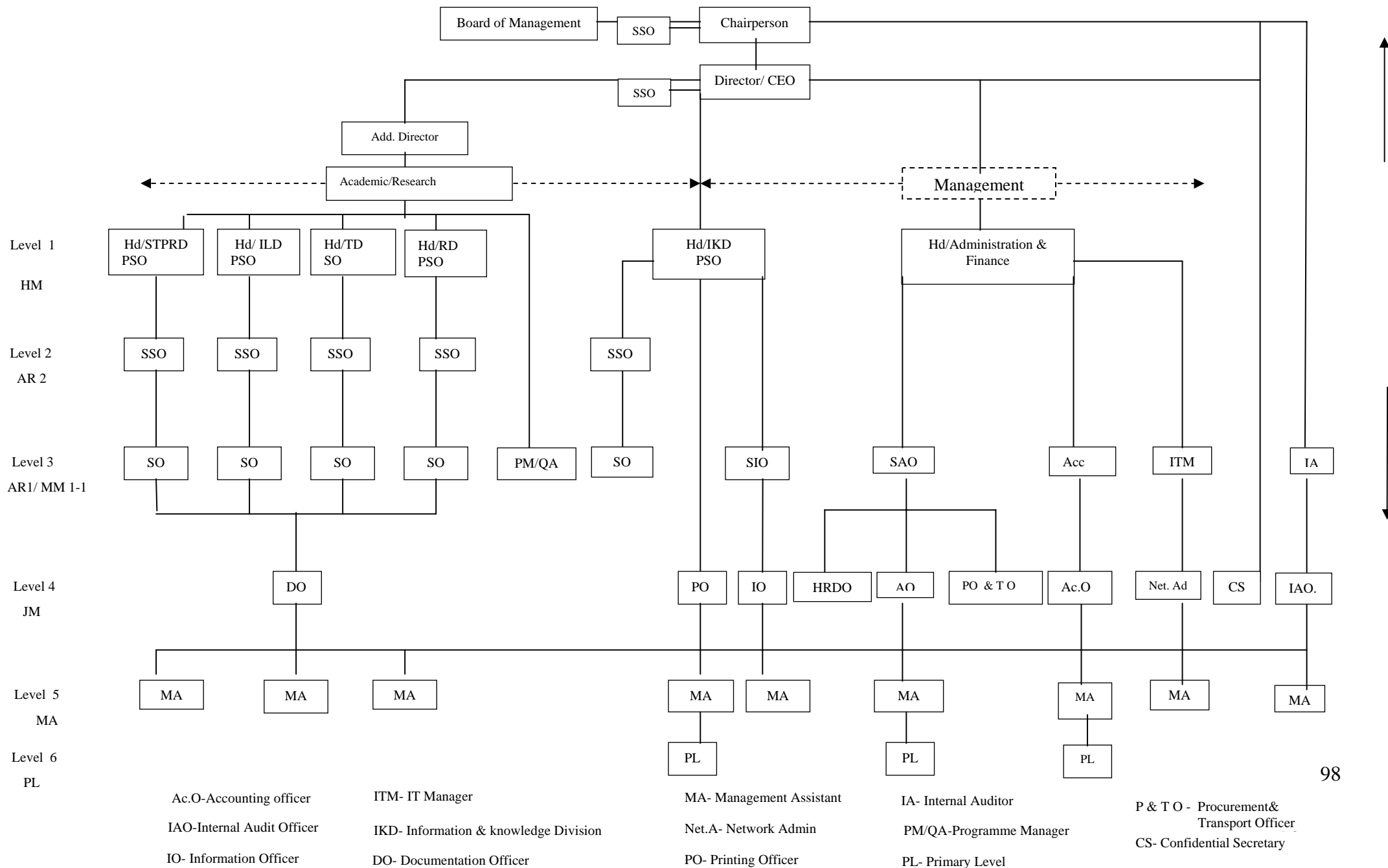
Title: Study on the influence of Zinc (Zn) concentrations in serum and seminal plasma on semen parameters and sexual behavior

Awards (Star rating) for Best performing School Science Societies

The following schools Science Societies were awarded with certificates and plaques in 2010, for their high performance during the year 2009.

- 1 Sri Sangamitta Balika National School, Matale - 5 Stars
- 2 Dudley Senanayaka Vidyalaya, Colombo 05 - 5 Stars
- 3 Gnanodaya MV, Kalutara – 5 Stars
- 4 Siridhamma College, Labuduwa – 5 stars
- 5 Swarnajayanthi Maha Vidyalaya, Kegalle - 04 stars
- 6 Wickramabahu National College, Gampola - 04 stars
- 7 Puttalam Hindu Central College, Puttalam - 04 stars
- 8 Deniyaya Central College, Deniyaya - 04 stars
- 9 Ratnawali Balika Vidyalaya, Gampaha - 04 stars

ORGANAIZATIONAL STRUCTURE OF NSF



PRINCIPAL STAFF – Year 2010

Chairperson

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

Director

Dr. S.A.K.Abayawardana
B.Sc (Eng.) Hons, DipChemEng.(UCL), DIC.,PhD(Lond.)CEng., FICChemE.(Lond.),FIE.(Sri Lanka),IntPESri Lanka)

Research Division

Dr. C G Yapa B.Sc (Hons.) (Colombo) Ph.D	Head (Up to 31.03.2010)
Ms. P R Wijayaratna B.Sc Special (Hons.) Peradeniya	Head (From 01.04.2010)
Mr. S M A W Anuruddha B.Sc (Hons.) (Colombo), M.Sc (Colombo)	Scientific Officer
Dr. S A V Moorthy B.Sc (Jaffna). M.Sc (Colombo), Ph.D (Colombo)	Scientific Officer
Dr. P V S Panawala B.V.Sc (Peradeniya), B.V.Sc MPhil	Scientific Officer
Ms. D N Jayaweera B.Sc (Hons.) (J'pura)	Scientific Officer
Dr. H I Sandanayake B.V.Sc (Peradeniya)	Scientific Officer
Ms. Amali Ranasinghe B.Sc (Hons.)Bangalore, M.Sc (Peradeniya),	Scientific Officer
Ms. Amali Bandara B.Sc (Bangalore)	S & T Officer

Science and Technology Policy Research Division

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

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	Scientific Officer

B.Sc Special (Hons) (Peradeniya)
Ms. Uthpala Karunarathne
B.Sc Special (Hons.) Kelaniya

Scientific Officer

International Liaison Division

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

Head
Scientific Officer
Scientific Officer
Scientific Officer
Scientific Officer
Scientific Officer

Technology Division

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

Head
Scientific Officer
Scientific Officer
Scientific Officer
Scientific Officer
S & T Officer

National Science Library and Resource Centre

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

Head
Information Officer
Information Officer
Information Officer
Information Officer
Information Officer
Information Officer

Administration Division

Mr. P Sapumohotty
B.Sc (Peradeniya)
Miss D A M Munasinghe
B.Sc HRM Special (J'pura)
Mr. S C Senevirathne
B.Sc (J'pura)

Administrative Officer
Asst. Administrative Officer (Up to 15.11.2010)
S & T Officer

Ms. B T Wickremasinghe Accounting Assistant

Finance Division

Ms. K C J T K Fernando Chief Accountant
FCMA

Miss. T D P P Samaranayake Accountant
Professional Part II of ICASL

Ms. Y J Pathirana Accounting Assistant

Internal Audit Unit

Ms. Aruni Bandaragoda Internal Auditor
B(Com.) ,Final part I of ICASL

Printing Unit

Mr. K P Senanayake Printing Manager

IT Unit

Mr. H M M Perera Network Administrator

Confidential Secretaries

Ms. Ayomi Palihawadana Confidential Secretary (Chairperson's Office)

Ms. Seetha Wijesinghe Confidential Secretary (Director's Office)

Resigned during the year 2010

Miss D A M Munasinghe

Assistant Administrative Officer Since 05.11.2010

STAFF TRAINING DURING THE YEAR 2010

Workshops/Seminars/Training programmes attended by Research Division Staff

Foreign

11-12 November 17th Session of the ICGEB Board of Governors Meeting, Italy – Dr. S. A. V. Moorthy

Local

24 - 26 March Workshop on “publishing quality and online strategy for Sri Lanka journals” – Dr. Inoka Sandanayake

8-9 August International Roundtable conference in Quality Assurance - Dr. S. A. V. Moorthy

7-9 September Risk assessment and management of Genetically modified organisms, food, feed and processed products - Dr. S. A. V. Moorthy

27th Sep – 5th Oct Practical workshop on plant genetic modification - Dr. S. A. V. Moorthy

15-17 December 5th Asian Biotechnology and development conference - Dr. S. A. V. Moorthy

7-9 September Risk assessment and management of Genetically modified organisms, food, feed and processed products – Ms. Amali Ranasinghe

27 Sep – 5 Oct 2010 Practical workshop on plant genetic modification - Ms. Amali Ranasinghe

15-16 December 5th Asian Biotechnology and development conference - Ms. Amali Ranasinghe

21st October 2010 Final Workshop on Compilation of the Second National Communication (SNC) on Climate Change –Dr. Sachie Panawala

12th November 2010 UN-CECAR Conference on Sustainability and Traditional Knowledge – Dr. Sachie Panawala

16th November 2010 Final Workshop for ADB TA on Strengthening Capacity for Climate Change Adaptation in Sri Lanka – Dr. Sachie Panawala

30th November 2010 Workshop on Climate Change Adaptation – Dr. Sachie Panawala

Committees coming under the purview of the Division as at 31.12.2010

Workshops/Seminars/Training programmes attended by Science Popularization Division Staff

The staff attended the following conferences and training programmes during the year.

- International Workshop on “Science Centres in Promoting a Knowledge & Innovation Society for Sustained and Responsible Growth in Developing Countries”, *Kuala Lumpur, Malaysia (11-14 October 2010)*
Mr K.G. Janaka Karunasena (SO)
- ‘Result based project management’ – Two day workshop at Institute of Labour Study from 5- 6 August 2010
Ms Upuli Rathnayake (SO)
- Training course in Tamil – Six months
- Ms Nandani Parana Vidana (Stenotypist)

Workshops/Seminars/Training programmes attended by Technology Division Staff

International

Ms. N. Abhayaruwan/ STO participated ISTIC-ISESCO Training Workshop on STI Policy Development: Assessment of Industry Needs held in Kuala Lumpur, Malaysia from 21-25 June 2010 and submitted the report to SDC and the Director.

Mr. Shantha Siri participated at “2010 South Asian Regional Workshop on Science, Technology and Innovation Indicators” held from 6-9 December 2010 in Kathmandu, Nepal.

Local

Ms. N. Abhayaruwan/ STO completed Distance Learning Advanced Course on Basics of Patent Drafting from March 11 to May 19, 2010 and received the certificate from WIPO Worldwide Academy after completing the final exam.

Mr. Shantha Siri participated in SLSI training course on "Internal Auditing as per ISO 9001:2008 QMS" held from 29 -30 September 2010.

Dr. Thamara Dias, Mr. Shantha Siri and Ms. Nadeeja Wickramaarachchi attended a five day training programme on Patent Drafting, organized by the NIPO in collaboration with the WIPO from 07-11 December 2010 in Colombo.

Workshops/Seminars/Training programmes attended by STPRD Staff

1. Dr Seetha I. Wickremasinghe, Head/STPRD and Dr P.R.M.P. Dilrukshi, Scientific Officer participated at an International Conference on Women in a Changing World, organized by Third World organization for Women in Science (TWOWs) from 27-30 June 2010, Beijing, China.
2. Dr P.R.M.P. Dilrukshi, Scientific Officer attended a workshop on Capacity Building on Science, Technology and Innovation Indicators: Current issues and Challenges for South Asia, Kathmandu, Nepal 6-9 December 2010.
2. Dr P.R.M.P. Dilrukshi, Scientific Officer continued following a course on Tamil Language during the year.
3. Dr P.R.M.P. Dilrukshi, Scientific Officer attended a workshop on Internal Auditing as per the ISO:2008 Quality Management Systems 29-30 September 2010 at Sri Lanka Standards Institution
4. Mr W.A.D.L.C. Weerasooriya, Science and Technology Officer continued following a Masters Degree programme in Applied Statistics, Department of Statistics, and University of Colombo during the year

Workshops/Seminars/Training programmes attended by NSLRC Staff

Ms.V.N. Dharmaratne (IO)

- Health Internet work access to Research Initiatives (HINARI) (*8th -10th November 2010 University of Colombo*)

Ms.Nanda Perera (IO)

- Tamil Training Conducted by Department of Official Language 2009-2010

Ms. R.Sugathadasa (IO)

- Workshop on Establishment of e-repositories on D-Space Software, **23-26 March 2010, SLIDA**

Ms. Amila Tennakon (IO)

- Workshop on Establishment of e-repositories on D-Space Software, **23-26 March 2010, SLIDA**

Mr. C.A.B.Wickramasinghe (LA)

- **Workshop on Establishment of e-repositories on D-Space Software, 23-26 March 2010, SLIDA**
- Health Internet work access to Research Initiatives (HINARI) (*8 -10 November 2010, University of Colombo*)
- Development Institutional Repository (*11-12 November 2010, University of Colombo*)
- SAARC Workshop on Digital Libraries using Open Source Software (*13 -17 December 2010- Foundation Institute of Sri Lanka*)
- Tamil Training Conducted by Department of Official Languages 2009-2010