Ministry of Technology and Research

Annual Performance Report

2013

Ministry of Technology and Research

408, Galle Road,
Colombo 03.

ANNUAL PERFORMANCE REPORT
2013
MINISTRY OF TECHNOLOGY AND RESEARCH

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Minister of Technology and Research

Mrs. Dhara Wijayatilake
Secretary, Ministry of Technology and Research

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Additional Secretary/ Administration and Establishments

Mrs. Wasantha Perera
Additional Secretary/ Technology and Research Development

Mr. Madhava Waidyaratne
Additional Secretary/ Technology Transfer

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Chief Accountant

Mrs. Anuradha Ileperuma
Senior Assistant Secretary /Administration and Establishments

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Director (Research Development)

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Director (Planning)

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Internal Auditor

(as of 31st December 2013)

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1. Introduction

This Report includes the progress of the capital and recurrent expenditure of the activities and development programmes conducted by the Ministry from January to December 2013.

The report was prepared according to the Guidelines set out in Section 3.2 "Annual Performance Report" of the Treasury Circular No.01/2004 of 24.02.2004

The total capital and recurrent budget allocations made to the Ministry for 2013 were Rs 2474.16 million and Rs 1836.40 million respectively. Out of the total allocation, Rs 1293.00 million of capital expenditure and Rs 1111.54 million of recurrent expenditure was spent during 2013.

As a strategy to ensure strategic planning and also to manage and monitor performance of the Institutions coming under the purview of the Ministry, the Balance Score Card (BSC) has been introduced. The BSC helps to align activities of the organizations to their Vision and Mission, so that the strategic focus is ensured.

Management Committee Meetings chaired by the Hon. Minister are held monthly. The Institutions are required to report the progress of activities, new projects, programmes and issues that need to be addressed through S&T inventions by these Institutions.

One of the key initiatives taken by the Ministry is preparation of a comprehensive research and development investment framework. A comprehensive research and development investment framework that is aligned to the national development agenda of the country to gainfully utilize science and technology knowledge in search of solutions to the problems and issues prevailing in the country has become an immediate priority today. Recognizing this requirement, on the instructions of Hon Patali Champika Ranawaka, M.P., Minister of Technology and Research, several brain storming sessions were conducted and discussions with relevant stakeholders were held and identified ten areas on which science and technology interventions are immediately needed and ten different possible interventions. The ten focus areas that have been selected for science and technology interventions are Water, Food and Agriculture, Health, Shelter, Environment, Mineral Resources, Energy, Textile Industry, Software Industry and Knowledge Services, Emerging and Traditional Technologies. Expected outcome of these interventions will be either enhancement of quality of life of the people of Sri Lanka or the economic development of the country. Once finalized, the Research Institutions under the Ministry will be advised to engage in research projects in alignment with this Investment Framework. Institutions that grant funding for research have been directed to ensure that funding is granted only for projects that are designed to contribute to the identified priority areas.

The Ministry also developed criteria to evaluate Heads of institutions of this Ministry. Ranking of Heads of Institutions will be carried out based on top-down and bottom-up evaluations and the best Director General will be selected and felicitated. This evaluation will be conducted annually on the direction of Hon. Minister.

The Ministry and the Institutions participated in outbound Training Programmes to enhance leadership and interpersonal skills of officers.

1.1 Subjects and Functions[1]

Duties & Functions Column I	Organizations (Statutory Institutions) Column II	Laws to be implemented Column III
1. Formulation of Policies, Programmes and Projects in regard to the subjects of Technology, Research and all subjects that come under the purview of Departments & Statutory (institutions listed in Column II, on the basis of Mahinda Chinthana-Vision for the Future & any other overall National Policies that may be adopted by the Government. 2. Direction of the implementation of such policies, programmes & projects within time lines agreed with the national planning authorities & within budgeted resources, with a view to achieving relevant objectives. 3. Reforming of all systems & procedures to ensure the conduct of business in an efficient manner deploying modern management techniques & technology where applicable while eliminating corruption & waste. 4. Provision of all public services that come under the purview of the Ministry in an efficient and people friendly manner. 5. Scientific and Industrial research. 6. Establishment & control of Standards. 7. Socio-economic research. 8. Planning & conducting research by providing required facilities to research & & research institutions. 9. Research in specific areas of basic science & promotion of fundamental studies. 10. All other subjects that come under the purview of Organizations listed in Column II. 11. Supervision of the Organizations listed in Column II.	1. Sri Lanka Institute of Nanotechnology (Pvt.) Ltd[2] 2. National Research Council 3. Institute of Fundamental Studies 4. National Engineering Research & Development Centre 5. National Science Foundation 6. National Science & Technology Commission 7. Sri Lanka Accreditation Board for Conformity Assessment 8. Sri Lanka Standards Institute 9. Planetarium 10. Sri Lanka Inventors Commission 11. Atomic Energy Authority [3] 12. Arthur C. Clarke Institute for Modern Technologies 13. Industrial Technology Institute 14. Polipto Lanka (Private) Ltd.[4]	• Institute of Fundamental Studies Sri Lanka Act, No. 55 of 1981. • Science & Technology Development Act, No 11 of 1994. • Sri Lanka Accreditation Board for Conformity Assessment Act, No. 32 of 2005. • Sri Lanka Inventors Incentives Act, No. 53 of 1979. • Sri Lanka Standards Institute Act, No. 6 of 1984. • Atomic Energy Authority Act, No. 19 of 1969. • All other legislations pertaining to the subjects specified in Column I & II, and not specifically brought under the purview of any other Ministry and remaining currently in force.

[1] Notification published in Gazette Extraordinary No. 1681/3 dated 22.11.2010 as amended by Notifications published in Gazette Extraordinary No. 1736/23 of 14.12.2011 and Gazette Extraordinary No. 1796/10 of 06.02.3013.
[2] Included by Notification published in Gazette Extraordinary No. 1736/23 of 14.12.2011.
[3] Included by Notification published in Gazette Extraordinary No.1796/10 of 06.02.2013.

1.2 Vision and Mission of the Ministry of Technology and Research

Vision

Sri Lanka becomes a scientifically and technologically advanced country of the region by the year 2020

Mission

To formulate and implement policies pertaining to the popularization and advancement of science and technology, including scientific research and development and transfer of technologies, to ensure improved quality and productivity so as to upgrade economic activities, which are essential for the economic and social development of Sri Lanka.

2. Actual Expenditure against Budget Provisions and Actual Limits against Prescribed Limits (for Advanced Accounts)

2.1 Personal Emoluments & Other Recurrent of the Ministry

Recurrent Expenditure-2013

Ministry: Technology &Research

Head No: 133

Category – Personal Emoluments & Other Recurrent

Description	Allocation (Rs.mn)	Total Expenditure (Rs.mn)	Balance (Rs.mn)
Minister's Office			
Personal Emoluments	20.800	12.797	8.502
Other Recurrent	32.886	19.062	13.824
Sub Total	**53.686**	**31.360**	**22.326**
Administration & Establishment Services			
Personal Emoluments	40.700	38.870	1.830
Other Recurrent	73.985	64.514	9.470
Sub Total	**114.685**	**103.384**	**11.300**
Science & Technology Development Programms			
Personal Emoluments	247.900	242.462	5.437
Other Recurrent	64.450	52.008	12.441
Sub Total	**312.350**	**294.471**	**17.878**
Total	**480.721**	**429.215**	**51.506**

2.2 Total Recurrent of Institutions

Recurrent Expenditure-2013

Ministry: Technology &Research

Head No: 133

Category – Personal Emoluments & Other Recurrent

Description	Allocation (Rs.mn)	Total Expenditure (Rs.mn)	Balance (Rs.mn)
Public Institutions			
Arthur C Clarke Institute for Modern Technologies	95.000	72.675	22.325
Institute of Fundamental Studies	135.000	117.068	17.932
Industrial Technology Institute	190.000	176.575	13.425
National Engineering Research & Development Center	190.000	161.040	28.960
National Research Council	10.815	9.867	0.948
National Science Foundation	105.000	84.661	20.339
National Science &Technology Commission	27.000	18.759	8.241
Sri Lanka Accreditation Board	20.000	14.803	5.197
*Sri Lanka Standards Institute	0	(401.149)	0
Sri Lanka Inventors Commission	25.000	16.440	8.560
Sub Total	**797.815**	**671.888**	**125.927**
Planetarium			
Personal Emoluments	4.834	3.962	0.872
Other Recurrent	9.630	6.478	3.152
Sub Total	14.464	10.440	4.024
Total	**812.279**	**682.328**	**129.951**

* SLSI is Self-Financing Institute

2.3 Each object code of Capital in case of appropriation accounts

2.3.1 Capital Expenditure-2013

Ministry: Technology &Research

Head No: 133

Category: Rehabilitation and Acquisition

Description	Allocation (Rs mn)	Total Expenditure (Rs mn)	Balance (Rs mn)
Minister's Office			
Rehabilitation	4.700	3.000	1.699
Acquisition	4.100	3.261	0.839
Other			
Sub Total	**8.800**	**6.261**	**2.538**
Administration & Establishment Services			
Rehabilitation	15.050	9.092	5.958
Acquisition	6.500	4.115	2.384
Capacity Building	0.700	0.635	0.065
Deyata Kirula	5.000	4.999	0.001
Sub Total	**27.250**	**18.841**	**8.408**
Total	**36.050**	**25.102**	**10.946**

Contd……

2.3.2 Capital Expenditure-2013

Ministry: Technology &Research

Head No: 133

Category: Rehabilitation and Acquisition

Description	Allocation (Rs mn)	Total Expenditure (Rs mn)	Balance (Rs mn)
S & T Development Programmes			
1.Vidatha Programme			
Rehabilitation	4.720	3.953	0.767
Acquisition	52.450	51.736	0.714
Knowledge Transfer Programme	23.000	22.915	0.085
Sub Total	**80.170**	**78.604**	**1.566**
2.Scientific Development Programme			
Investments	26.000	17.934	8.066
Sub Total	**26.000**	**17.934**	**8.066**
4. Multipurpose Gamma Irradiator			
Investments	380.364	379.394	0.97
Sub Total	**380.364**	**379.394**	**0.97**
5. Nanotechnology Initiative			
Investments	521.000	521.000	0
Sub Total	**521.000**	**521.000**	**0**
6.Nagenahira Navodaya			
Investments	6.000	5.986	0.014
Sub Total	**6.000**	**5.986**	**0.014**
7.Inventors Fund			
Development Assistance	3.500	3.500	0
Sub Total	**3.500**	**3.500**	**0**
8.Implementation of Science ,Technology &Innovations Strategy			
Investments	5.000	4.986	0.014
Sub Total	**5.000**	**4.986**	**0.014**
Total	**1022.034**	**1011.404**	**10.630**

Contd…….

2.3.3 Capital Expenditure-2013

Ministry: Technology &Research

Head No: 133

Category: Rehabilitation and Acquisition and other Capital Expenditure

Description	Allocation (Rs mn)	Total Expenditure (Rs mn)	Balance (Rs mn)
Foreign Assistance Programmes			
Agro Food Project	143.000	103.352	39.647
Develop regulatory framework for Nanotechnology Related Activities in Sri Lanka (NSF-UNESCO)	4.000	2.916	1.084
Sub Total	**147.00**	**106.208**	**40.731**
Public Institutions			
Arthur C Clarke Institute for Modern Technologies	65.000	52.427	12.572
Institute of Fundamental Studies	90.000	56.605	33.394
Industrial Technology Institute	207.000	146.700	60..300
National Engineering Research & Development Center	135.260	51.519	83.740
National Research Council	450.000	217.447	232.553
National Science Foundation	250.000	135.115	114.884
National Science &Technology Commission	6.000	3.264	2.736
Sri Lanka Accreditation Board	2.000	1.500	0.500
*Sri Lanka Standards Institute	0	(48.098)	0
Sri Lanka Inventors Commission	35.000	16.351	18.649
Polipto Lanka (Pvt)Ltd	(10.000)	10.000	0
Sub Total	**1240.260**	**690.928**	**559.328**
Planetarium			
Rehabilitation	2.920	1.504	1.416
Acquisition	3.500	0.777	2.722
Installation of a 4D Digital Projectors	8.775	0.414	8.361
Capacity Building	0.100	0	0.100
Sub Total	**15.295**	**2.695**	**12.600**
Total	**1402.555**	**799.891**	**612.659**

* Sri Lanka Standards Institute is Self-Financial Institute

2.4 Actual Limits against prescribed limits

(in case of Advanced Accounts)

Maximum limits of expenditure of activities of the Government Rs.	Minimum limits of Receipts of Activities of the Government Rs.	Maximum ,Limits of Debit Balance of the Activities of the Government Rs.
27,000,000.00	10,000,000.000	85,000,000.00

3. Annual Work Plan Targets for 2013 and Achievements - Technology and Research Development

3.1 National Research and Development Investment Framework for 2015-2020

The interventions from research and development (R&D) have not always been focused towards the achievement of national needs. The inability to contribute to the national development agenda through R&D initiatives is largely due to ad hoc interventions and the absence of a coordinated plan which recognizes national priorities.

Having recognized the above and, the importance of effective contribution of the spending on R&D towards economic growth of the country, this Ministry, on the direction of Hon. Patali Champika Ranawaka, Minister of Technology and Research, has embarked on preparation of a "National R&D Investment Framework" with extensive stakeholder consultation process addressing needs and social and economic priorities of the country that will secure targeted investment and thereby to ensure better outcomes.

In this regard, we have identified **Ten Thrust areas** on which R&D interventions are immediately needed.

Water
Food, Nutrition and Agriculture
Health
Shelter
Energy
Textile Industry
Environment
Mineral Resources
Software Industry and Knowledge Services
Emerging Technologies and Traditional Knowledge

Ten Expert Groups were appointed representing line Ministries and Institutions relevant to each thrust area, academia, private sector and civil society to study and recommend R&D priority areas. In doing this, the Expert groups have looked into the following **ten possible Science and Technology interventions** that may impose on application of scientific knowledge in these thrust areas.

They are;

Policy Studies,
Pure and Applied Research,
Innovations,
Information and Communication Technology,
Nanotechnology,
Biotechnology,
Indigenous Knowledge and Intellectual Property Rights
Testing and Standardization,
Capacity Building,
Popularization

The ten focus areas and ten interventions form a 10x10 matrix with hundred possible combinations of interventions as given below.

	10X10 Matrix Thrust Areas / Interventions	Policy Studies	Pure and Applied Research	Promotion of Innovation & Assurance of Intellectual Property Rights	Application of Information and Communication Technologies	Application of Nanotechnology	Application of Biotechnology	Application of Indigenous knowledge	Testing, standardization & Accreditation	Capacity Building	Popularization
		i	ii	iii	iv	v	vi	vii	viii	ix	x
1	Water										
2	Food, Nutrition and Agriculture										
3	Health										
4	Shelter										
5	Energy										
6	Textile Industry										
7	Environment										
8	Mineral Resources										
9	Software Industry & Knowledge Services										
10	Basic Sciences, Emerging Technologies and Traditional Knowledge										

The expected outcomes of these interventions are either the 'enhancement of quality of life of the people' or the 'enhancement of economic development of the country'.

The reports of 10 thrust areas prepared by the expert groups will be submitted to a wider stakeholder group that will make such revisions as may be warranted. In the final phase, a general meeting that will be held in 2014 with all stakeholders will endorse the Framework which will then form the basis for investment in R&D from 2015- 2020.

3.2 Commercialization of Research

3. 2.1 Cluster meetings

The Ministry convened cluster meetings in identified priority economic development sectors to identify research needs of the particular sector in order to address the gaps. During 2013, special meetings were conducted with the relevant stakeholders in the fields of space applications, mineral sector and the ceramic sector. The relevant Research Institutions of the Ministry will continue to work in collaboration with industry partners of these sectors.

3. 2.2 Industry- Private Institute tie ups – "*Technology Marketplace"* Exhibition – An Opportunity for Investments

As a continuation to the program for research commercialization initiative, the Ministry organized the third "*Technology Marketplace*" exhibition in BMICH, Colombo on 14 -15 December 2013. The overall objective of this exercise was to link scientific research with Industry, so that the research findings are utilized to add value to industrial products and contribute to the development of the industry and thereby to contribute to the national development agenda of the country. Currently, the Research Institutions of the Ministry (namely, ITI, NERDC, ACCIMT, SLINTEC and AEA) are guided towards demand driven research so as to achieve the overall objective.

At the exhibition, a series of Technical Sessions were held on "*Aligning Scientific R&D to the National Development Agenda*", *"Assistance to SMEs"* and *"Industry- Private Institute Tie ups"*. The line Ministries, Central Bank, Universities, Chambers, and other relevant stakeholders actively participated at these sessions.

At the Inauguration

Visit the exhibition

3.3 Strengthening International Cooperation

3.3.1 Indo Sri Lanka Joint Research Programme

In September 2011, the Ministry entered into a Program of Cooperation (POC) with the Department of Science and Technology, India where provisions are made for the scientists in both countries to engage in joint collaborative research and workshops. During 2013, two workshops had been selected under the program and were held in India and Sri Lanka.

They are;

"*Trandermal Drug Delivery Systems – Regulatory Requirements in Asian Scenario*" (February 2013), and

"*Clinical, Diagnostic, Chemotherapeutic & Entomological Aspects of Leishmaniasis*" (March 2013)

Apart from the two workshops, nine (9) research projects were selected for implementation. During this year eight (8) research projects were initiated and the first installment of funding was released.

The research projects initiated during 2013 are;

1. Understanding the genetic diversity of salinity tolerant rice cultivars/mutants and molecular basis of salinity tolerance with respect to Saltol gene expression
2. High temperature lower crust of East Central Gondwana: Emphasis to southern Indian and Sri Lankan Geology
3. Developing Methods for Assessing Island vulnerability to sea level rise and its effects on livelihood options
4. Potential use of biodegradable nanoparticles to deliver recombinant protein vaccine in shrimp model to control white spot syndrome virus
5. Proteomic and transcriptomics profile/ analysis of indo-Sri Lankan snakes: Implications in development of effectives, safe and feasible antivenin

6. Development of rice and tea residues – derived biochars as effective green materials for adsorptive stabilization of pesticides in soil and water systems opment of effective, safe and feasible antivenin
7. Ensuring human health, food and nutritional security through novel cereal and fruit based prebiotics
8. Investigating the Oncogenic potential of KIBRA

The ***Indo- Sri Lanka 2nd Joint Committee on Science and Technology*** was held in Colombo, Sri Lanka in April 2013. Mrs. Dhara Wijayatilake, Secretary, Ministry of Technology Research, Sri Lanka and Dr. T. Ramasamy, Secretary, Department of Science and Technology, India headed the two delegations. After fruitful discussions, amendments and additions to the Agreement were approved by the delegations.

The Indian delegation held discussions with the Institute of Fundamental Studies and University of Peradeniya during this visit.

3.3.2 Memorandum of Understanding between Sri Lanka and India on Atomic energy

Atomic Energy Authority initiated a MoU on peaceful application of nuclear energy with India. A draft MoU was submitted by the Indian side for consideration after a delegation visited India. The Ministry has submitted the responses to the draft MoU to the Indian side.

3.3.3. Memorandum of Understanding between Sri Lanka and the Kingdom of Thailand

The Ministry of Technology and Research, Sri Lanka and Ministry of Science and Technology of the Kingdom of Thailand signed a Memorandum of Understanding (MoU) on Science and Technological cooperation on 31st May 2013 during the occasion of the Hon. Prime Minister of Thailand's tower in Sri Lanka.

3.3.4 Strengthening bilateral ties with Pakistan

The government of Pakistan had expressed willingness to enter in to a MoU with the Atomic Energy Authority regarding the peaceful use of Nuclear Energy. Having received a draft MoU from the Pakistan's side, the Ministry communicated a counter text was communicated for their consideration.

3.3.5 MoU between Atomic Energy Authority of Sri Lanka and ROSATOM of the Russian Federation

A delegation from the state Atomic Agency Cooperation "ROSATOM" of the Russian Federation visited the Ministry in pursuance of an MoU between the two Agencies on use of atomic energy for peaceful application on 13th – 15th February 2013. After deliberations, the two delegations agreed on the text of the MoU. The MoU was signed in St. Petersburg, Russia on 29th June 2013

3.4 Establishment of Multipurpose Gamma Irradiator Facility

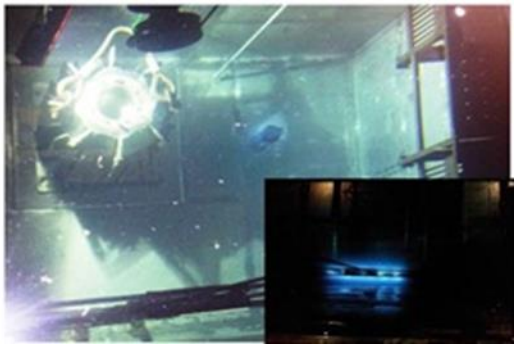
Gamma Irradiator Plants are widely used in a number of countries, among other things, for sterilization of medical products and for food preservation. The establishment of the first ever, Government owned Gamma Irradiator Plant in Biyagama will therefore make it possible to obtain a better export market for our local products such as latex gloves, agricultural products and food. It also provides a readily available and economical service for the customers who at present seek this service from countries outside Sri Lanka.

The following main activities were completed during 2013.

- Civil construction including infrastructure facilities were completed.
- The Plant and machinery were installed
- Radio Active Source (Cobalt 60) was imported and installed.

Multipurpose Gamma Irradiator Plant at Biyagama

Co60 source in containers



Co 60 source in a pool

- Training of Operators and Scientific officers were conducted by the officials of M/s Symec Engineers (India) Pvt Ltd and Board of Radiation and Isotope Technology of India for Operation and Maintenance of Machines, Radiometry and Commissioning Dosimetry.

Conducting Training Programmes

3.5 National Nanotechnology Initiative

3.5.1 Sri Lanka Institute of Nanotechnology (SLINTEC)

In 2008 the **Sri Lanka Institute of Nanotechnology (SLINTEC)** was initiated as a public-private partnership between the Government of Sri Lanka and five leading Private sector companies namely MAS, Brandix, Hayleys, Dialog Axiata, Loadstar and Lankem who are currently engaged in nanotechnology related R & D. Since its inception, SLINTEC has achieved rapid results in both its directives of realizing success in Nanotechnology Research and Development, and initiating the building of a Nanotechnology Park in Sri Lanka.

SLINTEC's strategic focus covers the areas of Apparel, Agriculture, Nutraceutical, Water purification and Mineral resources. SLINTEC is also working on projects to add value to Sri Lanka's natural resources. SLINTEC is entrusted in developing the nanotechnology Park which will be the centre for research and development for Nanotechnology and advanced technologies in Sri Lanka.
Located on a 480-acres of lush land in Pitipana, Homagama, creating an ideal space for 'thinking', SLINTEC aims to develop a world-class Nanotechnology Park in Sri Lanka by attracting investments and establishing collaborations with local as well as global companies. Perfectly connected via highways, surrounded by a knowledge hub of universities the Park offers opportunities for all businesses to develop new products through a collaborative innovation process, taking them from research through development toward commercialization. The foundation for this framework is the Nanotechnology Centre of Excellence (NCE), which marks the first phase of the development of the Park.

3.5.2 Construction of Nano Science Park and Centre of Excellence –

LAN management service was appointed as the project manager and Arch International as the architects. Following a tender process, Tudawe Brothers Pvt Ltd was appointed as the contractor for civil work. A fully pledged Nanotechnology Centre of Excellence with a Nano Science park was declared open by President Mahinda Rajapaksa in October 2013 facilitating the SLINTEC to undertake strategically focused R &D initiatives.

3.5.3 **Research and Development –**

3.5.3.1 Patents-

The SLINTEC has demonstrated its potential of R & D on nanotechnology using local resources. During 2010-2013 SLINTEC was successful in filing patent applications on the following in the United States and in Sri Lanka

1. A process for preparation of carbon nanotubes from vein graphite
2. Compositions for sustained release of agricultural macronutrients and processes thereof
3. Cellulose based sustained release macronutrient composition for fertilizer application
4. Process for making reinforcing elastomer-clay nanocomposites
5. Process for preparation of nanoparticles from magnetite ore
6. Nanotechnology Based Sensor Unit
7. A composition for stain and odour removal from bio-polymeric fabrics and a process thereof
8. Composition and method for sustained release of agricultural macronutrients

3.5.3. Joint Research –

In November 2013, SLINTEC has entered into Memoranda of Understanding with John Keels Holdings PLC (JKH) and Alumex for joint research.

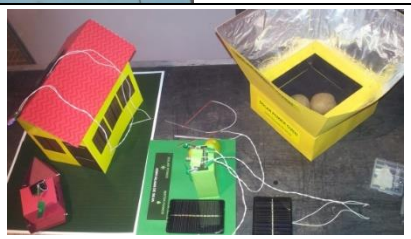
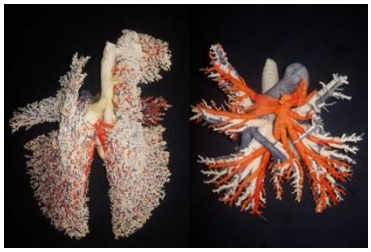
The research cooperation with JKH is to produce a novel range of nanocomposite material. SLINTEC and JKH will look into the development of nanocomposite material that has applications in fields of renewable energy, automotive and heat shields. In general, a composite is a bulk substance made up of two or more distinct, structurally complimentary substances. Nanocomposites make up a special class of composites, as at least one of the components has nanoscale dimensions.

The research cooperation with Alumex is for the novel traits for for Alumex's aluminum product range. SLINTEC, which specializes in nanotechnology research and development, will look to apply advancements in the technology to develop characteristics that will make products stronger, last longer and stay cleaner which are all critical requirements within the industry.

3.6 Inventors Fund

Inventors Fund provides grants to the inventors to further develop their inventions which have a potential for commercialization. The inventors who have already commercialized their inventions are also provided financial grants to expand their niche.

The selection of inventors to approve grants, monitoring and evaluation of projects are carried out by the Sri Lanka Inventors' Commission in transparent manner. In the year 2013, SLIC has disbursed grants totaled to Rs.2.94 million under the Inventors Fund. Some of the new inventions that were funded are mentioned below.

Inventor	Grant Allocation	**Invention**
L.R.U.H.Wijerathne	200,000	 Ekel Extractor
Mr Asiri Dilhan de Silva	200,000	 Green Powered Educational Paper Toys
Mr Ariyapala Ukwatta	50,000	Onion Cutting Machine
Mr Hemantha Dissanayake	100,000	 Injecting Solution for Corrosion Casting
Nelum Udayakantha	50,000	 Peanut Harvesting Machine
K.V.A.Wijayawansha	240,000	 Organic Insecticide

Amitha De Silva	1,400,000	 Organic Fertilizer
K.M.Wijepala	1,200,000	 Elevated Toilet Seat

3.7 Nagenahira Navodaya

The Ministry received fund amounting to Rs. 6millions under the Nagenahira Navodaya programme. These funds were utilized for the below mentioned programmes.

1. Construction of Vidatha Resource Centres (VRC) and for scientific trainings. Accordingly VRC – Kantale VRC was constructed at a cost of Rs. 5.2 millions the VRC at Samathurei VRC was renovated at a cost of Rs. 220,000.
2. A two day programme for the training of trainers was conducted from 13th to 15th June for the Science and Technology officers of the Northern and Eastern Provinces under the Scientific Training Programme. In addition to this a one day programme on medicinal products manufacturing was conducted by Industrial Technology Institute and a two day graphic designing programme was conducted by the Sri Lanka Institute for Development Administration.

4. Annual Work Plan Targets for 2013 and Achievements - Technology Transfer

Vidatha Programme (Technology Transfer Division)

The Technology Transfer (Vidatha) Programme seeks to transfer existing scientific/technology knowledge and research innovations of scientists to the Micro, Small and Medium Entrepreneurs (MSME) at grassroot level through an island-wide network of Vidatha Resource Centers (VRC). The Vidatha programme was initiated in 2004, with a view to boosting the rural economy and enhancing its contribution to National economic development. It endeavors to capitalize the creativities and skills of rural people and to utilize their resourcefulness for the own economic upliftment. Towards this end, the programme expects quality products from the village reaching the marketplace thereby ensuring a stable income for the rural community. The programme transfers primary technologies free of charge, secondary technologies at a nominal price and tertiary technologies for a fair price.

In order to implement this programme, the Ministry has established a Vidatha Resource Centre (VRC) network covering the entire island and presently there are 260 centers representing 80% of the total number of DS divisions of the country.

Technology Transfer programmes are identified based on the availability of local resources and the needs of the relevant community. The process commences with a technology needs assessment of the village carried out by Field Coordinating Officers under the guidance of STOs. Subsequently appropriate technologies are transferred through hands-on training sessions conducted by Science and Technology Officers (STOs) of respective VRCs, Research Institutions functioning under the Ministry such as ITI, NERDC, ACCIMT etc and other relevant technology providers. Each VRC is equipped with basic training facilities and equipment such a bakery oven, a vegetable dehydrator, and virgin coconut oil extractor. Attention is also paid to augment the SME's access to finances as well as to the market place. Facilitating low cost borrowings under special credit schemes and forging strong and sustainable links between SMEs and the distribution network are being facilitated.

Continuous focus is placed on improving the performance of VRCs and formulates their action plans in line with national priorities. During the reporting period, special emphasis was given to assist SMEs with medium technologies through VRCs.

❖ Summary of Progress of main activities undertaken during the year 2013

Technology Transfer programs were conducted under the following categories.

A. Technology Transfer Programmes.
B. Technology Awareness programmes.
C. Trainings for VRC officers
D. Special micro projects to facilitate identified entrepreneurs.

The following table summarizes the programmes conducted under each of the above categories.

	Programme.	Number of Programmes	Number of participants
A	Technology Transfer Programmes.	3053	66869
	(i) conducted by STOs	3048	66700
	(ii) conducted by other institutions	05	169
B	Technology Awareness Programmes	2126	74427
C	Trainings for VRC officers.	13	478
D	Special Micro Projects	8	897

A. Technology Transfer Programmes

Technology Transfer Programme for entrepreneurs were conducted by the science and technology officers attached to the VRCs and by the institutes attached to the Ministry of Technology and Research. 24 Technology Transfer Programmes were targeted in each VRC in this year

- **Technology transfer programmes conducted by STOs**

  Science and Technology Officers working at Vidatha Resource Centers were conducted the following Technology Transfer Programmes to community at grass root level in year 2013.

Area	**Number of Programmes**	**Number of Participants**
Food Technology	1300	28883
Herbal Technology	142	2403
Material & Chemical	813	18314
Agriculture	447	8569
Information Technology	346	8531
Total	**3048**	**66700**

- **Technology transfer programmes conducted by other institutions**

  The following programmes were conducted by The Arthur C Clarke Institute for Modern Technologies for entrepreneurs.12 programmes were targeted during this year.

Area	No. of Programmes	No. of Participants
Mobile Phone Repairs	01	29
Practical Electronics	01	35
T.V. Radio Repairs	01	29
Antenna Design	01	33
Computer Hardware	01	43
Total	**05**	**169**

B. Technology Awareness Programmes

In order to make aware the communities and school children on current development of the field of science and technology, number of awareness Programmes were conducted by Science and Technology Officers during year 2013. 24 awareness programmes were targeted in each VRC in this year.

Area	Number of Programmes	Number of Participants
Health and Sanitation	425	13858
Agriculture	419	17968
Disaster Management	583	19608
Vidatha Concept & Entrepreneur Development	176	4445
Electronic	523	18548
Total	**2126**	**74427**

Conducting Technology awareness Programme

C. Training of VRC officers

Science and Technology officers (STOs) and the Technical and Human Resource Assistance (THRA) attached to VRC were trained to enhance their capacities in the following areas. These officers will act as the trainers to carry out the awareness and technology transfer programmes. 15 programme for 35 STOs, 3 programmes for 25 THRAs were targeted during year 2013.

	Workshop/Training	**Place**	**No. of Participants**
01	Nano Technology	SLINTEC	190
02	Project Proposal Writing	Sri Lanka Foundation	27
03	Cottage Cheese, Butter-1	Animal Husbandry Training School - Seeppukulam	24
04	Herbal Products	ITI	25
05	Screen Printing	Muthu Kuda Industries	26
06	Cottage Cheese, Butter-2	Animal Husbandry Training School - Seeppukulam	27
07	Vidatha Empowerment Programme	SLFI	52
08	Ginger Processing	ITI	24
09	Glue Production	Rubber Research Institute	29
10	Herbal Products Value addition Workshop	ITI	01
11	Management Skills development Programme (THRA)	Community Education Center	20
12	Packaging Programme (THRA)	SLFI	20
13	Packaging Programme (Problem Discussion) (THRA)	National Packaging Center	13
	Total		***478***

D. Implementation of Special Micro Projects

The key objective of these projects is to identify the local resources and encourage the community to develop products using the existing resources. These projects will help to identify new entrepreneurs or will improve the technical capacities of the prevailing entrepreneurs. During this year ten special projects were targeted and seven special projects were conducted.

The following special projects were conducted during 2013.

Micro project	VRC Center	No. of Participants
1) Providing of technologies for traditional "Asamodagam" production.	Warakapola	20
2) Fruit Based Products	Biyagama	10
3) Bio gas project at Pannipitiya Darmapala School.	Maharagama	700
4) Tissue culture Project for Banana Cultivation.	Hambantota	15
5) Bee keeping Project	Hambantota	15
6) Project on providing marketing facilities for entrepreneurs	Biyagama	100
7) Shoe manufacturing Projects	Hanwella	25
8) Shoe manufacturing Projects	Kirinda-Puhulwella	12

A Project on "Asamodagam" Production


Bee keeping Project


Tissue culture project

- **Revival of the National Vidatha Programme**

  The Technology Transfer Division was organized the ceremony of marking the revival of the National Vidatha Programme on 09th December 2013 at the Sri Lanka Foundation in order to show improvements of the current programme. Vidatha Logo and the Vidatha Theme Song was launched at this event.

  Since transfer of technological knowledge only is not adequate to uplift grassroots level entrepreneurs, Technology Transfer Division initiated providing loan facilities to Vidatha entrepreneurs under the "Saubhagya" loan scheme operated by the Central Bank. The first stage of awarding letters to loan recipients were symbolized with the participation of People's Bank, Bank of Ceylon, Rural Development Bank and SANASA Bank.

  Vidatha system certificate developed by the Ministry for Vidatha entrepreneurs in collaboration with Sri Lanka Standard Institution (SLSI) was introduced and five successful entrepreneurs were recognized by awarding GMP and ISO certificates of SLSI.

  The "Prabhaswara" educational blog was launched with a view of educating general public and young generation of the country about new scientific knowledge and innovations.

The technology information helpline "1966" of Technology Information Centre which is located at the Ministry of Technology and Research was also launched in order to link the general public with all VRCs and other institutions regarding technology related queries. The Technology Information Center will identify technological problems of entrepreneurs and provide correct and relevant information to the general public with the coordination of all other institutions.

- **Information on Vidatha building construction**

During year 2013, 11 VRC buildings constructions were targeted and nine buildings were constructed **District**	**Name of the VRC**
Rathnapura	Kiriella
	Weligepola
	Opanayake
	Imbulpe
Kurunegala	Pannala
Puttalam	Madampe
Trinco	Kantale
kegalle	Mawanella
Kalutara	Panadura

Ongoing building from 2013 to this year.

District	**Name of the VRC**
Rathnapura	Balangoda
	Kahawatta
Mannar	Musali