

Annual Report 2013



Industrial Technology Institute

Your Partner in Technological and Industrial Growth

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ITI Quality Policy

“The management of the Industrial Technology Institute is unreservedly committed to maintain the ISO 17025 Quality Management System for the Testing and Calibration services and ISO 9000 Quality Management System for the entire Institute, in keeping with the National Quality Policy, thus providing customers with services of the highest professional standards.

All ITI staff has been made fully aware of the Quality Systems operated within the Institute and are therefore committed to provide services in keeping with the International Standards.

The entire staff of the Institute endeavors to achieve the highest level of customer satisfaction and continual improvement of services by meeting the requirements of the Quality Systems as per ISO 17025 for the Technical Services & ISO 9000 for Quality Management”

Act & Legislation

The Industrial Technology Institute (ITI) is a statutory board, which came into existence on 01 April 1998 by virtue of the Science and Technology Development Act No. 11 of 1994. ITI is the successor to the Ceylon Institute of Scientific and Industrial Research (CISIR), which was established in 1955. The ITI that operates as a market-oriented partner to its clients and stakeholders is a wholly owned Institute of the Sri Lankan Government with its own Board of Management and functions within the purview of the Ministry of Technology and Research.

Mandate

The Science and Technology Development Act No. 11 of 1994 that came into effect on 01 April 1998 describes our mandate as follows:

“The Technology Institute shall be demand driven. The object of the Technology Institute shall be to elevate the level of technology in Sri Lanka to the level required for rapid industrialization.”

Vision

To be a centre of excellence in Scientific and Industrial Research for national development.

Mission

To conduct innovative R&D and provide internationally competitive technical services to accelerate industrial development for the benefit of the people of Sri Lanka.

Board of Management

Chairman

Prof W Abeyewickreme
*Professor in Parasitology
Faculty of Medicine, University of Kelaniya*

Members

Dr G A S Premakumara
Director General/CEO, ITI Ex-officio

Mr Asela Iddawela
*Vice President, Sustainable Development & External Affairs
Holcim (Lanka) Ltd*

Dr N V Chandrasekharan
*Senior Lecturer, Department of Chemistry
Faculty of Science, University of Colombo*

Prof Sudantha Liyanage
*Dean, Faculty of Applied Sciences
University of Sri Jayewardenepura*

Dr Shantha Amarasinghe
*Senior Lecturer, Department of Chemical & Process Engineering
University of Moratuwa*

Mr Mahendra Jayasekera
*Managing Director
Lanka Tiles PLC*

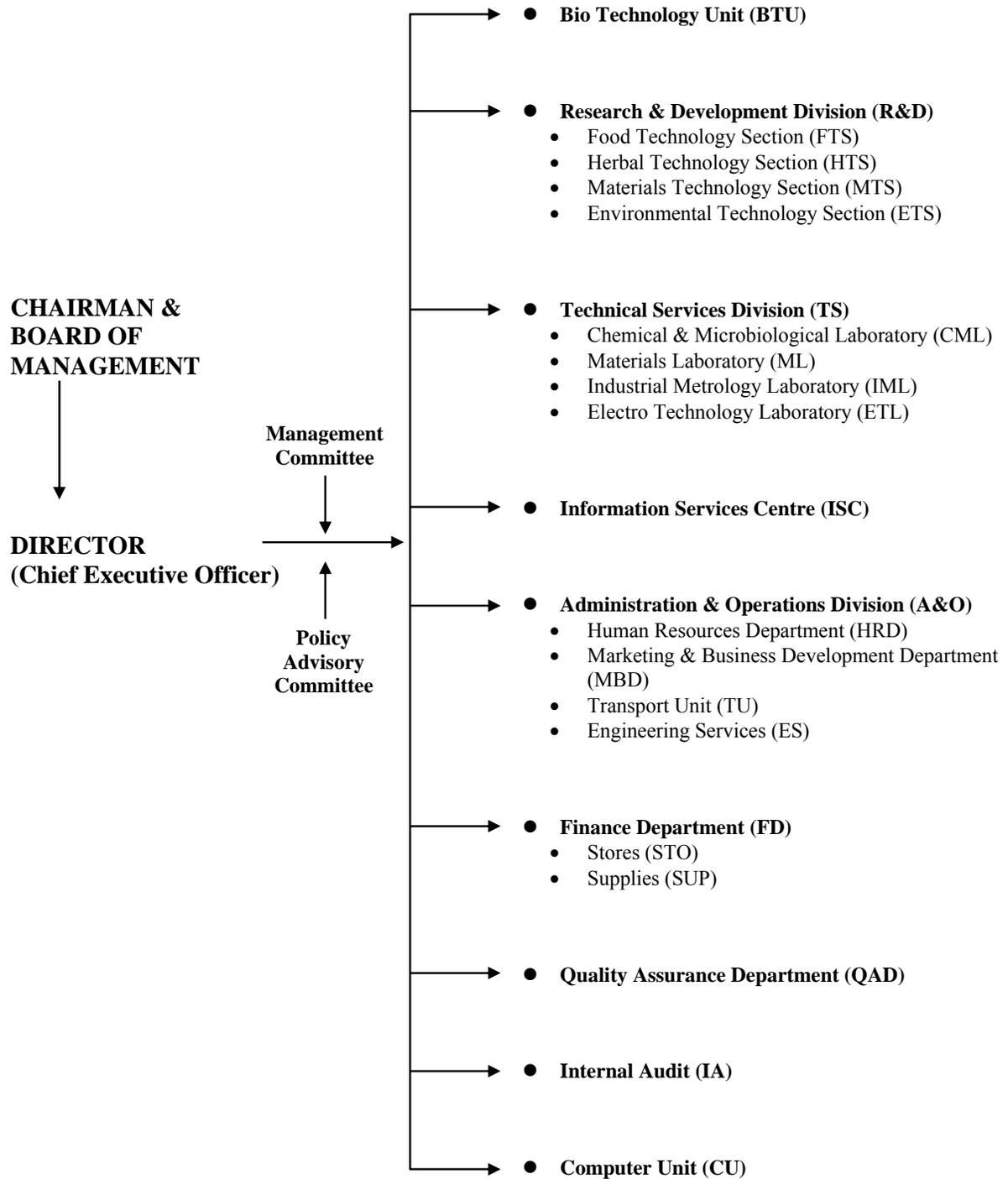
Mr W D Jayasinghe
*Additional Secretary
Ministry of Industry and Commerce*

Ms S M Rajapaksha
*Assistant Director, Department of Public Enterprise,
Ministry of Finance & Planning*

Secretary to the Board

Ms. Renuka Jayatilleke
Institute Secretary

Organization Structure



Senior Management

DIRECTOR GENERAL/CEO

Dr. G.A.S. Premakumara

ADDITIONAL DIRECTOR, TECHNICAL SERVICES

Mr. A.S. Pannila

ADDITIONAL DIRECTOR, RESEARCH & DEVELOPMENT

Dr. J.K.R.R. Samarasekera

ADDITIONAL DIRECTOR, ADMINISTRATION & OPERATION

Mr. D.C.A. Sattrukalsinghe

RESEARCH & DEVELOPMENT

Dr. Ilmi G.N. Hewajulige
Senior Deputy Director, Food Technology Section

*Senior Deputy Director, Herbal Technology Section
(Vacant)*

Dr. I.R.M. Kottegoda
Head, Materials Technology Section

Mr. H.N. Gunadasa
*Senior Deputy Director, Environmental Technology
Section*

BIO TECHNOLOGY UNIT

Dr. S.G. Senaratne
Head, Bio Technology Unit

INFORMATION SERVICES CENTRE

*Senior Deputy Director, Information Services Centre
(Vacant)*

INTERNAL AUDIT

Mr. K.A.S.P. Kaluarachchi
Chief Internal Auditor

FINANCE DEPARTMENT

Mr. Johnson Solomon
Senior Deputy Director, Finance Department

TECHNICAL SERVICES

Mr. J.K.A.B. Wijegunasekara
Head, Chemical & Microbiological Laboratory

Mr. J.M.S. Jayatileke
Senior Deputy Director, Materials Laboratory

Dr. W.M.S. Wijesinghe
Head, Industrial Metrology Laboratory

Mr. R.M. Weerasinghe
Head, Electro Technology Laboratory

QUALITY ASSURANCE DEPARTMENT

Mr. H.P.P.S. Somasiri
OIC, Quality Assurance Department

ADMINISTRATION & OPERATION

*Senior Deputy Director, Administration & Human
Resources
(Vacant)*

Mrs. Manori Wijemanne
*Senior Deputy Director, Marketing & Business
Development*

Mr. A.S. Arachchie
Head, Engineering Services

INSTITUTE SECRETARY

Mrs. A M K R Jayatilake

- *Mr. Tilak Samarasekera served as Senior Deputy Director, Human Resources Department up to 30th November 2013*
- *Ms. Suranee Samarasekera served as Senior Deputy Director, Information Services Centre up to 23rd December 2013*

Chairman's Message

I assumed duties as Chairman of ITI on 30th July 2013 with the completion of the term of appointment of the former Chairman of ITI, Prof. Vijaya Kumar.

In line with the objectives laid down in the Mahinda Chintana, vision for the future programme, and as directed by the Minister for Technology and Research Hon Patali Champika Ranawake the Industrial Technology Institute through technology and Knowledge transfer took upon itself the challenge of upgrading the SME capacity in order to uplift the livelihood of the community through Agriculture, Livestock and Cottage Industries with the aim of converting each household to be a domestic economic unit ensuring food and nutrition security with increased income and reduced expenditure to create a self reliant economy.

In line with the Hon Minister's vision in creating an effective environment for an efficient workforce, the 5S programme was launched and a separate 5S unit was established with an officer in charge.

Dr Sirimal Premakumara, who was placed in the position of Additional Director (R&D) for a very short period from his previous post as SDD (HTS), was appointed as the Director of the ITI w.e.f 4th Jan 2013. On 07.01.2013 Dr Radhika Samarasekera was appointed to the post of Additional Director (R&D) thus ITI being able to fill all three Additional Director posts prevailing at the Institute.

The technology developed by the ETL of ITI on Street Lamp Controlling system and the Low cost high accurate Ear screening device won the Second and first prizes respectively at the Sahasak Nimayum Exhibition organized by the Sri Lanka Inventors' commission.

In May 2013, ITI was made a member of COMSATS Net work of International Science and Technology Centers of Excellence for sustainable development in the south as approved in the 16th Meeting of coordinating council Accra, Ghana.

Taking into consideration of the medical needs of ITI employees, the institute was able to implement successfully a contributory Medical Insurance scheme for its staff, with the Sri Lanka Insurance Corporation, which was a much needed move and a long awaited requirement.

The PF 380 circular was, to a certain extent, implemented for the consultancy services of the staff members, thus enriching the researchers in their efforts in promoting such services rendered by them.

The necessary foundation was laid by ITI for the formation of its Toast Masters Club by enrolling 20 staff members who graduated through speech crafter programme and also are chartered toast masters.

The Institute's earnings grew by 30.25% in 2013 to Rs. 207.5M compared with Rs.159.3M in 2012. When compared with the increased of income in the past three years, a percentage of 7.8 and 17.3% in the year 2012 the year 2013 respectively records a recordable income increase of 30.25% as opposed to the previous year's increase in the income.

The Technical Services Division continued to be the biggest earner with its income improving to Rs160 M compared with Rs. 124.2 M the previous year. Income from Contract Projects rose substantially from Rs. 8.1 m in 2012 to Rs.12.4M In the year 2013.

A special feature demonstrated by the Technical Services Division was demonstrating their innovative and research activities by transferring a technology for a Rain Gauge machine which was a successful project.

So did earnings from technology transfer which grew from Rs. 2.8M as opposed to the previous year to Rs 3M in the year 2013. The ratio of earnings to recurrent expenditure however decreased to 87% in 2013 from the high of 94.5% achieved last year. Personnel emoluments increased by Rs. 51.4M or 25% in 2013 largely due to the complete implementation of the new salary schemes, and the approved Scheme of Recruitment (SOR), while the rise of 19.3% in total recurrent expenditure reflected inflationary and foreign exchange movements in the economy. These developments led to an increase in expenditure per employee by 0.06% in 2013, which was much greater than the 0.09% increase shown in income generated by each employee.

The administration block at the new site for ITI at Malambe and much of the Agro-Food Technology block has been completed, with ITI's generated income being used to construct the additional floors of the Agro-Food Technology building. The road from Chandrika Kumaranatunga Mawatha to the site and the bridge was completed after the acquiring of the additional land necessary for this purpose. The Institute has had successful discussions with the relevant authorities to obtain funds for the Advanced Materials block.

The Institute is still unable to attract and retain quality staff, both scientist and non scientist; largely because government salaries and terms of employment for research staff is not competitive. Nevertheless many initiatives like research allowance (even for projects funded by Treasury Grants) and distribution of research earnings have been implemented but there are hurdles to overcome. Its impact has however not been very large with the research staff numbers which decreased. However with an accelerated scheme the back log in attending to clearing of appeals in relation to the promotions and placement was done within a period of four months.

The Institute continued with its performance incentive scheme and incentive scheme for scientists. Employee relationships have been good.

ITI continues to play a major role in assisting Sri Lankan industry by providing a wide range of internationally and locally accredited laboratory services. Out of the 7 Major sections at ITI, 3 are SWEDAC (Swedish Board for Accreditation & Conformity Assessment) and SLAB (Sri Lanka Accreditation Board) accredited while one major section is accredited by the Sri Lanka agency, SLAB. Further More than 130 parameters are SWEDAC accredited.

The Institute supported local industry by providing a wide range of calibration services to industry. A new addition to calibration services is the new invention of a measuring tape calibration instrument with some unique features.

ITI also maintained its international stature by providing services to laboratories overseas and by conducting training programmes on quality management in microbiological analysis for foreign scientists.

As means to implementing transferring applied Technology and transfer thereto to the industry a much needed vacancy of the Marketing Manger was fulfilled.

ITI continued to carry out research on critical problems facing the country and on problems faced by industry. Apart from the role played by the ITI in the area of DCD testing for the milk products, the highlights of this work and of new initiatives being undertaken by the Institute in relations to natural issues are described in the following pages of the Annual Report.

Analysis of environmental samples in relation to industrial pollution at Rathupaswala and Hanwella are two such major national issues ITI has been involved. It is noteworthy to mention that public as well as the private sector and the judiciary in Sri Lanka has requested ITI's involvement in such issues. This in turn reflects the confidence and the faith the said stakeholders have placed on ITI. The Institute also plays a major role in assisting industry to monitor and mitigate the effects of industrial pollution. As described more fully in the report, this work has been in the fields of noise and vibration pollution including those on newly built ships, the high ways, atmospheric emissions and solid waste and waste water management.

Apart from conducting awareness programs among staff on prevention from dengue infection by keeping the surrounding clean without any potential breeding habitats for dengue mosquitoes ITI is currently involved as a stakeholder in a dengue vector control target oriented mega project through funding from the National Research Council.

As an initiative to protect public from chronic kidney Disease ITI has develop a low cost Red Clay filter to be distributed among the public in affected areas. This has the unique feature of filtering fluoride and heavy metals such as Arsenic and Cadmium. With further testing ITI will be able to release this filter with the ITI trademark to the market in the near future.

A model of sharing revenue was established by ITI when sharing facilities and equipment of ITI with the private sector which would be used on most of such partnerships in the future.

The newly appointed Director General /Chief Executive Officer, Dr. Sirimal Premakumara who possessed number of years experience at ITI in other capacities of work, provided leadership to the Institute. On behalf of the Board, I wish to take this opportunity to thank him for his assistance extended to the Institute during his short period in the capacity of Director General/CEO of the institute.

I also wish to thank the former Chairman and the Director of ITI for their support rendered, as and when the necessity arose.

I wish to also thank the staff and management of the Institute for their efforts in not only helping to maintain ITI's position as the premier industrial research institute in the country but also their endeavors in building up confidence in industry on the capabilities of the Institute as a reliable research partner.

Prof. W Abeyewickreme.
Chairman

Executive Report

The Institute performed creditably during the year under review. Some of the significant achievements, R&D and technical services carried out during this period are highlighted. The designation of the Institute as the COMSATS (Commission for Science & Technology for Sustainable development of South) center of excellence in Sri Lanka is a significant milestone that the Institute achieved in this year.

R & D FOR ELEVATING THE LEVEL OF TECHNOLOGY IN INDUSTRY

Technology Transfer:

An agreement was signed with CIVICON Engineering (Pvt) Ltd. and ITI to transfer the technology for fabrication of ITI developed rain gauge. The automated rain gauge was first developed in 2007 and was continuously improved enhancing the data reliability and accuracy and was successfully tested in various study stations in the country. This agreement has paved the way for commercial production of a rain gauge in the country.

The technology developed for pest control using local *Bacillus thuriengensis kurstaki* for Lepidopteron pests in fruits and vegetables was transferred to Bio Power Lanka (Pvt.) Ltd.

During the year two turnkey contracts undertaken in previous years for treatment of wastewater discharged from textile dyeing plant and for treatment of wastewater generated from vehicle service station have been successfully completed.

Improving small and micro enterprises through Science and Technology:

ITI continued to support the government in mission to uplift the rural economy by actively participating in Vidatha and Divi Neguma Programmes. Several Officers from Vidatha Centres were trained as master trainers on variety of technologies such as Herbal balm and oils, Value added products from Ginger and Ginger dehydration technology. Under the 'Divi Naguma' programme over 200 persons were trained at programmes held in Batticaloa, Polonaruwa, Galle and Kurunegala. ITI continued to mediate in conducting Divi Naguma banking clinics, material distribution and sensitization programmes.

Several training workshops were carried out to transfer technology to SME with sponsorship of government and international organization to uplift the economy of the rural population. Fish products processing, Rice based products, processing of bottled fried sprat, Kithul beverages and Kithul jelly were some of the high demand programmes conducted during the year.

PROVISION OF INTERNATIONALLY COMPETITIVE TECHNOLOGICAL SERVICES

Improving the competitiveness of industry:

As the leading testing and calibration service provider in the country with national and international accreditation, ITI has provided around 19,000 testing and calibration services and 40 instrument repairs to more than 3000 clients. This clientele includes national bodies such as BOI, CEA, Registrar of Pesticides, Department of Fisheries, Fertilizer Secretariat, Customs and Tea Board and many leading institutions from private sector. In addition training in Laboratory Quality Management Systems, Industrial Metrology, Food Safety (HACCP), ISO 17025, ISO 15819 (Medical testing) were also provided to industry and research institutes.

ITI continued to maintain its accreditation status from both SWEDAC and SLAB for a wide range of testing and calibration services which includes ISO/IEC 17025. The R & D laboratories and the Information Services Centre continued to maintain their ISO 9001-2008 certification status.

With the view of improving the productivity of the staff, ITI initiated the implementation of 5S methodology. Along with the implementation a separate productivity office was started and a productivity officer was appointed as of the guidance given by National Productivity Secretariat.

ITI also continued to provide calibration services to medical laboratories of some leading hospitals and there by contributed to the much needed accuracy of medical reports.

During the year, 130 environmental consultancies were undertaken for minimization of air, water, solid waste, and noise pollution caused by industries. Services included design, review performance assessment of pollution control systems, dispersion modeling, improvement of

ventilation systems, performance evaluation of combustion systems etc. A wide range of industries obtained our services. Vehicle service stations, motor garages, rubber vulcanizing units, polythene & plastic pack manufacturing plants, furniture painting operation, paint & wood coat manufacturing plant, lead oxide manufacturing plant, MDF board manufacturing plant, rice mills, tyre buffing operation, pesticide powder packing plant, biomass boilers and charcoal briquetting plant, metal smelting plants, ready mix asphalt plants and cinnamon leaf boilers, poultry waste rendering plant were some the services.

ENHANCING COMMUNITY WELLBEING HEALTH, NUTRITION AND ENVIRONMENT

ITI continue to play a key role in many national issues with its expertise in wide range of fields for consumer safety and welfare.

At the request of the Ministry of Technology and Research, ITI under took the challenge of testing of Milk & Milk products for DCD contamination. DCD is a chemical applied to the pasture for reducing greenhouse gasses. Possible contamination of Milk with DCD was surfaced during the year 2012 and public concerns were raised in many countries. ITI established a test method for the analysis of DCD in milk powder and market samples were tested and the results were reported to relevant authorities.

In Rathupaswala, a controversy has been erupted between the villagers and a latex glove manufacturing factory about the effluent water disposal of the factory. At the request of the District Secretary of Gampaha, ITI assess the pH level of the well water in Rathupaswala. ITI carried out a comprehensive study within a short period of time and submitted the results to the District Secretary.

Being the only accredited facility for noise measurement in the country, ITI is called by the Urban Development Authority to give an opinion on noise pollution to the residents along Katunayake Expressway. Using IMMI Noise Modeling software ITI reported the extent of the noise barriers to be constructed. This is the first time that the IMMI Noise Modeling software was used to design noise barriers and also the first time that the noise barriers are constructed in Sri Lanka.

A VIBRANT R & D SYSTEM AT ITI

Modern R&D complex at Malabe

The construction work of Modern R&D complex of Industrial Technology Institute at Malabe IT Park was progressed though with some delays due to various reasons. The progress was accelerated with the appointment of a new Project Director from June 2013. The completion of Ground and two floors of Biotechnology Centre (BTC) including required services and the Construction of remaining upper three floors of BTC were completed in Dec 2013. Currently with the guidance from the Ministry ITI has obtained the necessary funds from the government to accelerate the completion of BTC and relocate R&D sections at Malabe by Aug 2015.

Increased R & D capacity:

ITI continue to encourage its scientists and engineers to obtain post-graduate qualification in their relevant areas. During the year, 3 Research Scientists completed their PhD while 5 others continued their PhD studies. One Research Scientist completed her Masters during this year while fourteen more continued their Masters degree programmes in their respective disciplines.

Publications, Patents, Awards & Reconditions:

ITI initiated a biannual Research Symposium and held for the first time in this year. Thirty nine research papers from different areas were presented by our own research scientists and research engineers. There was a significant increase in the number of publications totaling 21 research papers in peer reviewed journals this year. Applications for 2 local patents have been filed during the year.

Human Resources

During the year 32 Research Scientists/ Engineers were recruited while 11 resigned / retired from the Institute.

In the year under review, a health insurance scheme from Sri Lanka Insurance Corporation, was introduced and this insurance covers all the ITI employees including those who are on contract.

Infrastructure

The appearance of ITI buildings and its premises was improved. All the buildings were colour washed, paved the parking area and internal roads were carpeted. The face-lifting able to position ITI in par with the new developments done around the city by the Urban development authority.

HR anomalies

Various anomalies in the ITI cadre were solved to a considerable extent during 2013. Staff promotions which were delayed due to various reasons were sorted out and the promotions were granted to those who are eligible.

Employee Relations and Welfare measures:

The year began with traditional New Year celebrations jointly organized by Welfare and Recreation Club and the Buddhist Society. A two day trip to Anuradhapura and Trincomalee was organized by the W&RC for the employees and their families.

The Buddhist Society built a shrine place and was unveiled by the Minister Hon. Patalie Champika Ranawaka. The annual bana sermons for Vesak and Poson and the Vesak lantern competition for the 6th consecutive year were organized by the Buddhist Society. The Christian Society continued with their traditional Christmas party with carol singing and distribution of gifts to the children of ITI staff. The Seva Vanitha Unit continued to provide school books to children of deserving employees and fun raising sales during Sinhala & Hindu New Year and Christmas.

Financial performance

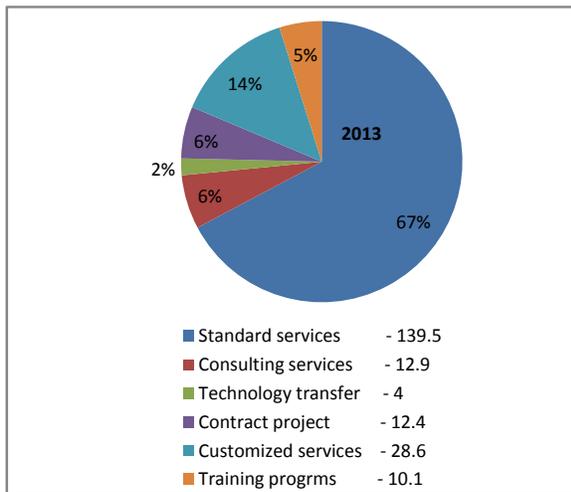
The state grant for recurrent expenditure showed an increase from 169 Mn to Rs. 176.6 Mn, while the capital grant increased from Rs. 97.2 Mn to Rs. 146.7 Mn.

Institute income showed a significant increase of 31% from Rs. 188.4 Mn in 2012 to Rs. 246.8 Mn in 2013, while the recurrent expenditure increased by 21.2% from 314.3 Mn to 380.8 Mn. The income/recurrent expenditure ratio showed an upward trend from 60% to 65%. Testing and calibration services contributed 56.5% (Rs. 139.5 Mn) of the generated income while income from contracts and consulting services showed an increase from 18.2 Mn in 2012 to 25.3 Mn this year. Revenue from technology transfer showed a 43% increase from last year's figure of Rs. 2.8 Mn to 4.0 Mn. Income generated per employee increased

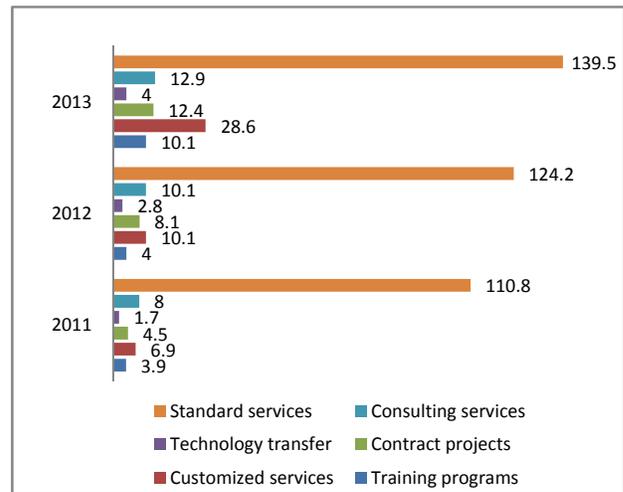
significantly from Rs. 576,300 to Rs. 963,800 while the expenditure per employee decreased from Rs. 961,162 to Rs. 624,892. The performance-based incentives were paid to the staff for the 10th consecutive year as the institute achieved the overall income target set for the year.

High percentage of generated income of the institute is from testing and calibration services while income from technology transfer and R&D has increased compared to last year. This reflects that the demand for R&D services from the industry is picking up now. Anyhow, although a triple tax benefit is introduced to promote R&D in the private sector, it still has not had a significant impact in increasing demand for R&D. With Sri Lanka aspiring to become a regional knowledge hub by 2016, it is imperative that Institutions like ITI make strong endeavors to play a key role in this area.

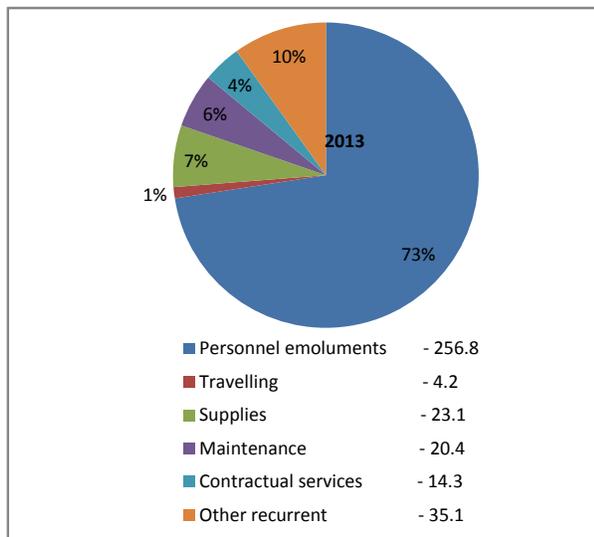
Income – Business Activities (Rs. Mn)



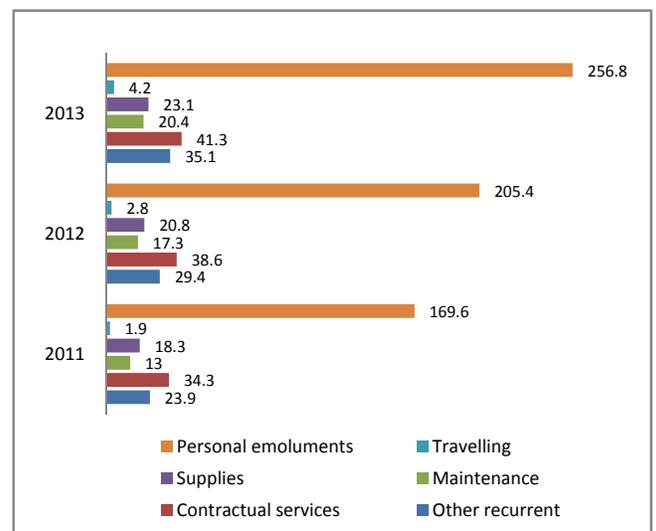
Income on Business Activities – Trend (Rs. Mn)



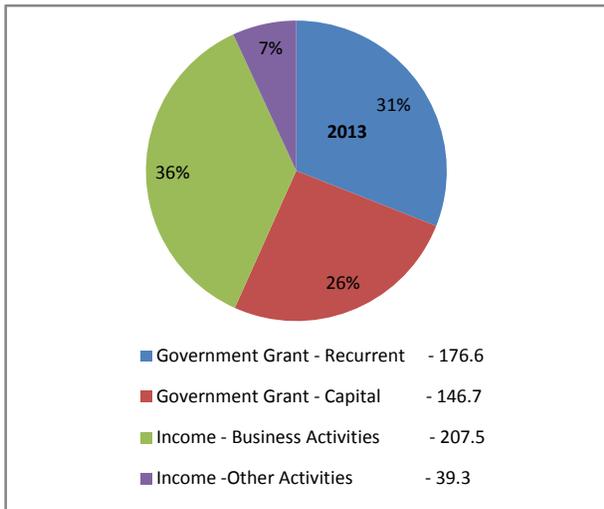
Recurrent Expenditure (Rs. Mn)



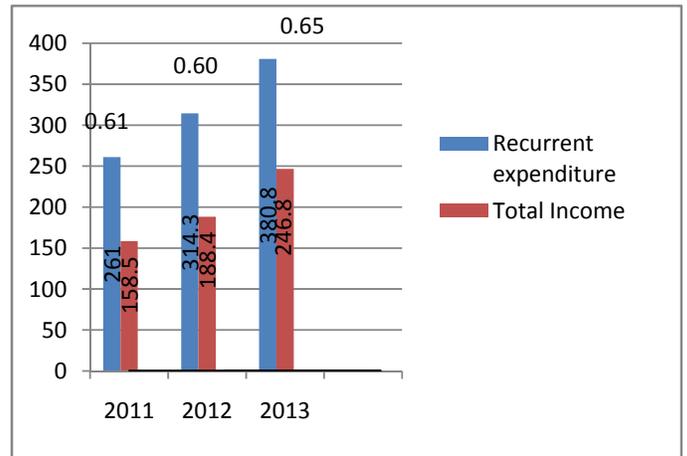
Recurrent Expenditure - Trend (Rs. Mn)



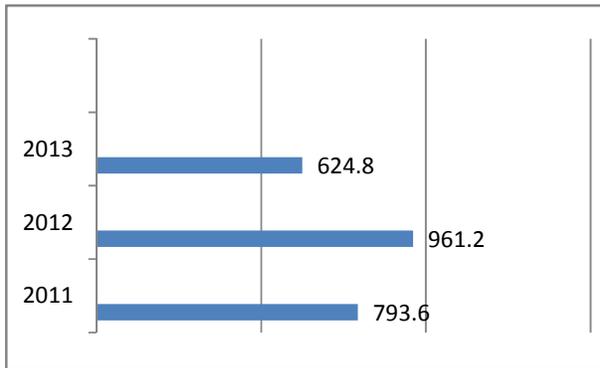
Operating Revenue (Rs. Mn)



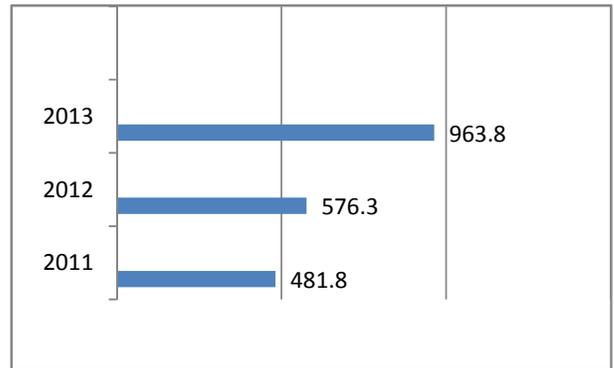
Total Income VS Recurrent expenditure



Expenditure per employee



Income generated per employee



Dr. G.A.S. Premakumara
Director/CEO

Performance Highlights

Noise barriers on Katunayake Expressway

Katunayake expressway runs through several towns, residential areas and marshy lands which are sensitive to the noise pollution. While constructing Katunayake Expressway a disparity between the RDA and construction company arose on the total length of the noise barriers which were to be constructed to prevent the adverse effect of noise pollution. As a consultant, ITI provided recommendations on noise barriers using IMMI Noise Modeling Software.

As a Noise Policy for highways is not available for Sri Lanka, ITI experts had to depend on the studies and criteria developed by other countries on highway noise control. Using the predictions on traffic flow on the highway given by RDA, vehicle noise was forecasted and validated using noise monitoring data on Southern Expressway. Noise barriers constructed on ITI recommendations are now in operation.

This consultancy project is a milestone to ITI as well as in the highway legend in Sri Lanka in many ways; this is the first time that the IMMI Noise Modeling software was used to design noise barriers and it is the first time that the noise barriers were erected on highways in Sri Lanka.

Supply and installation of Automated Rain Gauges to NBRO

A key factor for the landslides is heavy rainfall within short periods. Thus monitoring rain fall especially in areas highly vulnerable to landslide is important in avoiding disasters. Rainfall statistics spanning short periods of time has to be evaluated to take necessary decisions such as evacuation. National Building Research Organization (NBRO) is the designated body in Sri Lanka for landslide monitoring, mitigation and management.

A method for rainfall monitoring spanning short periods of time was not available in the country before the development of ITI's Automated Rain Gauge. This instrument provides data to be shared on-line by authorized officers through an access controlled web application.

NBRO has identified ITI's Automated Rain Gauge as the most suitable equipment for short time rainfall monitoring and predicting imminent landslides and requested the installation of thirty five rain gauges in Kandy, Matale, Kegalle, Kurunegala, Nuwara Eliya and Badulla. Further the operation and maintenance of these automated rain gauges has also been given to ITI for the next three years.

Evaluation of Sri Lankan traditional rice varieties for anti-inflammatory and lipid-lowering activities

Sri Lankan traditional rice varieties are acclaimed to possess health enhancing properties according to traditional and folk medicine. Some varieties are believed to have anti-

inflammatory and lipid lowering properties. However scientifically documented data was not available to prove these traditional claims. ITI conducted a research on four traditional rice varieties, namely *Sudu Heenati*, *Goda Heenati*, *Masuran* and *Dik Wee*. All the varieties showed higher anti-inflammatory activity via multiple mechanisms and moderate lipid lowering activity. Further, assays to evaluate anti-inflammatory and lipid-lowering activities have been established which are beneficial in providing testing and R&D services. The findings will add value to traditional rice and potential use in the dietary management of certain chronic diseases.

Development of a molecular method for the estimation of rice percentage in wheat/rice incorporated bakery products

With the growing awareness on health and nutrition people are more conscious of the food they eat. Thus the rice flour incorporated bread has gained popularity. However, rice flour incorporation reduces the textural quality of bread and some bakers tend to alter the percentage of rice flour in bread.

The method uses Polymerase Chain Reaction (PCR) techniques to extract DNA and analyze the contents. Further proteins were differentiated using Sodium Dodecyl Sulfate Poly-Acrylamide Gel Electrophoresis or SDS-PAGE where a specific protein which is distinct to rice flour could be identified and quantified.

ITI's Contribution to National Issues

DCD in imported milk powder

In early 2013, it was reported that some brands of imported milk powder were contaminated with DCD. According to reports, a chemical that was applied to the pasture aiming at reducing greenhouse gases and leaching nitrogen to water ways has entered to the milk. Though there is no evidence of the effect of DCD on human health, it is not acceptable to have foreign matter in milk. At the request of the Ministry of Technology and Research, ITI established an internationally accepted test method for analysis of DCD and continuously carries out DCD testing of imported milk varieties. Since August to December over 900 milk samples had been tested and is continuing under the direction of the government.

Well water quality study in Rathupaswala area

A study was conducted by ITI on the request of the District Secretary, Gampaha to assess the pH reduction of well water in Rathupaswala area and to identify any possible relationship between pH reduction and the presence of effluent generated by a latex glove manufacturing factory, in the soil. Chemical and Microbiology Laboratory of ITI carried out a comprehensive analysis providing technical support to the government in alleviating the problem.

Authenticating Wallapatta

Wallapatta or Sri Lanka Agar wood is an indigenous plant used to produce high quality perfumes and has a high demand in the world market. Since this is an indigenous plant there are legal barriers for trading and transportation of the wood. As attempts of smuggling Wallapatta increased it became necessary to authenticate the confiscated wood and resin to take legal actions. Herbal Technology Scientists of ITI, established a method for identification of Wallapatta and its resin using GC-MS fingerprint. Volatiles from wood and/or the resin were analysed to authenticate the sample. Presently this procedure is used to generate reports to the regulatory / legal authorities in Sri Lanka

Technology Transfers

Automated Rain Gauge

Landslides occur usually after a heavy rainfall within short period. Real time rainfall figures are crucial in decision making during disaster management. ITI developed Automated Rain Gauge, transfers rainfall figures using digital telecommunication technology which is high speed and accurate.

Initially the Automated Rain Gauge was developed in year 2007. With continuous improvements and field trials, the reliability and accuracy of the instrument was upgraded since then. Fabrication technology of the perfected Automated Rain Gauge was transferred to CIVICON Engineering Pvt. Ltd. on royalty basis in 2013. ITI continues with the quality control and calibration of the rain gauges ensuring its high performance.

***Bt* to control vegetable and fruit pests**

Bacillus thuringiensis or commonly known as *Bt* is famous among public as a tool in controlling dengue mosquitoes. A local variety of *Bt* (*Bacillus thuringiensis* sub species *kurstaki* or *Btk*) has been tested to reveal the possibility of using *Bt* local variety in the control of Coleopteran pests of fruits and vegetables.

The research project had been funded by Bio Power Lanka (Pvt.) Ltd. Subsequently the developed technology and the mother culture of *Bt* has been transferred to the same company for commercial use.

More transfers of ITI technologies

- Instant rice based products from local rice varieties
- Curry leaf beverage
- Improved Aloe-Vera drink
- Novel process for extracting virgin coconut oil
- Avocado oil extraction
- Production of corn syrup
- Technology for blending spa grade herbal oils
- Development of herbal aftershave lotion
- Traditional formula based liquid vaporizer for mosquito repellence

Technologies ready to be Transferred

***Moringa oleifera* tea and anti-aging cream**

Herbal Technology Section has developed a herbal tea and an anti-aging cream from *Moringa oleifera*. Leaves of *M. olifera* show anti-lipase, anti-cholesterol and anti-glycation activity. Both the tea and the cream have the above activities which lead to anti-aging effect. Technology for the preparation of *Moringa* tea and anti-aging cream are ready to be transferred.

Herbal Air Freshener

Air fresheners have become a “must” in households and offices to make the indoor atmosphere pleasant by adding a sweet fragrance. At present various brands and types of air fresheners in the market have solvents which are harmful to the people. ITI has developed a technology to produce a ‘herbal air freshener’ which contains Patchouli, Cinnamon bark oil and Walla patta extracts.

Natural curry leaf flavor extraction method

A method has been developed to extract the natural curry leaf flavor which can be added to an edible oil to be used as a salad dressing and for many other cooking purposes. The method does not use high temperature thus the natural flavor is retained.

Purification method for natural graphite

Sri Lanka exports natural graphite at a very low price though purified graphite is very expensive. So far as a country we have not had a method to purify graphite and now ITI has developed an efficient and effective purification method which gives 99.9% pure graphite suitable for diverse application. This adds value to local graphite and can bring in considerable amount of foreign exchange to the country.

Product launch

In 2013, two products based on ITI developed technologies, bottling king coconut water and Omega-3 eggs, were launched.

Bottled King Coconut Water – On request of the Tropic Fruit (Pvt) Ltd of Colombo 06 development of the technologies for the process of bottling King Coconut Water and designing and setting up the factory were done by ITI scientists. This product was targeted to the export market.

Omega-3 Eggs – Usual eggs does not contain omega-3, a fatty acid considered as good for health. Scientists at ITI, by altering the poultry feed, have produced a designer egg which is rich in omega-3. The technology of production was transferred to Arogya Farm (Pvt) Ltd for the mass scale production and at present it is a popular type of chicken eggs in the market.

Quality Infrastructure

As the leading research and development institute of the country, ITI is fully committed to the provision of quality technical services to the industry.

The Quality Assurance Department (QAD) of the ITI has been responsible for ensuring that the high standards of the institute are upheld in all its products and services since September 2004. The unit maintains contact with the Swedish Board of Accreditation (SWEDAC) and the Sri Lanka Accreditation Board (SLAB) for Conformity Assessment. The Institute works with these two organizations to secure and maintain their respective accreditations for ITI laboratories.

Presently four laboratories of the ITI namely, Chemical, Microbiology, Metrology, and Materials have been accredited by SWEDAC against ISO 17025:2005 quality management system standard from year 2004 onwards. Chemical, Microbiological, Material & Electro Technology testing laboratories are also accredited by the Sri Lanka Accreditation Board (SLAB) since 2006.

Also ITI has been recognized as an internationally accepted regional training institute by United Nation's Industrial Development Organization (UNIDO), and it has provided training to Seven scientists from Pakistan, during the year with the assistance of UNIDO.

QAD provides consultancy for laboratory planning and the establishment of ISO 17025, 15189, 22000, 9001 and GLP. The unit conducts continuous Technical Audits and engages in other forms of Proficiency Testing within the ITI. QAD has organized customized training programmes on uncertainty, method validation and quality management training for local as well as overseas scientific institutes in the recent past.

SLAB and SWEDAC Accreditation for ISO 17025 quality system

As the leading research and development institute of the country, ITI is fully committed to the provision of quality technical services to the industry.

Accreditation status of Chemical and Microbiological Laboratory

Chemical & Microbiological Laboratory continued to maintain its accreditation status for testing on ISO/IEC 17025:2005 from Swedish Board for Accreditation and Conformity Assessment (SWEDAC) since 2002. Establishment of the Sri Lanka Accreditation Board for Conformity Assessment (SLAB) gave an opportunity to expand our accreditation scope further for last 6 years. National and international accreditation scope covers over hundred parameters.

Accreditation status of Industrial Metrology Laboratory

ITI metrology laboratory is the first calibration laboratory in Sri Lanka to obtain accreditation, which provides traceability to SI units of physical measurements. Industrial Metrology Laboratory ITI currently accredited for temperature, mass, dimension, volume and electrical calibrations.

Accreditation status of Material Laboratory

Materials Laboratory of ITI currently accredited for testing of rubber & ceramic wares.

Accreditation status of Electro Technology laboratory

ITI Electro Technology Laboratory is the first laboratory in Sri Lanka to obtain accreditation, in the fields of noise and vibration measurements.

ISO 9001:2008 Certification for ITI R & D Laboratories and Information Services Centre

As the premier research and development institute of the country, ITI is fully committed for the provision of the quality R & D services and information services for the industry. In fulfilling of the task, ITI has maintained its ISO 9001:2008 certification status and Food Technology, Herbal Technology, Environmental Technology, Material Technology laboratories and the Information Services Centre are ISO 9001: 2008 system certified at present. The certification status was maintained continuously for the 6th consecutive year.

Documentation and training

Training programme on ISO 9001: 2008 system implementation to Quality Representatives (QR) of the sections was conducted as a continual improvement of the system and to prevent drawbacks which can result by appointing new QRs. During this training QRs were made aware on relevant quality matters required to close non-conformities raised by internal auditors. The sectional QRs contributed in improving the quality formats issued by the QAD.

Internal Auditing

Six internal audits were conducted by the QAD for 2013 as a requirement of the quality management system. This included quality management system, management responsibility, resource management, service realization, measurement analysis and improvement and a vertical audit. The non-conformities raised by sectional staff members and the internal auditors were closed successfully correcting them. Several sectional members contributed to the implementation of intuitional QMSs (ISO 9001-2008 and ISO 17025: 2005) by participating in Internal Audits as Lead auditors, auditors or as observers.

Accelerating Industrial Technology Development

ITI continuously conducts research and development of products to support industry to be competitive and also improve quality of products in the market. Food, Herbal, Materials, Chemicals are major areas where ITI scientists engage in consultancies, contract and demand driven research activities. The following sections elaborate on some of the key activities done during the year.

Membrane filtration and process modeling to add value to fruits and vegetable juices

Edible juices available in the market have a cloudy appearance reducing their marketability. Preparation of clear juice using membrane filtration technology from pineapple, papaya and beet-root was very successful with the juices having acceptable levels of antioxidant activity. However, it was realized that the antioxidant activity and other bioactive compounds could be increased if the larger molecules were broken down into filterable-size molecules. Thus enzymatic hydrolysis was done prior to filtration and the increment in bioactive compounds during the laboratory studies was observed. Further, the theoretical aspect was also addressed by establishing Model Constants for the filtration process.

Formulation of probiotic food as an alternative treatment for *Helicobacter pylori* infection

Formulation of functional probiotic food as an alternative for antibiotics for treating *Helicobacter pylori* infection was carried out. A literature review, culture maintenance, anti *H. pylori* effect of different lactic acid bacteria species *etc.* were studied. Later various raw materials were fermented and fermented indigenous rice varieties were found to be with low glycemic index and high dietary fibres. Microorganisms, later identified as *Pedicoccus*, *Kocuria* and *Saccharomyces* associated with the fermentation process were found to be probiotic.

Rice bran snacks rich in antioxidants

Rice bran, rich in antioxidants, is not fully utilized in Sri Lanka. The aim of the project was to develop a snack rich in antioxidant using rice bran. The difficulty in utilizing rice bran is the short storage period of about two days since lipase enzyme reaction results in rancidity. To overcome rancidity, a method of rice bran stabilization has been developed and after completion of the laboratory trials the storage trial is in progress.

Controlling fungal attack in wooden packaging pallets

Loadstar Pvt. Ltd is a premier tyre manufacturing and exporting company. Fungal attack on wooden tyre packaging pallets was observed even though the wood was treated to withstand such attacks. The company requested ITI to solve the issue as it was affecting their exports.

ITI developed a method to prevent fungal attacks on wood pallets and transferred the technology on non-exclusive basis to the client.

Troubleshooting - solid tyre cracking

A leading solid tyre manufacturer identified 'tyre cracking' during curing with black powder and a thick liquid emitting during the process. Material Scientists of ITI identified the reasons for powder and liquid discharge and assisted the industry to rectify the problem.

Identifying optimum blending conditions of pozzolonic material with cement

Pozzolonic material or amorphous silica is a reactive waste product from power plants. The material is blended with ordinary Portland Cement to obtain Blended Hydraulic Cement. One of the bulk cement importers sought assistance of ITI to utilize the waste fly ash from Norrocholai Coal Power Plant as pozzolonic material. Materials Laboratory undertook the project and optimum blending conditions for fly ash and ordinary cement were developed for the client.

Analysis of Phytochemical and Antimicrobial activities of a decoction used for Skin Diseases

Siddha is an ancient method of medicine that comes from India. However, it is used in Sri Lanka along with other traditional methods. A decoction, Parankipaddai kudineer which contains 13 plant ingredients from 12 plants use to treat skin ailments, was tested against clinical isolates of pathogens. Further the water extracts and oils from those 12 plants were tested against the isolated skin pathogens. It was revealed that out of 12 plant types only 5 were active against the pathogens. Laboratory trials have been completed and the preparation of a skin ointment and a cream are now under way.

Rust removal from white granite

Discolouration or 'yellow rust' on white granite is a critical problem faced by the granite manufacturers. Materials Laboratory identified the reasons and developed a cleaning solution to remove rust and prevent recurrence.

Benchmarking for Competitiveness

Thermal Energy Audit

The Centre for Technical Excellence in Ceramics (CENTEC) - ITI is geared to enhance and improve the competitiveness of the Sri Lankan ceramic industry. A consultancy was carried out for a thermal energy audit for one of the key ceramic factories. The growing energy crisis is drastically affecting the growth of this thermal energy intensive sector, and it was necessary to take measures to improve this area.

After observation of kiln operations at two ceramic factories, a kiln at Lanka Walltiles PLC was selected for the thermal audit. Several energy saving options which are highly significant for economy of the kiln operation and also to reduce carbon footprint of ceramic tile manufacturing were recommended and already implemented.

Evaluation of Existing Health-Care Waste Management System

The National Cancer Institute (NCI) at Maharagama is dedicated to the diagnosis and treatment of cancer patients. A modern cancer treatment unit named Razavi Medical Complex is under construction within the hospital premises. In parallel to the improvement of medical service facilities, the hospital management is keen to improve the healthcare waste management system of the hospital in order to maintain the facility in an environmentally sustainable manner. The Ministry of Health has already launched a project for management of wastewater generated from the hospital. ITI has been consulted to evaluate the existing waste management practices of the hospital and to provide guidelines to fill the gaps identified in the existing system.

Guidelines have been developed by ITI studying the current operational practices, WHO guidelines as well as regulatory requirements of the country.

Vibration level measurement of Fast Interceptor Craft

Indian Navy has purchased eight high speed gun boats from Solas Marine Lanka (Pvt.) Ltd. and one of the factors measured to evaluate the engine performance was vibration. ITI carried out the measurements against ISO 10816-6:1995 together with external professionals from Indian Registrar of Shipping Survey. The vibration measurements were categorized according to vibration severity grades.

Quality assurance of BBQ charcoal briquettes

Charcoal powder, a waste product in the production of activated charcoal, is used to make BBQ charcoal briquettes. To export, quality assurance is an important step in the process as well as the final product. ITI assisted one of the BBQ charcoal briquette manufacturers in Sri Lanka to improve and maintain the quality of the product. Their Danish importer has commended the ITI programme of quality assurance including the test methods on burning parameters such as burning time, calorific value, temperature *etc.*

Quality Maintenance through Calibration

Accredited Calibration Services to Medical Sectors

The main medical testing laboratories in Sri Lanka, Nawaloka Hospitals (Pvt) Ltd, Asiri Hospitals (Pvt) Ltd and Lanka Hospitals Corporations PLC continued to obtain accredited calibration services from the ITI Metrology Laboratory with the main objective of improving the accuracy and thus the quality of test reports that are submitted to patients who seek quality medical services.

Accredited Calibration Services to BOI companies

Several BOI companies such as Noratel Lanka (Pvt) Ltd, Noratel International (Pvt) Ltd, Flintec Transducers Ltd, Unichela Pvt Ltd., Bodyline (Pvt) Ltd *etc*, who are ISO 9000 certified, obtained the ITI Metrology services. They continue to obtain accredited calibration services to maintain quality of their products exported to international market.

Calibration Services for Other Countries

In a bid to obtain ISO 17025 accreditation Medical Health Laboratory of Maldives and Qarshi Research International (Pvt) Ltd. of Pakistan have obtained services from the Industrial Metrology Laboratory (IML) of ITI to calibrate their laboratory equipment that is used for testing purposes. The laboratory equipment such as ovens, incubators, autoclaves, analytical balances, water baths and sets of weights were calibrated. Two clients have been served by the IML for more than five years.

Identification of endemic medicinal plants

Ten endemic plants with medicinal value were studied to establish their identity morphologically, microscopically, chemically and genetically. Ten plants were *Osbeckia octandra* (L.) DC. (*Heen bovitiya*), *Vernonia zeylanica* (L.) Less. (*Pupula*), *Curcuma albiflora* Thw. (*Harankaha*), *Nepenthes distillatoria* L. (*Bandura*), *Walidda antidysenterica* (L.) M. Pichon (*wal idda*), *Berberis zeylanica* (*Daruharidra bheda*), *Canarium zeylanicum* (*Kekuna*), *Kokoona zeylanica* (*Kokum*), *Argyria populifolia* Choisy (*Giritilla*), *Rhododendron arboreum* Smith. Sub Sp. *zelanicum* (Booth.) Tagg. (*Maarathmal*).

Identification of plants using several scientific methods has many advantages such as by raw, dried or powdered plant material and extracts of plant parts, authentication of the plant, adulteration control. The ITI now provides plant identification services for these ten plants.

Monitoring and Mitigating Pollution

Assessment of environmental pollution caused by Lead waste

Growth of lead acid battery industry is unavoidable with the development of automobile, telecommunication and other related sectors though the waste generation from the lead acid battery manufacturing is highly hazardous to human health and the environment. On the other hand, there are many restrictions imposed on exporting lead bearing waste under the Basel Convention. Thus proper management of lead waste recycling facilities is a top priority in the country while promoting new lead based industries for economic benefits.

Leoch International, China, has established Leoch Lanka Pvt Ltd, under BOI privileges for manufacturing lead acid batteries in Sri Lanka at Bataatha Industrial Park. CEA concurrence has been given for the project in stages. ITI was requested to carry out a study and a report has been issued to the client assessing all pollution control systems using various modern supporting tools to evaluate the performance of pollution control activities. Based on this report several follow up inspections were carried out with CEA, BOI & Ministry of Industries. Continuous monitoring of pollution according to the plan proposed was also awarded to the ITI.

Baseline data collection for Southern Development projects

Existing noise and vibration measurement and ambient air quality testing for the Environmental Impact Assessment (EIA) of two development projects in Southern Province of the country was given to ITI by Skills International (Pvt.) LTD. The two projects are building the new EPZ in Mirijjiwila, IPZ in Sooriyawewa and Expressway connecting Hambantota seaport and Mattala airport. In addition to evaluating the existing noise and vibration levels, ITI experts have been requested to evaluate the potential noise and vibration impact on the surroundings after the projects are completed. ITI has generated the noise maps for both projects and they have been submitted to the relevant authorities.

Baseline data collection for Matara – Beliatta railway extension project

On request of Ministry of Transport ITI has initiated the collection of baseline environmental data, *i.e.* noise, vibration, air quality and water quality. This will help to understand and evaluate the impact of the said programme on the environment, people and ancient temples such as Weherahena and Wewrukannala even though they are not in close proximity to the proposed railway. This project is done together with the agents of contractor China Metrological Corporation, consultants and officers from the CEA.

Technology for Human Welfare and Socio-economic Upliftment

Fermented fish with probiotic activity

Preliminary survey and laboratory studies on traditionally produced *Jaadi* done in 2012 revealed that the *Jaadi* making process is through osmotic dehydration and not fermentation. Further it was found that the hygienic conditions of the process were not acceptable. After developing a hygienic *Jaadi* making process, research commenced to make a fermented fish with probiotic activity. The fermentation microbial culture has been obtained and research on fermented fish is in progress with the aim of introducing a new process to produce hygienically acceptable fermented fish with probiotic activity.

Biotechnology for the detection of dog meat adulteration in mutton

Adulteration of meat and meat products, especially the meat types which have a high market value takes place all over the world. In developing countries food analysts are confronted with the difficult task of providing proof of fraudulent substitution. As the substitute for real meat, dog, cat, rat and sometimes horse meat are added and this is not hygienic, and not ethically and medically acceptable.

At the ITI a PCR test has been developed to identify the adulteration. The test is based on DNA analysis which is very accurate in identification of animal meat and meat products. As the DNA is highly thermo-stable, the environmental conditions will not affect the identification.

Awareness programme on horn noise

Horn noise regulation drafted by CEA with assistance of the ITI experts is now in force. However, most of the drivers and general public are unaware of the regulations. With the view of creating awareness on the new regulations CEA, Police and ITI jointly conducted a programme to measure horn noise of randomly selected vehicles and inform the driver on remedial actions. The first programme was held in Malabe, Chandrika Bandaranaike Kumarathunga Mawatha followed by several other places in Colombo city.

Conferences, Seminars, Training Programs & workshops

World Congress on Pharmaceutical Sciences & Chemical Technology

A World Congress on Pharmaceutical Sciences and Chemical Technology was organized by ITI jointly with Ministry of Technology and Research, University of Colombo and University of Kelaniya of Sri Lanka and International Society for Nature and Health Care INC., USA and held on 16th – 18th December 2013 in Colombo, Sri Lanka.

International Society for Nature and Health Care INC., USA, comprises of a group of scientists, who attempt to understand Nature and its relationship with Health Care. The aim of the society is the promotion of Nature and Health care education, research and public awareness.

Over 100 scientists participated in this event from India, Malaysia, France and Kenya along with 40 local participants. Four themes of the congress were

- Pharmaceutical sciences and technology
- Quality control, standardization and safety
- Natural products and synthesis
- Pharmacogenomics, biotechnology and nanotechnology

and under these themes fourteen plenary lectures, eighty oral presentations and 40 poster presentations were held.

The Congress provided a platform to share the advances and new knowledge in pharmaceutical sciences and chemical technology for the veterans and budding scientists around the globe.

Annual Research Symposium 2013

The first ITI Research Symposium was held from 23rd to 24th October, 2013 in Colombo under the theme “Advancing Scientific Industrial Research through Innovative Research & Development”. The inauguration ceremony was held at the BMICH and the Chief Guest was Hon. Patali Champika Ranawaka, Minister of Technology and Research. Prof. Dr. M. Iqbal Choudhary, Professor of Organic Chemistry and Director at International Center for Chemical and Biological Sciences, Pakistan was the Guest of Honour. Awards were presented to the past and present ITI researchers who have made a significant contribution to S&T during the last 10 years.

Technical sessions were held at the ITI where 39 research papers were presented under nine themes.

Institution/ Company/Organizational Training

As the name implies ITI’s one of the objectives is to develop technologies for the local industry including SMEs. Other than transferring innovated technologies, training personnel from industry is another significant contribution to the industry directly and ultimately to the economy of the country.

Fish based products

- Fish processing for United Nations Development Programme
- Fish products processing for Food and Agriculture Organization
- Processing of bottled fried sprat – onion mix / katta for United Nations Development Programme
- Fish based products for Ministry of fisheries and Aquatic Resources
- Dry fish and maldivian fish production

Rice based products

- Rice based productions – value addition to rice for Federation Chambers of Commerce & Industry

Water, Beverages and other fruit based products

- Analysis of Pesticide residues in water using Gas Chromatographic technique for National Water Supply & Drainage Board
- Kithul beverage and Kithul jelly at Kegalle and Kurunegala for Ministry of Traditional Industry and Small Enterprises Development
- Kithul beverage for Ministry of Traditional Industries and Small Enterprise Development
- Manufacturing Jam
- Preparing rambutan for export market
- Processing of ready to serve fruit drinks and fruit pulp as a raw material
- Food dehydration
- Processing of different flavours of ice cream
- String hopper flour preparation
- Preparation of yoghurt

Chemical and Microbiological analysis

- Microbiological Training on Reference culture maintenance for Sri Lanka Tea Board
- Quality assurance in microbiological analysis - ISO 17025 for Palmyrah Research Institute, Jaffna
- Analysis of Fatty acid, Alcohols and Pesticide Residues in Palmyra based products using Gas Chromatographic technique Jaffna
- Chemical & microbiological analysis of Cosmetic products – Euro Cosmetics (Pvt) Ltd
- Analysis of Pesticide residues in herbal products using Gas Chromatographic technique for Ayurvedic Department of Sri Lanka
- Bio assays for Sri Lanka Customs and Institute of Indigenous Medicine

Instrument handling

- Instrument training for Department of Agriculture
- Instrument Handling and Maintenance for Department of Agriculture
- Laboratory analytical methods
- Antioxidant techniques
- High Performance Liquid Chromatography
- Herbal Drugs & Cosmetic Value addition Techniques
- Herbal Drug Standardization Techniques

Herbal Technology

- Standardization of medicinal plants
- Manufacturing creams, lotions, shampoos & gels

Materials Technology

- Manufacturing of liquid dish wash, car wash, liquid air freshener, liquid hand wash, liquid tile cleaner, liquid toilet cleaner and liquid fabric softener
- Manufacturing of decorative articles with clear plastics
- Fabrication of Silicone moulds
- Fabrication of Plaster of Paris moulds

Undergraduate and postgraduate research training

ITI utilizes its research infrastructure and scientific expertise for research training. Every year many students from universities carried out their research projects either to complete first degrees or for the postgraduate studies and trainings at ITI.

During 2013 more than 70 undergraduate and 03 postgraduate students carried out their research projects at the ITI under the supervision of ITI Research Scientists.

Capacity Building & Productivity Development

PhD studies

1. Theja Herath completed her PhD at the University of Kelaniya. Thesis Title – “Improvement of Bio-availability of iron in some locally grown rice varieties”
2. Kanchana Abeysekera completed her PhD at the University of Colombo. Thesis Title – “Physicochemical and Bioactive Properties of Some Sri Lankan Traditional Rice Varieties”
3. Padmasiri Ranasinghe completed his PhD at the University of Colombo. Thesis Title – Bioactive properties of Kithul (*Caryota Urens*) Sap and treacle and isolation of economically useful yeast for fermenting sap.
4. Sudarshana Somasiri continued his PhD studies at the University of Colombo. Thesis Title – Chemical characterization and authentication of kithul (*Caryota Urens*) Sap and products.
5. C.H. Manoratne continued his PhD studies at the University of Colombo. Thesis Title – Synthesis and characterization of graphene and graphene composites for application in lithium ion batteries.
6. Ruwan Weerasinghe continued his PhD studies at University of Colombo. Thesis Title - Automated Acid rain Monitoring station
7. W.P.K.M. Abeysekera continued her PhD at the University of Colombo. Title – Assessment of potential health benefits of Sri Lankan cinnamon (*Cinnamomum zeylanicum* Blume) by studying selected bio activities
8. Saman Weeraratne registered for a PhD study at University of Colombo. Thesis Title - Novel methods to estimate thermochemical constants and index system for mass spectrometry.

MSc/MPhil studies

1. K.H.T. Abeysekara completed her Master of Library Science in University of Colombo.
2. L.D.C Nayanajith continued his MPhil at University of Colombo. Thesis Title - Synthesis and characterization of graphene and composites for application in photovoltaic cells
3. D.S. Samarawickrama continued his MPhil at University of Colombo. Thesis Title - Development of a natural fiber based, “smart” packaging material to address the post harvest losses of Mangoes in Sri Lanka
4. M.S.M. Aroos continued his MSc studies at Sri Lanka Institute of Information Technology. Thesis Title - The energy consumption and effective usage of desktop computers in workplace
5. E.M.S. Isanka continued her MSc in Analytical Chemistry in University of Colombo.
6. Hasanthi Dissanayake continued her MSc in Sustainable Process Development in University of Moratuwa
7. Kalika Kumarasinghe continued her MSc in Environmental Engineering and Management in University of Moratuwa

8. Ayanthika Fernando registered for a MPhil at University of Colombo. Thesis Title - Investigation of the effect of hexanal impregnated bio wax treatment in postharvest quality of mango in Sri Lanka
9. Nisala Gunasekera registered for a MPhil at University of Colombo. Thesis Title - Investigation of natural anti-senescence compounds; edible wax incorporated smart delivery system for the control release of anti-senescence agents as a tool in postharvest disease control and crop quality preservation
10. R.D.S.S. Ranatunge registered for a MPhil at University of Yale, USA and University of Sri Jayawardenapura. Thesis Title – Environmental Chemistry
11. S.S.K. Madage registered for a MSc at Postgraduate Institute of Agriculture, University of Peradeniya
12. K.V.T. Gunawardhane registered for a MSc at Postgraduate Institute of Agriculture, University of Peradeniya
13. R.P. Nilusha registered for a MSc in Environmental Management at University of Colombo
14. A. A. M. T. Adikari registered for MPhill at Moratuwa University. Thesis title – Prediction of corrosion behavior of metallic materials under Sri Lankan conditions

PG Diploma

1. Dineshka Priyangani registered for PG Diploma in Manufacturing Management, University of Colombo
2. N. Geekiyanage continued her PG Diploma in Library & Information Science, University of Colombo
3. Roshani Fernando registered for PG Diploma in Library & Information Science, University of Colombo

Short Term Training / Meetings/ Conference

Foreign Training

1. Thilak Gunasekara participated on a JICA funded International training programme on “Industrial Pollution Control Management” held in Kitakyushu, Japan (16January - 26 April 2013)
2. D C H Thirimanna participated on 3rd workshop of the APLAC-PTB training programme ‘Enhanced training for PT experts’ organized by Physikalisch Technisch Bundesanstalt, Jakarta, Indonesia (4 – 7 February 2013)
3. W M S Wijesingha and P T de Silva participated in ‘On-site calibration of balances’ at Quarshi Research International, Pakistan (20 – 23 January 2013)
4. A M K R Jayatillake participated on a programme “Harnessing intellectual property for strategic competitive and collaborative advantage”, in India (14 – 16 February 2013)
5. G A S Premakumara participated in 3rd meeting of the SAARC ministers of Science and Technology and its preceding senior officials meeting organized by SAARC Secretariat, Dhaka, Bangladesh (6 -7 March 2013)

6. G A S Premakumara participated on ‘SME policy development exposure visit’ organized by Sri Lanka – German Development Corporation, South Korea (31 March – 6 April 2013)
7. M R D M Thilakasiri participated in KRISS – UNIDO training programme in Metrology organized by UNIDO and KRISS, Korea (15 – 25 April 2013)
8. E N Wijedeera is participating in Monbukagakusha Scholarship 2013 awarded by Japanese Government (April 2013 – March 2015)
9. Ilmi Hewajulige participated in IAEA/RCA Workshop on Best Practice for Food Safety and Quality (Sanitary) applications of food Irradiation in Shanghai, China (6 – 10 May 2013)
10. Nisala Gunasekera participated in ‘Visiting scientist programme’ conducted by University of Guelph, Canada (29 June – 29 September 2013)
11. N P Liyanawaduge participated in 7th International conference on ‘Materials for advanced technologies’ in Singapore (30 June – 5 July 2013)
12. W. R. K. Fonseka participated on an International Workshop on “Extreme weather condition” conducted by COMSAT& ICCES, China held in Beijing, China (12 – 14 July 2013)
13. T N P K Peiris and T G N B Karunathi participated in ‘On-site calibration of equipments’ organized by Maldives Food and Drug Authority, Maldives (13 – 16 July 2013)
14. D.S. Samarawickrama participated in research exposure visit in ‘Developing a composite material for fruit ripening inhibition’ organized by University of Guelph, Canada (13 July - 10 August 2013)
15. Ayanthika Fernando participated in ‘Visiting Scientist programme’ organized by University of Guelph, Canada (13 July – 14 October 2013)
16. Samantha Madage participated in training workshop on ‘Food processing and equipment selection for developing countries’ conducted by CNRIFFI, China (15 August – 3 September 2013)
17. Ilmi Hewajulige participated in training on ‘Gene Expression Analysis’ organized by University of Guelph, Canada (18 – 29 August 2013)
18. G A S Premakumara participated on ‘Pharmaceutical and Life Science Technology Forum’, Massachusetts, USA (25 – 29 August 2013)
19. E.M.S. Isanka participated in a training programme on “Business Research Methods and Data analysis” conducted by ITEC Programme, at Entrepreneurship Development Institute, Ahmedabad, India (1 September - 26 October 2013)
20. Ilmi Hewajulige participated in an International conference on ‘Managing Quality in Chains’ in Cranfield, UK (2 – 5 September 2013)
21. J K R R Samarasekera participated in ‘Asian Bamboo and Rattan Workshop’ organized by International Network for Bamboo and Rattan, New Delhi, India (24 – 27 September 2013)
22. I R M Kottegoda participated in International workshop on ‘Nanotechnology (IWON) 2013 – Transferring Nanotechnology concept towards business perspectives’ organized by NAM S & T Centre, Indonesia (2 – 5 October 2013)
23. N. Amunugoda participated in a Study tour for bamboo value chain development conducted by International Network for Bamboo and Rattan, China (9– 23 October 2013)

24. Ramya Pitipanaarachchi participated in IAEA/RCA executive management meeting on ‘Best Practices for Sanitary Applications of Irradiation as a Sanitary Treatment’ held in Kuala Lumpur, Malaysia (28 - 31 October 2013)
25. Upeka Rajawardane participated in a training course on ‘Total quality management & ISO 9001:2008/ 4001:2004 / BS 7799 & six sigma (TQM), National Institute for Micro, Small & Medium Enterprises’ conducted by Yousufguda, Hyderabad, India (12 November – 4 January 2014)
26. J K R R Samarasekera participated in Indo-Sri Lanka joint research project titled ‘Ensuring human health, food and nutritional security through navel cereal and fruit based products’ organized by International Crops Research for the Semi-arid Tropics, India (20 – 27 November 2013)
27. Wasundara Divisekera participated as Co-Principle Investigator for the project opening discussion meeting and did bench work on standardizing microbiological protocols, at International Crop Research Institute for Semi Arid Tropics (ICRISAT), Patancheru, India (22 November – 6 December 2013)
28. Udayani Binduhewa and Ilmi Hewajulige participated in a Study visit to observe the Food and Beverage sector in Thailand and a Food safety seminar held in Thailand (25 November – 4 December 2013)
29. Purnima Jayasinha participated in an International Conference on ‘Asia-Pacific Digital Libraries’ held in Bangalore, India (9 – 11 December 2013)

Local Training

More than hundred and fifty staff members of ITI participated in training programmes conducted by various local institutions. Number of workshops, seminars and other training programmes were more than 50.

New Initiatives

Ensuring human health, food and nutrition through novel cereal and fruit based prebiotics and probiotics

Prebiotics are the food ingredients that stimulate the growth and activity of probiotics or beneficial gut microbial flora. While the knowledge of probiotics is expanding, prebiotics has received less attention. Prebiotics is important in modifying composition and metabolism of intestinal microbiota. The aim of this study is to explore the prebiotic potential of four varieties of finger millet and banana and preparation of functional food with commercial potential.

Formulation of ready-to-drink beverage and herbal tea with *Thebu* and evaluation of bioactivity

It is a new trend in food habits to formulate and consume herbal product incorporated functional foods which are more palatable. A market screening revealed that *Costus speciosus* (S. Thebu; E. Wild ginger), which has many medicinal activities, is not available in market. Therefore it was identified as a commercially potential functional food and researchwork commenced on a ready-to-drink beverage and herbal tea based on *Thebu* and on evaluating its bioactivity.

Development of a DNA rabies vaccine

DNA vaccines are extraordinarily stable, safe, easy to generate and their scale-up production is less complicated, cold-chain maintenance is not required and cost effective than currently used killed or inactivated vaccines for dog immunization. Sri Lanka annually spends about Rs. 500 million on rabies prevention and control.

Therefore development of DNA rabies virus has been initiated and first trial was carried out.

Development of constructed wetland technology for treatment of dairy wastewater

At present dairy industries are being popularized in remote areas as Small and Medium Enterprises (SMEs). However, the removal of dairy waste water emerges as an environment issue unless proper treatment methods are applied. Even though high-end technology is available for waste removal of the dairy industries, it is not affordable for SMEs due to high capital investment. Therefore, cost effective technology is required to support SMEs in dairy sector.

Research Scientists and Engineers of Environmental Technology Section of ITI are studying the usage 'constructed wetland' to remedy the dairy waste water issue. As the preliminary step, a plant study has been carried out with several reed species to identify the suitable species for the removal of waste or excessive nitrogen and phosphorus from waste water. The project, which is in progress, will be an attractive solution for the dairy farmers in SME category due to affordability and suitability to the rural areas where land is adequate.

Development of a photocatalytic reactor for treatment of wastewater from agrochemical packaging industry

Hydrolysis is not adequate for destruction of active ingredients in some agrochemical formulations. Oxidation is a better method but biological oxidation is not possible due to toxicity as is chemical oxidation due to residues adding more pollutants to the environment. Hence effectiveness of photo catalytic oxidation has been studied under natural light as a cost effective option for treatment of agrochemical industry effluent where no additional chemical residuals remain after oxidation. A reactor is being developed and will be available for use at a reasonable cost.

Measurement of air born salt

Selection of raw material and locations for bridge construction is based on many factors including atmospheric salinity level. Road Development Authority requested ITI to assist in measuring atmospheric salinity in 19 different locations where the highway bridges are to be constructed. ITI carried out this project in two phases; in the first phase measurement were taken once in every two months. Sampling points which showed negative / less prone to corrosion will be monitored for one year. Thus depending on the salinity level the second phase will be carried out.

This study will provide information to take precautionary actions to reduce corrosion of bridges and other metallic structures already in place and to decide what material to be used for building metallic structures.

Corrosion behavior of metallic materials

Metal corrosion depends on the environment and cost could be high and have an effect on economy. Identification of the environmental factors that affect the corrosion, before construction, is important.

A research study, leading to MPhil, has been started at the ITI to identify the corrosion behavior of metallic materials in different atmospheric conditions. In this study relationship between the corrosion loss and environmental conditions are established in the form of a mathematical equation.

Self-cleaning concrete surfaces

During the service life of a concrete, the potential for discolouration due to organic and inorganic chemical and fungal attacks are high. To maintain the appearance periodic cleaning of the concrete surface is required though it is difficult. The answer for the problem is 'self-cleaning concrete'. Photocatalytic and super hydraulic materials are resistant to discolouration from chemical and fungal attacks. ITI has during research, carried out at ITI, on self-cleaning concrete suitable Titanium oxide and silica ratio has been identified to create optimum photocatalytic action and now the study is concentrated on adhering property of Titanium oxide and silica to the concrete.

Primary standard for AC voltage - calibration and measurement

Accuracy of a measurement degrades with time due to various environmental effects. This fact is true for simple measuring equipments such as Mercury thermometer and the very sophisticated measuring device. Thus calibration science or Metrology plays a major role in all the aspects of life such as measuring the body temperature of a sick person to international trade. Having identified the importance of metrology, ITI has established a separate laboratory for Industrial Metrology.

Industrial Metrology Laboratory of ITI has developed a primary standard for AC voltage measurement and calibration based on Digital Signal Processing (DSP). The DSP based traceable primary level measuring systems are available only at few National Metrology Institutes in countries like Germany, USA and Korea. As a spin off from that development, IML has developed expertise on high-end instrument inter-phasing with computers.

Both the services are available for industrialists who are in need of the calibration of voltage measuring devices and computer inter-phasing of high-end equipment.

Bt for controlling pests in food crops

Three Sri Lankan Bt strains have been identified to control grubs that damage roots of vegetables and fruit plants. As the test plant strawberry has been selected. Further another strain is being developed as a microbial pesticide with enhanced and broad spectrum activity for controlling rice and vegetable pests.

Development of a natural gastroprotective agent from *Trichosanthes cucumerina* Linn.

Trichosanthes cucumerina Linn., one of the plant ingredients in a gastroprotective decoction that contains three plant ingredients was selected and tested for its gastroprotective activity. Having identified high gastro-protective activity as a single plant, a developing ready-to-serve drink and other similar products are in progress.

Development of new test methods

- Testing and performance evaluation methods for corrugated flexible permeable soft pipe
- Tensile strength and flattening test for bell-formed plastic fitting
- Testing mechanical and physical properties of Geo grid
- Testing whether withstanding ability of improved plywood door sashes
- Confirmation testing of Railway insulators against CGR specifications
- Testing adhesive and shear strengths of new locally developed wood adhesive and performance comparison of the new adhesive with the market samples
- Testing pressure withstanding ability of metal pipe fittings
- Testing for determination of suitability of wooden bearing material for power transmission shaft
- Testing modified bituminous sheet material for load and strain properties, high temperature stability, low temperature flexibility, tearing resistance, water absorption and permeability

Corporate Awareness

Exhibitions

ITI successfully participated in exhibitions and displayed commercialized products and new products developed by the institute. These exhibitions provided the opportunity for the ITI to attract customers and more services.

- Kantha Dina Samagamee exhibition (6-7 March 2013 at Moneragala)
- Dayata Kirula (23-30 March 2013 at Ampara)
- Kithulaka Varuna (5-7 April 2013 at Sudarshi Hall, Colombo)
- Ayurveda Expo – 202013 (12 July 2013, at BMICH, Colombo)
- Educational Exhibition (September 2013 at Anula Vidyalaya, Nugegoda)
- Educational Exhibition (22 November 2013 at Seethawaka Central College, Awissawella)
- Health Fiesta (27 November 2013 at University of Kelaniya)
- Sahasak Nipayum (30 November 2013 at BMICH, Colombo)
- Technology Market Place (14-15 December 2013 at BMICH, Colombo)

Articles in S & T Publications

- ‘Food Technology Section of ITI’ published in Suwaya Magazine (June issue)
- ‘Food safety regulations in Sri Lanka’ published in Food Marketing and Technology Magazine - (Sri Lanka Supplement) (June 2013)
- Utilization of tamarind seeds for food industrial applications in Sri Lanka, YSF Newsletter.
- ‘The Role of ITI in helping industries in Sri Lanka with waste management’ published in Geo Watch

Media Publicity for ITI Activities & Events

1. Industrial Technology Institute appoints new Director/CEO – Daily Mirror, 11/1/2013
2. New hope from research on samples of indigenous rice: Consumption could control spread of non-communicable diseases- Daily Mirror, 11/1/2013
3. කාර්මික තාක්ෂණ ආයතනයේ නව අධ්‍යක්ෂ ලෙස පත්වෙයි - දිවයින, 22.01.202013
4. Mango under the microscope: Researchers to discuss progress in improving its quality and preservation – The Sunday Times, 27/1/2013

5. SWITCH-Asia achieves EU's set target successfully -Daily News, 30/1/2013
6. කිතුල්ගස් 10කින් මසකට රු.ලක්ෂයක් - දිනමිණ, 7/2/2013
7. Test kit to ensure pure kitul sap and treacle – Daily News, 5/2/2013
8. EU-funded project bears fruit – Sunday observer, 3/3/2013
9. නොරෙන් ගෙන්වූ එතනෝල් ස්ප්‍රිතුටල වටිනාකම රුපියල් තුන්කෝටියකට වැඩි - ලංකාදීප, 4/4/2013
10. සුරාබදු නිලධාරීන්ගේ අත්අඩංගුවට පත් කන්ටේනර් දෙකේ එතනෝල් නිඬු බව පරීක්ෂණයකින් තහවුරු වෙයි - දිනමිණ, 4/4/2013
11. Sri Lanka to embrace new trends in technology for speedy economic growth – Daily FT, 22/4/2013
12. ආනයනික කිරිපිටි සහ කිරි ආහාරවල විකිරණ පරීක්ෂාව අඛණ්ඩව සිදුකරනවා - දිවයින, 14/5/202013
13. AEA to test imported milk – Daily FT, 14/5/2013
14. No radiation found in imported food – Island, 15/5/2013
15. Immediate tests on imported sugar – The Sunday Times, 2/6/2013
16. ITI workshop for Next Generation Information Professionals – Daily Mirror, 10/6/2013
17. කාර්මික තාක්ෂණ ආයතනයේ - ආහාර තාක්ෂණ අංශය -
18. කැගල්ල වෛද්‍යවරයෙක් මදුරුවන් පලවා හරින්න ශාකසාර ඖෂධයක් හදයි - දිවයින, 3/7/2013
19. Who study on kidney disease affecting dry zone farmers: Authorities say fertilizer, pesticides use not contributory factors – Sunday Times, 17/7/2013
20. Intl. confab on 'Driving Research Toward Economy' – Island, 18/7/2013
21. ගාල්ලේ ටයර් ප්‍රතිචක්‍රීකරණ කමිහලෙන් විෂ රසායන නිකුත් වනවාදැයි පරීක්ෂණ - විදුසර, 24/7/201
22. DCD found in four milk powder brands: Report – Daily Mirror, 27/7/2013
23. රටින් ගෙන කිරි පිටි වල විෂ රසායනික - ඉරිදා ලංකාදීප, 28/7/2013
24. No heavy metal found in imported sugar, milk powder – Daily News, 27/7/2013
25. ආනයනිකකිරි පිටි වර්ග 3ක අනිතකර DCD :කාර්මික තාක්ෂණ ආයතනයේ පරීක්ෂණ මගින් හෙළිවේ - අද, 30/7/2013
26. ආනයනික කිරි පිටි පරීක්ෂාව අපරාධ පරීක්ෂණ දෙපාර්තමේන්තුවට - දිනමිණ, 2/8/2013
27. Weliveriya water tests to be released today – Sunday Observer, 4/8/2013

28. Dicyanamide contamination:Ban imported milk powder, GMOA tells government – Island, 2/8/2013
29. Rocking the cradle, milking the Third World dry – Daily Mirror, 5/8/2013
30. Milk matters – Daily Mirror, 5/8/2013
31. Demand for local milk to soar due to DCD issue – Island, 3/8/2013
32. New Zealand dairy giant issues global botulism alert – Sunday Times, 4/8/2013
33. Fonterra defends its products – Island, 3/8/2013
34. Milk tainted with dicyandiamide:Top Health Ministry official has taken a bribe – GMOA – Sunday Island, 4/8/2013
35. DCD in milk: More tests needed before action – Sunday Times, 4/8/2013
36. Imported milk food safe for consumption-Health Ministry, Unsafe as noxious chemical discovered-ITI – Two key State institutions adopt diametrically opposed stand on suspected DCD contamination – Sunday Island, 4/8/2013
37. ITI experts checking Weliveriya water – Daily Mirror, 3/8/2013
38. Global giant ADM joins CIC Holdings, Chemanex to produce bio-based superabsorbent polymers – Daily FT, 26/8/2013
39. ITI to conduct Quality Certification workshop – Daily Mirror, 21/8/2013
40. කෝමාරිකා බීම වෙළඳපොළට-ලංකාදීප, 25/8/2013
41. Contaminated mineral water found in Pettah – Daily Mirror, 6/9/2013
42. Quality and safety of Animal Feed – Ceylon Today 2/9/202013
43. Designer clothes, designer shoes... what next? Why not designer eggs! – Sunday Times, 6/10/2013
44. කොලෙස්ටරෝ නැති අලුත් බිත්තරේ - සිව්මිණ, 20/10/2013
45. කාර්මික තාක්ෂණ පර්යේෂණ ශ්‍රීලංකාවේ සංවර්ධනය සඳහායි - ඇමති පාඩලි චම්පික රණවක - දිනමිණ, 25/10/2013
46. රසායනික අනතුරු වළක්වා ගැනීම - විදුසර, 6/11/2013
47. ITI to improve its lab facilities – Daily Mirror, 20/11/2013
48. GMOA calls for tough action:Preservatives-laden imported fruits:Sri Lankans are being poisoned all around – Sunday Island, 2/12/2013
49. කරවල සහ උම්බලකඩ ආනයනය අඩු වී තිබෙනවා -දිනමිණ, 11/12/2013
50. පාරම්පරික සහල් වර්ග වල පිළිකා, දියවැඩියාව ආදී රෝග නිවාරණ සංඝටක ඇති බව පර්යේෂණ මගින් සොයා ගනී. - Rivira 18/12/2013

Information for Industry

Supporting Industry and Research

The information Services Centre (ISC) continued play its role in providing its services to the staff of the Institute, as well as the scientists and industrialists in the country. Value added Information Services, Reference facilities and access to on-line databases are available to all users. The center also provides training to industry and professional bodies on management of research information and services. Lending facilities are provided only to a membership clientele.

Collection

The Centre continued to update its collection with Science and Technology material giving preference to new areas of technology such as Bio technology and Nano technology. The collection on peripheral areas of industry and business such as statistics, regulatory requirements, product and market trends *etc.* were also improved. Digitization of ITI publications were completed under the National Digitization programmed initiated by the National Science Foundation. The scanned documents were entered to D-Space, digital repository database, and were linked to the ITI website.

During the year 225 books, over 800 reprints and 200 journal articles were added to the custom built Automated Online Library (AOL) system which includes Catalogue and Member services and can be accessed through the web. Online databases, Science Direct, EBSCO, HINARI and a host of other databases were used increasingly to access information for research. Membership of local institutions such as EDB and the American Centre also enabled access to statistical and American based resources respectively. For the eighth consecutive year ITI subscribed to four subject sectors, Chemistry, Materials, Agriculture and Biological Sciences and Pharmacology, Toxicology and Pharmaceutical Sciences of Science Direct which were most in demand by the scientists and industry. Over 500articles were downloaded for Research and Development over the year. These online databases are increasingly becoming a popular source of information among academics and researchers.

Client Profile

The ISC continued to provide lending facilities to its members while reference facility was open to any interested user. During the period under review, there was an increase in library usage with 1096 users, where more than 50% were undergraduates and post graduate students. New membership figures showed 9 deposit, 3 individual and 1 corporate gold membership, totaling 13 memberships during the year.

Standards and books continued to be the mostly used material with approximately 550 borrowings by internal staff and 250 by public. The interlibrary loan facilities were also used to cater to the requirement of the membership.

Specialized Inquiry Service

Over 100 technical inquiries were handled for the year. Most of the inquiries were related to food and agriculture (46) followed by materials (17) and Environment & Health (10). 7 each were carried out for Chemistry and Herbal & Medicinal Plants. Other areas were energy, medicine, quality and marketing.

Dissemination of Information through Printed Media

The quarterly newsletter, “ITI Bulletin” which publishes research carried out at ITI, and “SciTech in Brief” and “Management Thought” giving latest developments in S and T and Management related information were continued and were disseminated through the website and Intranet of the ITI – i-Net, during the year.

Science and Technology related articles on local newspapers were posted on i-Net daily as “The Press” while continuing the compilation of News Digest on a weekly basis with important articles.

Current awareness bulletins on new additions to the Centre continued to update research staff on information received in their fields of interest. Required information was disseminated through a Document Delivery Service using the Automated Online System (AOL) or in print media, complying with copyright requirements.

Knowledge Sharing Seminars and Workshops

ISC continued to conduct seminars for knowledge sharing among information professionals and entrepreneurs. During the year, four seminars were conducted – a two-day workshop on “Rendezvous with your professional destiny: A workshop for information professionals of the next generation”, “Cosmetic industry in Sri Lanka: What you should know”, “Solid Waste Management” and “Quality Certification: A Critical tool for business success”. Over 200 participants from Information services, business and industry participated.

Students from the Sri Lanka Library Association and Undergraduates from Institute of Chemistry, Ceylon were provided the annual familiarization and training on the Centre’s activities and services.

Research Projects

ISC initiated two research projects with treasury grants - one year research project on Identification of information and research needs of cereal based products industry using Critical Success Factor approach” and a three year project on “Data mining on Sri Lankan natural products research to develop a database & in silico experiments for drug leads”.

Resource Management

The centre continued to maintain and update its resources. The book count at present is 21,556 with 69 books purchased and 156 books received as complements last year. Our Reprint collection counts to over 13,100 with 560 reprints, paper articles, and over 250 ITI publications. Journal subscriptions continued for 08 foreign and 07 local journals during the

year. Thirty seven (37) Standards - ISO, SLSI and BS were also acquired mainly to serve the staff of the testing services atITI. The expenditure on Books, journals and online databases was Rs 5.50 Mn. The collection is up-to-date with a large number of materials received on exchange from S&T and R&D institutions local and foreign, and through e - resources.

Specialised data bases on ITI Research and Traditional Medicinal Plants

ISC expanded the ITI collection of scientific publications with reports on research, photographs, posters, workshop brochures etc. Entering data to Lucid database on Medicinal Plants in Sri Lanka is being continued.

The Centre continued to participate in the Asia Pacific Traditional Medicine network - APTMNET. Information on over 500 plants and 100 other resources have been uploaded together with other features such as marketing and enterprise information, expertise, education, press news and research being continuously updated.

Quality System for ISC

The Centre was successful in the Surveillance Audit carried out by SLSI for 2012/2013, and maintained its ISO 9001:2008 certification, with minimum non conformities.

Networking and Co-operation

The Centre continued to participate in the information networks, AGRINET, HELLIS and SLSTINET, relating to Agriculture, Health and Science and Technology respectively coordinated by CARP, University of Colombo, Medical Faculty and NSF. Training, exchange of publications and Information, corporate acquisitions were some activities under these networking programs which served to enhance services further. The Health Science Information network HELLIS - provides free access to the HINARI database while the Agricultural network AGRINET provides free journal articles on request through the AGORA database, both of which are subscribed databases managed by WHO and FAO.

Awards and Recognition

Designation of ITI as COMSATS Centre of Excellence

The intergovernmental body established for scientific corporation of countries in southern hemisphere "Commission for Science & Technology for Sustainable development of South " (COMSATS) inducted ITI as its designated centre of excellence in Sri Lanka after an evaluation mission carried out by the Director General of COMSATS in early 2013 followed by election held at the 16th Coordination council meeting held on May 2013 in Accra, Ghana.

Awards

- R.M. Weerasinghe, M.S.M. Aroos and A.S. Pannila was awarded the 2nd place of the Best Research Paper Award for the publication "Street light controlling system using existing radio broadcasting" at the Vidulaka National Energy Symposium - 2013
- R.M. Dharmadasa was awarded the Postgraduate Research Award 2013 (Commendation Award) in recognition of his contribution towards postgraduate research carried out in Sri Lanka at 69th Annual Sessions of SLAAS
- M.M.E. Munasinghe, A.K. Nanayakkara, D.P.D.C. de Silva, K.G.W.W. Bandara, P.B.A.I.K. Bulumulla, T.S.R. Fernando, A.M. Samaraweera, S.G. Senaratne was awarded the Best Oral Presentation for the paper "Identification of Horse Meat and Beef using a Polymerase Chain Reaction Based Method with *Cytochrome b* Gene" at the 4th Annual Research Symposium of Uwa Wellasa University,
- E.M.S. Isanka received the Blok Memorial Scholarship for Best Performance in Diploma in Library Science and Information Part I examination

Representation by ITI Officers at International Committees

Dr. G A S Premakumara

- Editorial Board : International Journal of Herbal Practice and Technology

Mr. A S Pannila

- Member : World Association of Industrial and Technological Research Organizations (WAITRO)

Dr. Ilmi Hewajulige

- Member of the Reviewing Panel : International Journal of Food Science and Technology

Dr Iresha Kottegoda

- Member of the Reviewing Panel : Electrochemica Acta

Representation by ITI Officers at Presidential Committees, Boards of State Agencies, National Committees

Dr. G A S Premakumara

- Board of Directors : National Research Council
- Board of Directors : National Committee on Women
- Board of Directors : Mushroom Development & Training Centre, Sri Lanka Export Development Board
- Board of Management : The Spice Council
- Board of Directors - CENTEC

Dr. J.K.R.R. Samarasekera

- Member : Presidential Task Force on Dengue Eradication
- Member : Technical and Advisory Committee on Dengue Vector Control, Ministry of Health
- Member : Technical and Advisory Committee on Chemicals for Vector Control, Ministry of Health
- Chair-person of drafting committee of formulating cosmetic standards - Sri Lanka Standards Institution

Mr. J M S Jayatileke

- Board of Directors : National Craft Council
- National Committee on Sustainable Use of Mineral Resources, National Science Foundation
- Advisory Committee on Ceramic and Porcelain, Sri Lanka Export Development Board
- Board member : National Packaging Centre

Dr. Ilmi Hewajulige

- National Project Coordinator : Atomic Energy Authority Phytosanitary Project
- Member/ Chairperson: National Codex Committees of Food additives and Processed Fruits and Vegetables: Ministry of Health.
- Member : National Committee on Postharvest Technology and Value Addition, Sri Lanka Council for Agricultural Research Policy
- Member : Steering Committee on Implementation of Gamma Irradiation facility in SL, Ministry of Technology and Research
- Member : ISO 22000-FSMS Certification Committee, Ind-Expo Certification Pvt. Ltd
- Member : Committee to prepare Sri Lanka Food Safety Policy

Mr. J.K.A. Bandulasoma Wijegunasekara

- Chairman : Working group meeting on Specification for Non Alcoholic Perfumes, Sri Lanka Standards Institute
- National Coordination Committee of Basel Convention - Ministry of Environment
- Member : Chronic Kidney Disease (CKDu) technical working group to assist cabinet committee on CKDu

Mr. H N Gunadasa

- Member : Committee to accommodate High & Medium Polluting industries in Sri Lanka, Central Environmental Authority
- Member : Review committee for effluent disposal standards on Lands for irrigation, Central Environmental Authority

Ms. R.C. Pitipanaarachchi

- Member : G.C.E. (A/L) Curriculum Committee, National Institute of Education, Maharagama.

Mr. C.H. Manorathne

- National Mirror Committee on Nanotechnology, Sri Lanka Standards Institution

Mr. R.M. Dharmadasa

- Chairman : Committee for the Popularization of Science (CPS), Sri Lanka Association of Advancement of Science

Dr. (Ms). K. Mahathantila

- Member : Technical Committees, Sri Lanka Tea Board
- Member : Technical Committees, Atomic Energy Authority

Ms. W.J.K.D. Ranpatige

- Member: Technical Evaluation Committee Basel Convention, Central Environmental Authority

Academic Representation at Research Institutes and Universities

Dr. G A S Premakumara

- Visiting Lecturer : Eastern University & National Institute of Traditional Medicine

Dr. Ilmi Hewajulige

- Resource Person, University Curriculum Revision : Department of Food Science and Nutrition, University of Peradeniya
- Visiting Lecturer : Postharvest Management of Fruits and Vegetables, Wayamba University of Sri Lanka

Mr. H.D. Weeratunge

- Visiting Lecturer : Chromatographic Techniques, University of Ruhuna

Ms Hasanthi Dissanayake

- Visiting Lecturer : Fundamentals of Chemical Engineering, Institute of Chemistry, Ceylon

Ms. Ramya Wijesekara

- Visiting Lecturer : Waste Management and Environmental Pollution Control, Uva Wellassa University

Social, Welfare and Religious Activities

The Welfare and Recreation Club

The dawn of the New Year was celebrated according to traditional practice - a Pirith ceremony, organized by the Buddhist Society followed by a Breakfast spread of Kiribath and sweetmeats.

Activities during the year focused on promoting goodwill among staff and their family members and included:

- Avurudu Uthsawaya
- Trip to Anuradhapura & Trincomalee
- Loan scheme at nominal interest terms
- A cash donation to Mr. Saman Priyantha, employee of ITI for medical treatment.
- Eye Clinic - J. A. Jayasinghe Opticians
- Sale of Highland, Anchor, Nestle, Munchee, Crystal, products Mobile service (March 2013)
- Monthly Highland Milk Powder sale

The Seva Vanitha Unit

Dr (Ms) Senani Wijetunge was welcomed as the new President of the Seva Vanitha Sub Unit of ITI at a ceremony held on 21st March 2013. The Vice President, Ms Sajeewika Perera thanked the outgoing President, Mrs Chitrangani Mubarak for her guidance and support given to the subunit during her term. The Seva Vanitha Unit continued to provide services to the employees with projects and fund raising activities during the year.

- Sale of Oshani Linen at a discounted rate for employees.
- Sale of Instant Food Products
- Promotional sales during Avurudu and Christmas.
- Distribution of book vouchers from Gunasena Bookshop for children of deserving employees.

The Annual General Meeting 2013 was held on 26th November at the ITI Main Auditorium. Mrs. G D S K Rajapakse was appointed as the Vice President.

The Buddhist Society

The 2013 became an important year for the Buddhist Society, with the opening of “Budu Madura” at ITI premises on 23rd May 2013 with the participation of Honorable Minister of Technology and Research, Mr Champaka Ranawaka. Among the other activities the Buddhist Society continued to,

- provide question paper booklets to children of employees sitting the Grade 5 scholarship examination and O/Level examination. Awards to children of employees who were successful in the Grade 5 scholarship examination and those selected for University education were also made as is done every year.
- organize the Osu pan dansela for the public and a Vesak Lantern competition amongst sections for the sixth consecutive year.
- make arrangements for employees to purchase Atlas exercise books at concessionary rates for the new school year.
- conduct a Blood donation campaign through Blood Bank, National Cancer Institute, Maharagama.
- assist employees with loans, during the year. 21 employees benefited from this scheme.
- Conduct
 - Wesak /Poson Dharma Sermons
 - Ministry Dharma Discussion Program
 - Pirith Ceremony for the New Year

Christian Society

The Christian Society continued with their traditional Annual Christmas Service followed by a party, with carol singing and Santa Clause distributing gifts from the Christmas tree to all children of ITI staff members.

Publications, Presentations & Patents

Publications in Refereed Journals

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- Dharmadasa, R.M., Abeysiri, G.R.P.I., Abeysinghe, D.C. and Samarasinghe K. (2013). Screening of phytochemical, physico- chemical and bioactivity of different parts of *Acmellaoleraceae*Murr. (Asteraceae), a natural remedy for toothache. *Industrial Crops and Products* **50**: 852-856.
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Patents

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- Immobilization of TiO_2 on a substrate using polymer/binder/adhesive for photo-catalytic air/water purification system. (Patent No. 17486/2013), Kottegoda I.R.M., Karunadasa K.S.P., Hettiarachchi H.A.M.I.T., Gunasekara H.D.D.P.

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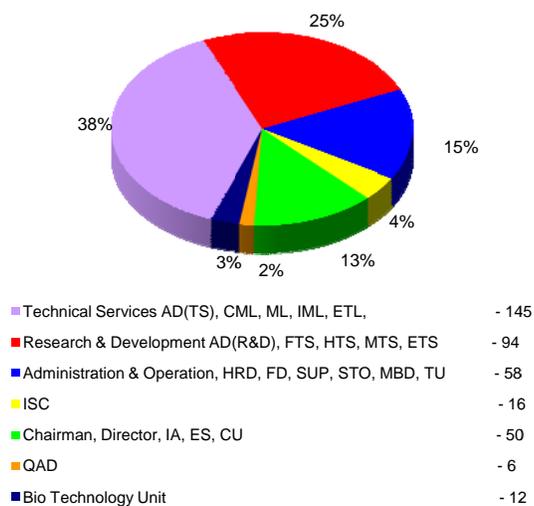
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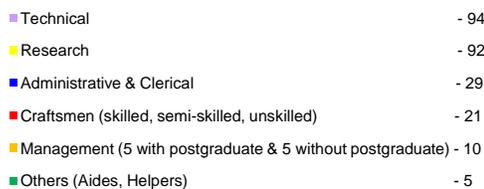
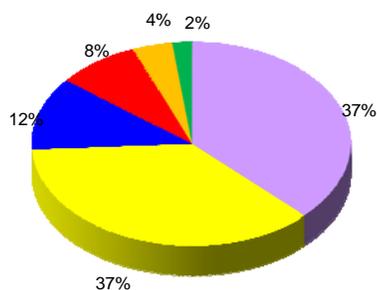
Human Resources

The total permanent staff of the institute was 381. This total comprised of 66% in the Technical divisions and 34% in support divisions. The Chemical & Microbiological Laboratory is the largest with almost 14% of the total staff.

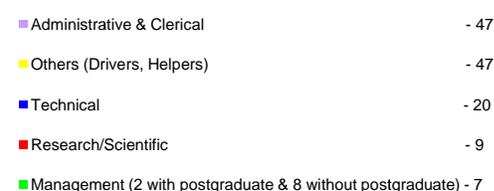
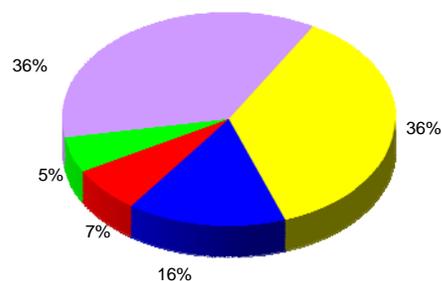
Division-wise distribution of staff



Category-wise distribution of staff -
Technical divisions

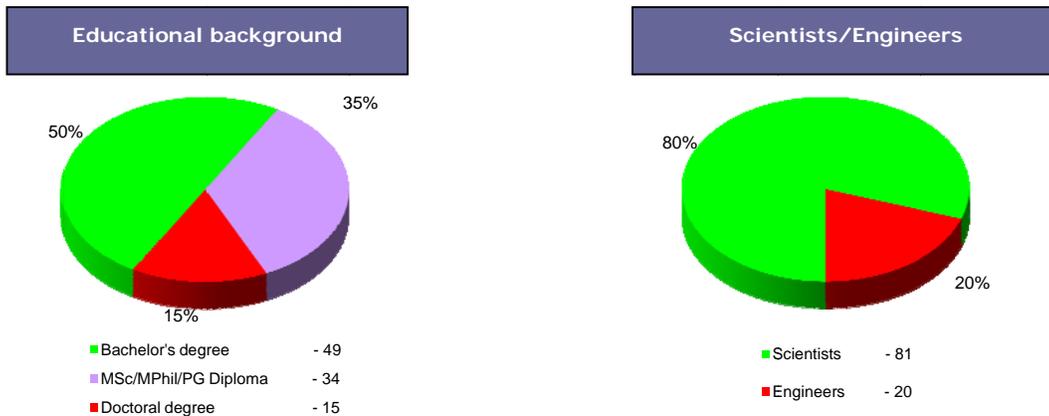


Category-wise distribution of staff –
Support divisions



Research staff

Of the total of 101 Research officers (in both Technical and Support divisions) 49% possessed Postgraduate qualifications. Scientists contribute 80% of the research staff and continued to be in the majority.



Expertise of research staff

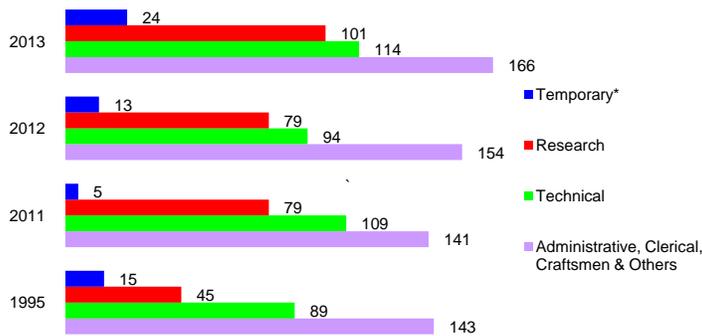
In the area of Agro and Food Technology the Institute has considerable expertise in food processing, post harvest technology, industrial microbiology, plant tissue culture, medicinal and aromatic plants and essential oils and spices. In the Materials field, ceramics, rubber, plastics and wood technology are areas in which we have developed expertise. In the Environmental area our strength lies in industrial pollution control – solid, air and water including waste water, energy and environmental monitoring including noise and vibration monitoring.

As one of the leading testing and measurement laboratories in the country, ITI has analytical expertise in chemical, microbiological and physical testing of a variety of samples. ITI is also one of the very few laboratories in the country that provide calibration and measurement services. Over the years our laboratory staff has also developed expertise in laboratory quality management systems. The Research staff also has expertise in information management and corporate management.

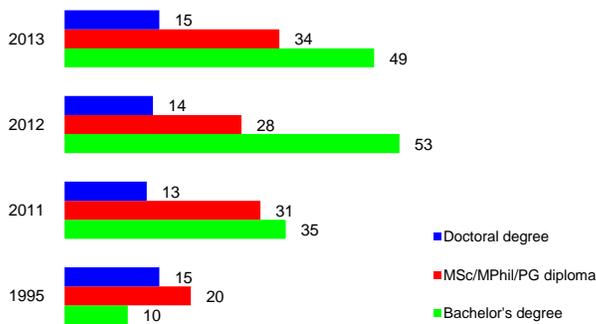
Trend analysis

The total staff (permanent & temporary) increased by 39% from 1995 to 2013. During this period the research staff increased by almost 124% and the technical grades by 28%. There was an increase of 16% of the administrative, clerical, craftsmen and other positions. PhDs and post-graduates increased by 40% during the period 1995 to 2013. The temporary staff number fluctuated during the period and increased to 24 in 2013.

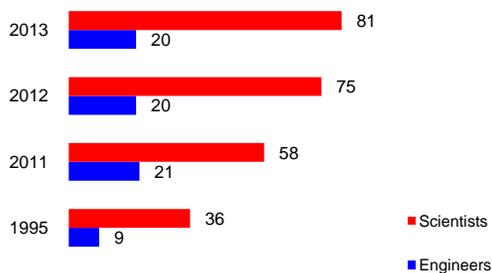
Staff Categories, 1995 - 2013



**Educational Background of Research Staff
1995-2013**



Scientist/Engineers, 1995-2013



Executive Staff

as at 31st December 2013

DIRECTOR/CEO

G A S Premakumara

BSc(Colombo), PhD(Colombo), MIBiol, MIChemC, CChem, CBiol, FIBiol

Additional Director, Technical Services

A S Pannila

*BSc(Peradeniya), MPhil(Kelaniya), MIM(UK),
MIP (SL), CPhys(SL)*

Additional Director, Research & Development

J K R R Samarasekera (Ms)

BSc(Hons)(Colombo), PhD(UK), FIChemC, CChem, MIBiol

Additional Director, Administration & Operation

D C A Sattrukalsinghe

BSc(Hons) (UK), MBA(Sri J'Pura), CEng(UK), FBCS, CITP, MACS, PCP, MCS(SL), MHRP, PGMN

RESEARCH & DEVELOPMENT

FOOD TECHNOLOGY SECTION

Senior Deputy Director, Food Technology Section

I G N Hewajulige (Ms)
*BSc(Hons)(Peradeniya), MPhil(Colombo),
PhD(Colombo)MIBiol, CBiol*

Principal Research Scientist

H M T Herath (Ms)
*BSc(Hons)(Peradeniya),
MPhil (Sri Jayawardenepura), MIChemC*

Research Scientists

S S K Madage
BSc (Peradeniya)

A M C U Binduhewa (Ms)
BSc(Peradeniya), MSc(Sri Jayawardenepura)

P N R J Amunugoda
BSc(Spl)(Hons) (Peradeniya)PhD(Open University)

K V T Gunawardhana
BSc(Sp)(Hon)(Peradeniya), MSc (Agric.) (Peradeniya)

D M W D Divisekara(Ms)
BSc (Bangalore),MSc (Microbiology) (Bangalore)

E N Wijedeera (Ms)
BSc(Spl)(Peradeniya)

W K S M Abeysekera (Ms)
BSc(Spl)(Hons)(Peradeniya), MSc(PGIA)

M M N P Gunasekera
BSc(Spl)(Hons)(Colombo), PGDMM (Colombo)

S A Fernando (Ms)
BSc(Spl)(Hon)(Colombo)

R Sutharsana (Ms)
BSc (Spl) (Hons) (Jaffna)

M D W Samaranayake (Ms)
BSc(Spl)Hons)(Sri Jayawardenepura)

D U Rajawardana (Ms)
BSc(Bangalore), MSc(Peradeniya)

S A S Jayawardana (Ms)
BSc(Spl) (Hons) (Sri Jayawardenepura)

K I D Gomes (Ms)
BSc Spl) (Hons) (Sri Jayawardenepura)

R C Pitipanaarachchi (Ms)
*Grad IChemC, BSc(Open University),
MSc(Sri Jayawardenepura),CChem, MRSC*

C P Adikaram
BSc(Hons) (Colombo), PhD (Colombo)

Research Engineers

S G Walliwala (Ms)
BSc (Eng)(Moratuwa), MSc(Moratuwa)

A B G C J de Silva (Ms)
BSc (Eng)(Moratuwa), MSc (Moratuwa)

Laboratory Technologists

G D S K Rajapakse (Ms)
LTCC (IChemC)

M G D S Perera (Ms)
LTCC(IChemC), Dip.Agr(Aquinas)

Senior Technical Officer

D M K Aponso (Ms)
LTCC (IChemC)

Technical Officer

W U D Medis
LTCC(IChemC)

HERBAL TECHNOLOGY SECTION

Senior Deputy Director, Herbal Technology Section

Vacant

Principal Research Scientists

R M Dharmadasa
*BSc(Hons)(Ruhuna), MPhil(Sri Jayewardenepura),
MIBiol, PhD (Sri Jayawardenepura)*

P Ranasinghe
BSc(Hons)(Peradeniya), MPhil(Colombo), MIBiol

Senior Research Scientists

C Wijesiriwardena
*BSc(Bangalore), MSc(Gujarat), PhD(Gujarat Ayurved
University)*

S Chelvendran (Ms)
BSc(Spl)(Hons)(Jaffna), PhD(Peradeniya)

L D A M Arawwawala (Ms)
*BSc(Hons)(Peradeniya), MSc(Sri Jayewardenepura),
MPhil(Peradeniya), MIBiol, AIChemC, PhD(Kelaniya)*

Research Scientists

W P K M Abeysekera (Ms)
BSc(Spl)(Hons)(Colombo)

H D Weeratunga
BSc(Spl)(Colombo), MSc (Midway)

H D S M Perera (Ms)
BSc(Spl)(Colombo)

U I Medawatta (Ms)
BSc(National university, Republic of Korea)

N P Kudahettige (Ms)
*BSc(Peradeniya)MSc.(Peradeniya)PhD(Uni, of Pisa,
Italy)*

W A D D Wasalamuni (Ms)
BSc(Spl) (Peradeniya)

S N Thanthirimudalige (Ms)
BSc(Spl) (Colombo)

Laboratory Technologists

P I P K Fernando (Ms)
LTCC (IChemC)

V S Bandara (Ms)
LTCC(Merit)(IChemC), Grad IChemC, MRSC(UK)

MATERIALS TECHNOLOGY SECTION

Head, Materials Technology Section

I R M Kottegoda (Ms)
*BSc(Colombo), MPhil(Sri Jayewardenepura),
PhD(Colombo)*

Research Scientists

S Weeraratne
Grad IChemC, MSc(Colombo), CChem, MIChemC

L D C Nayanajith
BSc(Chem)(Hons)(Peradeniya)

C H Manoratne
BSc(Rajarata), MPhil(Peradeniya)

M D Y Milani (Ms)
BSc(Spl)(Colombo), MSc(Moratuwa)

K S P Karunadasa
BSc(Spl)(Hons)(Peradeniya)

I P L Jayarathne
BSc(Peradeniya)PhD(Peradeniya)

Research Engineers

H C D P Colombage (Ms)
BSc(Eng)(Moratuwa)

J T S T Jayawardene (Ms)
BSc(Eng)(Moratuwa)

ENVIRONMENTAL TECHNOLOGY SECTION

Senior Deputy Director, Environmental Technology Section

H N Gunadasa
BSc(Eng)(Moratuwa), PGDip(Moratuwa), AMIE

Principal Research Engineers

W R K Fonseka
BSc(Eng)(Hons)(Moratuwa), MSc(Delft)

N A T D D Gunasekera
BSc(Eng)(Moratuwa), Associate Member (IESL)

Senior Research Engineer

W J K D Ranpatige (Ms)
BSc(Eng)(Hons)(Moratuwa), PGDip(Moratuwa)

Research Engineers

W R L Wijesekera (Ms)
NDT(Che.Eng.Tech)(Moratuwa), ECE (Che.Eng)(UK)

D M H S Dissanayake (Ms)
BSc(Eng)(Hons)(Moratuwa)

K A N Kumarasinghe (Ms)
BSc(Eng)(Peradeniya)

W A D D Sampath
BSc(Eng)(Moratuwa)

R T Nilusha (Ms)
BSc(Spl)(Sabaragamuwa)

R D S S Ranatunga
BSc(Spl)(Sri Jayawardenepura)MPhil(Sri Jayawardenepura)

Laboratory Technologists

K D Attanayake (Ms)
NDT(Moratuwa)

J A P V Jayasinghe
NDT(Moratuwa)

Administrative Officer

S A G L Perera

ENGINEERING SERVICES

Head, Engineering Services

A S Arachchi
BSc(Eng)(Moratuwa)PG (Dip)

Technical Officer

M S Mannapperuma

Administrative Officers (Admin)

K P R T Perera (Ms)

S P Dharmaratne (Ms)

OFFICE OF THE ADDITIONAL DIRECTOR RESEARCH & DEVELOPMENT

Senior Administrative Officer (Admin)

M A C P Perera (Ms)

TECHNICAL SERVICES

CHEMICAL & MICROBIOLOGICAL LABORATORY

Head, Chemical & Microbiological Laboratory

J K A B Wijegunasekara
BSc(Spl)(Peradeniya), MPhil(Wales)

Principal Research Scientist

W A J Sajeewika Perera (Ms)
BSc(Spl)(Hons)(Kelaniya), MSc(Kelaniya)

Senior Research Scientists

K S Weerakkody
BSc(Peradeniya), MSc(Kelaniya)

M N A Mubarak
BSc(Spl)(Hons), MSc(Delft)

Research Scientists

S H S Karunaratne (Ms)
BSc(Bangalore), MSc(Kelaniya)

D G S C Hatharasinghe (Ms)
BSc(Spl)(Hons)(Ruhuna)

G V V Liyanaarachchi (Ms)
BSc(Spl)(Hons)(Colombo)

P S F Perera (Ms)
LTCC (ICChemC), BSc(Peradeniya), MSc(Colombo)

M R P Dassanayake(Ms)
BSc(Spl)(Hons)(Sri Jayawardenepura)

S K Liyanage(Ms)
BSc(Kelaniya), MSc(Kelaniya)

G U Chandarasiri
BSc(Spl)(Hons)(Sri Jayawardenepura)

W D K Mahatantila
BSc(Sabaragamuwa)MPhil(PGIS)PhD(Japan)

B N Dorakumbura(Ms)
BSc(Spl)(Hon) (Sri Jayawardenepura)

D A T W K Dissanayake
BSc(Spl)(Hons)(Peradeniya)

H P E de Zoyza (Ms)
*BSc(Spl)(Sri Jayawardenepura) Prof. Diploma(CIM)
Diploma in Quality Management (SLSI)*

Laboratory Technologists

R P D C J Cooray (Ms)
LTCC (Merit)(ICChemC)

Y A Pitawela (Ms)
LTCC (Hons)(ICChemC)

P K G De Alwis (Ms)
LTCC (ICChemC),LTCC Diploma(ICChemC)

I Jayakody (Ms)
GIC, LTTC(ICChemC)

Senior Technical Officers

K D R De Costa (Ms)

J M M Herath (Ms)
LTCC (ICChemC)

R M S Ratnayaka (Ms)
LTCC (ICChemC)

C K Wickramasinghe (Ms)
LTCC (ICChemC)

Y M C Piyathilaka (Ms)
LTCC (ICChemC)

Technical Officers

S P Hettiarachchi
LICC, DLTC

H A A Perera
GIC Part I, LTTC, Dip. In Management Programme

H M K Pathirana
B Sc(Kelaniya)

H K Alahakoon
B Sc(Open University)LTCC(ICChemC)

C Vidyaratne
B Sc(Open University)

Mr M M C B Nawaratne
DTLC

Senior Administrative Officer (Admin)

B M S Delwala (Ms)

MATERIALS LABORATORY

Senior Deputy Director, Materials Laboratory

J M S Jayatileke
BASc(Hons)(Eng)(Moratuwa), MEng(Akita)

Senior Research Engineer

A A M T Adikari
BSc(Hons)(Eng)(Moratuwa)

Research Engineers

C N Vitharana (Ms)
BSc(Hons)(Eng)(Moratuwa)

L P C Ranasinghe
BSc(Hons)(Eng)(Moratuwa)

K H R Sajeewani (Ms)
BSc(Moratuwa)

Research Scientists

L K S Roshanie (Ms)
BSc(Hons)(Colombo)

P W C Dilhani (Ms)
BSc(Spl)(Hon)(Sri Jayawardenepura)

G S Peiris
BSc(Hons)(Jayawardenepura)

V A D C Wijetunga
BSc(Spl) (Sri Jayawardenepura)

Laboratory Technologists

K D N Weerasinghe
LTCC (ICChemC)

K Weeratunga
NDT (Moratuwa),DipPRI(SL)

K Silva (Ms)
LTCC (ICChemC),BSc(Open University)

Senior Technical Officers

I Withana (Ms)
LTCC (ICChemC)

INDUSTRIAL METROLOGY LABORATORY

Head, Industrial Metrology Laboratory

W M S Wijesinghe
*BSc(Hons)(Sri Jayewardenepura), MSc(USM, Malaysia),
PhD.(UST, Korea) CPhys(SL), MIP(SL)*

Senior Research Scientist

N P Liyanawaduge
BSc(Spl)(Hons)(Ruhuna), MPhil(Ruhuna), MACS

Research Scientists

G D T A Pathiragoda (Ms)
BSc(Spl)(Hons)(Colombo)

M R Motha (Ms)
BSc(Spl)(Hons)(Sri Jayawardenepura)

R A D S D Ranasinghe
*BSc(Spl)(Hons)(Sri Jayawardenepura), Dip. In Inf.
Tech(Colombo)*

Technical Officer

T N P K Peiris
BSc (OUSL)

ELECTRO TECHNOLOGY LABORATORY

Head, Electro Technology Laboratory

R M Weerasinghe
BSc(Eng)(Peradeniya), MSc (AIT -Thailand)

Research Engineer

R P K Wijewardena
BSc(Eng)(Moratuwa)

Research Scientists

M S M Aroos
BSc(Spl)(Hons)(Kelaniya)

C M Kalansuriya
BSc(Hons)(Open University), LIP(SL)

K A C Perera
BSc(Spl)(Hons)(Ruhuna)

Laboratory Technologist

R A S Dewapriya
NDT(Moratuwa)

Senior Technical Officer

S N W M Surasena
LTTTC (ICChemC), MIPRE, City & Guilds(London)

Technical Officers

L A M N Pushpakumara
BSc(Hon)(Peradeniya)

L D D C Jayaratne

**OFFICE OF THE ADDITIONAL DIRECTOR
TECHNICAL SERVICES**

Senior Customer Liaison Officer

I D R Chamani (Ms)
BSc(Peradeniya)

Senior Administrative Officer(Admin)

Y Y W De Silva (Ms)

Administrative Officer (Admin)

P G P Jayawardene (Ms)

BIO TECHNOLOGY UNIT

Head, Bio Technology Unit

S G Senaratne (Ms)
BSc(Spl)(Hons)(Colombo), PhD (UK)

Research Scientists

H H K Achala
BSc(Spl)(Colombo), MSc (Bio Tech)(Peradeniya)

K G W W Bandara
BSc(Spl)(Colombo)

K S L Dalpadadu
BSc(Hons)(Malaysia), PhD

S R Gunawardena
BSc(Winona State Uni) MSc.(Winona State Uni)

QUALITY ASSURANCE DEPARTMENT

OIC, Quality Assurance Department

H P P S Somasiri
*BSc(Spl)(Peradeniya) MSc(Peradeniya), CChem,
MIChemC*

Research Scientists

D V A Nilukshi (Ms)
BSc(Spl)(Hons)(Sri Jayawardenepura)

K P Wijekuruppu (Ms)
BSc(Hon)(Peradeniya)

S A M K Jayathilake
BSc(Spl)(Hons)(Sri Jayawardenepura)

H G T H Jayatunga (Ms)
BSc(Hons)(Kelaniya)

F H Salahudeen
BSc(Spl)(Colombo)

ADMINISTRATION & OPERATION

DIRECTOR'S OFFICE

Administrative Officer

W S K Fernando

Institute Secretary

A M K R Jayatilaka (Ms)
Attorney-at-law & Notary Public, Post Attorney Dip. in Intellectual Property Law

Personal Assistant/ Secretary to Chairman

G Edirisuriyage (Ms)
Dip. In communicational skills

FINANCE DEPARTMENT

Senior Deputy Director Finance

J Solomon
AMA, MCPM, Higher Dip in Acc & Finance

Accountant

Mr. D N Weerakoon
HNDA, ICASL-Infor, CMA-DIP

Accounts Officers

R Malavipathirana (Ms)
IAB(London)

L K Lalitha (Ms)
IAB(London)

M H N Tissera (Ms)
BBMgt (Spl)(Accountancy)(Kelaniya), ICASL – FI

Accounts Officer/Stores Officer

H H Gurugamage (Ms)
ICASL(Strategic I)

Senior Administrative Officer (Admin)

W A Malani (Ms)

STORES

-

SUPPLIES

Mrs M H K Dilrukshi
Dip.(Mass communication)

Administrative Officers (Admin)

K M L W Fernando (Ms)

B P N Peiris (Ms)
Dip Sup Mat Mang

Ms. D L Gamlath
BSc(Spl) Public Management (Sri Jayawardanepura)

HUMAN RESOURCES DEPARTMENT

Senior Administrative Officers (HR)

I Kannangara (Ms)
PQHRM(IPM)

S M G A Samarakoon(Ms)
CCHRM(IPM)

Administrative Officer

L Ranaweera (Ms)

Superintendent

W H R J Jayakody
NDT, Dip. In Info. Tech (SLIT)

MARKETING & BUSINESS DEVELOPMENT DEPARTMENT

Senior Deputy Director

N G M Wijemanne (Mrs)
BSc(Open University), MBA (Australian Inst. of Business Administration), MSLIM, MIM(SL), MISMM

Senior Industrial Liaison Officer

J D Madanayake
Dip Food Tech (PISE, Italy),LTCC (IChemC)

Marketing Officer

K A I H Fernando
BSc (Gen) (Uni Sri Jayawrdanepura)

INFORMATION SERVICES CENTRE

Senior Deputy Director, Information Services Centre

Vacant

Senior Research Scientists

P M Jayasinha (Ms)
*GradIChemC, MPhil(Open University), CChem,
MIChemC*

K H T Abeysekara (Ms)
*BSc(Spl)(Hons)(Kelaniya), MPhil(Kelaniya),
MLS(Colombo)*

Research Scientist

E M S Isanka (Ms)
BSc(Spl)(Hons)(Peradeniya)

Librarian

D J M Jayaweera (Ms)

Assistant Librarians

N S Sangasinghe (Ms)
ASLLA

W W P N Geekiyanage (Ms)
ASLLA

N L D G A Krishneratne
*BA(Kelaniya), Library & Inf. Science
Diploma in Library Science*

Senior Administrative Officer (Admin)

G S M Senanayake (Ms)

Administrative Officer (Admin)

R Kapurubandara (Ms)

COMPUTER UNIT

Laboratory Technologist

N K Alagoda (Ms)
NDT (Moratuwa)

Computer Systems Administrator

S S Wickramasekara

INTERNAL AUDIT

Chief Internal Auditor

K A S P Kaluarachchi
*BSc(B.Ad)(Spl)(Sri Jayewardenepura), CBA(ICASL),
MAAT, Postgraduate Dip. In Mang.*

Senior Internal Audit Officers

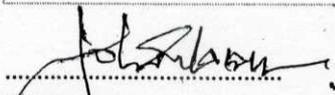
D T M C Jayasinghe (Ms)

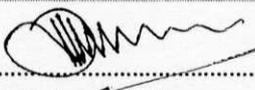
B M Roberts (Ms)
*IABK (London), Dip.Com.Based Acctg (Professional
Accounting Institute, Colombo)*

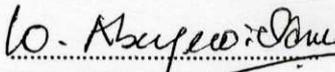
INDUSTRIAL TECHNOLOGY INSTITUTE (SUCCESSOR TO CISIR)
STATEMENT OF FINANCIAL POSITION AS AT 31ST DECEMBER, 2013

	NOTE	2013	2013	2012	2012
		Rs.	Rs.	Rs.	Rs.
ASSETS					
Current Assets	3				
Cash and Cash equivalents	3D	415,712,537		341,641,762	
Trade and other receivables	3B	76,669,829		121,816,410	
Inventories/Stocks	3A	9,612,559		12,417,303	
Prepayments	3C	9,899,312		3,575,158	
			511,894,236		479,450,632
Non-current Assets					
Property, Plant and Equipment	1	431,170,741		432,828,041	
Other Assets (Work-in progress)	2	246,297,599		148,550,774	
			677,468,340		581,378,815
Total Assets			1,189,362,576		1,060,829,447
LIABILITIES					
Current Liabilities	4				
Payables	4A	19,695,200		26,964,474	
Accrued Expenses	4B	55,515,132		36,133,452	
Provision for Gratuity	5C	31,243,698			
			106,454,031		63,097,926
Non-Current Liabilities	5				
Payable	5A	33,258,849		29,782,272	
Differed Income	5B	553,413,115		474,965,837	
Provision for Gratuity	5C	48,782,499		65,086,774	
			635,454,463		569,834,882
Total Liabilities			741,908,493		632,932,809
Total Net Assets			447,454,083		427,896,638
NET ASSETS / EQUITY					
Accumulated Fund	6A	270,684,254		234,502,413	
Reserves - Donations	6B	47,927,399		64,551,795	
Revaluation Surplus	6C	128,842,430		128,842,430	
Total Net Assets / Equity			447,454,083		427,896,638

The Accounting policies on pages 06 to 08 and Notes on pages 09 to 27 form an integral part of these Financial Statement. The Board of Directors is responsible for the preparation and presentation of these Financial Statements. The Financial Statements were approved by the Board of Directors and signed on their behalf.


 J. Solomon
 (Senior/Deputy Director - Finance)


 S.M. Rajapaksha
 (Director)


 Prof. W. Abejeyewickreme
 (Chairman)

INDUSTRIAL TECHNOLOGY INSTITUTE
STATEMENT OF INCOME FOR THE PERIOD ENDED 31ST DECEMBER, 2013
ILLUSTRATING THE CLASSIFICATION OF EXPENSES BY NATURE

	NOTE	2013 Rs.	2012 Rs.
Operating Revenue			
Recurrent Grant		176,575,000	169,000,000
Amortization of Government Grants - Depreciation	5A1	58,730,496	39,314,909
R & D Projects & HRD	5A1	14,043,274	11,091,790
Rehabilitation & Improvements	5A1	15,099,205	10,320,476
Income - Revenue	7A	207,536,869	159,343,955
- Other Income	7B	39,295,586	29,113,334
		511,280,431	418,184,465
Operating Expenses	8		
Personnel Emoluments	8A	256,819,933	205,358,891
Travelling	8B	4,181,665	2,837,409
Supplies and Consumable used	8C	23,092,327	20,771,918
Maintenance	8D	20,368,798	17,316,958
Contractual Services	8E	41,277,417	38,641,574
R & D Projects & HRD	8F	14,043,274	11,091,790
Depreciation	8G	58,730,496	54,491,555
Other Operating Expenses	8H	35,050,729	29,384,995
Rehabilitation & Improvements	8I	15,099,205	10,320,476
Disposal & write Offs		3,436,556	5,308,960
Damage & Losses		2,331	31,495
Total Operating Expenses		472,102,732	395,556,022
Surplus/(Deficit) from Operating Activities		39,177,699	22,628,443
Net Surplus / (Deficit) for the period		39,177,699	22,628,443

INDUSTRIAL TECHNOLOGY INSTITUTE (SUCCESSOR TO CISIR)
THE STATEMENT OF CHANGES IN EQUITY FOR THE YEAR ENDED 31st DECEMBER , 2013

	Accumulated Fund	Reserves Donations	Re-Valuation Surplus
	Rs.	Rs.	Rs.
Balance as at 01.01.2013	234,502,414	64,551,795	128,842,429
<u>Changes in Equity for 2013</u>			
Surplus for the period	39,177,699	-	-
Amortization of Non - Current Assets Up to 2002	(2,995,858)	-	-
Donation received during the year	-	-	-
Amortization of Non - Current Donated	-	(16,624,396)	-
Balance as at 31.12.2013	36,181,841	47,927,399	128,842,429

INDUSTRIAL TECHNOLOGY INSTITUTE (SUCCESSOR TO CISIR)
CASH FLOW STATEMENT FOR THE YEAR ENDED 31ST DECEMBER, 2013

	2013 (Rs.)	2012 (Rs.)
Cash Flow From Operating Activities		
Operating Surplus/(Deficit)	39,177,699	22,628,443
Adjustment for		
Depreciation	58,730,496	54,491,545
Profit/(Loss) on Property Disposal	(747,293)	60,360
Gratuity Provision	19,300,277	9,734,097
Interest Received	(30,701,649)	(17,111,788)
Capital Grants Amortized	(87,872,976)	(60,727,176)
Operating Surplus/(Deficit)	(2,113,446)	9,075,481
Change in Working Capital		
(Increase)/Decrease in Inventories	2,804,744	(2,199,513)
(Increase)/Decrease in Debtors	45,146,581	(69,718,504)
(Increase)/Decrease in Prepayments	(6,324,154)	(1,911,717)
(Decrease) /Increase in Payables-Non Current	(12,850,515)	8,119,983
(Decrease) /Increase in Payables-Current	23,974,424	22,722,008
(Decrease) /Increase Accrued Expenses	19,381,680	17,334,105
Cash Generated from operating Activities	70,019,314	(16,578,156)
Gratuity Paid	(11,095,284)	(9,307,649)
Net Cash Flow From Operating Activities	58,924,030	(25,885,805)
Cash Flow From Financing Activities		
Capital Grants Received	146,700,000	97,194,666
Net Cash Flow From Financing Activities	146,700,000	97,194,666
Cash Flow From Investing Activities		
Acquisition of Property Plant & Equipment - Purchases	(57,602,869)	(69,335,867)
Acquisition of Property Plant & Equipment - TG	-	(90,800)
Write Offes of PPE - Cost	12,171,918	29,003,089
Write Offes of PPE - Depreciation	(11,642,246)	(27,916,260)
Investment	-	(160,000,000)
Proceeds from sale of Assets	454,451	97,680
Science Award Fund Investment	-	(26,000)
Other Assets (Work In Progress)	(97,746,825)	(40,402,434)
Interest Received on Fixed Deposit	22,812,315	17,003,760
Net Cash Flow From Investing Activities	(131,553,255)	(251,666,833)
Net Cash Flow	74,070,775	(180,357,972)
Cash as at beginning of the year	71,415,762	251,773,734
Cash at the end of the year	145,486,537	71,415,762

ACCOUNTING POLICIES AND SIGNIFICANT EVENTS – 2013

1. GENERAL

The Statement of Financial Position as at 31.12.2013 and the related Financial Statements have been prepared on the historical cost convention, in accordance with the Sri Lanka Public Sector Accounting standards.

Retirement benefits to employees are provided according to the laid down statutory requirements. Institute's contribution for Provident Fund and Employees' Trust Fund is 15% and 3% respectively. Gratuity Provision is made according to the Gratuity Act No. 12 of 1983. This provision is not externally funded.

2. BASIS OF PREPARATION

The financial statements have been prepared in accordance with the Sri Lanka Public Sector Accounting standards for the year ended 31 December 2013

3. ACCOUNTING FOR GOVERNMENT GRANTS

Recurrent Grant from the General Treasury has been recognized as revenue in the statement of financial performance. Since year 2003 Capital Grant has been shown under deferred income in conformity with the formats specified in Circular No. PED/19. Depreciation for the year is funded by amortizing the following.

Fund	Depreciation for the year
Differed Income	Non-Current Assets acquired after 2003
Government Grant - Capital	Non-Current Assets acquired before 2003
Donation & Grants	Non-Current Assets relating to Donations

4. ASSETS - BASIS OF THEIR VALUATION

4.1 Fixed Assets

Funds for acquisition of Fixed Assets are provided by the General Treasury.

Fixed Assets have been shown at cost, less depreciation. Assets are depreciated at the following rates:

Buildings	5%
Plant and Machinery	10%
Office Equipment and Furniture	5%
Vehicles	20%
Computers	33 1/3%
Library Books and Journals	5%
Software and Other Assets	33 1/3%

Depreciation in respect of motor vehicles, computers and software was 10% before the 1st of January 1999 and was revised to 20% and to 33.33% respectively after that date.

Depreciation is charged from the date of purchase until the date of disposal.

4.1.1

Assets received as donations or purchased with Government Grant are amortized at the rates of depreciation referred above.

4.2 Debtors

Debtors and other recoverable are stated at the value estimated to be realized. The debtors consist of sundry trade debtors and the debts of ex-employees who are in breach of bonds and agreements.

4.3 Stocks

Stocks are shown at the Book Value. Stock issues are valued on average basis.

4.4 Savings Bank Deposit Account

As per instructions given by Ministry of Finance & Policy Planning Fidelity Bonds invested with the Bank of Ceylon for Provision on Letter of credits (Imports) and six months working capital inclusive of Personal Emolument Cost

4.5 Deposits on account of Gratuity provision

As per the statutory requirement an amount of Rs 100 Million is kept in deposit account to meet the Gratuity obligations. This deposit is kept with the approval of the general treasury.

4.6 Crown Land

The land Occupied by the Institute is referred as Crown land and belongs to the State.

5. LIABILITIES AND PROVISIONS

Current Liabilities are those which fall due for payments on demand or within one year from the Balance Sheet date.

5.1 Science Award Fund

This fund is externally invested.

6. INCOME AND EXPENDITURE ACCOUNT

Income and Expenditure are based on accrual accounting basis. The Revenue for the year is Rs 246.7 Million and in comparing with the previous year the revenue has increased by Rs 58.7 Million and the increase is 31 %. The Income for the year is Rs 69.8 million.

7. PROVISION FOR DOUBTFUL DEBTS

Full provision for doubtful debts is made on out standings for more than one year. However in cases of specific debts where it is considered that a higher provision is prudent such additional provision has also been made.

8. PROVISION ON GRATUITY

The provision on gratuity is made after completion of one year of service.

9. LONG TERM RESEARCH AND DEVELOPMENT

There are nearly sixty Research and Development Projects are in progress which are funded by the general treasury. Apart from treasury grants there are funded projects sponsored by local agencies such as National Science Foundation (NSF) and National Research Council (NRC).

10. DISALLOWED VAT

Due to the fact that the General Treasury is funding the Institute, Department of Inland Revenue has given two options, either to pay VAT on the Treasury Grant or to apply Disallowed Input Tax Principal. ITI was following the disallowed input tax principal up to August 2013. Presently the treasury grant is not considered for the input tax.

11. VIDHATHA PROGRAM

During the year under review number of employees of ITI participated in the Vidhatha Program conducted by the Ministry of Science & Technology, of which the cost was reimbursed by the Line Ministry.

Schedule on Buildings, Plant Machinery & Lab Equipment, Furniture Fittings, Vehicles, Computer Equipment
Library Books & Journals , Software & Other Assets as at 31.12.2013

NON -CURRENT ASSETS

NOTE - 01

	Buildings 5%	Plant Mach. & Lab Equip. 10%	Furni. Fittings & Office Equip. 5%	Vehicles 20%	Computer Equipment 33.33%	Library Book & Journals 5%	Soft Ware & Accessories 33 1/3%	Other Assets 33 1/3%	TOTAL
Cost									
Balance as at 01.01.2013	228,564,626.62	626,668,460.75	42,192,935.20	60,834,006.08	46,694,866.23	77,543,298.50	13,498,047.58	4,512,594.44	1,100,508,835.40
Additions -									
Purchases	1,423,414.36	49,900,163.78	3,177,144.83		1,372,742.00	731,972.14	83,850.00		56,689,287.11
Donations									-
Donations - TG		913,581.41							913,581.41
Re-Valuation									
Less:									
Write - Off		(9,381,479.00)	(636,721.00)		(2,153,718.00)				(12,171,918.00)
Balance as at 31.12.2013	229,988,040.98	668,100,726.94	44,733,359.03	60,834,006.08	45,913,890.23	78,275,270.64	13,581,897.58	4,512,594.44	1,145,939,785.92
Less :									
Depreciation									
Balance as at 01.01.2013	83,432,579.29	412,854,672.08	16,689,571.38	46,298,068.96	39,881,226.55	51,745,563.85	12,266,517.82	4,512,594.44	667,680,794.37
Add:									
Depreciation for 2013	10,825,911.30	33,502,834.95	2,158,113.55	5,524,992.40	3,446,501.08	2,500,317.03	771,825.73		58,730,496.02
Less:									
Disposal		(8,973,462.47)	(515,065.26)		(2,153,718.00)				(11,642,245.73)
Balance as at 31.12.2013	94,258,490.59	437,384,044.56	18,332,619.67	51,823,061.36	41,174,009.63	54,245,880.88	13,038,343.55	4,512,594.44	714,769,044.66
Balance as at 31.12.2013	135,729,550.39	230,716,682.39	26,400,739.36	9,010,944.72	4,739,880.60	24,029,389.77	543,554.03	-	431,170,741.26

INDUSTRIAL TECHNOLOGY INSTITUTE (SUCCESSOR TO CISIR)
NOTES TO STATEMENT OF FINANCIAL POSITION AS AT 31ST DECEMBER 2013

	2013	2012
	Rs.	Rs.
<u>Other Assets (work in progress) - (Note - 2)</u>		
Work in Progress - General	120,000	-
Working Progress - Modern R & D Complex, Malambe	234,341,658	139,635,417
ISO 17043 Accreditation status to ITI's PECMA PT scheme	140,662	140,662
TG 11/00/04 DF Synthesis of graphene and graphene composites from natural graphite	915,910	392,740
TG 11/00/07 Initial study for Elephant Communication Project	23,830	23,830
TG 11/34 High iron & protein containing rice products	-	666,367
TG 11/35 Rice brain snacks rich in antioxidants	-	589,905
TG 11/36 Formulation of anti-diabetic rice bran product (HTS)	173,042	-
TG 11/37 Identificaton of anti-inflammatory and lipid lowering traditional rice	179,268	4,686
TG 11/39 Bio-active kithul dring	-	36,939
TG 11/41 Enhancing the quality of Jaadi	690,637	611,052
TG 11/42 Establishment of a testing facility to assess imported feed	-	429,990
TG 11/46 Biological control of strawberry and vegetable pests	-	123,903
TG 11/47 Branding Ceylon Cinnamon - Chem. Fingerprinting & GI	373,042	309,422
TG 11/48 Investigation of health promoting properties	745,469	535,631
TG 11/49 Trehalose rich rice for breas making	709,814	616,446
TG 11/50 Bioremediation of soils contaminated with petroleum hydrocarbon	235,643	173,550
TG 11/51 Production of Industrial enzymes	576,366	278,156
TG 11/52 Iron fortification of rice seeds using soya bean ferritin	494,480	385,548
TG 11/53 Expression of lysine rich protein SBg LR genein rice seeds(BTU)	386,379	315,112
TG 11/55 Development of super absorbent materials from banana fibres for sanitary	-	530,792
TG 11/56 Development of Red-clay based water filter for the removal of Fluoride	679,767	351,441
TG 11/58 Development of an early warning system for landslides	677,063	377,822
TG 11/59 Development of automated street lamp control systems	-	372,430
TG 47A Branding cey. cinnamon - DNA bar- Coding	-	174,481
TG 11/60 Bioactivity of Ceylon Cinnamon	1,246,679	701,436
TG 11/61 Automated Acid Rain Monitoring station	954,926	700,066
TG DF 12/00/01 Postharvest Research Activities from Previous Research Programmes	140,475	70,275
TG DF 12/00/02 Est. of Rice % in wheat /Rice bread But. 200000	68,083	
TG DF 12/00/03 Molecular Docking & Drug designing	534,272	
TG DF 12/00/04 - 77 Continue the fabrication of tape Calibration facility in IML	13,446	2,675
TG 13/62 ETL-Field Trial for Automated street lamp controller TG 11/59 Continuation	118,809	
TG 13/63 ETL- Remote noise & vibration monitoring station	615	
TG 13/66 FTS- Development of a low caloric functional bread	19,147	
TG 13/67 FTS-FTS Establishment of non thermal processing technologies for blended fruit and vege	100,465	
TG 13/68 FTS- Formulation of ready-to-drink beverage and herbal tea with Thebu	56,637	
TG 13/69 HTS-Cosmetically active herbal ingredients for dev. of personal care products	200,090	
TG 13/70 HTS- Method validation & technology dev. of a herbal air freshener formulation	3,398	
TG13/72 HTS- Assessment of nutritional value & analysis of QC parameters of nurraceutical capsul	87,200	
TG 13/73 HTS- Investigation of Gyrinops walla Gaertn	36,017	
TG 13/74 MTS-Purification of natural graphite of Sri Lanka as a high value addition	62,514	
TG 13/75 MTS-Photo-catalytic Technology for purification of agrochemical contaminated waste wa	24,948	
TG 13/76 ETS- Dev. of constructed wetland technology for removal of N and P compounds	5,190	
TG 13/87 BTU-Dev. of a DNA rabies vaccine for dogs	570,141	
TG 13/88 ISC-Dev. a method to calibrate power analyzers and watt-hour meters	136,036	
TG DF 13/00/01 MTS Cook Ware Project 300,000/=	182,456	
TG DF 13/00/02 MTS Solar Water Reactor 150,000/=	141,617	
TG DF 13/00/04 Market Basket study Quality analysis of selected imported & Local food	122,380	
TG DF 13/00/05 Checking of Quality of Cement and Steel in Rural Areas	9,030	
	246,297,599	148,550,774

INDUSTRIAL TECHNOLOGY INSTITUTE (SUCCESSOR TO CISIR)
NOTES TO STATEMENT OF FINANCIAL POSITION T AS AT 31ST DECEMBER 2013

	NOTE	2013 Rs.	2012 Rs.
Current Assets (Note - 3)			
Consumable Stores			
Inventory - Chemical		4,919,449	6,343,329
Inventory - Laboratory Ware		3,487,784	4,504,968
Inventory - Mis. Supplies		509,464	539,699
Inventory - Electronic Components		6,013	6,013
Inventory - Stationery		689,849	1,023,294
	(Note - 3A)	9,612,559	12,417,303
Purchase Advances - Local Supplies	15A	497,666	422,598
Purchase Advances - Foreign Supplies	16	16,217,323	1,293,714
Sundry Debtors	17	20,634,884	22,255,351
Receivable from Malabe 2KR PROJECT		-	56,563,158
Receivable from IDRC -FP 101 Project		-	8,410,473
VAT Receivable		2,635,926	-
Welfare Receivable		251,250	-
Trade Debtors	18A	10,506,750	5,781,381
Staff Advances	20	21,847,709	21,821,403
Deposits	21	3,232,546	3,304,471
Funded Projects	23	845,776	227,042
Obsolete Assets for Disposal		-	1,736,820
	(Note - 3B)	76,669,829	121,816,410
Pre-payments	(Note - 3C) 19	9,899,312	3,575,158
Fidelity Bonds (LCs), Gratuity Obligation & Malabe Project Funds		270,226,000	270,226,000
Cash & Bank Balance	22	145,486,537	71,415,762
	(Note - 3D)	415,712,537	341,641,762

INDUSTRIAL TECHNOLOGY INSTITUTE (SUCCESSOR TO CISIR)
NOTES TO STATEMENT OF FINANCIAL POSITION T AS AT 31ST DECEMBER 2013

	NOTE	2013 Rs.	2012 Rs.
<u>Current Liabilities (Note - 4)</u>			
Trade Creditors	18B	1,678,150	1,820,439
Sundry Creditors	15B	226,247	778,298
Tender & Security Deposits	24	446,626	434,126
VAT Payable		2,475,723	2,551,259
Staff Group Medical Insurance Empolyee Control A/C		1,047,084	-
Funded Projects	23	13,821,372	14,645,923
		-	6,734,430
	(Note - 4A)	19,695,200	26,964,475
Accrued Expenses	(Note - 4B) 25	55,515,132	36,133,452
Provision for Gratuity	(Note - 5C) 26	31,243,698	
<u>Non-Current Liabilities (Note - 5)</u>			
Provision for Gratuity	(Note - 5C) 26	48,759,682	65,086,774
Provision for Bad debts		8,904,250	5,467,694
Reserves - Bond Defaulters		7,817,765	7,858,651
Science Award Fund (Originated by Prof. Vijaya Kumar)		307,279	255,936
Staff Activity Fund		1,209,490	1,179,928
Kasper Unit Fund		20,065	20,065
Gratuity Fund		15,000,000	15,000,000
	(Note - 5A)	33,258,849	29,782,274

INDUSTRIAL TECHNOLOGY INSTITUTE (SUCCESSOR TO CISIR)
NOTES TO FINANCIAL POSITION AS AT 31.12.2013

<u>Amortization of Government Capital Grants (5A1)</u>		Rs.	Rs.
<u>(A/C - 604440-70700)</u>			
Depreciation	:- Non-Current Assets Upto 2002	2,995,858 ✓	
	Non-Current Assets 2003 Onwards	39,110,242 ✓	
	Non-Current Assets Donated	16,624,396	58,730,496
R & D Projects & HRD	:- Treasury Granted	2,963,861 ✓	
	Research & Development (Accreditation)	4,861,743 ✓	
	HRD - Training	1,410,489 ✓	
	Library Science Directory- Annual Sub	4,807,181 ✓	14,043,274
Rehabilitation & Improvement	:- Building & Structure	10,457,572	
	Plant Machinery and Equipment	2,640,700	
	Improvement of Vehicles	-	
	Improvement of Other Capital Assets	2,000,933	15,099,205 ✓
			87,872,976
<u>Differed Income (Note - 5B)</u>		Rs.	Rs.
<u>Government Contribution - Capital - 2003 Onwards)</u>			
<u>(A/C - 300102-29755 & A/C - 300104)</u>			
Balance as at 01.01.2013		474,965,837	
Additions during the year		146,700,000	621,665,837
Schedule Adjustment			
Amortization (Depreciation of Non-Current Assets)		(39,110,242) ✓	
Amortization (Research & Development- Accreditation)		(4,861,743) ✓	
Amortization (Treasury Granted Project Expenditure)		(2,963,861) ✓	
Amortization (Rehabilitation Expenditure)		(15,099,205) ✓	
Amortization (HRD)		(1,410,489) ✓	
Amortization Library Science Directory- Annual Sub		(4,807,181) ✓	
			(68,252,722)
Balance as at 31.12.2013			553,413,115
<u>Accumulated Fund (Note - 6A)</u>		Rs.	Rs.
<u>Government Contribution Capital - Upto 2002 and</u>			
<u>Income & Expenditure Account Balance)</u>			
<u>(A/C - 300101-30000 & A/C - 300300-30400)</u>			
Government Contribution Capital Upto 2002 - 01.01.2013		353,268,825	
Income & Expenditure Account - 01.01.2013		(118,766,412)	234,502,413
Schedule Adjustment			
Amortization - Capital		(2,995,858) ✓	
Surplus for the period of 2013		39,177,699	
			36,181,841
Balance as at 31.12.2013			270,684,254

INDUSTRIAL TECHNOLOGY INSTITUTE (SUCCESSOR TO CISIR)
DONATIONS AND GRANTS AS AT 31ST DECEMBER, 2013

NOTE - 6B

Donations	A/C No.	Balance 01.01.2013	Additions during the year	Amortizations during the year	Balance 31.12.2013 Rs.
UNIDO - AID	300202	5,686,441	-	(1,468,770)	4,217,671
Capital Reserves	300205	1,523,209	-	-	1,523,209
ADB Donation	300207	19,938,733	-	(5,984,188)	13,954,545
GMBH	300208	77,625	-	(25,875)	51,750
Donation-Ensilage Tank	300209	1,370,050	-	(456,683)	913,366
Gift from JICA - FP 42	300213	73,736	-	(7,374)	66,363
Gift from MHIM - FP 36	300214	5,917	-	(592)	5,325
Gift from CARP FP 48	300215	4,500	-	(450)	4,050
Gift from CARP FP 49	300216	3,100	-	(3,100)	-
Gift from TVEC	300219	29,142	-	(2,914)	26,228
Japanese 2KR Project	300222	14,828,905	-	(4,681,912)	10,146,993
Gift From NSF & JICA	300223	129,015	-	(129,015)	-
Gift from UNDP	300224	3,191,021	-	(650,222)	2,540,799
Gift from UNDO PROJECT	300225	340,631	-	(68,126)	272,505
Int.Atomic EA Donation	300226	3,972,765	-	(567,538)	3,405,227
NSF Tsunami Project	300227	5,910	-	(985)	4,925
NSF - Accessories to SEM	300228	888,000	-	(111,000)	777,000
ICBR Int.Centre for Bamboo ration	300229	1,899,881	-	(271,412)	1,628,469
Ministry of rural industries & self	300230	35,810	-	(5,116)	30,695
Common Fund commodities	300231	1,784,745	-	(493,188)	1,291,558
Treasury Grant Vehicle Cab	300232	6,803,279	-	(1,500,000)	5,303,279
Donation to BTU	300234	1,959,380	-	(195,938)	1,763,442
TOTAL		64,551,795	-	(16,624,396)	47,927,399

**INDUSTRIAL TECHNOLOGY INSTITUTE (SUCCESSOR TO CISIR)
REVALUATION BALANCE AT AT 31.12.2013**

<u>Note -6C</u>	2013	2012
	Rs. Cts.	Rs. Cts.
2008 Re-Valuation		
Plant Mach. & Lab Equipment	26,950,099	26,950,099
Furni. Fittings & Office Equip.	6,404,627	6,404,627
Computer Equipment	(7,197,654)	(7,197,654)
	26,157,073	26,157,073
2009 Re-Valuation		
Buildings	102,685,357	102,685,357
	128,842,430	128,842,430

INDUSTRIAL TECHNOLOGY INSTITUTE (SUCCESSOR TO CISIR)
NOTES TO STATEMENT OF INCOME
FOR THE REPORTING PERIOD ENDED 31ST, DECEMBER 2013

	2013		
<u>Revenue (Note - 7A)</u>	Rs.	Cts.	Rs. Cts.
Income -Standard Services		139,917,710	
Less: Refund		400,253	139,517,457
Income -Consultancy Service			12,903,090
Income-Technology Transfer			3,000,748
Income-Contract Projects		19,289,010	
Less: Expenditure - Sub Contract Projects		6,842,413	12,446,597
Income-Customised Services			28,575,904
Income-Training			10,056,250
Royalty Received			1,036,822
			207,536,869
<u>Other Income (Note - 7B)</u>			
<u>Other Operating Income</u>			
Income-Library		378,004	
Income - Other / General		6,650,218	7,028,222
<u>Other Non Operating Revenue</u>			
Interest on Staff Loan		801,765	
Interest on Investments (Projects Funds, Gratuity, LC Dposit)		30,701,649	
Contribution from Projects		702,358	
Income - % of Consultancy Fee		81,458	
Exchange Gain & losses		727,427	33,014,657
Less: Assets Disposal			(747,293)
			39,295,586

INDUSTRIAL TECHNOLOGY INSTITUTE (SUCCESSOR TO CISIR)
NOTES TO STATEMENT OF INCOME
FOR THE REPORTING PERIOD ENDED 31ST, DECEMBER 2013

<u>Personnel Emoluments (Note - 8A)</u>	2013 Rs.
Salaries & Wages	159,780,432
Casual Wages	2,424,908
Other Allowances	776,790
R & D Allowances	1,566,750
Employee Provident Fund	21,916,371
* Employee Trust Fund	4,382,682
Gratuity	19,300,277 /
Overtime	2,702,475
Honorarium - G.B. Members	413,446
Medical Reimbursement	1,938,539
Incentive	9,354,897
Payment of Incentive on Circular No 380	31,998,330
Staff Group Medical Insurance	264,036
	256,819,933

Travelling (Note - 8B)

Travelling - Local	1,433,875
Travelling - Foreign	2,068,220
Travelling - Pool Transport	679,570
	4,181,665

INDUSTRIAL TECHNOLOGY INSTITUTE (SUCCESSOR TO CISIR)
NOTES TO STATEMENT INCOME
FOR THE REPORTING PERIOD ENDED 31ST, DECEMBER 2013

	2013
<u>Supplies and Consumable used (Note - 8C)</u>	Rs.
Supplies - Chemicals	6,731,762
Supplies - Labware	3,453,940
Supplies -Electronic Components	48,965
Supplies - Stationery	2,362,751
supplies - Other	3,170,279
Supplies - Other / CRR	199,996
Safety Measures	249,835
Uniforms - Watchers, Drivers, Etc.	982,609
Welfare Including Sports	313,800
Gas	33,361
Vehicles / Fuel	5,545,029
	23,092,327
	23,092,327
<u>Maintenance (Note - 8D)</u>	
Maintenance - Buildings & Premises	5,575,932
Maintenance - Plant &Machinery	5,282,240
Maintenance - Furniture & Equipments	1,898,869
Maintenance - Library Books	89,316
Maintenance - Laboratory ware	346,263
Maintenance - Computer	2,684,187
Maintenance - Canteen	20,955
Maintenance - Generator	169,954
Vehicles / General - Maintenance	4,299,080
Maintenance - Mobile Lab	2,000
	20,368,798
	20,368,798
<u>Contractual Services (Note - 8E)</u>	
Electricity	29,395,039
Telephone & Internet	4,283,647
Postage	470,456
Rate & Taxes	1,682,604
Security Services	4,105,352
Water rates	1,340,320
	41,277,417
	41,277,417

INDUSTRIAL TECHNOLOGY INSTITUTE (SUCCESSOR TO CISIR)
NOTES TO STATEMENT INCOME
FOR THE REPORTING PERIOD ENDED 31ST, DECEMBER 2013

	2013
<u>Projects & HRD (Note - 8F)</u>	Rs.
TG Expenditure	2,963,861
Research & Development (Accreditation)	4,861,743
HRD - Training	1,410,489
Library Science Directory Annual Sub	4,807,181
	14,043,274
	14,043,274
<u>Depreciation & Amortisation Expenses (Note - 8G)</u>	
Depreciation - Buildings	10,825,911
Depreciation - Plant & Machinery	33,502,835
Depreciation - Furniture & Equipments	2,158,114
Depreciation - Computers	3,446,501
Depreciation - Vehicles	5,524,992
Depreciation - Software	771,826
Depreciation - Library Books	2,500,317
	58,730,496
	58,730,496
<u>Rehabilitation Expenditure (Note - 8I)</u>	
Rehabilitation of Building and Structures	10,457,572
Rehabilitation of Plant Machinery and Equipments	2,640,700
Rehabilitation of Improvement of Other Capital Assets	2,000,933
	15,099,205
	15,099,205

INDUSTRIAL TECHNOLOGY INSTITUTE (SUCCESSOR TO CISIR)
NOTES TO STATEMENT INCOME
FOR THE REPORTING PERIOD ENDED 31ST, DECEMBER 2013

	2013
<u>Other Operating Expenses (Note - 8H)</u>	Rs.
Staff Training	921,878
Sampling Charges	2,025,261
Payment of Subs. - Local / Foreign/Other	265,160
Laboratory Membership Fee (Local)	1,723,371
Honorarium	224,187
New Recruitments - Medical Examination Fee	72,050
Entertainment	251,402
Insurance	659,495
Printing	276,644
News Papers & Subs.	59,336
Audit Fees	720,000
Bank Charges	111,540
Credit Card Commission	27,331
Advertising	1,286,865
Publication - Annual Reports	471,182
Promotional & Publicity	785,750
National Building Tax	4,330,024
Survey Fee - Board of Survey	147,450
Incidental Expenses	120,870
Patency & Consultancy Fee	162,484
Expenditure for Costing Assignment	184,391
Expenditure- Standard Services	5,059,404
Expenditure -Consultancy Services	1,103,077
Expenditure -Technology Transfer	79,615
Expenditure -Contract Project	3,068,836
Expenditure -Customised Services	1,184,425
Expenditure -Training	1,549,290
Clearing Charges	86,049
ITI Annual Research Symposium R & D	196,245
Exhibition	293,943
Technology Market Place - BMICH	318,698
Disallowed VAT	6,765,411
Stamp Duty	60,850
Provident Fund Stationeries	41,872
Donations	23,000
Miscellaneous Expenditure	28,257
CENTEC Expenditure -% Contribution	365,084
	35,050,729



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கணக்காய்வாளர் தலைமை அறிப்பி திணைக்களம்
AUDITOR GENERAL'S DEPARTMENT



මගේ අංකය
எனது இல.
My No.

LS/02/E/ITI/1/13/26

ඔබේ අංකය
உமது இல.
Your No.

දිනය
திகதி
Date

05 December 2014

Chairman,
Industrial Technology Institute

Report of the Auditor General on the Financial Statements of the Industrial Technology Institute for the year ended 31 December 2013 in terms of Section 14(2)(c) of the Finance Act, No. 38 of 1971

The audit of financial statements of the Industrial Technology Institute for the year ended 31 December 2013 comprising the statement of financial position as at 31 December 2013 and the income statement, statement of changes in equity and cash flow statement for the year then ended and a summary of significant accounting policies and other explanatory notes 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 Part VII of the Science and Technology Development Act, No. 11 of 1994. My comments and observations which I consider should be published with the Annual Report of the Institute 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 Chairman of the Institute on 12 September 2014.

1.2 Management's Responsibility for Financial Statements

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

1.3 Auditor's Responsibility

My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with Sri Lanka Auditing Standards, consistent with International Standards of Supreme Audit Institutions (ISSAI 1000-1810). Those Standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements.



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

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

1.4 Basis for Qualified Opinion

My opinion is qualified based on the matters described in paragraph 2:2 of this report.

2. Financial statements

2.1 Qualified Opinion

In my opinion, except for the effects of the matters described in paragraph 2:2 of this report, the financial statements give a true and fair view of the financial position of the Industrial Technology Institute as at 31 December 2013 and its financial performance and cash flows for the year then ended in accordance with Sri Lanka Public Sector Accounting Standards.



2.2.3 Accounts Receivable and Payable

The following observations are made.

- (a) Action had not been taken even during the year under review for the settlement of the dishonoured cheques and other debtors balances totalling Rs.617,796 included in the accounts over a number of years.
- (b) Action had not been taken even during the year under review for the settlement of tender deposits totalling Rs.83,339 and refundable deposits totalling Rs.160,746 brought forward in the financial statements over a number of years.
- (c) The sum of Rs.7,810,032 recoverable from 18 officers who had breached the conditions of the foreign scholarship agreements had not been recovered in accordance with the directive No. 16 of the Committee on Public Enterprises made at the meeting held on 30 May 2011 even by 25 June 2014, the date of audit.
- (d) Even though a provision of Rs.7,030,873 had been made from the year 2009 as the salaries payable to the officers who had left the service and the officers remaining in service in terms of the Management Services Circular No. 30 of 22 September 2006, a sum of Rs.6,980,352 out of that had not been paid even by 31 December 2013.

2.2.4 Non-compliance with Laws, Rules, Regulations and Management Decisions

The following instances of non-compliances were observed during the course of audit.

Reference to Laws, Rules, Regulations, etc.

Non-compliance

- (a) Section 14(1) of the Finance Act, No. 38 of 1971 and Section 6.5.3

The draft Annual Report for the year under review had not been presented to the Auditor General within 60 days after the close of the year of accounts.

- (b) Financial Regulation 371(2)(c) of the Democratic Socialist Republic of Sri Lanka.

Even though sub-impressts granted should be settled immediately after the completion of the purpose, the Institute had settled sub-impressts after delays ranging from 01 month to 07 months.

- (c) Section 7.4.5 of the Public Enterprises Circular No. PED/12 of 02 June 2003. Even though a Board of Survey of 04 officers had been appointed for the survey consisting of fixed assets in the year under review, computer accessories and software valued at Rs.13,581,898 and other assets valued at Rs.4,512,594 had not been verified.
- (d) Ministry of Finance and Planning Circular No. MOFP/ERD/2011/1 of 21 April 2011. A Canadian Project valued at Rs.38,469,075 and an Indo-Sri Lanka Project valued at Rs.9,471,996 had been commenced in April 2012 and September 2013 respectively without informing the Department of External Resources.
- (e) Public Finance Circular No. 380 of 19 January 2000

(i) Section 01 Prior approval had not been obtained for consultancy services.
(ii) Section 7.1 Even though 10 per cent to 25 per cent of the consultancy services income net of direct costs should be retained by the Institute and remitted once in 03 months to a Special Fund of the Treasury, it had not been so done.
- (f) Letter No. DMS/ERST/21-4 Vol II dated 11 February 2004 of the Director General of Management Services Approval had been granted for the payment of salary of 02 months or Rs.20,000 per officer whichever is less as the incentive allowance. Accordingly, the maximum incentive allowance that can be paid to 307 officers for the year 2012 amounted only to Rs.6,140,000 but a sum of Rs.1,802,397 had been overpaid in the year under review. In addition, provision for incentive allowance at the rate of Rs.27,500 per officer for 395 officers had been made for the year 2013. Provision amounting to Rs.2,962,500 exceeding the approved amount had been made.

03 years. The Institute had not taken action to deploy another officer in place of the officer who obtained academic leave and complete the project successfully without delay. As such the project had been delayed for 03 years including the 02 years of academic leave.

(b) Abandoned Projects

The following observations are made.

- (i) The Project No. TG/08/24 on “Replacement of Sulphar Promoting Sqmgat” commenced in May 2011 with the participation of three officers on a Treasury Grant of Rs.2,000,000 was expected to be completed in May 2014, and a cost of Rs.93,482 had been incurred on the project by 31 December 2013. This project had been planned without taking into consideration that one of the officers was due for retirement on 09 December 2011. In view of that, reason the project had been abandoned without taking action to complete the project successfully even by deploying another Research Officer.
- (ii) The Project No. FP83 on “Enhancing Environmental Performance in Key Sri Lankan Export Section – EEPEX” had been commenced in March 2009 under the European Union financial aid amounting to EURO 683,528 and was expected for completion in August 2012. Nevertheless, due to the weaknesses in the higher management of the Institute that Union had stopped the grant of financial aid and a debit note of EURO 81,097.48 maturing on 25 August 2014 had been issued to the Institute to settle the loss.

4.2 Management Inefficiencies

The following observations are made.

- (a) A sum of Rs.581,608 had been paid to a private institution for 05 months in the year under review without extending the contract agreement and the Performance Bond valued at Rs.36,644 relating to the supply of sanitation services to the Institute.
- (b) Instead of the institution selected under the specified Procurement Procedure for the supply of sanitation services to the Institute, another institution whose quotation was more by a sum of Rs.32,352 per month had been appointed on 11 November 2013.

4.3 Idle and Underutilized Assets

The following observations are made.

- (a) Three Bank Account balances totalling Rs.1,815,377 had not been in operation over periods exceeding 05 years and action had not been taken even during the year under review for utilizing the money in the accounts for the relevant activities or on any other beneficial activity.
- (b) The Project No. FP96 on Value Addition to Fruits and Vegetables by Clarifying, Concentrating commenced in September 2011 with the financial aid of Rs.1,920,000 from the National Science Foundation was scheduled for completion in September 2013. A machine valued at Rs.654,886 which exceeded the total estimated cost by a sum of Rs.126,910 had been purchased under the project in the year under review. The machine remained idle even by 25 June 2014, the date of audit as it did not conform to the requirements.

4.4 Deficiencies in Contract Administration

A sub-contract amounting to Rs.10,752,000 had been awarded to a private institution for the construction of a Waste Water Treatment Plant. The following observations are made in that connection.

- (a) A service agreement for the award of the sub-contract had not been entered into while Performance Bond had also not been obtained.
- (b) The Advance Bond for Rs.3,648,000 produced by the institution which had been awarded the sub-contract had expired on 20 September 2012 and action had not been taken to extent the Bond.
- (c) Even though the work should have been completed within 04 months from 23 April 2012 as requested by the client, the work had been completed and handed over in March 2013. But the handbook on the operation of the plant and the other reports had not been made available even by 17 March 2014, the date of audit.

4.5 Personnel Administration

Information on the personnel as at 31 December 2013 is given below.

Grade	Approved	Actual	Contract	Excess	Vacancies
Senior	52	34	--	--	18
Tertiary	148	140	12	4	--
Secondary	106	101	20	15	--
Primary	86	60	13	--	13
	392	335	45	19	31

The following observations are made.

- Nine officers exceeding the approved number of Research Scientists in the Tertiary level had been given permanent appointments without taking action for increasing the approved cadre ; while 11 officers had been appointed to the same post on contract basis.
- Action had not been taken even during the year under review for filling 05 vacancies in the Senior Level essential to the Institute comprising the Chief Accountant, the Chief Marketing Manager and Research Assistants.
- Even though vacancies existed in the approved cadre for the recruitment of permanent officers, officers had been recruited on contract basis without making permanent appointments. Details appear below.

Status	Number of Vacancies	Number recruited on Contract Basis
Driver	04	03
Skilled	07	02
Semi-skilled	14	05

- The Board of Management of the Institute had altered the designations of 06 officers with effect from 01 July 2012 and approved 50 per cent telephone allowance and transport allowance without the prior approval of the Secretary to the Treasury violating the provisions in Sections 9.7 of the Public Enterprises Circular No. PED/12 of 02 June 2003. Based on that, the Institute had paid Rs.200,500 as telephone allowance and Rs.548,510 as transport allowances from 01 July 2012 to 30 November 2013, the date of audit.

5. Accountability and Good Governance

5.1 Budgetary Control

Reconciliation of the budgeted and the actual income and expenditure for the year under review revealed variances ranging from 16 per cent to 349 per cent in respect of 07 items, thus indicating that the budget had not been made use of as an effective instrument of control.

5.2 Tabling of Annual Reports

Even though the Annual Report should be tabled the Parliament within 150 days after the close of the year of accounts in terms of Section 6.5.3 of the Public Enterprises Circular No. PED/12 of 02 June 2003, the Annual Reports for the years 2011 and 2012 had been tabled in Parliament only on 23 July 2013 and 09 July 2014 respectively.

6. Systems and Controls

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

- (a) Budgetary Control
- (b) Fixed Assets Control
- (c) Accounting
- (d) Procurement Process
- (e) Personnel Administration
- (f) Contract Administration
- (g) Project Administration

W.P.C. Wickramaratne
Acting Auditor General



Comments on Auditor General's Report on the Financial Statements of Industrial Technology Institute
for the year ended 31, December 2013 as per Section 14.2 (c) of the Finance Act No. 38 of 1971

Item Ref. of A.G's Report	Description/Comments of the Auditor General's Report	Comments of Industrial Technology Institute
2.2.1.	<p>Accounting Deficiencies</p> <p>The following observations are made.</p> <p>(a) .Although gratuity should be computed and provided for every completed year of service as per Gratuity Act No. 12 of 1983, provision for gratuity had been under stated by Rs. 274,025 due to ignoring the year of recruitment of 15 employees joined on 01, January. Due to the reason, surplus for the year under review had been over stated by that amount.</p> <p>(b) Although the consumable Stocks shown under current assets in the Statement of Financial position in year under review was Rs. 9,612,559, as per the Physical Verification Report the stock was Rs. 9,340,426. As the write-off of stocks to the value of Rs. 272,133 had not been revealed in financial statements, a surplus and an over statement of stock has taken place by that amount.</p>	<p>Number of employees recruited on 01.01.2013 are only 02. However Gratuity has not been provided for these two employees. Relevant adjustment has been made in the Financial Statements submitted along with this. Action will be taken to do the adjustments for the rest in the current year.</p> <p>While Consumable stocks stated under Current Assets in the Statement of Financial Position was Rs. 9,612,559, the stock as per Physical Verification report was Rs. 9,340,426. Accordingly the approval of the Board of Management has been obtained to write-off the value of stock of Rs. 272,133 from the books and action will be taken to write-off the same on receiving the approval of the Ministry of Finance.</p>

Comments on Auditor General's Report on the Financial Statements of Industrial Technology Institute
for the year ended 31, December 2013 as per Section 14.2 (c) of the Finance Act No. 38 of 1971

Item Ref. of A.G's Report	Description/Comments of the Auditor General's Report	Comments of Industrial Technology Institute																								
2.2.2.	<p>Costs stated in Buildings, Plant Machinery & Lab Equipment account and Physical Verification Reports varied as follows.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr> <th style="width: 30%;">Item</th> <th style="width: 20%;">Cost as per Financial Statement (Rs)</th> <th style="width: 20%;">Cost as per Physical Verification Report (Rs)</th> <th style="width: 30%;">Variance (Rs)</th> </tr> </thead> <tbody> <tr> <td>Plant, Machinery & Lab Equipment</td> <td style="text-align: right;">668,100,727</td> <td style="text-align: right;">694,658,745</td> <td style="text-align: right;">26,558,018</td> </tr> <tr> <td>Furniture & Office Equipment</td> <td style="text-align: right;">44,733,359</td> <td style="text-align: right;">39,103,373</td> <td style="text-align: right;">(5,629,986)</td> </tr> <tr> <td>Computers Equipment</td> <td style="text-align: right;">45,913,890</td> <td style="text-align: right;">42,617,309</td> <td style="text-align: right;">(3,296,581)</td> </tr> <tr> <td>Library Books and Journals</td> <td style="text-align: right;">13,038,343</td> <td style="text-align: right;">13,893,059</td> <td style="text-align: right;">854,716</td> </tr> <tr> <td>Total</td> <td style="text-align: right;">771,786,319 =====</td> <td style="text-align: right;">790,272,486 =====</td> <td style="text-align: right;">18,486,167 =====</td> </tr> </tbody> </table> <p>By stating the cost shown in the physical verification reports as above in excess or less than what is shown in the financial statements, it is revealed that there had been errors in accounting and a poor control in acquisition and disposal of property, plant and equipment.</p>	Item	Cost as per Financial Statement (Rs)	Cost as per Physical Verification Report (Rs)	Variance (Rs)	Plant, Machinery & Lab Equipment	668,100,727	694,658,745	26,558,018	Furniture & Office Equipment	44,733,359	39,103,373	(5,629,986)	Computers Equipment	45,913,890	42,617,309	(3,296,581)	Library Books and Journals	13,038,343	13,893,059	854,716	Total	771,786,319 =====	790,272,486 =====	18,486,167 =====	<p>The variances had occurred as there is a difficulty in entering the values of revalued assets to the fixed assets module of the financial computer system of the Industrial Technology Institute. According to the discussions had with the service provider, as it was confirmed that there is a possibility to introduce a method to enter the re-valuation, it is expected that the variances would be rectified.</p>
Item	Cost as per Financial Statement (Rs)	Cost as per Physical Verification Report (Rs)	Variance (Rs)																							
Plant, Machinery & Lab Equipment	668,100,727	694,658,745	26,558,018																							
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Comments on Auditor General's Report on the Financial Statements of Industrial Technology Institute
for the year ended 31, December 2013 as per Section 14.2 (c) of the Finance Act No. 38 of 1971

Item Ref. of A.G's Report	Description/Comments of the Auditor General's Report	Comments of Industrial Technology Institute
2.2.3.	<p>Accounts Receivable and Payable</p> <p>The following observations are being made.</p>	<p>Although letters of confirmation were sent to confirm the balances of dishonoured cheques and other debtors included in accounts from many years, no response have been received from relevant parties. Therefore the approval of the Board of Management had been received to write-off the balances from the books of accounts and action will be taken to write-off after receiving the approval of the Ministry of Finance.</p>
(a)	<p>Action has not been taken to sort out the total balances of Rs. 617,796 of dishonoured cheques and other debtors during the year under review which had been shown in accounts for several years</p>	<p>Accepted. Action will be taken to obtain confirmation of balances from relevant depositors and to pay back or to make adjustments to income accordingly with the approval of the Board of Managements</p>
(b)	<p>Action has not been taken to clear the balances of Tender Deposits of Rs. 83,339 and Refundable Deposits of Rs. 160,746 aggregating to Rs. 244,085 during the year under review which had been shown in accounts from many years.</p>	<p>Accepted. Action will be taken to obtain confirmation of balances from relevant depositors and to pay back or to make adjustments to income accordingly with the approval of the Board of Managements</p>
(c)	<p>Recovery of Rs. 7,810,032 receivable from 18 employees who had breached the conditions of the bonds on foreign scholarships had not been recovered as at the date of audit 25, June 2014 as per order No. 16 of the Executive Committee of the COPE meeting held on 30, May 2011.</p>	<p>Although every effort had been taken to recover the sum of Rs. 4,069,011 from the officers related to breach of bonds, action taken were failed as they have left the island. Further most of the Sureties too have left the island and some are not alive. This matter was discussed at the COPE</p>

Comments on Auditor General's Report on the Financial Statements of Industrial Technology Institute
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Item Ref. of A.G's Report	Description/Comments of the Auditor General's Report	Comments of Industrial Technology Institute
2.2.3 (c) Contd..		<p>Executive Committee held on 30, June 2011 and action has been taken to fill common format No. 286 related to the write-off of the balances.</p> <p>With regard to the officer who had breached the bond to the value of Rs. 3,789,640 has been referred to the Attorney General to obtain legal advice.</p>
(d)	<p>Although there had been a provision of Rs. 7,030,873 from year 2009 to pay salaries for ex-employees and who are in service as per Management Service Circular No. 30 of 22, September 2006, only a payment of Rs. 50,522 had been made to 06 officers in year 2013.</p>	<p>There had been a provision of Rs. 7,030,873 from year 2009 to effect salaries payable for ex-employees and for employees in service. Payments have been made in years 2010, 2011 and 2012. Action will be taken to make adjustments to existing balance in Financial Statements of the current year.</p>
2.2.4	<p>Non-compliance to Laws, Rules, Regulations and Management Decisions</p> <p>Following instances of non-compliance were observed in audit. Reference to Laws, Rules, Regulations etc.,</p>	
(a)	<p>Para 6.5.3 of Section 14(I) of Finance Act No. 38 of 1971</p> <p>Draft Annual Report for year 2013 had not been presented to the Auditor-General within 60 days after the financial year.</p>	<p>Agreed. Arrangements will be made to submit the Annual Report for 2014 at the due date.</p>

Comments on Auditor General's Report on the Financial Statements of Industrial Technology Institute
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Item Ref. of A.G's Report	Description/Comments of the Auditor General's Report	Comments of Industrial Technology Institute
2.2.4. (b) Contd....	<p>FR 371 (2) (c)</p> <p>Although the interim imprests had to be settled soon after completing the purpose of the imprests received, there had been delays in settlement of imprests by the Institute ranging from 01 to 07 months.</p>	<p>Necessary action will be implemented to settle the interim imprests within 14 days or immediately in completion of the purpose of obtaining the imprest which ever is the earliest.</p>
(c)	<p>Clause 7.4.5 of Public Enterprises Circular No. PED 12 of 02, June 2003</p> <p>Although a Board of Survey comprising of 04 officers had been appointed for verification of Fixed Assets in the year under review, Computer Software and accessories to the value of Rs. 13,581,898 and other assets worth of Rs. 4,512,594 were not been verified.</p>	<p>Agreed. Total value of Fixed Assets of the Industrial Technology Institute is Rs. 447.4 million. Computer Software were not physically verified as it was not possible to find an Expert to the verification.</p> <p>Further, as the unit cost of items included in total other assets of Rs. 4.5 M are of small items worth Rs. 500, Rs.1,000 they were not been verified.</p>
(d)	<p>Finance & Plan Implementation Circular No. MOFP/ERD/2011/1 of 21, April 2011</p> <p>Although a Canadian Project worth of Rs. 38,469,075 and an Indo Sri Lanka Project worth of Rs. 9,471,996 have been commenced in April 2012 and September 2013 respectively, the External Resource Department had not been informed in this regard.</p>	<p>Agreed. Action will be taken to keep the External Resource Department informed on all Foreign Projects received in future.</p>

Comments on Auditor General's Report on the Financial Statements of Industrial Technology Institute
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Item Ref. of A.G's Report	Description/Comments of the Auditor General's Report	Comments of Industrial Technology Institute
<p>2.2.4. (e) Contd....</p> <p>(f)</p>	<p>Public Finance Circular No. 380 of 19, January 2000</p> <p>i. Clause 01</p> <p>Prior approval has not been obtained for Consultancy Services</p> <p>ii. Clause 7.1</p> <p>Although a percentage of 10 to 25 of the Consultancy Service Income after deducting direct cost had to be retained by the Institute to be sent to the special fund of the Treasury once in 03 months, action has not been taken to do accordingly.</p> <p>Letter of Director - Management Services dated 11, February 2004 under reference DMS/ERST/21-4/Volume ii</p> <p>Approval had been granted to pay two months salary or Rs. 20,000 whichever is less for an employee as an incentive. Accordingly, although the incentive payable for 307 employees for the year 2012 should have been Rs. 6,140,000, a payment of Rs. 1,802,397 in excess had been made in year 2013. Further, a provision had been made for 395 employees at the rate of Rs. 27,500 for the year 2013 of which Rs. 2,962,500 in excess of the approved amount.</p>	<p>Agreed. Action will be taken to obtain prior approval for consultancy services from year 2014.</p> <p>Discussions have been made with the General Treasury in this regard and action will be taken to act according to advice of the Treasury in future.</p> <p>When this decision was made in year 2004, the monthly salary of a middle level employee was Rs. 10,000. The payment was made accordingly and the present salary of a middle level employee is about Rs. 25,000. Further, the salaries of employees were highly increased as per DMS Circular No. 30 of 2006 and incentive payment was increased by Rs. 7,500 with the approval of the Board of Management. Provision for 2013 was made considering the same basis.</p>

Comments on Auditor General's Report on the Financial Statements of Industrial Technology Institute
for the year ended 31, December 2013 as per Section 14.2 (c) of the Finance Act No. 38 of 1971

Item Ref. of A.G's Report	Description/Comments of the Auditor General's Report	Comments of Industrial Technology Institute									
3. 3.1.	<p>Financial Review</p> <p>Financial Result</p> <p>According to the financial statements presented, the operational activities of the Institute for the year ended 31, December 2013 had resulted a surplus of Rs. 69,829,343. Corresponding to it, a surplus of Rs. 22,628,443 was shown in the preceding year. Accordingly the financial results of the year under review indicated an increase of Rs. 47,200,900.</p> <p>Compared to year 2012, it was revealed that amortizing the Treasury Grant by 127%, Treasury Grant for Rehabilitation and Improvements by 46% and increase of Income by 30%, other income by 35% have been the reason for it.</p>	<p>By adjusting the amortization on Treasury Grant as stated in 2.2.3 (b), the operating results reduced upto Rs. 39,200,516 in the year under review. Accordingly the difference of the increase of the financial results was Rs. 16,572,073.</p>									
3.2.	<p>Analytical Financial Review</p> <p>According to the Statement of Financial Position, the analysis of capital ratio of the Institute can be stated as follows.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">Ratio</th> <th style="text-align: center;">Year 2013</th> <th style="text-align: center;">Year 2012</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Current</td> <td style="text-align: center;">1.5</td> <td style="text-align: center;">1.8</td> </tr> <tr> <td style="text-align: center;">Instant</td> <td style="text-align: center;">1.5</td> <td style="text-align: center;">1.7</td> </tr> </tbody> </table>	Ratio	Year 2013	Year 2012	Current	1.5	1.8	Instant	1.5	1.7	<p>Agreed.</p>
Ratio	Year 2013	Year 2012									
Current	1.5	1.8									
Instant	1.5	1.7									

Comments on Auditor General's Report on the Financial Statements of Industrial Technology Institute
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Item Ref. of A.G's Report	Description/Comments of the Auditor General's Report	Comments of Industrial Technology Institute
4. 4.1.	<p>Operating Review Performance</p> <p>The following observations were made on the progress of the Research Projects conducted by the Institute.</p>	
(a)	<p>Delayed Projects</p> <p>(i) 07 projects had been completed after a delay of 03 to 23 months during the year under review.</p> <p>(ii) It had been expected to commence TG 12/00/04 Project on a Treasury Grant of Rs. 100,000 in year 2006 and to complete in year 2010. However, as the officer conducted the project had been on study leave for a period of 02 years from 17, January 2010 to 16, January 2012, the project had been completed in December 2013 with a delay of 3 years. As action has not been taken by the Institute to complete the project successfully without a delay by deploying another officer in place of the officer on study leave, the project had been completed with a delay of 3 years although the study leave period was 02 year.</p>	<p>Agreed.</p> <p>Agreed.</p>
(b)	<p>Abandoned Projects</p> <p>(i) It had been expected to commence TG/08/24 project with a Treasury Grant of Rs. 2,000,000 in May 2011 and to complete by May 2014. As this project has been planned irrespective of the fact that one Research Officer is due to be retired on 09, December 2011, the project had to be abandoned as action has not been taken to deploy another Research Officer to complete the project successfully.</p>	<p>Agreed.</p>

Comments on Auditor General's Report on the Financial Statements of Industrial Technology Institute
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Item Ref. of A.G's Report	Description/Comments of the Auditor General's Report	Comments of Industrial Technology Institute
4.1 Contd...	<p>(ii) It had been expected to commence project FP 83 with the financial assistance of Euro 683,528 of the European Union in March 2009 and to complete by August 2012. Due to weaknesses of the higher Management, the funding Agency had ceased funding and a debit note to the value of Euro 81,097.48 which was due on 25, August 2014 has been issued to the Institute to cover up the loss.</p>	<p>Agreed. This situation has not occurred due to a drawback of the Institute but due to a shortcoming of shareholding Company. Institute had to involve in this matter as the premier Partner of the project. However, action is being taken to discuss with the European Union and sort to out this matter.</p>
4.2.	<p>Management inefficiencies</p> <p>Following were observed.</p> <p>(a) A sum of Rs. 581,608 for a period of 5 months has been paid to a private Institution during the year under review, without extending the Contract Agreement and the Performance Bond to the value of Rs. 36,644 for providing Janitorial Service to the Institute.</p>	<p>Agreed. A contract has been offered to a Private Institution with a Performance Bond to provide Janitorial Services to the Institute from 01, March 2013 to 31, May 2013.</p> <p>Subsequently the Performance Bond has been extended for a further period of 03 months upto 27, August 2013. However, as the efficiency of this Institute deteriorated day by day, Tenders were called to obtain a Contractor. The new Contract was awarded to another Company on 10.11.2013, and services had been obtained from the above mentioned Company for 73 days from 28.08.2013 to 09.11.2013 without a Performance Bond since there was no other way to get the cleaning services until another Company is being selected.</p>

Comments on Auditor General's Report on the Financial Statements of Industrial Technology Institute
for the year ended 31, December 2013 as per Section 14.2 (c) of the Finance Act No. 38 of 1971

Item Ref. of A.G's Report	Description/Comments of the Auditor General's Report	Comments of Industrial Technology Institute
4.4.	<p>Deficiencies of Contract Management</p> <p>Sub-contract has been awarded to the value of Rs. 10,752,000 to a private Institution to erect the Waste Water Treatment Plant. Observations are as follows.</p> <p>(a) Has not entered into a Service contract for awarding the sub-contract and has not obtained a Performance Bond.</p> <p>(b) Action has not been taken to extend the Advance Bond valued at Rs. 3,648,000 submitted by the sub-contracted Institute which expired on 20, September 2012.</p> <p>(c) Although it was due to complete erecting the Plant within 04 months from 23, April 2013 as per the request of the Client, it has been completed in March 2013. However, submission of the operating manual and other reports related to the Plant was outstanding upto the date of audit 7, March 2014.</p>	<p>Agreed. Awarding sub-contracts without entering into a Contract would be fully restricted in future..</p> <p>Agreed. It has been advised to award sub-contracts only with the knowledge of the Finance Division. Action could be taken to avoid such situations.</p> <p>Agreed. Operating Manual and other related reports of the Plant are already been submitted by now.</p>

Comments on Auditor General's Report on the Financial Statements of Industrial Technology Institute
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Item Ref. of A.G's Report	Description/Comments of the Auditor General's Report	Comments of Industrial Technology Institute																																				
4.5.	<p>Cadre Management</p> <p>Details of the Cadre as at 31, December 2013 are as follows.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Grade</th> <th style="text-align: center;">Approved</th> <th style="text-align: center;">Actual</th> <th style="text-align: center;">Contract</th> <th style="text-align: center;">Excess</th> <th style="text-align: center;">Vacant</th> </tr> </thead> <tbody> <tr> <td>Senior</td> <td style="text-align: center;">52</td> <td style="text-align: center;">34</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> <td style="text-align: center;">18</td> </tr> <tr> <td>Tertiary</td> <td style="text-align: center;">148</td> <td style="text-align: center;">140</td> <td style="text-align: center;">12</td> <td style="text-align: center;">4</td> <td style="text-align: center;">-</td> </tr> <tr> <td>Secondary</td> <td style="text-align: center;">106</td> <td style="text-align: center;">101</td> <td style="text-align: center;">20</td> <td style="text-align: center;">15</td> <td style="text-align: center;">-</td> </tr> <tr> <td>Primary</td> <td style="text-align: center;">86</td> <td style="text-align: center;">60</td> <td style="text-align: center;">13</td> <td style="text-align: center;">-</td> <td style="text-align: center;">13</td> </tr> <tr> <td>Total</td> <td style="text-align: center;">392</td> <td style="text-align: center;">335</td> <td style="text-align: center;">45</td> <td style="text-align: center;">19</td> <td style="text-align: center;">31</td> </tr> </tbody> </table> <p>Following observations are being made.</p> <p>(a) Permanent appointments have been offered for 09 Research Scientists being tertiary level positions exceeding the approved cadre, without expanding the same. 11 officers had been recruited on Contract basis for the same post.</p> <p>(b) Action has not been taken to fill essential Senior level positions of the Institute such as Senior Deputy Director – Administration and Human Resource, Chief Engineer, Chief Accountant, Chief Marketing Officer and 05 other Research Assistants vacancies during the year under review.</p>	Grade	Approved	Actual	Contract	Excess	Vacant	Senior	52	34	-	-	18	Tertiary	148	140	12	4	-	Secondary	106	101	20	15	-	Primary	86	60	13	-	13	Total	392	335	45	19	31	<p>Action has been taken to recruit Research Scientists in keeping with the total approved cadre of the Institute as per the service requirement.</p> <p>Recruitment of Senior Deputy Directors have been completed. Applications have been called for the post of Chief Engineer. Action is now being taken to amend the Scheme of Recruitment as per instructions of the Department of Management Services. Rest of the Officers will be recruited on obtaining the amendment to the Scheme of Recruitment.</p>
Grade	Approved	Actual	Contract	Excess	Vacant																																	
Senior	52	34	-	-	18																																	
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for the year ended 31, December 2013 as per Section 14.2 (c) of the Finance Act No. 38 of 1971

Item Ref. of A.G's Report	Description/Comments of the Auditor General's Report	Comments of Industrial Technology Institute												
4.5. Contd... (c)	<p>Recruitments have been done on Contract basis instead of on permanent basis although there are vacancies within the approved cadre for recruiting permanent staff.</p> <p>Details are as follows.</p> <table border="1"> <thead> <tr> <th>Position</th> <th>No. of Vacancies</th> <th>No. of Recruitments on Contract basis</th> </tr> </thead> <tbody> <tr> <td>Drivers</td> <td>04</td> <td>03</td> </tr> <tr> <td>Skilled</td> <td>07</td> <td>02</td> </tr> <tr> <td>Semi Skilled</td> <td>14</td> <td>05</td> </tr> </tbody> </table>	Position	No. of Vacancies	No. of Recruitments on Contract basis	Drivers	04	03	Skilled	07	02	Semi Skilled	14	05	<p>Agreed. Action will be taken to make future recruitments according to the Scheme of Recruitment.</p>
Position	No. of Vacancies	No. of Recruitments on Contract basis												
Drivers	04	03												
Skilled	07	02												
Semi Skilled	14	05												
(d)	<p>Designations of 06 officers have been changed w.e.f. 01, July 2012 by the Board of Management of the Institute with 50% of Telephone Allowance and Transport allowance contrary to Sections 9.7 and 9.10 of Public Enterprises Circular No. PED/12 of 02, June 2003 without obtaining prior approval of the Secretary of the General Treasury. Based on that the Institute had paid Rs. 200,500 as telephone allowance and Rs. 548,510 as transport allowance as at 30, November 2013, the date of audit.</p>	<p>Applications have been called to recruit these posts as Senior Deputy Directors. Further, the 50% allowances were paid with the approval of the Board of Management. These Officers have applied as per the approved Scheme of Recruitment of 22, May 2012 and were qualified as at that date. These payments will be reconciled by back dating the promotions.</p>												

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Item Ref. of A.G's Report	Description/Comments of the Auditor General's Report	Comments of Industrial Technology Institute
5. 5.1. 5.2.	<p>Accountability and Good Governance</p> <p>Budgetary Control</p> <p>The Budget has not been used as a productive tool of control when comparing the Budgeted and Actual Income and Expenditure of the year under review since variances ranging from 1% to 349% on Budget and Actual were shown.</p> <p>Presenting the Annual Report in Parliament</p> <p>Although it is required to present the Annual Report in Parliament within 150 days after the end of the Financial year as per para 6.5.3 of Public Enterprise Circular No. PED-12 of 02, June 2003, Annual Report for the year 2012 has not been presented in Parliament upto now. Annual Report of 2011 too has been presented in Parliament on 23, July 2013.</p>	<p>Action will be taken to use the Budget as a productive tool of Management in future.</p> <p>Annual Report has been presented in Parliament by now.</p>

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Item Ref. of A.G's Report	Description/Comments of the Auditor General's Report	Comments of Industrial Technology Institute
6.	<p>Systems and Controls</p> <p>Deficiencies in systems and controls observed during the course of audit were brought to the notice of the Chairman from time to time. Special attention is needed in respect of the following areas of control.</p> <ul style="list-style-type: none"> (a) Budgetary control (b) Fixed Assets control (c) Accounting (d) Procurement process (e) Cadre Management (f) Control on Contracts (g) Project Management <p>Sgd. W.P.C. Wickramarante Acting Auditor General</p>	<p>It was noted to improve these systems continuously.</p> <p>Sgd. Prof. W. Abeywickrama Chairman – Board of Management</p>