



ACKNOWLEDGEMENT

The Management expresses and places on record its appreciation to the Ministry of Science, Technology & Research, Other Ministries, Foreign Governments and Funding Agencies for providing facilities and financial assistance to the research and Development activities and other functions of the Centre. The Chairman and Board of Directors of the Centre thank all its staff members for the cooperation and assistance extended by them in the activities of the Centre.



Eng. W J L S Fernando
Chairman
NERD CENTRE OF SRI LANKA

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01. Acts, Legislation and Corporate Governance

National Engineering Research and Development Centre of Sri Lanka (NERDC) was established in 1974 in accordance with the provisions of the State Industrial Corporations Act No. 49 of 1957 and now it is functioning under the purview of the Ministry of Science, Technology and Research. NERDC is one of the premier institute established under the aforesaid Act with the primary objective of promoting and facilitating the Development of Domestic Engineering and Technological Research Industry. The Centre is instituted at Industrial Estate, Ekala, Ja-Ela.



The objectives of the Centre as per the Act are as follows;**1**

To provide for the institutional mechanism needed for the progressive development of indigenous technology by encouraging, recognizing and developing innovative and creative talent in Sri Lanka.

2

To provide facilities to co-ordinate the technological, engineering and research capabilities of various public and private sector industries and institutions in a productive manner through co-operative endeavor.

3

To ensure by adoption and adaptation the choice of technologies that would be consistent with the country's resource endowments and national planning objectives.

4

To examine direct and indirect mechanism of technology transfer and offer counsel to appropriate government and private institutions in Sri Lanka, when required to do so.

5

To promote the optimal exploitation of the country's human and material resources, particularly labor and raw material resources by promoting the growth of suitable technology.

6

To design, manufacture, and test prototype machinery, pilot plants as demanded by Industrial, commercial and other end users in an economical manner.

7

To provide for continuous monitoring of technological data and documentation relating to engineering designs and research through the co-operation of international and national agencies.

8

To offer sustained consultancy services to public and private sector enterprise and undertake research and promote training activities to broaden the base of the country's engineering and industrial design and research capabilities.

9

To make provision for purpose connected with engineering, research and development related to matters aforesaid.

02. Board of Directors and Organization Structure

CHAIRMAN

Eng. W J L S Fernando
B Sc(Hon)Eng., M Eng, FIESL, MIET, C Eng.

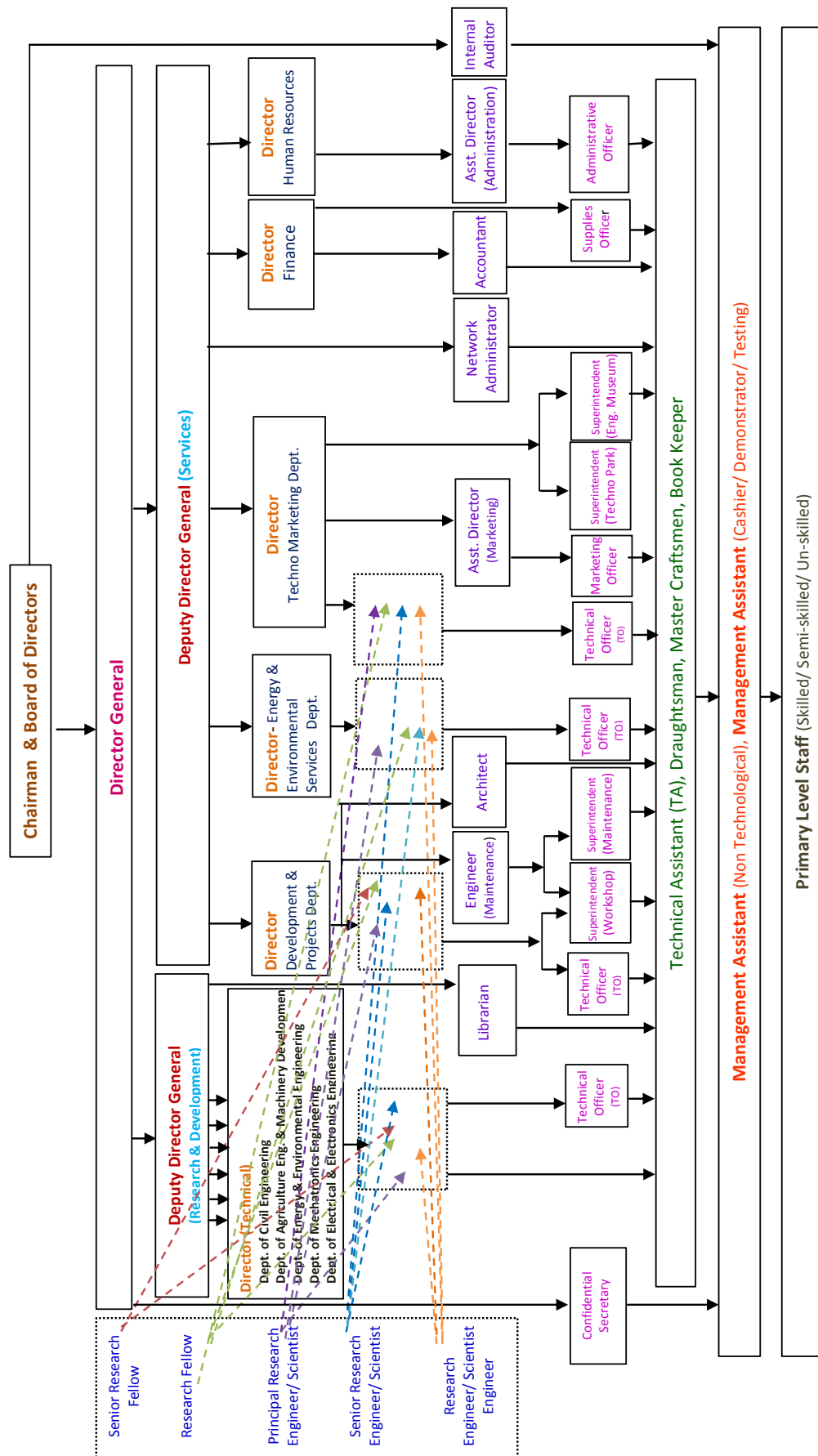
MEMBERS OF THE BOARD

1. Eng. E A S K Edrisinghe
C.Eng., MIET
2. Mr. G Chandrasiri
B Com Degree
3. Mr. A S R Waidyasekera
MBA(PIM-USJ), Chartered Marketer
4. Eng. A S Samarasinghe
C.Eng
5. Mrs. Niluka Kumari
Master of Business Studies, CBA
6. Mr. A H M Anvar

Director General/ Secretary to the Board

Eng. D D Ananda Namal
M Eng.(Energy Technology), Bsc Eng.(Hons), C Eng., MIE(SL)

ORGANIZATION STRUCTURE *(as per the Scheme of Recruitment (SOR) approved)*



OFFICE ADDRESS



2P/17 B, Industrial Estate
Ekala
Ja-Ela

POSTAL CODE

11380

CONTACT INFORMATION



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BANKERS



↗ Bank of Ceylon, Ja-Ela

↗ Bank of Ceylon, Corporate Branch

AUDITOR



Auditor General
Auditor General's Department

03. Chairman's Message

I am pleased to present the 2017 Annual Report of the National Engineering Research and Development Centre of Sri Lanka (NERDC), premier Engineering Research and Development organization in the country.



The NERDC continued to serve the country by involving in research and development projects, pilot projects, providing services to industries, popularization programmes, and promotion of science education during the year 2017. Introducing new technologies, products and processes, creating self-employment opportunities based on new technologies introduced by the Centre, improving productivity and efficiency of industries through industrial and technical services, saving resources, enhancing capacity of inventors are the key outputs and outcomes of the Centre.

With the intention of further enhancing effectiveness and efficiency of research and development, industrial services and other functions of the Centre, several steps were taken in the year 2017. One was revisiting the vision, mission and purpose of the NERDC for making them robust and relevant, introducing a new logo and a theme song which symbolizes the vision, mission, purpose of the Centre and for boosting up the morals of the NERDC team. The structure of the Centre was reorganized where, Development and Project Department was newly established to handle all the commercial projects of the Centre. Further the Technology Incubator was launched to facilitate inventors and industrialists of the country.

The NERDC executed a number of research projects in the field of energy and environment management, housing and construction, agriculture engineering, mechatronics, electrical and electronic engineering in line with the National Research and Development Framework of the country.

The key research and development projects carried out in 2017 were, development of post tensioned retaining wall which requires less time and space using hollow precast blocks which item is less costly. Use of fly ash in precast concrete and other building application, Application of bottom ash for manufacturing of cement sand blocks, Development of roof tile dryer which consists of a movable louver system to change air flow, heating arrangement and a movable trolley system, Development of hyperbaric oxygen chamber for hyperbaric oxygen therapy, these were some research projects done by the Centre. Research on a novel street light control system, performance analysis of existing grid tied solar system in Sri Lankan market and monitoring of remote control of household energy consumption were done in the field of Electrical and Electronic Engineering.

The project on community based solid waste management system at Kothmale Hydro Power Station complex was done to implement an integrated solid waste management project for a small community to develop a showcase project to disseminate similar projects in the country. Development of coir braiding machine, cost effective automatic beverage/yoghurt filling and sealing machine, smoked fish processing unit, small and medium scale machinery for Ayurvedic purposes, and machinery and equipment for coconut industry were carried out in 2017.

Construction of post-tensioned masonry retaining wall, establishing domestic biogas digesters, manufacturing of machinery for Ayurveda medicine and introduction of a hygienic pinnato dryer were conducted as the pilot projects in 2017.

Apart from the research and development projects, NERDC was involved in providing unique and complete professional services to the industries, consultancy services in all aspects of main engineering disciplines, conducting special training programmes for industrialists, professionals, entrepreneurs, and apprentices. Delivering technical services for both large and small scale industries in precision machining, engineering designing and fabrications, industrial process monitoring and finding solutions, laboratory testing, environmental management services, etc. were also carried out. NERDC has continued its technology transfer and popularization programmes, annual NERDC Open Day Engineering and Technology Exhibition and the Research Symposium in October- November 2017.

In the year 2017, two Cabinet approvals were granted to construct 1000 Nos. of footbridges with the NERDC developed technologies within three years at a cost of Rs.900 million and to award contracts, which are less than Rs.50 million for construction of Government Sector buildings with the NERDC technologies. Accordingly several awareness programmes on construction of foot bridges have been conducted. The Expert Report on buildings constructed with the cost effective technologies had been forwarded to the Cabinet as requested with the assistance of Construction Industry Development Authority after visiting buildings completed during the last 20 year period. These are excellent opportunities to popularize the technologies developed by the Centre all over the country.

The NERDC contributes more activities related to corporate social responsibilities regularly and among those giving engineering inputs for the landslide and flood victims in the areas of Kalawana and Ayagama Divisional Secretariats for immediate relief was a significant involvement in the year 2017.

It has been repeatedly noted that the serious issue in recruiting and retaining capable research engineers within the Centre due to low remuneration schemes for engineers in the State R & D institutions badly affect the R & D activities of the Centre. However, the Centre has always attempted to provide more capacity building programmes for its staff both local and overseas as a strategy to motivate and retain them to meet the future challenges of the Centre. Yet it is time that policy makers take a serious note in adopting a policy to reward engineers of government research institutions with an attractive remuneration scheme, so as to upgrade the research and development activities at these institutions which is significant to spur the knowledge economy.

I wish to acknowledge with gratitude the contribution, involvement and commitment of the Director General, Eng. D.D. Ananda Namal for providing leadership in all the above and upgrading the Centre to be a premier engineering research and development organization in the country. I am indeed pleased to acknowledge the dedication and the guidance of the Board of Directors rendered during the year. Further I must thank the Higher Management, the Directors, Heads of the Departments / Divisions, research staff, technical staff and other support staff of the Centre for the services rendered by them to achieve the objectives of the Centre in the year 2017.



Eng. W J L S Fernando
CHAIRMAN

04. Top Management and Executive Staff

CHAIRMAN

Eng. W J L S Fernando
BSc(Hon)Eng., M Eng., FIESL, MIET, C Eng.

DIRECTOR GENERAL

Eng. D D Ananda Namal
M Eng.(Energy Technology), BSc Eng. (Hon), C Eng., MIE(SL)

DEPUTY DIRECTOR GENERAL (RESEARCH & DEVELOPMENT)

Eng. G K K A De Silva
MSc (Building Technology), BSc Eng. (Hon), C Eng., MIE (SL)

DEPUTY DIRECTOR GENERAL (SERVICES)

Mr. A H Piyasiri
MSc (Management of Technology), BSc Eng.(Hons)

EXECUTIVE STAFF IN DEPARTMENT WISE

Agriculture Engineering and Machine Development Department (AE&MD)	Civil Engineering Department (CED)
Director (Technical) Eng. K Y H D Shantha MSc Eng., BSc Eng., AMIE(SL)	Director (Technical) Eng. J A C Chrisanthi BSc Eng., C Eng., MIE(SL)
Principal Research Engineer Mrs. Y M M K Ranathunga NDT Eng. A J G S Dahanayake BSc Eng., C Eng., MIE(SL)	Principal Research Engineer Eng. W W P K Perera MEng, BSc Eng (Hons), C Eng , MIE (SL)
Principal Research Scientist Dr. K M W Rajawatta - up to 01.09.2017 PhD, MSc, BSc.	Senior Research Scientist Dr.(Ms.) S M Young - up to 12.07.2017 PhD, MPhil, MSc, BSc.
Senior Research Engineer Eng. P M Y S Pathiraja BSc Eng., MSc, AMIE (SL)	Research Engineer Eng. I P Batuvita BSc Eng., AMIE(SL)
Research Engineer Eng. S A P Shalinda Silva BSc Eng., MEng., AMIE (SL) Eng. P F S Perera BSc Eng., M Eng., AMIE(SL)	Engineer Ms. K S S Weerasinghe Special Apprentice (Civil Eng.), IESL (Part I)

Energy & Environmental Engineering Department (ENED)	Electrical and Electronics Engineering Department (ELED)
Research Fellow/ Head of Department Eng. J A A D Jayasuriya M Eng., BSc Eng., MIE(SL)	Research Fellow/ Head of Department Eng.(Ms) N G D Wijesiriwardhana M Eng., C Eng., MIE (SL)
Research Fellow Eng. W K R Peiris MA (Buddhist Stud), BSc Eng., C.Eng. MIE(SL) Eng. E A N K Edirisinghe MPhil, BSc Eng., MIE(SL) Principal Research Engineer Eng. H M L U Herath BSc Eng., AMIE(SL) Dr. A S K Warahena – up to 30/09/2017 PhD, M Eng., B Sc Eng. Research Engineer Ms. E B U C Kumara - up to 30/01/2017 BSc Eng. (Hons) Eng. N M J S Nissanka - up to 04/09/2017 BSc Eng., AMIE(SL) Eng.. P K S Lakmali - from 01/03/2017 to 30/11/2017 BSc Eng., AMIE(SL)	Senior Research Engineer Eng. U C Botheju BSc Eng. C Eng., MIE (SL) Research Engineer Eng. (Ms) D R S K Wimalaratne B Tech. (Hon), AMIE(SL) Ms. Y M A G S P K Kularatne - up to 03.02.2017 BSc Eng. Eng. Y S P Weerasinghe BSc Eng., AMIE(SL) Eng. H C Ganegge - up to 03.11.2017 BSc Eng. ,AMIE(SL) Eng. H K I S Lakmal - from 02.01.2017 BSc Eng., AMIE(SL)
Mechatronics Engineering Department (MED)	Energy and Environmental Services Department (E&ESD)
Director (Technical) Eng. D M Punchibanda BSc Eng., AMIE(SL)	Research Fellow/ Head of Department Eng. K T Jayasinghe M Eng., BSc Eng., C Eng., MIE(SL)
Senior Research Engineer Eng. H P H Kumara MSc Eng., EC(UK) PART I & II, AMIE(SL) Research Engineer Eng. S M S S Senaratne B Tech, AMIS(SL) Eng. G M P M Rajakaruna BSc Eng., AMIE(SL) Eng. W M S P K Wanasinghe BSc Eng., AMIE(SL) Eng. M A T M Kumara - from 09.01.2017 BSc Eng., AMIE(SL)	Senior Research Engineer Eng. (Ms.) N P T Perera MSc, BSc Eng.(Hons.), AMIE(SL) Eng. (Ms.) A G M T Siriwardhana MSc, M Eng., BSc Eng., AMIE(SL) Research Engineer Eng. M D Sahardeen BSc Eng., AMIE(SL) Eng. K P D D Jayasekera BSc Eng.(Hons), AMIE(SL) Eng. T K Geeganage BSc Eng., AMIE(SL) Eng. (Ms) G S R Costha BSc Eng., AMIE(SL) Engineer Ms. H D C Hettiarachchi NDT

Techno Marketing Department (TMD)	Development & Project Department (DPD)
Director (Technical) Eng. M A M Fernando - up to 06.03.2017 PG Dip (Energy) IESL Part I & II, CEng., MIE (SL)	Actg. Director (Technical) Eng. K Y H D Shantha MSc Eng., BSc Eng., AMIE(SL)
Director -Technical Eng. A A S P Jayasinghe - from 07.03.2017 BSc Eng.(Hons), MBA, MIE(SL)	
Principal Research Engineer Mr. D V Wimalasena - up to 22.02.2017 NDT, Dip in Marketing (SL)	Principal Research Engineer Mr. W P R D Weerasinghe NDT, CEI PART I, IESL Part I
Research Engineer Eng. J D M H Jayantha BSc Eng., AMIE(SL)	Research Engineer Eng. A N S Amaradasa BSc Eng., AMIE(SL)
Research Scientist Ms. B D P S Ranaweera BSc	Engineer Ms. D M A K Digala Special Apprentice (Civil Eng.), IESL(Part 1)
Marketing Officer Mr. S Wijesuriya - up to 20.06.2017 MBS, BSc (Agriculture) Sp.	Mr. W A L S Karunawardhana HNDE
Asst. Director – Marketing Ms. P N D Pathirana - from 01.02.2017 BSc (Hons) Sp. MCIM (UK), MSLIM (SL).	Mr. P A U W K Paranagampola NDES
Technology Incubator	Architect Ms. B D R Chamika MSc, BSc
Principal Research Engineer OIC- Technology Incubator Eng. A R C Salgado BSc Eng., AMIE(SL)	
Research Engineer Eng., Suresh P Perea EC(UK) Part I & II, NDT, AMIE(SL)	
Technology Park and Engineering Museum	Maintenance Unit & Central Workshop
Superintendent – Technology Park Mr. A A N S Adikari BSc (Computer Science), Diploma in IT (UK)	Engineer Mr. N A D D J Prasanna NDT
Superintendent – Engineering Museum Ms. D K Jayaweera - From 01/11/2017 BSc (Hons)	Superintendent – Workshop Mr. W H S Ramal Silva - up to 08.05.2017 NDES
Human Resources Department	Finance Department
Director (Human Resources) Ms. D A M Munasinghe BSc (HRM), MBA (HRM), AM (IPM)	Director – Finance Ms. D V S Perera ICMA Professional Part II, IPFA, ICEA
Assistant Director (Administration) Mr. R Gamage BA (Social Sc.) Sp., MA in Sociology	Accountant Mr. J M R S Jayasinghe BBA (Busi. Admin.) Sp., MBA, ICASL-Professional Part I
Information Technology Unit	Library
Network Administrator Mr. B P Wickramasuriya BSc (Computing & Information Systems)	Librarian D M T P K Devagiri B A (Library Science) Sp., MSc, ASLLA
Internal Audit	Procurement Unit
Internal Auditor Mr. B P Susantha HNDA	Supplies Officer Mr. R H A Jeewananda BSc (Physical Science)

05. Human Resources

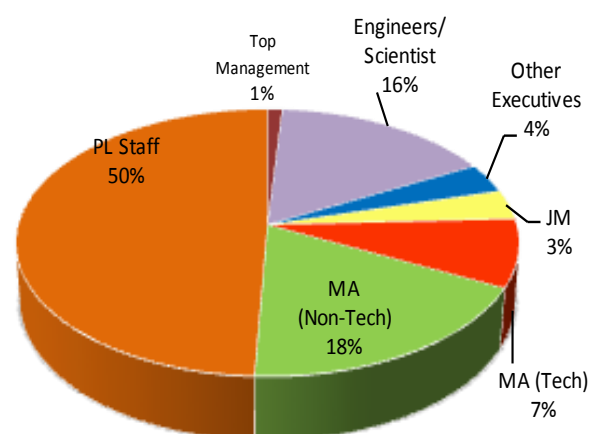
Human resource is the important asset of any organization in accomplishing its goals and objectives. When it become a research institution, human resource is the key factor. The success of all major tasks of the Centre, such as conducting research and development projects, commercial projects training programmes and providing industrial services, etc. are totally depend on the knowledgeable and competent staff. Among all the staff engineering and technical personnel are very much important.

The major problem identified in Human Resource Management (HRM) of the NERD Centre is the recruitment and retaining of competent engineers and technical personnel. (This is a common issue for research organizations in Sri Lankan State sector). A comprehensive integrated strategy is required to address this issue, such as national policy on engineering researchers and technicians, programming, research application for national development and recruitment, incentives, rewards, recognitions, capacity development of engineering researchers and technicians etc.

Within the capacity and limitations of the Centre has undertaken all the measures to recruit and retain engineering researchers and technical staff through the strategy like providing capacity development opportunities (Eg: Higher studies, training and development, international exposures, etc.), creating facilitating environment, assisting carrier development etc.

Summary Information on Staff Strength As at 31.12.2017

Staff Category	Nos
Top Management	3
Engineers/ Scientist	45
Other Executives	10
Junior Managers	10
Management Assistants (Tech)	23
Management Assistants (Non-Tech)	51
Primary Level (PL) Staff	138
TOTAL	280



5.1 Cadre Management

5.1.1 New Recruitments during the year 2017

	Name	Designation	Category	Date of Recruitment
1	Mr. M L S S S Gunarathne	Electrician	PL 3	02/01/2017
2	Mr. N K I S Lakmal	Research Engineer	AR 1	02/01/2017
3	Mr. M A T M Kumara	Research Engineer	AR 1	09/01/2017
4	Ms. P N D Pathirana	Asst. Director (Marketing)	MM 1-1	01/02/2017
5	Mr. J M A U Jayasekera	Electrician	PL 3	15/02/2017
6	Mr. W M M R B Samarasinghe	Fitter	PL 3	15/02/2017
7	Ms. J D M H Jayantha	Research Engineer	AR 1	01/03/2017
8	Ms. P K S Lakmali	Research Engineer	AR 1	01/03/2017
9	Mr. J M H U Bandara	Technical Assistant	MA 2-2	03/04/2017
10	Mr. H R A N Kumara	Technical Assistant	MA 2-2	04/04/2017
11	Mr. H A C Hapuarachchi	Technical Assistant	MA 2-2	17/04/2017
12	Mr. T T S R Rodrigo	Technical Assistant	MA 2-2	21/04/2017
14	Ms. G G K H Kawshalya	Technical Assistant	MA 2-2	12/07/2017
15	Mr. P M D Sandaruwan	Marketing Officer	JM 1-2	02/10/2017
16	Mr. H Y D Ranasinghe	Technical Assistant	MA 2-2	02/10/2017
17	Mr. S R Hendriks	Technical Assistant	MA 2-2	02/10/2017
18	Ms. D K Jayaweera	Superintendent - Museum	JM 1-2	01/11/2017

5.1.2 Internal Recruitments during the year 2017

	Name	Previous Designation	New Designation	Date of Appointment
1	Mr. E A N Chandana	Technical Assistant	Technical Officer	02/05/2017
2	Eng. D M Punchibanda	Principal Research Engineer	Director – Technical	01/09/2017
3	Dr. K M W Rajawatta	Senior Research Scientist	Principal Research Scientist	01/09/2017

5.1.3 Retirements during the year 2017

	Name	Designation	Category	Date of Retirement
1	Mr. D V Wimalasena	Principal Research Engineer	HM 1-3	22/02/2017
2	Eng. M A M Fernando	Director (Technical)	HM 1-3	06/03/2017
3	Mr. B D Gunadasa	Printing Machine Operator	PL - 3	13/03/2017
4	Mr. M G K Abeyratne	Labourer	PL - 3	21/05/2017
5	Mr. W W R Mendis	Welder/Fitter	PL - 3	11/06/2017
6	Mr. M P W P Kulasekara	Foundryman	PL - 3	28/07/2017
7	Mr. A S V J Perera	Labourer	PL - 3	08/08/2017
8	Mr. M Piyasena	Vehicle Attendant	PL - 3	28/08/2017

5.1.4 Resignations during the year 2017

	Name	Designation	Category	Date of Resigned
1	Mr. R M R S Wijebandara	Electrician	PL - 3	08/01/2017
2	Mr. B U C K Enderaarachchi	Research Engineer	AR 1	30/01/2017
3	Ms. Y M A G S P K Kularatne	Research Engineer	AR 1	03/02/2017
4	Ms. P R C P W Paranawithana	Technical Officer	JM 1-2	05/02/2017
5	Ms. K R T Ishara	Technical Assistant	MA 2-2	23/03/2017
6	Mr. W H S R Silva	Superintendent - Work shop	JM 1-2	08/05/2017
7	Mr. H R A N Kumara	Technical Assistant	MA 2-2	01/06/2017
8	Mr. I D N Premakumara	Labourer	PL - 3	02/06/2017
9	Mr. S H A C Dayarathne	Technical Assistant	MA 2-2	09/06/2017

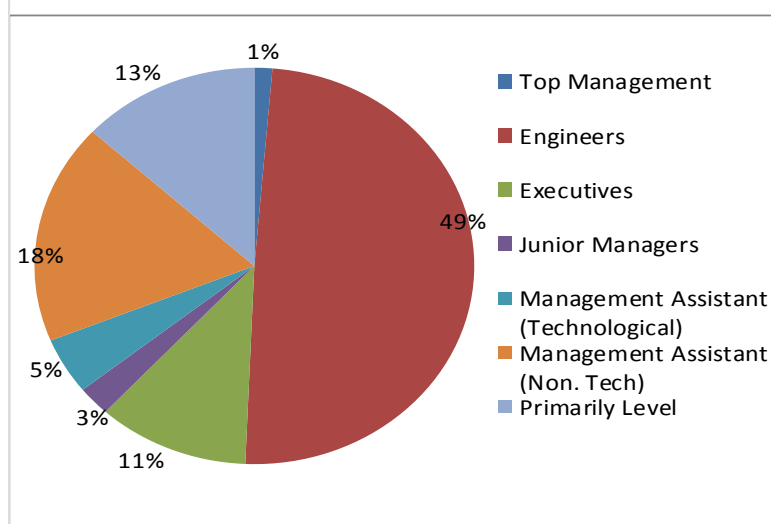
	Name	Designation	Category	Date of Resigned
10	Ms. S M Young	Senior Research Scientist	AR -2	12/07/2017
11	Mr. G M Sangeeth	Library Attendant	PL - 1	14/07/2017
12	Mr. M D P S K Jayathilaka	Draughtsman	MA 2-2	16/07/2017
13	Ms. A Manjula Damayanthi	Office Aide	PL - 1	15/08/2017
14	Mr. N M J S Nissanka	Research Engineer	AR 1	04/09/2017
15	Mr. B D T K Priyankara	Machinist	PL - 3	28/09/2017
16	Dr. A S K Warahena	Principal Research Engineer	HM 1-3	30/09/2017
17	Ms. H C Ganage	Research Engineer	AR 1	03/11/2017
18	Ms. P K S Lakmali	Research Engineer	AR 1	30/11/2017
19	Ms. T Gajenthini	MA (Demonstrator)	MA 1-2	31/12/2017
20	Mr. H P S P Paranamana	Welder	PL - 3	31/12/2017

5.2 Staff Training and Development

Since the Key role of the NERDC is engineering research and development, constant concern is tendered in human resources development by the management. Accordingly all steps are taken to enhance knowledge, skills and competencies with correct attitudes in all categories of the staff having purposes of obtaining efficient and effective service to the Centre and career development of the staff.

5.2.1 Capacity building and skills development training opportunities provided in year 2017 are as follows;

Service Category	Nos. of Training Facilities Provided
Top Management	6
Engineers	225
Executives	51
Junior Managers	11
Management Assistant (Technological)	21
Management Assistant (Non. Tech)	82
Primarily Level	60
Total	456



5.2.2 Outbound Training Program

Two (02) days Residential Outbound Training Program was conducted at Technology Park for newly recruited employees on 05 and 06 April 2017. 27 staff members participated at the above programme.

5.2.3 Facilitation for Higher Studies

Post Graduate Studies Completed in 2017					
No	Name & Designation	Program	Institution	Complete date	
1	Eng. S A P S Silva Research Engineer	M Eng. Degree	University of Moratuwa	01/07/2017	
2	Eng. P F S Perera Research Engineer	M Eng. Degree	University of Moratuwa	01/09/2017	
Post Graduate Studies Ongoing in 2017					
	Name & Designation	Program	Institution	Started Date	Date to be completed
1	Ms. G S R Costha Research Engineer	M Eng./PG Diploma Pro.in Energy Technology	University of Moratuwa	06/02/2016	05/02/2018
2	Mr. R Gamage Asst. Director (Admin)	Master in Labour Relations and Human Resources Management - 2016/17	University of Colombo	01/06/2016	31/05/2018
3	Ms. B D P S Ranaweera Research Scientist	M Sc Degree Programme in Industrial and Environmental Chemistry 2016/18	University of Kelaniya	18/06/2016	17/06/2018
4	Mr. B P Wickramasuriya Network Administrator	M Eng./PG Diploma in Information Tech. -2016	University of Moratuwa	22/10/2016	21/10/2018
5	Mr. K P D D Jayasekera Research Engineer	M Eng./PG Diploma in Environmental Eng. & Mgt.	University of Moratuwa	12/10/2016	21/10/2018
6	Mr. B P Susantha Kumar Internal Auditor	MPM Programme	SLIDA	24/07/2015	30/07/2018
7	Mr. I P Batuvita Research Engineer	PG Diploma/M Eng in Highway &Traffic Eng.	University of Moratuwa	28/02/2015	22/06/2017
8	Mr. S M S Senanayake Research Engineer	M Sc./PG Diploma Course in Industrial Automation	University of Moratuwa	24/10/2015	31/10/2018
9	Mr. T K Geeganage Research Engineer	M Sc./PG Diploma Course in Sustainable Process Eng.	University of Moratuwa	05/12/2015	30/05/2018
10	Mr. A A N S Adikari Superintendent – Technology Park	MBA Degree (Master of Business Administration)	University of Colombo	28/11/2015	28/02/2018
11	Eng. (Ms) A G M T Siriwardhane Senior Res. Engineer	PhD Studies of Engineering and Computer Sciences	Australian National University	2017/11/01	2021/10/31

Charter Qualifications Obtained				
No	Name	Designation	Membership	Institution
1	Eng. H K I S Lakmal Research Engineer	Research Eng.	Associate Member	Institute of IESL
2	Eng.(Ms.) I D M H Jayantha Research Engineer	Research Eng.	Associate Member	Institute of IESL

5.3 Participation for Foreign Training / Workshop / Seminars / Symposiums

S.N.	Name and Designation	Programme Participated	Country	Period
1	Eng. N P T Perera Senior Research Engineer	Sakura Programme for Government Officials	Japan	19 – 25 Feb. 2017
2	Mr. A H Piyasiri DDG (S)	2017 Seminar on Information and Communication Technology for Sri Lanka	China	03-23 Apr. 2017
3	Eng. W J L S Fernando Chairman	International Workshop on Science, Technology, Innovation and Management for Water sustainability.	India	19-20 Apr. 2017
4	Eng. A G M T Siriwardena Senior Research Engineer	Programme for Annual International Training Course (AITC) - Green Energy for Low Carbon Society	Thailand	15-29 May 2017
5	Eng. G K K A De Silva DDG (R&D)	Ferro cement National Convention in Kerala	India	12-16 May 2017
6	Mr. W P R D Weerasinghe Principal Research Engineer			
7	Eng. D D A Namal Director General	Presidents Summit : Regional Conference on IP Hub Project	South Korea	21-23 Jun 2017
8	Eng. A A S P Jayasinghe Director (TMD)			
9	Eng. W M S P K Wanasinghe Research Engineer	WAITRO-ISESCO-SIRIM Research Fellowship Programme (WRFP) form October 23-November 03, 2017	Malaysia.	23 Oct. – 03 Nov. 2017
10	Eng. W J L S Fernando Chairman	13 th Session of the Governing Council of the Committee of the Asian and Pacific Centre for Transfer of Technology (APCTT)	Philippine	28-30 Nov. 2017

5.4 In House Training Programs organized

No	Program Name	Period	For Whom	No. of Participants
1	Workshop on How to write a Manuscript	16.03.2017	Manager & Above Levels	25
2	Quantification of GHG Emission and calculating Carbon Footprint according to ISO 14064-1,2,3 Standards	29/30.03.2017	Manager & Above Levels	35
3	Awareness programme on Green Productivity and 5S concept	31.05.2017	All staff members	119
4	Water Auditing, quantifying water footprint and water conservation & management techniques in industrial applications.	06/07.06.2017	Manager & Above Levels	31
5	Workshop on MS Word and MS Excel office tools	13,22 & 27 .09.2017	Managements Assistants	49
6	Training Workshop on Safe Driving for Drivers	26.11.2017	Drivers and Motor Mechanics	14
7	MS Project Management	27/28.12.2017	MA (Tech) and Above Staff	43

5.5 Other Corporate Social Responsibilities

Industrial/ Technical Training Facilities for apprentices

NERDC has provided in plant training opportunities for 53 nos. of apprentice trainees who were directed by National Universities and Technical Institutions for a period of 03 months/ 06 months/ 01 year periods within the year 2017.

06. 2017 Performance Highlights of the year 2017

As a premier leading Engineering, Research and Development Organization in Sri Lanka, the National Engineering Research and Development Centre (NERDC) has involved in research and development projects, pilot projects, providing services to industries, popularization programs, and promotion of science education among school children during the year 2017. In order to provide more effective contribution to the country development through research and development activities rearranged the existing Departments, namely Project and Development, Agriculture and Machine Development, Energy and Environmental, Electrical and Electronics, Civil Engineering, Mechatronics Engineering, Technology Incubator, Techno Marketing Department and the Energy and Environmental Services. Technology Incubator and the Project and Development Departments are newly introduced and main role of the Project and Development Department is to handle all the commercial activities while Technology Incubator is to provide facilities for inventors to develop their inventions up to commercial level. As the results of our activities during the year 2017, new technologies had been introduced and new employment opportunities had been created in the area of housing, agriculture and energy areas through the technology transfer processes.

6.1 Special Highlights for the Year 2017

6.1.1 Contribution Given to Recover the Landslide Victims in Ayagama and Kalawana Areas

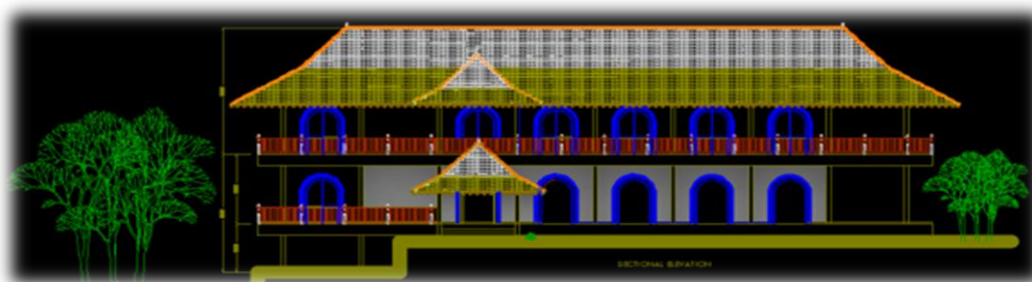
The NERDC had contributed immensely to recover the Landslide Victims in Ayagama and Kalawana areas, by giving Engineering inputs for the landslide and flood victims as immediate relief in the areas of Kalawana and Ayagama Divisional Secretariats in May 2017.

Several tasks were carried out for providing immediate technical solutions for the issues faced by the victims in the affected areas such as providing accesses, water, security and to identify the unsafe school buildings by the Presidential Task Force through the Hon. Minister of Science, Technology and Research. The NERDC provided following engineering inputs to recover the affected areas by the floods and landslides. Engineers and other staff of the Centre had provided their inputs for these services without considering time and facilities.

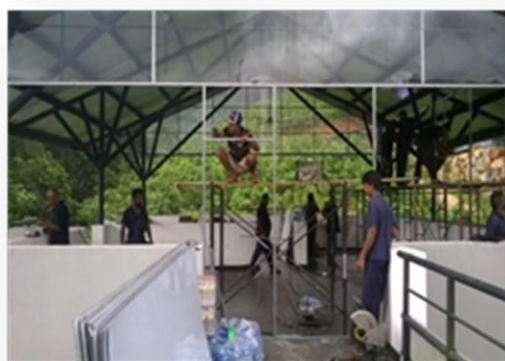
- Recovered the community water supply project at Pothupitiya and Kalawana for 150 families.
- Converted Bus Stand Building at Ayagama to Police Station within one week.
- Inspected and given a report on the suitability of flood / landslide affected all school buildings for normal operation in Kalawana and Ayagama Divisions within one week (for 25 buildings.)
- Provided all structural and architectural drawings and estimates for Ayagama temple affected by the floods.
- Inspected and provided estimates for the recovering of damaged water supply projects for Ayagama Hospital.



Recovering of Damaged water supply project at Potthupitiya and Kalawana due to recent Landslides



Danasalawa, Vihara Mandiraya and Gagaramaya at Ayagama



Converting Ayagama Bus Stand Building in Police Station by the NERDC

6.1.2 Establishment of Incubator

Technology Incubator was opened by the Hon. Minister of Science, Technology and Research, Hon. Susil Premajayantha on 2017.11.19 in parallel to the National Science Day in order to provide services to the industries and inventors.



Main facilities available of the Incubator are;

- Space for inventors with Internet facility and other intellectual networking.
- Design facilities with latest CAD/CAM software.
- Manufacturing facilities with modern CNC machines.
- Provide support to develop business plans.
- Consultancy on issues related to Intellectual Property (IP).
- Consultancy on product marketing.
- Networking facilities for Grants and Funding Agencies.

Expected outcome of the Incubator project are;

- Increasing number of new products coming to the market / year.
- Increasing number of patent obtains / year.
- Contribute to increase foreign exchange generated through exported goods.
- Contribute to increase number of new businesses started.
- Increasing number of services given by the Centre.
- Increasing number of users of the service centre.
- Increasing number of people trained by the centre

6.1.3 Launching of NERDC's Theme Song and New Logo

Hon. Minister launched the New Symbol and the New Theme Song for NERDC in order to create effective R&D environment and to improve the morality of the family for providing output and outcome to the Country, which people expect from the NERDC.



Launching NERDC's Theme Song and logo of NERDC



New logo of NERDC

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6.1.4 Construction of 1000 Nos. of Footbridges

Cabinet approval had been granted to construct 1000 Nos. of footbridges with the NERDC developed technologies within three years at cost of Rs.900 million. No. of awareness program on construction of foot bridges have been conducted during the year 2017.



(Awareness Programme on Footbridges at District Level)

6.1.5 Construction of Government Building using the Cost Effective Technology up to Rs.50 Million

Cabinet approval had been granted to award contracts, which are of less than Rs.50 million for construction of Government Sector buildings with the NERDC's technologies subjected to submitting of an Expert's Report on the condition of buildings constructed with the NERDC's technologies during the past period. The Expert Report on Buildings constructed with the cost effective technologies had been forwarded to the cabinet with the assistance of Construction Industry Development Authority after visiting buildings completed during the last 20 years period. This is an excellent opportunity for the NERDC to popularize our technologies throughout the country.

6.1.6 Research Symposium 2017 and Open Day Exhibition

Open Day Engineering Exhibition 2017 organized by the NERDC was held at the NERDC's Technology Park on 11.11.2017. This was held in par with the National Science Week named by the Ministry of Science, Technology and Research. The Chief Guest of the occasion was Hon. Minister of Science, Technology and Research. Many activities had been organized in parallel to the Open Day Exhibition including research symposium 2017. Seven papers had been presented covering the areas of energy, housing, irrigation and environments in the NERDC research symposium - 2017



6.2 Research Highlights in 2017

The NERDC had carried out a number of research projects covering the areas of energy, housing, environment, agriculture and irrigation to match with the National Research and Development Framework. Information on key research and development projects, which provide more contribution to develop the national economy.

6.2.1 Project on Automated Beverage / Yogurt Filling and Shielding Machine

Objective:

To develop a cost effective automatic beverage/yoghurt filling and sealing machine.

The project was initiated on the request of small scale entrepreneur, who is involved in manufacturing of the yogurt cups and beverage cups in commercial level and the funds were given by him.



Capacity of the machine

300 Nos. of cups per hour - 200 ml capacity

Cost of the projects - Rs.750,000/-

6.2.2 Development of Posttensioned Retaining Wall

Completed Retaining Wall



Precast Hollow Core Blocks

Present technologies used for retaining walls are required more time, cost and the space. Considering the impotency of the retaining wall in urban areas, where land is more critical in housing, this project had been initiated. The NERDC had introduced a technology for retaining wall, which required less cost, time and space using hollow precast blocks.

6.2.3 Application of Fly Ash in Precast Concrete Industry

The fly ash is a byproduct of burning pulverized coal in an electrical power generation plant. Specifically, it is the unburned residue that is carried away from burning zone in the boiler and collected by mechanical or electrostatic separators. The Ceylon Electricity Board requested from the NERDC to initiate research projects on application of fly ash for construction industry. The NERDC had involved in developing technologies for application of fly ash for manufacturing of precast concrete building components and the manufacturing of Cement Stabilized Soil Block(CSCSB). The project was successful for application of 15 % of fly ash for replacing cement in manufacturing of precast concrete building components and 20% of fly ash for replacing soil in manufacturing of CSCSB.



Testing of Precast Concrete Building Components at Laboratory

6.2.4 Application of Bottom Ash for Manufacturing of Cement Sand Blocks

Bottom ash, which is a byproduct of Norochchole Power Plant is considered as waste materials creating threats to healthy life of the people live in the area. The NERDC had developed technologies for manufacturing of cement sand blocks using bottom ash on the request of Ceylon Electricity Board (CEB) and the technology had been transferred to cement sand block makers in surrounding areas. Launching program was held to transfer the technology to the cement sand block manufacturers with the participation of Chairman of NERDC.



Launching Program for Technology Transfer on Manufacturing of Cement Sand Block with Bottom Ash at Norochchole

6.2.5 Development of Roof Tile Dryer

Project was initiated on the request of Ministry of Commerce and Industry and the Tile Manufacturer's Association to improve the quality and productivity of the industry. Project was focused to develop tile dryer having capacity of 2500 tiles per batch and 15000 of tiles per week. The 95% of the fabrication work of the tile dryer was completed. The dryer consists with the main structure with movable louver system to change air flow, heating arrangement, movable trolley system, 234 trays to load with raw tiles, pushing mechanism of trolleys and a chimney for exhausting. Firewood is going to be used as the fuel for the furnace and the entire structure is to be insulated.



6.2.6 Community based Solid Waste Management System at Kothmale

Main objective of the project is to implement an integrated solid waste management project for a small community to develop a showcase project to disseminate similar projects in Sri Lanka reducing the weight of the garbage problems to local authorities. Integrated solid waste management system was designed and commenced for a village occupied employees of Kothmale Power Station. It was intended to construct two Nos. of 20m³ capacity anaerobic digesters for disposal of organic garbage and to construct a small incinerator for burning contaminated cotton, etc. from the Power House and to fabricate a manually operated device for crushing metal cans.

Also, it had been provided coloured garbage bins and awareness was conducted to the community to put segregated waste as instructed into the bins. The 50% of the project work (construction of 2 biogas digesters and providing awareness) completed in 2017.



20m³ Biogas Digester for Security Hostel



20m³ Biogas Digester at Circuit Bungalow

6.2.7 Street Light Control System

The project was commenced with the Ceylon Electricity Board, Lanka Electrical Company and the IESL – NSW Chapter to introduce technology to ON or OFF street lamps through the audio signal broadcast by Sri Lanka Broad Casting Corporation. In Sri Lanka, still street light control (ON/OFF) is not done in systematic way. Street light control is under the Local Government Authorities and the most of the places, ON/OFF operations are done in manual ways, which are not acceptable due to associated unsatisfied nature. The new technology will provide safe operation system for ON or OFF street lamps throughout the country saving labour and energy. Project is in progressing.

6.2.8 Performance Analysis of Existing Grid Tied Solar System in Sri Lankan Market

Application of electricity generation using solar power in Sri Lanka is rapidly developing and the project is initiated to identify the variation of power generation of power plant with changing of relevant weather parameters such as temperature, rain fall and the wind speed of locations. Optimum power output of solar power plant, solar power generation data had been collected and analyzed to form efficiency factors to get more precise power generation predictions.

This analysis will be useful for investors who are willing to establish solar PV power plants and the solar panel manufactures. At the end of the year 2017 data collection for the study was completed and basic solar generation prediction model was developed.

6.2.9 Development of Smoked Fish Processing Unit

This project had been initiated with the collaboration of NARA to minimize Polycyclic Aromatic Hydrocarbon contamination of smoked fish at safe level. After developing Lab Scale Unit in the year 2016, the unit had been fabricated and the field trials had been done at Dambulla and Inginiyagala areas. After having the field trials, fabrication of another unit is progressing with improvements. Approximate capacity of the unit is 25 Kg.



6.2.10 Development of Small and Medium Scale Machine for Ayurvedic Purposes

In order to improve the quality of productivity of Ayurvedic Machine, Preliminary machine for Guli making, Guli polishing and pasting were developed and tested at Yakkala and Borella Ayurvedic Hospitals. After having field testing, improvements had been completed.



Ayurvedic Guli Making Machine



Ayurvedic Guli Polishing Machine

6.2.11 Development of Machinery and Equipment for Coconut Industry

Under this project, the NERDC decided to develop three implements required for the coconut industry. The machines developed were Coconut Plucking Pole, Manually De-husking Machine and the Electrically Operated De-husking Machine. Coconut Plucking Pole with adjustable height had been delivered to coconut planters to get the feedback information. Manually De-husking Machine had been completed. Electrically Operated De-husking machine had been developed and field trials were completed. After having the field trials, another machine had been developed with the identified modifications.



Manual Coconut De-husker



Industrial Coconut De-husker

6.2.12 Hyperbaric Oxygen Chamber for Hyperbaric Oxygen Therapy



This treatment is given in an environment of 100% oxygen at two or three times atmospheric pressure for wound treatments. Fabrication of oxygen chamber was completed and need to check the air leakage under the operation condition. Lower part of the chamber and upper part of the chamber is made with hard transparency materials.

6.2.13 Development of Coir Braiding Machine

Coir mat production in Sri Lanka is mainly done as a cottage industry. These products are sold in local market as well as exported to foreign countries. (This industry is more labour intensive and living condition of the people who involved in the industries is below from the base line.) This project was initiated to improve the income of the people and hence to improve the living condition of the people. Making coir braid is consumed more labour and project is focused to develop a machine for making coir-braids, 20% of the project was completed.

6.2.14 Development of a Small Scale Portable Milking Machine

The project was started in December as a collaborative project with National Entrepreneur Development Authority (NEDA) to Re-engineer and disseminate the portable milking machine provided by NEDA in December 2014. By end of year 2017, field testing using 10 sample machines, preparation of the field trial report, preparation of technical drawings and technology transfer report were completed. Finally actions were taken to transfer the technology with NEDA.



6.3 Pilot Projects

In order to popularize and to demonstrate the technologies developed by the NERDC, pilot projects are usually carried out based on focusing to popularize the technologies.

6.3.1 Construction of Post-Tensioned Masonry Retaining Wall

A site at Dalupitiya Clinical Building premises belongs to Mahara Pradeshiya Sabha was selected to construct the pilot project of the research. The necessary approval was obtained from Mahara Pradeshiya Sabha. The height of the soil embankment to be retained at the site is 2400mm. The length of the retaining wall is 6.7 m. Cost of the project is Rs.250,000.00



Construction of Post-tensioned Retaining Wall

Wall had been constructed with precast hollow core concrete blocks and the tension was applied after construction. Advantages of the post-tensioned retaining wall are Less space, Cost saving is about 15% and the good appearance.

6.3.2 Domestic Biogas Digesters

In order to introduce garbage free village concept in Sri Lanka, the NERDC developed 10 Nos. of plastic shell type bio-gas digesters with 1000 litres capacity had been delivered to 10 houses in Batuwaththa village. Kitchen waste and home generated garbage are used as feeding materials.



It is expected to collect feedback information such as amount of bio-gas generated, quantity of feeding materials used and the quantity of sludge used for agriculture purposes.

6.3.3 Construction of Pre-stressed Concrete Retaining Wall & Post-Tensioned Retaining Wall at Technology Park

The NERDC had introduced two types of retaining walls namely pre-stressed concrete retaining wall and the post-tensioned masonry retaining wall as cost effective alternatives to traditional retaining wall construction methods such as random rubble masonry retaining wall and the reinforced concrete retaining wall. Pre-stressed concrete retaining wall and the post-tensioned masonry retaining wall were constructed at the Technology Park as a pilot project. To demonstrate the cost effective retaining wall technologies to the visitors coming to the NERDC, this pilot project was initiated.



Pre-stressed Concrete
Retaining Wall at Technology Park



Post-tensioned Masonry
Retaining Wall at Technology Park

6.3.4 Pilot Project on Manufacturing of Machineries for Ayurveda Medicine

Required machines had been made and distributed among Ayurveda Sanrakshana Saba in different areas in the country.

6.3.5 Manufacturing of Pinnato Dryer

20 numbers of Pinnato Dryers had been manufactured on the request of the Palmyra Research Board. Value of the work was Rs.2,200,000.00. These units were to be delivered among the farmers involved in Palmyra Industries.



6.4 Services for the Industries

Services for the industries had been provided in the areas of energy, environments, construction and manufacturing industries. Details of the important services provided during the year 2017 are indicated below.

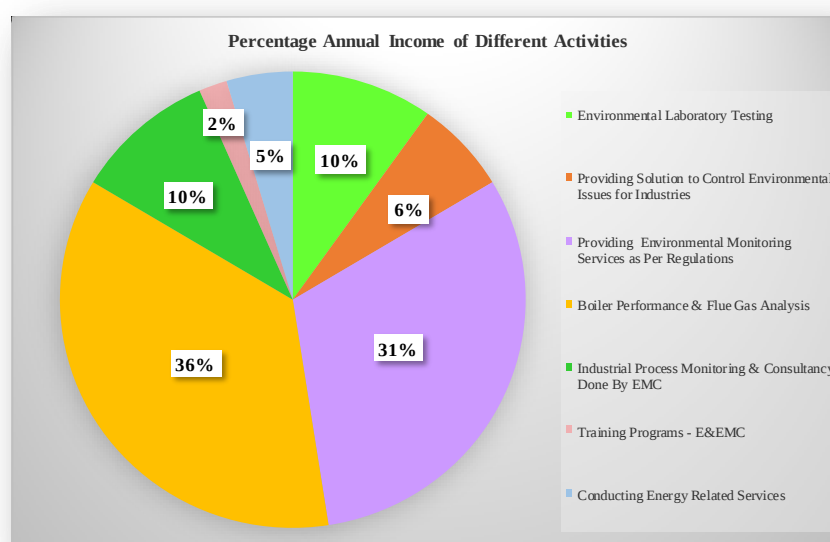
6.4.1 Repairing and Modification of Crematorium and the Incinerators

No	Name of Project	Value of Work Done (Rs.)	Received Amount (Rs.)	Status
1	Repairing of the stack of the incinerator at Rathnapura Hospital	229,765.31	114,882.66	Completed
2	Servicing of LPG crematorium at Walapanne Regional Council	94,378.32	94,378.32	Completed
3	Consultancy for construction of Crematorium at Katuwana	200,000.00	200,000.00	Completed

6.4.2 Services conducted by Energy and Environmental Services Department

Energy and Environmental Services Department had provided services to industries based on the demands from the industries in following categories.

- Environmental Laboratory Testing
- Providing solutions to control environmental issues for industries
- Providing environmental monitoring services as per the regulations
- Boiler performance & flue gas analysis
- Industrial processes monitoring & consultancy
- Training program
- Conducting Energy Related Services



Information on Services Carried Out by the Energy and Environmental Services Department

Project/Activity	Physical (Number of Services)		Financial (1000 LKR)				
			Target		Actual		
	Target	Achieved	Income	Contribution	Income	Direct Cost	Contribution
Environmental Laboratory Testing	1000	872	1,500,000.00	600,000.00	1,432,811.93	958,065.54	479,157.88
Providing Solution to Control Environmental Issues for Industries	50	35	1,000,000.00	800,000.00	875,223.34	219,946.62	653,543.19
Providing Environmental Monitoring Services as Per Regulations	200	198	4,750,000.00	2,850,000.00	5,823,898.24	1,435,125.25	4,388,771.99
Boiler Performance & Flue Gas Analysis	125	147	5,500,000.00	2,750,000.00	5,961,676.26	2,712,297.86	3,249,378.40
Industrial Process Monitoring & Consultancy Done By EMC	50	57	1,500,000.00	1,050,000.00	865,878.44	211,758.38	654,120.06
Training Programs - E&EMC	2	1	300,000.00	150,000.00	144,869.58	38,969.60	105,899.98
Conducting Energy Related Services	10	3	700,000.00	490,000.00	169,500.00	12,500.00	157,000.00
Total			15,250,000.00	8,690,000.00	15,273,856.79	5,588,663.25	9,687,871.50

A Summary of Physical and Financial Targets and Achievements of Commercial Projects in 2017

6.4.3 Conducting Training Program - “Workshop on Management and Problems Associated with Wastewater”



This training program focused on understanding wastewater parameters & standards, wastewater treatment techniques, environmental impacts of industrial wastewater, types of industries and wastewater from different industries, wastewater analysis methods.

17 Numbers of participants participated.

6.4.4 ISO 17025 Achievements

In 2017 E&ESD continued to update ISO “17025 Accreditation” for “Waste Water Testing” and “Noise Level Measurements” in order to maintain the accreditation obtained for standardized services



6.4.5 Services done to Industries by the Centre for Manufacturing Excellence (CME) Department

Mainly Centre for Manufacturing Excellence Department had provided following services.

- Undertakes to design and manufacture intricate precision molds and dies.
- Undertakes intricate mould modifications and repairs.
- Promotes potential Investors to set up similar facilities.
- Acts as a Technology Demonstration Centre.
- Provides Training Facilities.
- Provides consultancy to upgrade the local SMEs engaged in precision mould and die making.
- Provides supportive service to mould user/maker industry in their specific design and manufacturing needs.

The Centre equipped with modern machines to provide above services focusing to manufacturing Industries. Major facilities available in CME are;

- CAD/CAM Integrated SOFTWARE – (Solid works - 2014)
- CNC Milling Machine

- CNC Lathe Machine
- CNC EDM Wire cut machine
- CNC EDM Machine (Spark Erosion)
- High speed Scanning machine
- Precision Cylindrical Grinder
- Surface Grinder
- Mould polishing Equipment
- Copy milling and engraving
- Testing and measuring equipment

Month	Design & Manufacture	Manufacturing of Components	Testing & Scanning	Training Programmes	Total Value of Work Done
January	650,000.00	47,800.00		34,087.00	731,887.00
February		7,000.00	11,500.00		18,500.00
March		63,500.00			63,500.00
April		38,800.00			38,800.00
May		36,000.00			36,000.00
June		63,000.00			63,000.00
July		23,000.00		30,000.00	53,000.00
August		17,000.00			17,000.00
September	19,999.99	119,139.15	3,000.00	15,000.00	157,139.14
October		49,000.00			49,000.00
November					0.00
December			25,000.00		25,000.00
Total	669,999.99	464,239.15	39,500.00	79,087.00	1,252,826.14

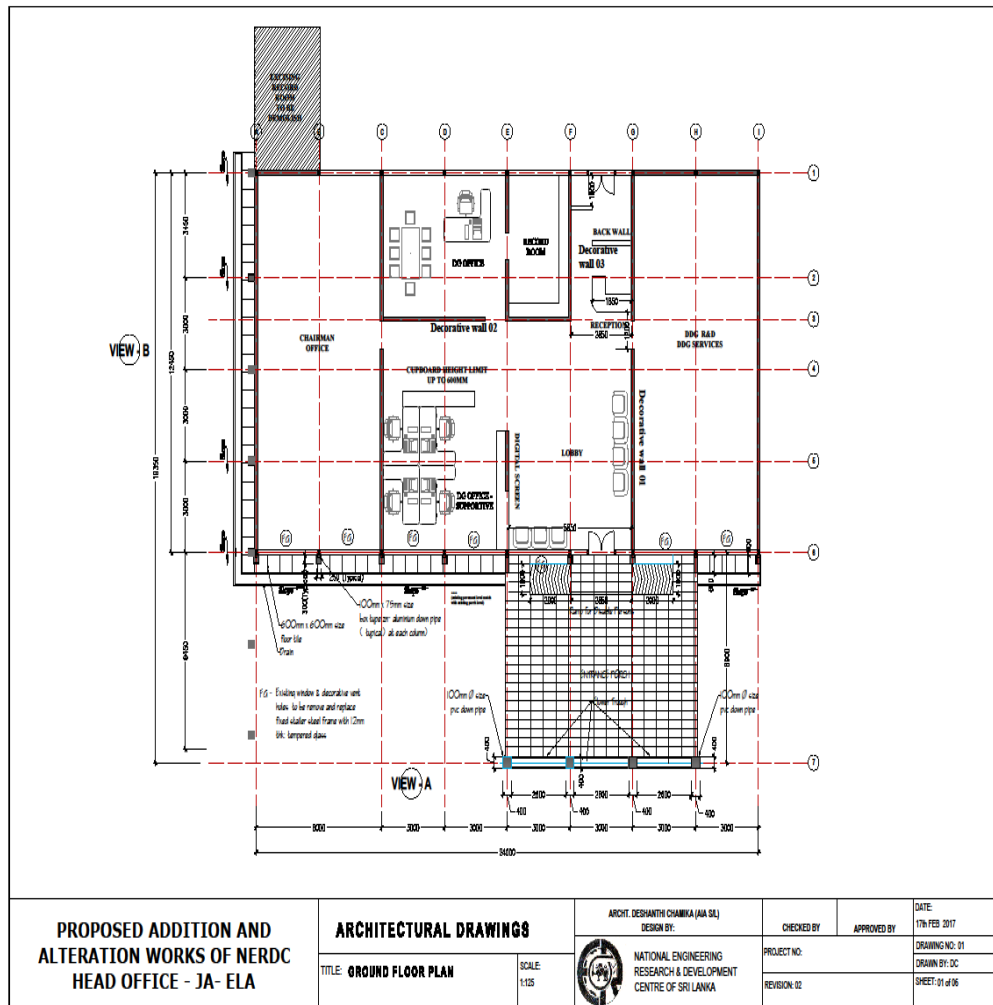
6.4.6 Details of the Services done to Industries by the other Departments of NERDC;

Services done to Industries by Electrical and Electronics Department, Department of Civil Engineering, Environment and Energy Department, Agricultural and Machinery Development, and the Mechatronics Engineering Department .

Services	No. of Services	Value (Rs.)
Lamp test	111	636,800.00
Lead acid battery test	29	50,200.00
Testing and monitoring services	04	32,600.00
Calibration services	19	176,400.00
Laboratory test –Civil Engineering	209	749,280.00
Bio-gas Laboratory test	08	8,000.00
Manufacturing of pre-cast concrete building component.		300,000.00,
Knowledge based training programs	30	360,000.00

6.5 Rehabilitation of Front Office of NERD Centre

Administration block of the NERD Centre has been renovated during the year 2017 at cost of Rs. 8 Million.



6.6 Renovation of Mechatronics Department Building

The Mechatronics Department was shifted to the new location where in the adjacent space to the new Refrigerator Laboratory in the RED Building. The building was rehabilitated. Total of AC units were installed in the Department. Partitioning was done with Aluminum and glazed Doors as per the requirements.



The new entrance building including staircase, roof and hand-rails was constructed with NERDC building construction technology. The interlocking cement blocks also lay on the entrance lobby area and out.

6.7 Publication of Research Papers

Following research papers had been presented at International and Local Research Symposium during the year 2017.

No.	Title of the Paper	Author's Name	Symposium organized by
1	Let's take away waste once! and do the National responsibility!	Eng. J A A D Jayasuriya	Sri Lanka Foundation Institute
2	Historical lessons for protecting soil water level	Eng. W K R Pieris	National Science Foundation
3	Flap gates across canals on a connection between water regulating and ecosystem towards sustainability and an analytical model for the design of flap gates across study.	Eng. W K R Pieris	National Science Foundation
4	Ferro-cement water tanks	Eng. G K K A De Silva	Indian Ferro-cement Society, Kerala
5	Ferro-cement Footbridges	Mr. W P R D Weerasinghe	Indian Ferro-cement Society, Kerala
6	Development of Pre-stressed Concrete Retaining Wall	Eng. W W P K Perera	Society of Structural Engineers, Sri Lanka
7	Introduction of Cost Effective Glued Timber Rafters	Eng. P N S Amaradasa	Society of Structural Engineers, Sri Lanka

6.8 Technology Transfers, License Renewals, Training Programs and polarization Activities

Responsible Department for the above activities is Techno Marketing Department of the NERDC and the important Activities involved by the Department are given below.

6.8.1 Technology Transfers for the Entrepreneurs During 2017

Name of the Technology	No. of Licensees
1. Cost Effective Building Technology	03
2. Cement Stabilized Compressed Soil Blocks Manufacturing	03
3. Construction of Pre-stressed Foot-bridges	01
4. Construction of Ferro Cement Foot Bridges	01
5. Vegetable Drier	02
6. Yoghurt Incubator	01
7. Foot Operated Water Valve	01
8. Manioc Slicer	01
9. Manufacturing of Bottom Ash Mixed Cement Blocks	10

6.8.2 License Renewals

License issues for the entrepreneurs by the NERDC relevant to particular technologies should be renewed annually. Details of the information on license renewals are given.

Name of the Technology	No. of Licenses Renewed
1. Cost Effective Building Technology	22
2. Pre-stressed Yard Technology	02
3. Crematorium Construction	05
4. Domestic Coconut Oil Extractor	01
5. Medium Scale Coconut Oil Extractor	01
6. Cashew Drier	01
7. Biogas Construction	02
8. Industrial Stove	01
9. Coconut de-husker	01
10. Vegetable Drier	01
11. Cement Stabilized Compressed Soil Blocks	05
12. Cement Stabilized Compressed Soil Blocks Manufacturing (Manually) Operated M/c	01
13. Cement Stabilized Compressed Soil Blocks Manufacturing (Hydraulically) Operated M/c	01
14. Natural Draft Wood Gas Stove	01
15. Draftsmanship on NERDC'S cost effective Construction technologies	01

6.8.3 Awareness Programmes

Awareness programs are conducted to popularize the technologies and products developed by NERDC through different organizations. Following awareness program were conducted during the year 2017.

Date	Programme
24.03.2017	Awareness Programme on NERDC Developed technologies at Narammala Vidatha Centre.
04.05.2017	Awareness programme on NERDC activities at organizing committee meeting of “Sathutu Gammana “ in Beruwala Eletorate by Ministry of Health, Nutrition & Indigenous Medicine.
28.06.2017	Training session on Hay block manufacturing machine to prepare hay blocks using the machine to perform Dissertation on Cattle feed in UOJ – Head of Animal Science dept. of Agriculture faculty Jaffna University & 2 students participated.
21.07. 2017	Awareness Programme on NERDC Technologies for selected small scale business startup people in Kandy, Kegalle & Ratnapura Districts – organized by Science Technology & Research State Ministry at ITI Auditorium.
01.07. 2017	Awareness programme on NERD Technologies & Cost Effective Housing Technology for Sanasa Members of Ganemulla – Bollatha North Sanasa Society.
24.07 2017	Awareness programme on Cost Effective Building Technology for 55 nos. of Students from University of Moratuwa
11.08. 2017	Forum for Crematorium Licensees at NERD Centre
15.08.2017	Awareness Programmes on Cost Effective Building Technology arranged by Provincial Housing Dept. of Central Province
16.08. 2017	Awareness Programme on NERDC developed technologies at Vengalchettikulam Divisional Secretariat Office for Senior Technical Officers’, Educational Officers’ and the Grama Niladharis.
17.08. 2017	Awareness Programme on NERDC developed technologies at Mannar Town D.S. Office for Senior Technical Officers’ & EDO’s
31.08 2017	Awareness Programmes on Cost Effective Building Technology arranged by Provincial Housing Dept. of Central Province
21.11. 2017	Awareness Programme on NERDC developed technologies & Technology on Foot Bridge at District Development Committee Meeting in Trincomalee District Secretariat Office.
27.11. 2017	Awareness Programme on NERDC developed technologies & Technology on Foot Bridge at District Development Committee Meeting in Galle Divisional Secretariat Office.
27.11.2017	Awareness Programme on NERDC developed technologies & Technology on Footbridge at District Development Committee Meeting in Kegalle D.S. Office.

6.8.4 Special Training Programs

Special Training programmes on NERDC developed technologies on interested parties have been conducted in prior to the issues licenses for particular technologies. Information on the training program conducted during the year 2017 is given below.

Date	Name of the Programme	No. of Participants
17-19.01.2017	Training Programmes on Pre-cast Concrete Components for Rehabilitates at Rehabilitation Center – Senapura	28 Nos.
20-22.01.2017	Training Programmes on Self-employment Development for Rehabilitates at Rehabilitation Center – Senapura	34 Nos.
02.03.2017	Training Programme on Cement Soil Blocks Manufacturing	10 Nos.
07-10.03.2017	Training Programme on Cost Effective Building Technology (4 day)	15 Nos.
15.03.2017	Training Programme for Draftspersons (1 day)	14 Nos.
09.05.2017 & 18.05.2017	One day CAD/ CAM training programme for SLIIT students	35 Nos.
23.05.2017	Training Programme on Cement Soil Blocks Manufacturing	13 Nos.
07.06.2017	One day CAD/ CAM training programme for SLIIT students	13 Nos.
06.07.2017	Training Programme on Cement Soil Blocks Manufacturing	12 Nos.
29.08.2017	Training Programme on Cement Soil Blocks Manufacturing	13 Nos.
12-15.09.2017	Training Programme on Cost Effective Building Technology (4 day)	17 Nos.
26.09.2017	Training Programme on Cement Soil Blocks Manufacturing	27 Nos.

6.8.5 Special Programs

These programs are organized on NERDC 'S developed technologies and basic knowledge on energy efficiency and environmental issues and solutions. Following programs have been conducted at Technology Park for different organizations.

Date	Programme	No. of participants
04.03.2017	Special program for the officers in Industrial Technology Institute	13
15.03.2017	Special program for the members of Lanka Govi Organization	11
23.03.2017	Special program for officers of IESL	21

Date	Programme	No. of Participants
06.06.2017	Special Science Program for Student of Mabima Maha Vidyalaya	300
18.08.2017	Special program for Small Scale entrepreneurs of Mahashakthi Corporative Society	41
12.09.2017	Special program for Small Scale entrepreneurs of Wariyapola Samurdhi Society	52
13.09.2017	Special program for Small Scale entrepreneurs of Sarana Society	44
11.10.2017	Special program for members of Gampaha Cookery Class	122
24.10.2017	Special program for Small Scale entrepreneurs of Ampara District Women Network (Technical College)	46
12.12.2017	Special program for Vidatha Officers of Polpithigama Vidatha Centre	15
15.12.2017	Special program for officers of ITI	22
16.12.2017	Special program for Small scale entrepreneurs of Regional Secretary Office – Polpithigama	64
26.12.2017	Special program for teachers of Zonal Education Office – Akuressa	39
28.12.2017	Special program for pupils of Wadduwa Tuition Class	48

6.8.6 Out Bound Training Program (OBT)

OBT programs are focused to improve the leadership, team work, decision making and since knowledge of the participants. This programme is a two day residential program and food and accommodation provided at the Technology Park. Details of the program conducted during the year 2017 are given.

Date	Programme	No. of Participants
2017/03/04-05	OBT Programme for young Inventors	50
2017/04/04-05	OBT Programme for newly recruited NERDC staff	27
2017/09/22-23	OBT Programme for Vidatha Officers	43
2017/11/21-22	OBT Programme for teachers Institute of Education	42

6.8.7 Exhibition participated

Participation of the exhibitions is one of the key activities relevant to popularization of NERDC's developed technologies. During the 2017 NERDC has participated following exhibition.

Date	Exhibitions
09.01.2017	Green Exhibition (Mahaweli Ministry) at BMICH
1-3.02.2017	Pirihimbini Diyawara 2017 Exhibition at Sabaragamuwa University
13-15.02.2017	Exhibition at Kegalle Vidyalaya
15-17.02.2017	Exhibition at D. S. Senanayaka College
23-25.02.2017	Exhibition at Abhiman Exhibition Dankotuwa Vidyalaya
17-19.03.2017	Digamadulu Nawodaya" Trade fair & Business Clinic, Ampara – 2017 at Urban Council Ground
11.03.2017	"Liya Waruna 2017" Live Telecast program at Independence Archade
30.03.2017-01.04.2017	"Exhibition at Vishaka College , Colombo 05 - (Exhibits items only)
31.03.2017-04.04.2017	"Entrepreneur 2017" Educational & Entrepreneurial Trade Fair at BMICH
25-27.08.2017	Exhibition organized by Palmyrah Development Board at Galle Face
01-05.10.2017	Vidya Exhibition at University of Kelaniya
13-15.10.2017	Techno 2017 Exhibition at BMICH
11.11.2017	Open day Exhibition at NERDC Technology Park

6.8.8 TV and Radio Programmes participated

Date	Programme
11.03.2017	"Liya Waruna – 2017" live up date at ITN
24.05.2017	Recordings of short video clips to be telecasted in Kedella programme produced by Sirasa TV
21.06.2017	Recordings of Vidulowa Programme on Domestic Bio gas system & Waste water purification
16.07.2017	Kedella TV Programme on Cost Effective Building Technology by Sirasa TV
23.07.2017	Kedella TV Programme on Cost Effective Building Technology by Sirasa TV
06.08.2017	Kedella TV Programme on Cost Effective Building Technology by Sirasa TV
13.08.2017	Kedella TV Programme on Cost Effective Building Technology by Sirasa TV
20.08.2017	Kedella TV Programme on Cost Effective Building Technology by Sirasa TV
01.09.2017	"Malpara" live up date at ITN
26.07.2017	Live Programme of "Sandamini Aara" (Women's magazine) on NERDC Technologies & products suited for self employments & domestic waste management at SLBC
17 & 24.08.2017	02 nos. of "Vidulowa" scientific programmes
29.08.2017	"Sandamini Aara" Women magazine live up date (1 hour)

6.8.9 Articles Published

Newspaper Articles and Web Articles	
1	Article in Vidya Magazine – 26.04.2017
2	Article in Web site- Entrepreneur Exhibition at BMICH
3	Article in web - regarding helping flood victims
4	Article in Nipunatha Magazine – July 2017
5	Articles to Vidya Paper – August Volume (2 nos. Articles , 01 advertisement & full page (double) 02 nos. detailed Voice cuts)
6	Nipunatha Article – September 2017
7	Article in Nipunatha Magazine – Nov 2017
8	02nos. Web Articles – on Incubator opening & Open day exhibition 2017
9	TV Crawler on Derana TV for Open day (1 st Nov. to 10 th Nov.)
10	Entre to social media – Facebook page
11	Workshop on Foot bridge construction for present Cost Effective Building Construction licensees.
12	Awareness programmes held at Trincomalee & Kegalle District Secretariat Offices on NERDC Foot bridge technology & other technologies.
13	03 Nos. of Advertisements published on Dinamina, Daily News & Thinnakkaran for Open Day on 10 th Nov. 2017.
14	Recorded Captures on Incubator Opening at Main News at ITN & Hiru TV.

6.8.10 Patents processed during the year 2017

Patent applications were forwarded for the following technologies.

Patent No.	Patents	Filing Date
19589	Smoked Fish Processing Unit	09/11/2017
19590	Toe Operated Prosthetic Hand	09/11/2017
19598	Mechanized Device for Slip-form Wall Construction	16/11/2017

6.8.11 Visiting Technology Park and Engineering Museum

Technology Park and Eng. Museum were visited by 11000 Nos. of visitors during the year 2017. The Technology Park will be closed every Monday and open on Saturday.

No. of Visitors to Technology Park and the Eng. Museum in 2017

Students	- 8687
Teachers	- 894
General Public	- 1623
Total income earned	- Rs. 685,900.00

07. Welfare and Religious Activities

In order to enhance the interpersonal relationship, cooperation, teamwork of the staff and staff commitment to the institutional common activities, the NERDC has given special consideration for employee welfare and religious functions. Accordingly, summary of the activities executed by the welfare society and the religious societies in 2017 are as follows;

7.1 Welfare Society

Following activities have been undertaken by the welfare society of the NERDC during the year 2017

- ✚ Organized a Bakmaha Ulela at NERDC on 06 April 2017
- ✚ Blood Donation Campaign in commemoration of the late Vidyajyothi Dr. A N S Kulasinghe, former Chairman of the NERDC was held on 27th October 2017.
- ✚ Organized the Annual Get-together for all Employees and their family members at Kulasinghe Auditorium at NERDC on 29th December 2017.

7.2 Religious Societies

Two religious societies have being actively operated in the NERDC, namely Buddhist society and Catholic society. These societies organize various religious and Corporate Social Responsibility (CSR) programmes and activities in order to enhance the spiritual wellbeing of the NERDC staff members. One prominent feature of these societies is that all employees of the staff are a member of either the Buddhist society or the Catholic society voluntarily.

Following religious activities have been organized by these societies in the year 2017.

7.2.1 Buddhist society

- ✚ Conducted a Seth Pirith chanting ceremony in order to mark commencement of the Centre activities of the year 2017 on 02.01.2017.
- ✚ Conducted a Dharmadeshana (sermon) by Pokunuvita Sri Vinayalankaramawasi Kukulpane Sudassi Thero on 21.03.2017.
- ✚ Conducted a Dharmadeshana (sermon) by Sasthrapathi Poojjya Kimbulapitiya Wimalananda Thero on 08.05.2017.
- ✚ Assisted and attend of Katina Pinkama at Pagnnapradeepa Piriwena, Ambathalawa, Kothmale on 07 & 08.10.2017.
- ✚ An alms giving programme for the children in Jayawardena children's, Home, Weligampitiya on 25.10.2017.

7.2.2 Catholic Society

- ✚ Conducted the annual Christmas Mass on 18.12.2017 at the NERDC.

08. Accounting Policies

8.1.1 Basis of Preparation

Financial Statements, which comprise the Statement of Financial Position, Statement of Performances, Changes in Equity and Cash Flows together with Accounting Policies and Notes to the Financial Statements, have been prepared in accordance with Sri Lanka Public Sector Accounting Standards.

Current accounting period is from 1st January 2017 to 31st December 2017

These Financial Statements are for year ended 31st December 2017.

8.1.2 Basis of Measurement

The Financial Statements of the Centre, which comprise the Statement of Financial Position, Statement of performances, Changes in Equity and Cash Flows have been prepared on the basis that the Centre is going concerns and on a historical cost basis.

8.1.3 Functional and Presentation of Currency

Items included in the Financial Statements of Centre are measured using the currency of the primary economic environment in which the entity operates ('the functional currency'). Financial Statements are presented in Sri Lankan Rupees, which is the Centre's functional and presentation currency unless stated otherwise.

8.1.4 Comparative Information

The Financial Statements for the comparative periods comprise results for the twelve months period from 1st January 2016 to 31st December 2016. In this circumstance, the comparative information for the Statement of Financial Position, Statement of Performances, Statement of Changes in Equity and Cash Flow Statement and related notes are comparable with the current period.

8.1.5 Significant Accounting Judgments, Estimates and Assumptions

The preparation of Financial Statements are in conformity with Sri Lanka Public Sector Accounting Standards requires Management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income, expenses and the disclosure of contingent liabilities. However, uncertainty about these assumptions and estimates could results in outcomes that require material adjustment to the carrying amounts of the assets or liabilities affected in future periods. The Centre's Management has made an assessment of its ability to continue as a going concern and is satisfied that it has the resources to continue in business for the foreseeable future. Furthermore, Management is not aware of any material uncertainties that may cast significant doubt upon the Centre's ability to continue as a going concern. Therefore, the financial statements continue to be prepared on the going concern basis.

8.2 Property, Plant and Equipment

8.2.1 Recognition and Measurement

Cost includes expenditure that is directly attributable to the acquisition of the asset. The cost of self-constructed assets includes the cost of materials and direct labour, any other costs directly attributable to bringing the assets to a working condition for their intended use, the costs of dismantling and removing the items and restoring the site on which they are located and capitalized borrowing costs. Purchased software that is integral to the functionality of the related equipment is capitalized as part of that equipment. When parts of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment. The gain or loss on disposal of an item of property, plant and equipment is determined by comparing the proceeds from disposal with the carrying amount of the property, plant and equipment, and is recognized net value within other income/other expenses in Performance Statement. When revalued assets are sold, any related amount included in the revaluation reserve is transferred to retained earnings.

8.2.2 Revaluation

The items within a class of property, plant and equipment are revalued simultaneously in order to avoid selective revaluation of assets and the reporting of amounts in the Financial Statements that are a mixture of costs and values as at different dates. However, a class of assets is revalued on a rolling basis provided revaluation of the class of assets is completed within a short period and provided the revaluations are kept up to date.

The fair value of items of property, Plant & Equipment, is usually determined from market-based evidence by appraisal. An appraisal of the value of an asset is normally undertaken by a member of the valuation profession, who holds a recognized and relevant professional qualifications. For many assets, the fair value will be readily ascertainable by reference to quoted prices in an active and liquid market.

If the carrying amount of a class of assets is increased as a result of a revaluation, the increase shall be credited directly to revaluation surplus. However, the increase shall be recognized in surplus or deficit to the extent that it reverses a revaluation decrease of the same class of assets previously recognized in surplus or deficit.

If the carrying amount of a class of assets is decreased as a result of a revaluation, the decrease shall be recognized in surplus or deficit. However, the decrease shall be debited directly to revaluation surplus to the extent of any credit balance existing in the revaluation surplus in respect of that class of assets.

Revaluation increases and decreases relating to individual assets within a class of property, plant and equipment has been offset against one another within that class but must not be offset in respect of assets in different classes.

8.2.3 Depreciation

Depreciation is based on the cost of an asset less its residual value. Significant components of individual assets are assessed and if a component has a useful life that is different from the remainder of that asset, that component is depreciated separately. Depreciation is recognised in profit or loss on a straight-line basis over the estimated useful lives of each component of an item of property, plant and equipment. The estimated rates of the current and comparative years are as follows:

<u>Asset Category</u>	<u>Depreciation %</u>
Building	2.5
Office Equipment	15
Tools	15
Demonstration items	15
Computers	33 1/3
Vehicle	15
Furniture & Fittings	10
Plant Machinery & Lab Equipment	15
Library Books	5
Infrastructure	15
Soft ware	33 1/3

8.2.4 De-Recognition

The carrying amount of an item of property, plant and equipment is de-recognised on disposal of or when no future economic benefits are expected from its use or disposal. Gains and losses on de-recognition of the asset are determined by comparing the proceeds from disposal with the carrying amount of property, plant & equipment and are recognized net within 'other income' in the Performance Statement .

8.2.5 Intangible Assets

Intangible assets that are acquired by the Centre and have finite useful lives are measured at cost less accumulated amortisation and accumulated impairment losses. Subsequent expenditure is capitalized only when it increases the future economic benefits embodied in the specific asset to which it relates. Amortisation is based on the cost of an asset less its residual value. Amortisation is recognised in Performance Statement on a straight-line basis over the estimated rates of intangible assets, from the date that they are available for use. The estimated rates for current and comparative years are as follows:

- Software-33 1/3%

8.3 Inventories

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

Chemical stocks and the Work in progress of projects are valued at the cost or net realizable value whichever is lower.

8.4 Trade Receivables

Trade receivables of the Centre are recognized initially at fair value and subsequently measured at amortized cost using the effective interest method, less provision for impairment.

8.5 Cash and cash Equivalents

In the Statement of Cash Flows of the Centre, cash and cash equivalents includes cash in hand, cash at bank, Temporary call deposits & State Institutional Surplus Fund deposits.

8.6 Loans and receivables

Financial assets with fixed or determinable payments that are not quoted in an active market, such assets are recognized initially at fair value plus any directly attributable transaction costs. Subsequent to initial recognition Loans and receivables comprise cash and cash equivalents, trade receivables and amounts due from related parties.

8.7 Financial Liabilities

The Centre classifies non-derivative financial liabilities into the other financial liabilities category. Other financial liabilities comprise trade payables and related party payables. Such financial liabilities are recognized initially at fair value plus any directly attributable transaction costs. The Statement of Financial Position when, and only when, the Centre has a legal right to offset the amounts and intends either to settle on a net basis or to realize the asset and settle the liability simultaneously.

8.8 Employee Benefits

Retirement benefits to employees are provided according to the laid down statutory requirements. Centre 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. Provision is done for the employees from year one of service in the Centre. The funds required for payment of gratuity is given by Treasury when requires. Provision is calculated as follows

(Last drawn Basic Salary plus cost of living & other allowances) x $\frac{1}{2}$ x Completed Number of Years.

8.9 Provisions

A provision is recognized if, as a result of a past event, the Centre has a present legal or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation.

8.10 Provisions, contingent assets and contingent liabilities

Provisions are made for all obligations existing as at the Balance Sheet date when it is probable that such an obligation will result in an outflow of resources and a reliable estimate can be made of the quantum of the outflow. All contingent liabilities are disclosed as a note to the financial statements.

8.11 Revenue

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

a) Sale of Developed Products

Revenue from the sale of developed products, is recognized when the significant risk and rewards of ownership of the products have passed to the buyer with the Centre retaining neither a continuing managerial involvement to the degree usually associated with ownership, nor an effective control over the products which are sold.

b) Rendering of Services

Revenue from rendering of services is recognized in the accounting period in which the services are rendered or performed.

c) Construction Revenue

Construction revenue is recognized by reference to the stage of completion where the contract outcome cannot be measured reliably and revenue is certain.

d) Taxes

Taxes include Income Tax, Value Added Tax, Nation Building Tax. Centre Companies in the Centre pay such taxes in accordance with the respective statutes.

e) Interest Income

Interest income is recognized as and when the interest accrues.

f) Gains and Losses on Disposal of Assets

Net gains and losses of a revenue nature arising from the disposal of property, plant and equipment and other non-current assets, are accounted for in the Income Statement, after deducting from the proceeds on disposal, the carrying amount of such assets and the related selling expenses. Gains and losses, arising from activities incidental to the main revenue, generating activities and those arising from a Centre of similar transactions which are not material, are aggregated, reported and presented on a net basis.

g) Other Income

Other income is comprised with net income of Technology Transfer Projects which are completed, Interest income on call deposits, Liquidity damages, Bond income, Interest on loans, Nonrefundable deposits, Registration of Suppliers, Sundry income, Damaged Stock disposal income, Gain on disposal of assets and overhead recovery etc.

h) Differed Income

Where the Capital grant relates to an asset released from the general treasury, when the recurrent grant relates to an expense item, it is recognized as income over the period necessary to match the grant on a systematic basis to the costs that it is intended to compensate.

8.12 Grants

Grants are recognized when there is reasonable assurance that the grant will be received and all attaching conditions will be complied with. When the recurrent grant relates to an expense item, it is recognized as income over the period necessary to match the grant on a systematic basis to the costs that it is intended to compensate. Where the Centre receives non-monetary grants, the asset and that grant are recorded at fair value.

8.13 Expenditure and Presentation in Income Statements

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

8.14 Research and Development Expenditure

Research & Development projects are mainly funded by the Treasury. If Research projects are partly funded by a client this income is taken against the expenditure.

When costing the research projects only the direct cost considered.

8.15 Awards to Winning Research Engineers

The Members of BoDs. approved to reimburse some of the funds received through awards to the NERDC, among the applicable Research Engineers, as per the following .

- a) Reimbursement of 60% of the award money among the Researchers involved in award winning Research Projects. Researchers would be identified as those, who were responsible for the submission of the applications for the awards.
- b) Allocated amount is distributed among the team members proportional to the salary as at the date of application closing date.
- c) This will apply to past awards and future awards.
- d) For the past awards, reimbursement will be done only to the Researchers, who are at service of NERDC at present (but for calculation, all the team members will be considered.)
- e) The amount identified for Researchers, who are not presently employed would be retained along with the 40% of the award money for future activities of NERDC in promoting the research culture.

09. Statement of Financial Position as at 31.12.2017

	<u>2017</u>	<u>Restated 2016</u>
Assets		
Current Assets		
Cash & Cash Equivalent	136,516,464.38	95,484,593.69
Trade Receivables	2,835,586.32	26,268,321.13
Inventories	9,254,216.45	9,372,054.11
Pre - Payments	815,851.44	701,155.98
Other Current Assets	79,959,745.12	45,736,233.42
	<u>229,381,863.71</u>	<u>177,562,358.33</u>
Non-Current Assets		
Property ,Plant & Equipment	547,326,563.44	581,193,032.51
Other Intangible Assets	345,770.45	312,420.45
Other non-current Assets	26,771,564.62	25,651,942.83
	<u>574,443,898.51</u>	<u>607,157,395.79</u>
Total Assets	<u>803,825,762.22</u>	<u>784,719,754.12</u>
Liabilities		
Current Liabilities		
Trade & Other Payables	38,330,467.02	33,169,313.17
Total Current Liabilities	<u>38,330,467.02</u>	<u>33,169,313.17</u>
Non - Current Liabilities		
Provision for Gratuity	101,529,300.36	98,094,019.75
Security Deposit	6,200.00	6,200.00
	<u>101,535,500.36</u>	<u>98,100,219.75</u>
Total Liabilities	<u>139,865,967.38</u>	<u>131,269,532.92</u>
Total Net Assets	<u>663,959,794.84</u>	<u>653,450,221.20</u>
Differed Income	67,626,350.93	103,967,207.79
Capital contributed by the	302,607,774.43	250,560,299.26
Revaluation Reserve	535,207,831.83	535,275,831.83
Accumulated surplus/(deficits)	<u>(241,482,162.35)</u>	<u>(236,353,117.68)</u>
Total Net assets/Equity	<u>663,959,794.84</u>	<u>653,450,221.20</u>



Eng. W J L S Fernando
Chairman



Eng. D D Ananda Namal
Director General



D V S Perera
Director Finance

10. Statement of Financial Performances for the year ended 31.12.2017

Figures in Rs.

	2017	Restated 2016
Revenue		
Transfers from the government entities	259,040,000.00	231,025,150.00
Differed Income	57,860,922.57	53,875,510.82
Other Income	23,774,133.92	28,015,620.20
Total Revenue	340,675,056.49	312,916,281.02
Expenditure		
Administrative Cost	255,830,901.09	236,291,492.37
Other Expenses	27,454,993.39	21,116,555.70
Depreciation	62,471,359.75	59,596,057.96
Financial Cost	46,846.93	94,439.63
Total Expenditure	345,804,101.16	317,098,545.66
Surplus/(Deficit) for the period	(5,129,044.67)	(4,182,264.64)

11. Cash Flow statement for the Year ended 31.12.2017

	<u>2017</u>	Figures in Rs. <u>Restated 2016</u>
Net Cash flows from operating activities		
Surplus/(deficit) from ordinary activities	(5,129,044.67)	(4,182,264.64)
Non- Cash movements		
Depreciation	62,471,359.75	59,596,057.96
Increase in provision for bad debts	(113,107.71)	(1,042,716.03)
Increase/(decrease) in differed Income	(57,860,922.57)	(53,875,510.82)
Increase/(decrease) in payables	2,331,280.27	(9,207,023.19)
Increase/(decrease) in relating to employee costs	6,251,393.36	(33,468.75)
(Gains)/losses on sale of property, plant and equipment	1,216,644.34	1,523,208.79
(increase)/decrease in other current assets	(35,326,230.46)	15,730,337.84
(Increase)/decrease in receivables	23,545,842.52	(12,407,293.17)
Net Cash Flows from operating activities	<u>(2,612,785.17)</u>	<u>(3,898,672.01)</u>
Cash Flow From Investment Activities		
Purchase of Assets	(30,995,305.45)	(37,622,266.37)
Proceeds from sales of equipment	1,072,420.43	-
Net Cash Flows from Investment Activities	<u>(29,922,885.02)</u>	<u>(37,622,266.37)</u>
Cash Flow From Financing Activities		
Capital grant	37,997,000.00	31,114,964.00
Funds from Sri Lanka Inventors Commission	35,570,540.88	
Net Cash Flow from Financing Activities	<u>73,567,540.88</u>	<u>31,114,964.00</u>
Net Increase/(Decrease) in Cash & Cash equivalents	<u>41,031,870.69</u>	<u>(10,405,974.38)</u>
Cash & Cash Equivalent at beginning of the period	<u>95,484,593.69</u>	<u>105,890,568.07</u>
Cash & Cash Equivalent at end of the period	<u>136,516,464.38</u>	<u>95,484,593.69</u>

12. Statement of Changes in Equity as at 31.12.2017

	Capital Introduced	Contributed Capital	Non Cash Grants From Treasury	Differed Income	Capital from Other sources	Re stated Revaluation surplus	Accumulated Surplus/ (Deficit)	Total Net Assets/ Equity	Balance As At 31.12.2016
Balance as at 01/01/2016	1,000,000.00	56,124,025.77	51,325,000.00	120,285,393.23	148,553,634.87	535,275,831.83	(232,170,853.04)	680,393,032.66	472,808,421.99
Changes in equity for 2016									
Capital Grant received		31,114,964.00						31,114,964.00	31,798,897.00
Vehicle Grant									7,975,000.00
Net of Capital purchase less recoverable		(37,557,325.38)		(16,318,185.44)				(53,875,510.82)	(39,230,133.16)
Depreciation to Differed Income									
Capital Reserved From other Sources									28,568,545.00
Surplus/Deficit for the period							(4,182,264.64)	(4,182,264.64)	(2,238,655.09)
Increase in revaluation reserve									180,710,956.92
Balance as at 31/12/2016	1,000,000.00	49,681,664.39	51,325,000.00	103,967,207.79	148,553,634.87	535,275,831.83	(236,353,117.68)	653,450,221.20	680,393,032.66
Changes in equity for 2017									
Capital Grant received - Treasury		37,997,000.00						37,997,000.00	31,114,964.00
Funds from Sri Lanka Inventors Commission		35,570,540.88						35,570,540.88	
Vehicle grant									
Net of Capital purchase less recoverable		(21,520,065.71)		(36,340,856.86)				(57,860,922.57)	(53,875,510.82)
Depreciation to Differed Income									
Capital Reserved From other Sources									
Surplus/Deficit for the period							(5,129,044.67)	(5,129,044.67)	(4,182,264.64)
Increase in revaluation reserve						(68,000.00)		(68,000.00)	
Balance as at 31.12.2017	1,000,000.00	101,729,139.56	51,325,000.00	67,626,350.93	148,553,634.87	535,207,831.83	(241,482,162.35)	663,959,794.84	653,450,221.20

13. Notes to the Accounts as at 31.12.2017

Figures in Rs.

01.Previous Year Adjustments

Ref No	Description	Details of Adjustment			2016	Balance Before 01.01.2016	Effect ta the Balance Sheet
		2016	After				
1.1	RED/COM/67/15 Zoological garden -Over provision of Rs.45,226.00 in the Balawardena Engineering contract bill in 2016 is reverse	Income	7,270,099.38	7,270,099.38	45,226.00		Reduction in trade creditors
		Expenditure	(7,446,982.65)	(7,401,756.65)			
		Net Surplus/(Deficit)	(176,883.27)	(131,657.27)			
1.2	Rs. 138,563 has been credited to CVL/47/16 Civil Engineering Laboratory Testing instead of CVL/com 42/16 Minor Consultancy done by Civil Dept.& CVL/COL 45/16 Manufacturing of Pre- stressed building components.	CVL/47/16	declared in 2016	After adjustment	(138,563.00)		No effect
		Income	670,841.65	532,278.65			
		Expenditure	(267,883.11)	(267,883.11)			
		Net Surplus/(Deficit)	402,958.54	264,395.54	15,000.00		
		CVL/ 42/16	declared in 2016	After adjustment			
		Income	188,832.24	203,832.24			
		Expenditure	(99,232.71)	(99,232.71)	123,563.00		
		Net Surplus/(Deficit)	89,599.53	104,599.53			
		CVL/45/16	declared in 2016	After adjustment			
		Income	582,798.87	706,361.87			
		Expenditure	(499,825.06)	(499,825.06)			
		Net Surplus/(Deficit)	82,973.81	206,536.81			
1.3	Rs. 55,000.00 has been credited to EMC/Com/40/16 Industrial process monitoring and consultancy done by E&EMC instead of Technology Transfer	EMC/40/16	declared in 2016	After adjustment	(55,000.00)		No effect
		Income	1,024,621.01	969,621.01			
		Expenditure	(623,782.24)	(623,782.24)			
		Net Surplus/(Deficit)	400,838.77	345,838.77	55,000.00		
		TT renewal charges	161,932.77	216,932.77			

Ref No.	Description	Details of Adjustment		2016	Balance Before 01.01.2016
1.4	Lamp Testing Project. In The Year 2010 Work Orders Not Taken To Income Has Not Taken WO No 531 583 695 766 939 According to Department of Electrical & Electronics Work order No 551 & 554 was placed to the same request letter of SLSI amounting to Rs 153,200.00.Both theses work orders have been invoiced. After detecting the mistake excess payment was setoff to Work order 575 amounting to Rs 141,300.00 . This has resulted a over invoice of Rs 11,900.Over invoice 575 554		8,100.00 24,300.00 8,100.00 8,100.00 24,299.92 141,300.00 (153,200.00)		72,899.92 -11,900.00
1.5	Resource persons cost have been erroneously charged to another project	RED/Com/112/16	declared in 2016 After adjustment		
		Income	225,826.02	225,826.02	
		Expenditure	(171,936.22)	(144,936.22)	
		Net Surplus/(Deficit)	53,889.80	80,889.80	27,000.00
		RED/Com/121/16			
		Income	178,940.00	178,940.00	
		Expenditure	(48,696.50)	(75,696.50)	
		Net Surplus/(Deficit)	130,243.50	103,243.50	(27,000.00)
1.6	RED/RES/92/13 Implementing Fuel wood 2013-2016 Expenditure Reimbursement of Expenditure in 2013 Total Cost		declared in 2013-2016 After adjustment 1,314,093.79 (600,000.00) 714,093.79		
				1,314,093.79	(600,000.00)

Ref No	Description	Details of Adjustment			2016	Balance Before 01.01.2016	Effect to the Balance Sheet
1.7	RED/com/67/15 Dehiwela Zoological Gardens Value of work done is under provided	RED/Com/67/15	declared in 2016	After adjustment			Increase in debtors
		Income	7,270,099.38	7,516,626.76			
		Expenditure	(7,446,982.65)	(7,446,982.65)			
		Net Surplus/(Deficit)	(176,883.27)	69,644.11	246,527.38		
1.8	Honorarium payment made to Dr. N Somaratne was taken to income account as he has refused to claim for the service				2,000.00		Decrease in Creditors
1.9	RED/RES/108/2016 Refrigerator Testing Research expenditure is reduced		declared in 2016	After adjustment			Increase in debtors
		Income	240,000.00	319,999.55			
		Expenditure	(257,687.13)	(257,687.13)			
		Net Surplus/(Deficit)	(17,687.13)	62,312.42	79,999.55		
1.10	Over provision in Incentive and administrative deductions and potion of resigned employees Incentive		declared in 2016	After adjustment			Reduction in liabilities
			6,313,171.34	5,175,398.43	1,137,77291		
1.11	As the some assets were duplicated in the revaluation as at 31/12/2015 is now adjusted FA 0003478 Outside Micro meter set		Cost	Depreciation			Revaluation reserve is reduced by Rs.68,000.00 and 2016 Performance will be increased by Rs.10,200
			68,000.00	10,200.00	10,200.00		
1.12	Project RED/COM/144/14- Repairing Crematorium Habaraduwa		declared in 2015	After adjustment			Reduction in Value of work done
		Income	1,706,666.70	1,678,237.43			
		Expenditure	(1,244,893.00)	(1,244,893.00)			
		Net Surplus/(Deficit)	461,773.70	433,344.43		(28,429.27)	

Ref No.	Description	Details of Adjustment		2016	Balance Before 01.01.2016	Effect to the Balance Sheet
1.13	Project CVL/COM/1/91/2015- Reduction of provision made for Propose Clinical building (No Suggestions) consultancy		declared in 2015 After adjustment			
		Income	820,593.86	820,593.86		
		Expenditure	(153,735.64)	(139,185.64)		
		Net Surplus/(Deficit)	666,858.22	681,408.22	14,550.00	Reduction in the provision mad for after sales services.
1.14	RED/COM/1/91/2014- Teaching Hospital Anuradhapura Construction of Bio gas unit Under stated working progress of Rs.120,471.98 is accounted and unrecoverable credit Invoice is written off with reference to the board meeting No 8-2017 on 29/8/2017,Board paper No		declared in 2014 After Adjustment			
		Income	700,500.00	396,282.86	(304,217.14)	
		Expenditure	(494,331.30)	(494,331.30)		
		Net Surplus/(Deficit)	206,168.70	(98,048.44)		
1.15	Provision made in 2015 has been charged to Capacity building in 2016		Declared in 2016 After Adjustment	150,000.00		
		Expenditure	2,959,071.30	2,809,071.30		
1.16	Accumulated Depreciation in Library books have been overstated				568,528.97	Reduction in accumulated depreciation brought forward in 2007
1.17	Understatement of depreciation on assets damage during the EMC Department fire			(5,895.21)		Accumulated depreciation in Equipment will be increase
1.18	Differed income overstated in Equipment			(4,304.79)		.
1.19	CVL/COM /02/85/2015Construction of Proposed Building for Vidatha Centers at Nallur,Sandilipay,Saintha marudu and Kahawaththa Income is overstated		declared in 2016 After adjustment			
		Income	16,677,550.94	16,618,087.59	(59,463.35)	Working progress is reduced
		Expenditure	(13,383,893.14)	(13,383,893.14)		
		Net Surplus/(Deficit)	3,293,657.80	3,234,194.45		

Ref No.	Description	Details of Adjustment			2016	Balance Before 01.01.2016.	Effect to the Balance Sheet
1.20	Corporate Income Tax payable Withholding tax on Interest for the year 2016 Corporate Tax payable for 2016				386,480.07 (457,563.21)		Net income is increased
1.21	CVL/COM /86/11 Construction of Nurses Quarters Overstatement of work in progress		declared in 2014&2015	After adjustment		(1,698,534.58)	
		Income	25,769,609.15	24,071,074.57			
		Expenditure	(26,579,863.43)	(26,579,863.43)			
		Net Surplus/(Deficit)	(810,254.28)	(2,508,788.86)			
1.22	Supply and delivery & Installation of Earth plate with connecting Earth bar and supply & Installation of copper tape was not delivered to NERDC stores their fore it has not been captured under creditors in year 2016. As per the recommendation of HOD Electrical Mrs. N Wijesiriwardena on 2/11/2017 "This work is already completed(Installed at RED outside premises as the main earthing system to the building while				(51,880.00)		
1.23	RED/COM/83/16 Over provision of after sale services RED/COM/84/16 Over provision of after sale services		Declared in 2016	After adjustment			Creditors will be Decrease
		Income	740,000.00	740,000.00			
		Expenditure	(722,604.53)	(677,864.74)	44,739.74		
		Net Surplus/(Deficit)	17,395.47	62,135.26			
		Income	685,000.00	685,000.00			
		Expenditure	(498,235.34)	(459,441.98)	38,793.36		
		Net Surplus/(Deficit)	186,764.66	255,558.02			

02. Deposits kept as securities for Guarantee Bonds

Guarantee is issued to	Guarantee Bond No/Date	Certificates Pledge as Security	Amount Rs.	Bank	Bond Value Rs.
Toyota Lanka Pvt. Ltd	15/2008- 19/12/2017- 18/12/2018	C/33734579-507908	100,000.00	BOC Ja-ela	75,000.00
Municipal Commissioner- Kurunegala	10/2017 21/12/2017- 21/12/2018	1057614-81889909 1057615-81889925 1057616-81889906	1,000,000.00 1,000,000.00 1,000,000.00	BOC Ja-ela	2,845,000.00

03. Disposal of Fixed Assets

Figures in Rs.

Asset Category	Cost	Accumulated Depreciation	W D V	Proceeds	Profit/(loss)
Computer	463,250.00	154,401.23	308,848.77		(308,848.77)
Demonstration	73,000.00	10,950.00	62,050.00		(62,050.00)
Furniture Fittings	52,066.76	5,210.59	46,856.17		(46,856.17)
Equipment's	675,040.00	101,084.40	573,955.60		(573,955.60)
Motor Vehicle	765,000.00	172,209.95	592,790.05	1,072,420.43	479,630.38
Office Equipment	301,000.00	45,150.00	255,850.00		(255,850.00)
Plant and Machinery's	90,968.46	13,328.57	77,639.89		(77,639.89)
Tools	436,120.30	65,046.01	371,074.29		(371,074.29)
	2,856,445.52	567,380.75	2,289,064.77	1,072,420.43	(1,216,644.34)

04. Vehicle Accidents during the Year

Figures in Rs.

Vehicle No.	Date of Accident	Estimate Cost of Damage	Insurance Agent	Claim Form Handover On	Claim value Recovered	Claimed Received Date	Uncovered Amount	Un Recovered Amount Settled by
NB-3275	03/03/2017	154,956.75	SLI	01/07/2017	154,956.75	20/07/2017		NERDC
NB-3275	03/04/2017	11,650.00	SLI	05/05/2017	11,650.00	15/12/2017	-	-
KX-7908	02/05/2017	56,075.06	SLI	15/06/2017	56,074.86	20/06/2017	00.20	NERDC
KX-7908	03/05/2017	62,479.11	SLI	15/06/2017	62,479.07	20/06/2017	00.04	NERDC
PD-8992	10/10/2017	61,200.00	SLI	20/12/2017	Pending	Pending	61,200.00	-

As per the letter dated 11/1/2018 from Sri Lanka Insurance Corporation Ltd, they have notified the Centre that compulsory excess of Rs. 100,000.00 due to bad claimed experiences on the vehicle No PD 8992 has prevented of having benefits of the claim.



D A M Munasinghe
Director (Human Resources)

05. Temporary deposits

Funds received as bond Income from NERDC employees who has left the services before completion of the bond period is invested in State Institutions Temporary Surplus Trust Fund maintained at Bank of Ceylon ,a sum of Rs.8,994,089.90 with dividends & interest and withdrawal of Rs.1,500,000.00 to pay the Special loan advance as per the circular 1/2017 from finance and Mass media on 31/07/2017 at present balance is Rs. 11,792,691.52 as at 31.12.2017 .

Advances received from the customers are secured in the form of temporary call deposits with the bank, until such time it is used for the purpose. Interest earned is shown under other income.

06. Work in progress in ongoing projects

In the year 2016 Work in progress in ongoing projects has been disclosed under other current assets in reporting year it has been shown under inventories.

Cash Flow Note For The Year Ended 31st December 2017

Figures in Rs.

	<u>2017</u>	<u>2016</u>
01. Cash flow from Operating activities		
Receipts	61,955,983.77	62,117,386.02
Recurrent & Research Grants	259,040,000.00	231,025,150.00
Interest Received	7,855,255.50	5,571,196.02
Other Receipts	1,893,816.75	3,177,530.02
Differed income	(0.00)	-
Payments	-	-
Employee Cost	(216,162,656.43)	(191,785,507.08)
Superannuation cost	7,853,764.92	(6,399,166.50)
Supplies	(60,912,933.40)	(81,987,656.93)
Other Payments	(63,524,759.22)	(25,617,603.56)
Tax	(611,302.06)	
Net Cash flow from Operating Activities	<u>(53,678,657.93)</u>	<u>(3,898,672.01)</u>
Cash Flow From Investment Activities		
Purchase of assets	(30,995,305.45)	(37,622,266.37)
Proceeds from sales of assets	1,072,420.43	-
Net Cash Flows from Investment Activities	<u>(29,922,885.02)</u>	<u>(37,622,266.37)</u>
Cash Flow From Financing Activities		
Capital grant	73,567,540.88	31,114,964.00
Net Cash Flow from Financing Activities	<u>73,567,540.88</u>	<u>31,114,964.00</u>
Net Increase/(Decrease) in Cash & Cash equivalents	<u>41,031,870.69</u>	<u>(10,405,974.38)</u>
Cash & Cash Equivalent at beginning of the period	<u>95,484,593.69</u>	<u>105,890,568.07</u>
Cash & Cash Equivalent at end of the period	<u>136,516,464.38</u>	<u>95,484,593.69</u>

Notes to the Cash Flow Notes for The Year Ended 31st December 2017

Figures in Rs.

	<u>2017</u>	<u>2016</u>
2. Non Cash Transactions		
Vehicles received from Treasury	-	-
	-	-
3. Cash & Cash Equivalent		
Bank of Ceylon Ja-ela Branch A/C No 404949	10,507,686.29	2,173,287.47
Bank of Ceylon Ja-ela Branch A/C No 405005	21,189.09	106,284.36
Bank of Ceylon Ja-ela Branch A/C No 404956	1,214,636.27	429,001.16
Bank of Ceylon Corporate Branch A/C No 1667	5,331,410.73	1,222,056.52
Cash in Hand	9,358.41	91,473.87
Temporary Call Deposits-Ja-ela Branch	53,000,000.00	39,800,000.00
Temporary Call Deposits-Corporate Branch	55,000,000.00	39,500,000.00
State Institutional Temporary Surplus Fund	11,432,183.59	12,162,490.31
	136,516,464.38	95,484,593.69

14. Report of the Auditor General on the Financial Statement



ජාතික විගණන කාර්යාලය தேசிய கணக்காய்வு அலுவலகம் NATIONAL AUDIT OFFICE



මගේ අංකය
எனது இல.
My No.

TEC/B/NERDC/1/17/49

ඔබේ අංකය
உமது இல.
Your No.

දිනය
திகதி
Date

09 November 2018

The Chairman,

National Engineering Research and Development Centre of Sri Lanka.

Report of the Auditor General on the Financial Statements of the Sri Lanka National Engineering Research and Development Centre for the year ended 31 December 2017 in terms of Section 14 (2) (c) of the Finance Act. No. 38 of 1971.

The audit of Financial statements of the National Engineering Research and Development Centre of Sri Lanka for the year ended 31 December 2017 comprising the statement of financial position as at 31 December 2017 and the statement of financial performance, statement of changes in equity and cash flow statement for the year then ended and a summary of significant accounting policies and other explanatory information, was carried out under my direction in pursuance of provisions in Article 154 (1) of the Constitution of the Democratic Socialist Republic of Sri Lanka read in conjunction with Section 13(1) of the Finance Act, No.38 of 1971 and Section 02 and sub section 01 of the state Industrial corporations Act, No. 49 of 1957 and in terms of the notification published in the Gazette Extraordinary No. 124/6 of 14 August 1974. My comments and observations which I consider should be published with the Annual Report of the centre in terms of Section 14 (2) (c) of the finance Act appear in this report.

1.2 Management's Responsibility for the 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.

අංක 306/72, පොල්දූව පාර, බත්තරමුල්ල, ශ්‍රී ලංකාව

இல. 306-72, பால்துவ வீதி, பத்தரமுல்லை, இலங்கை.

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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 Auditing Standards of Supreme Audit Institutions (ISSAI 1000-1810). Those Standards require that, I comply with the ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatements of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Centre'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 Centre'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.

2. Financial Statements

2.1 Opinion

In my opinion, the financial statements give a true and fair view of the financial position of the National Engineering Research and Development Centre of Sri Lanka as at 31 December 2017 and its financial performance for the year then ended in accordance with the Sri Lanka Public Sector Accounting Standards.



2.2 Comments on Financial Statements

2.2.1 Accounting Deficiencies

Amounting to Rs. 359,248 had been incurred by the centre on the advice of the Ministry as fee for releasing from the port, 6 equipment for cleaning drinking water received by the Government of Japan as a gift to a private institution and, it had been accounted as a promoting research expenditure Instead of accounted as receivable money.

2.3 Accounts Receivable and Payable

The following observations are made.

- (a) Action had not been taken even by July 2018, the date of audit, to recover the retention money amounting to Rs. 482,122 of 04 commercial projects completed and hand over by the centre of which the defect liability period had expired.
- (b) Receivable amounting to Rs. 970,622 had not been recovered even by October 2018, remaining from 24 months to 18 months period in relevant of 04 projects had completed by the institution.

3. Financial Review

3.1 Financial Results

The following observations are made.

According to the financial statements presented, the financial result of the Centre for the year ended 31 December of the year under review had been a deficit of Rs. 5,129,045 as compared with the corresponding deficit of Rs. 4,182,265 for the preceding year, thus the deficit of the year under review had increased by Rs. 946,780 compared with the preceding year. Despite increase in the administration expenditure by Rs.19,539,409 increase in the other expenditure by Rs. 6,338,438, increase in the depreciation by Rs. 2,875,302 and decrease in other income by Rs. 4,241,487 the increase in the Government Grants by Rs. 28,014,850 and differed income by Rs. 3,985,412 in the year



under review as compared with the preceding year had mainly attributed to the increase in the deficit.

In the analysis of financial results of the year under review and 04 preceding years, Even though the deficit amounting to Rs. 28,114,860 of the year 2013 had decreased up to Rs. 2,238,655 by the year 2015, it had increased up to Rs. 5,129,045 by the year 2017. Nevertheless, in considering the employees remuneration and the depreciation on non-current assets, the contribution of the Centre amounting to Rs. 191,433,742 in the year 2013 had increased continuously up to Rs. 272,949,075 by the year under review.

4. Operating Review

4.1 Performance

4.1.1 Activity and Review

The following observations are made.

- (a) Awareness programme and 03 training programme for low cost construction technology had been held in the year under review and 253 had been participated for that. Although targeted to transfer this technology for 14 persons, only 03 persons had been concentrated to received relevant technology. According to this targeted objectives had not been achieved from Awareness programmes.
- (b) Although it had been targeted to submit 55 licenses from 21 technologies introduced by the centre in the year under review, it could submitted only 23 income from 9 technologies. 08 technologies among them over period from 2008-2012 introduced by the centre and technologies introduced over period from 2013-2017 had not been popular.
- (c) Amounting to Rs. 14,992,213 cost incurred for technology and 20 technologies equipments had been introduced by the centre for period 2013-2017. But it had been technology transferred only 02 technologies cost of Rs. 312,102 as at 31 December in the year under review. It had not been socialized non of introduced other technologies out of 18 as at 31 December in the year under review.



- (d) Although it had been targeted to renewals 100 licenses in the year review, 46 licenses had been renewed. It was observed that unable to issuing new licenses and renewals for target level due to lack of interest of enterprise about technology that expected to introduce. The centre had not been focused ensuring trust among public about technologies of centre, take action to prevention out dated introduced technologies, expand advertising.
- (e) Although the centre introduced 20 technologies during the period 2013-2017, it was observed that only 04 technologies had been for patent.
- (f) A project to produce a machine that aquatic plant removal in tanks for the ministry of fisheries and animal production of the southern provincial council had been commenced on 21 June 2016 and it had been planned to finalize by 09 September 2016. The ministry had been requested that to take a action speed up research work to produce the machine. However date extended 3 times it had not been completed to produce machine for 31 December 2017. Cost of Rs. 368,364 had been incurred for the project.
- (g) A project to produce automatic yogurt filling and sealing machine had been scheduled to be started on 01 February 2017 and expected to completed by 31 December 2017 and is estimated cost of Rs. 560,000. Project period had been extended up to 28 February 2018 due to unable to complete within relevant period. Even though the amounting to Rs. 576,247 cost incurred as at date of audit July 2018 this project had not been completed.
- (h) A project to produce a high quality oil extraction machine using coconut powder had been started in the year under review and the centre was responsible according to an imported machine from Korea, the model was developed, tested, improved and finally, produce such 4 machines. The model machine and one more machine at a cost of Rs. 2,240,104 although it had been identified that problems with the temperature control system, raw material does not come out from inside reliable, It had not been suitable remedies. Although, the Project had been to produce 4 machines, it had not been arrived expected objectives due to the production of one machine.



4.2 Management Activities

The following observations are made.

- (a) Two projects costing of Rs. 313,572 completed in the year 2016 had been failed due to identify shortcomings in the research stage and it had not been focus to successful the project using appropriate technology for avoid that shortcomings.
- (b) It was observed that the project conducted by the centre had not been completed in the expected time period in most of the time. Although it was planned to complete 20 projects within 2 months to 24 months started in the 2014-2016 period according to the sample audit testing. But it had been extended days the period from 6 months to 31 months due to failure to complete within the relevant period. The project completion had been delayed due to planning shortcoming, no formal agreement with external parties, and the disagreement between the both parties in the continued the project.
- (c) A project to manufacture a machine for testing the textile industry for the handloom industry had been started on 08 December 2015 and as a first stage, a machine worth Rs. 840,950 had been manufactured it had been submitted to the Department of Industry on 23 December 2016. Although it was reported to the centre by department of industry at the date of audit in July 2018 at six occasion in respect of issues of the machine from time to time and the machine had not been enable to implementation. Although it was expected to upgrade this machine of ii stage in terms of agreement, it had not been achieved.
- (d) A project for the construction of a new crematorium with high technologies at a cost Rs. 5,690,000 was estimated, had been scheduled to started on 05 February 2016 and expected to complete by 30 March 2018 and the project period had been extend to 30 September 2018. Even though a sum of Rs. 4,766,748 had been spend for that as at that date but project had not been completed.
- (e) Two projects had been commenced in 2014 collaboration with department of Agriculture Development and Agrarian Services department to control the landing



salt water in the canal of waggal modara in Galle and rice research institute in Bentara and it had been expected to complete as at December 2014. A sum of Rs.218,108 had been spent for two projects to as at date of audit in July 2018 but they had not completed. Project work delayed due to lack of disagreements between the two parties, not entered in to formal agreements.

4.3 Identified losses

A loss amounting to Rs. 2,771,188 had been occurred from 10 commercial projects which had completed in the period of 2015-2017, on the reason of expenditure in cure more than the revenue.

5 Sustainable Development

5.1 Approaching the Sustainable Development Goals

- (a) In terms of the “vision 2030 Agenda” of United Nations, regarding Sustainable Development Goals, Every Government institute should approach it self, and the institute aware of the way should be implement regarding activities under the scope of the institute for the year under review. But the Institute had not been identified sustainable Development Goals under the scope of the institute.
- (b) Although aware of the above, it had not been possible to identify the achievement of sustainable development goals and targets for achieving these targets and indications for reaching targets. As well as it had not been identified relevant financial allocations to build an accurate data base for measure reach the targets, the need for skilled workers or the physical facilities.



6. Accountability and Good Governance

6.1 Procurement and Contract Procedure

The following observations are made.

- (a) Although a detailed procurement plan should be prepared indicating time for each phase of the procurement process according to 4.2.1 (c) in terms of Government procurement Guide Line, that had not been done in that manner.
- (b) Although the centre had introduced low cost construction techniques, a contract of rehabilitation of front office building had been awarded to a external contractor at a contract value of Rs. 7,868,607.

7. Systems and Control

Deficiencies in Systems and Controls observed during the course of audit were brought to the notice of the chairman of centre from time to time. Special attention is needed in respect of the following areas of system and controls.

Areas of systems and control

Observations

- | | |
|----------------------------|--|
| (a) Staff Management | Delays in holding efficiency bar examinations. |
| (b) Procurement Management | <ol style="list-style-type: none"> (i) obtaining performance guarantees after receiving the goods at the centre (ii) It had not been received recommendations as proper function of goods prior to approving payments, (iii) Technical Evaluation Committee Reports had been issued without dates (iv) There were instances goods purchased which had not been include in the procurement plan |



- (v) There were a big variations between the estimated cost and the actual cost
- (vi) There were instances to supply of goods with a long period after placing of orders
- (vii) There were occasions when all members had not signed the opening Bid Committee Reports

(c) Recruitment and promotion

- (i) Although had been received Treasury approval for fill the vacancies but action had not been taken to done recruitments

- (ii) There were instances all officers were not signed on the documents interview board documents

(d) Project management

- (i) In the instances of extended of project period there were instances not give reasons therefore

- (ii) Before commencement of the projects there were instances not entered in to formal agreements

Sgd./ H.M. GAMINI WIJESINGHE
Auditor General

H.M.Gamini Wijesinghe
Auditor General

15. Observation of the Board of Directors for the Report of the Auditor General

Observation of the Members of Board of Directors with regard to the Report of the Auditor General on the Financial Statements of the National Engineering Research and Development Centre of Sri Lanka for the year ended 31st December 2017 in terms of Section 14(2)(c) of the Finance Act, No. 38 of 1971.

2.2. Comments on Financial Statements

2.2.1 Accounts Deficiencies

As per the instructions of Ministry of Science, Technology and Research, the Centre made the payment and receipt for releasing the water purification equipment from the category of Technology Popularization Expenditure. This has been informed to the Ministry in writing. After receiving the amount mentioned above from the Ministry, it is absorbed as the income of technology popularization expenses.

2.3 Accounts Receivable and Payable

(a.) The 4 Nos. of projects related to the retention money are as follows;

(i). Construction of Crematorium at Dimbulagala.	= Rs.128,176.92
(ii). Construction of Crematorium at Elahara.	= Rs.128,176.92
(iii). Construction of an Incinerator at Dehiwala Zoo.	= Rs.141,167.01
(iv). Installation of a Flap Gate at Wilgoda.	= <u>Rs. 84,601.60</u>
Total	= Rs.482,121.85
	=====

Above 4 projects had been completed and handed over to the relevant authorities. The several requests had been made to the relevant authorities orally as well as in writing. Further, we are still trying our best to obtain these due retention money.

(b). Explanations regarding the 4 projects mentioned are as follows;

Construction of Biogas System for Kurunegala Teaching Hospital

The Centre had undertaken the construction of Biogas System to Kurunegala Teaching Hospital at the request made by then Hospital Director. At the initial stage, although, we both parties (NERDC & Hospital Management) agreed 3 locations in Hospital premises for construction of the digesters, the Hospital Management changed the site locations from time to time. Finally, the construction of digesters had been completed and handed over the system to the Hospital Authority under the working / operating condition of the system on 30/05/2016.

To maintain the continuous working condition of the biogas digesters the feeding materials (such as kitchen waste, vegetable wastes, food wastes, etc.) had to be transported/taken through the accesses very close to the nearby wards. (This happened due to change of locations of digesters.) But, those waste materials gave some bad smell, around the ward area and the several complaints from patients, Hospital Staff etc. were received by the Hospital Management. In the meantime, the Hospital Director related to this project had been transferred to another Hospital and a new Director had undertaken the Hospital Management. The new Director received the complaints regarding bad smell emitting from the biogas digesters and he had decided to suspend the

operations of the biogas system. And as per the observations made by the NERDC experts, the inlets to the digesters had been fully covered / sealed with concrete. Therefore, operations of the system had been stopped.

Although, the Centre had handed over the total biogas system in working conditions to the Hospital Authority, due to the present day not operating conditions, the Hospital Authority has not considered to pay the due amount to the NERDC Centre, even with several oral and written requests made. But, still we are trying to obtain the due amount.

Development of the Fabric Inspection Machine for Industrial Services Authority, Western Province

The machine was handed over to the Centre in order to develop with modern technology by the Industrial Services Authority, Western Province. The task was included with the Engineering Research and Development. After the successful research and development, the machine was manufactured and handed over to the relevant authority. But, while operation of the machine, there were some problems occurred from time to time and those problems were rectified. Further, all arrangements were made to rectify to run the machine without any problems. After rectification related to the particular problems; the relevant Officers and the Operators from the Industrial Services Authority attended for inspection of the machine and they are satisfied with the operation of the machine. Accordingly, the Centre is making arrangements to obtain the retention money of Rs.47,971/-.

Repair of Crematorium – Negombo Municipal Council

All money related to this project had been settled except the retention money. Arrangements are made to obtain due retention money.

Repair of Processing Machineries for Lanka Mineral Sands Limited - Pulmudai

While repairing the machineries, it was observed / inspected the repair activities by the Officers of the Lanka Mineral Sands Ltd. At that time, 85% of the work had been completed and the Officers attended to inspect the machines were satisfied.

While we are in the progress of completion of the project, they informed us not to proceed further and they would pay our expenditure and taken back the unit.

Accordingly, we had requested to pay the balance due of Rs.275,543/- which is 35% of the estimated value.

3. Financial Review

3.1 Financial Results

Agreed to the observations of financial statement.

4. Operating Review

4.1 Performance

4.1.1 Activity Review

- (a) The main objective of awareness and training programs on cost effective construction is to educate professionals and the relevant people in the construction industry on the right use of NERDC technologies and thereby promote our technology throughout the country. This will also help to transfer technology to the people. Accordingly, we cannot say that our objective was not achieved by conducting awareness and training programs.
- (b) Out of the 21 technologies targeted, 7 technologies required to complete their field trials and 2 technologies were considered not successful. Hence, we could not transfer these 9 technologies. Even though we have taken different steps to transfer our technologies, there was a lack of interested technology seekers.
- (c) Out of the 20 Technologies introduced during the period of 2012 – 2013, two (2) technologies were transferred to licensees, pilot marketing was carried out for 4 technologies with view of technology transfer. Field trials are being carried out for 5 technologies and they will be transferred to potential licensees in near future.
- (d) Even though, it was planned to renew 100 licenses, we observed there is a decrease in renewing licenses.

There was low response from licensees to renew licenses and in addition licensees were not interested in renewing licenses for the patented technologies which had exceeded the validity period.

Further some entrepreneurs got their license with the initial interest on the technology and later they were not interested in continuing it as a business.

We are using different strategies to introduce new technologies to entrepreneurs and encouraging them to do business in more innovative manner. We are taking necessary measures to build confidence among people in using new technologies/methods rather than conventional methods. We are focusing on broaden our popularization activities and strategies so as to create more licensees and encourage renewals.

- (e) It is not possible to obtain Patents for all technologies developed. Accordingly, we have applied patents for 4 technologies and being prepared the documents to apply patents for some more technologies, too.
- (f) Ministry of Fisheries and Animal Production of Southern Province, after identifying the issues of removing aquatic weeds in tanks, discussed with us regarding the requirement of a machine. When we proposed to use the same weeding machine, which we had been developing to remove aquatic weeds in canals for this purpose, a simpler method was proposed by them. Our engineers were optimistic and a new project was started hoping to complete the task in three months. Although, the machine was completed in a shorter period, it did not perform to the expectations and several

modifications and field trials were made taking a longer period. Finally, it was decided that this simple mechanism was not suitable. In general, always there is a chance for failure in a research project. Due to the above facts the project has been stopped now.

The machine being made for removing weeds in canals can be used to remove aquatic weeds in tanks after successful completion of the field trials. After completion of this project, it is expected to try out it for removing aquatic weeds in tanks.

- (g) Unexpected technical problems were experienced during project activities as it involves with Research and development steps. Actions had been taken to overcome these problems. As at present, fabrications of all the major components have been completed and minor modifications and testing in progress. After verification of proper operation it is expected to hand over the machine and recover the balance amount.
- (h) This project was coordinated by COSTI and stakeholders of the project are,
 - i. National Engineering Research and Development Centre
 - ii. Industrial Technology Institute
 - iii. Vidatha Resource Centers

The total design of this machine was done by the Korean partners and our assignment was, initially to manufacture the machine exactly according to the specifications, test it and do the necessary modifications thereafter. We received sum of Rs.1,745,425/- for this assignment, accordingly we manufactured a machine exactly to match with their prototype. During the field testing it was found that the machine was not functioning as it intended. The modifications for the flaws were identified. Our direct expenditure for this project was Rs.493,823.74. Currently, we are doing the necessary modification for this machine.

4.2 Management Activities

- (a) Indicated two projects are :

1. Development of Cost Effective Timber Roof Framework
2. Development of Pre-cast Concrete Staircase.

Those two projects were successfully completed as explained below.

Cost Effective Timber Framework for Roof

According to the research findings, developed technology for the construction of roof timber framework is suitable for roof purlins less than 10 feet. A paper was published and presented at the Conference of Structural Engineering Associations of Sri Lanka.

Development of Pre-cast Concrete Staircase

This project was started to construct a cost effective staircase using pre-cast technology.

According to the research findings, it was found that this technology was not economical for construction of staircase compared to the cost of existing technologies for construction of staircase. Anyway, the staircase made for the field testing was used for the Technology Park.

(b) Reasons for time extensions of the projects;

- i. It is required at least two years to new engineers to gain relevant research experience but most of time, new engineers left the Centre within short period and this situation is directly affected to delay in project. This is the main reason for take extension for all the above projects.
 - ii. Deciding of time period for R&D project is more complicated due to research nature of the project with compared to the time periods for other projects such as construction projects. During the project period, project team has to solve number of technical issues and time required to find technological answers are un-predictable.
 - iii. Field testing is required for new technologies and products in order to identify the required modifications. But, field testing is unable to complete with the schedule time period as more parties are involved in this process.
 - iv. When the resource contribution is obtained from outside organizations, it is not happened as planned. This is also affected to time extension for the projects.
- (c) The department of Industries (Western Province) was using the machine after handing over it on 23rd December 2016. But several times we attended to correct technical problems as they informed occasionally. As at present, all the technical problems have been corrected and handed over the machine. Actions are being taking to recover retention money.
- (d) By carrying out R&D work, the NERDC has successfully developed NERD crematorium in 1990. The technology was transferred to 6 licensees and there are over 150 crematoria throughout the country thereafter

Due to present environmental quality concerns, environmental standards are becoming stringent. Therefore, our engineers have identified that the technology also should be enhanced to meet the present standards to match with the other available technologies. Accordingly this project was commenced with Kurunegala Municipal Council. The involved direct cost is Rs. 11,380,00.00 and as per the MOU signed Kurunegala MC and NERDC, parties have agreed to share the cost 50% each.

This project was expected to be commenced on 05/02/2016 and to be completed by 30/03/2018. However, the project had to be extended due to following reasons forwarded by the project engineer.

- 1) Longer period was needed to find a suitable project partner (local authority)
 - 2) Taking a longer period to sign an agreement(MOU) between two parties and getting allocated funds from the project partner
 - 3) Taking a longer period to purchase gas burners
 - 4) Delay occurred in the tendering procedure of “ fabrication of the heat exchanger”
 - 5) Delay occurred due to certain changes had to be made during construction
- (e) Agrarian services dept. paid us Rs.112,000 to fabricate and fix a flap gate at Waggalmodara canal, Galle. It was expected to complete the project by Dec. 2014. However, Agrarian Services Department later wanted to fix it at Bentara instead of Waggalmodara. That made the changes to specifications and estimate was change to Rs.533, 929 and construction of the concrete structure (which is a part of the work) was supposed to complete by Agrarian services department.

As agreed, Agrarian service department, did not complete the concrete structure and the project could not be completed by NERDC. The Agrarian Services Dept. had been informed over this issue.

4.3 Identified Losses

The reasons for over expenditure for the following projects as explained below.

RED/COM/106/2013- Ambalangoda Flap gate

During the process of fixing the gate at a depth of 6ft, special technique was used. Due to unexpected bad weather and high water level prevailed the gate was stuck at the bottom of the canal when fixing.

When gate was at closed position continuously up stream level was rising. Therefore, to execute corrective measures special equipment and additional labour was used making this loss.

RED/COM-Act/53/2017 – Refrigerator Testing Lab

There is no loss from this project.

RED/COM/02/90/2017 – Crematorium, Ratnapura

The reduction of VAT amount existed during estimating has caused the loss of Rs. 1686/-.

RED/COM/ 2/127/2014- Rantambe biogas project

Due to the none payment of due amount of 33,872 LKR, the loss has resulted.

RED/COM/11/133/2014- Athuruwella Flap gate

The information regarding the location of the canal provided by the Agrarian Services Dept. (width, variation of depth, etc.) were not accurate.

Temporary dams made to stop the water flow were damaged several times unexpectedly due to high water flow and longer time was taken to fix the gate. The extension of the period caused to increase the labour usage and travelling (transport) to and from.

RED/COM/2/142/2014- Construction of biogas system- Kurunegala

It was supposed to dispose vegetable waste and food waste generated at hospital premises and to provide biogas to the canteen under this project. The project could not be completed within the budget due to following reasons.

- i. We did not receive the initially suggested and agreed places for construction and instead received locations where access for transport vehicles was not available to transport raw material. Human labour was used to transport Bricks, sand, cement etc. and it caused extra expenditure and time.
- ii. The bad weather existed most of the time causing falling down of banks of the pits and slowing down of construction work.
- iii. Heavy rain caused materials like sand and bricks not available in time and labour idling could not be managed.

RED/COM 11/136/2014- Wilgoda Flap gate

The gate operating mechanical system was damaged by some identified persons who had tried to open the gate suddenly without having knowledge about proper procedure to follow at a time water is filled.

Therefore to rectify the system again, this additional expense occurred.

N/CVL/COM/01/86/2016 Consultancy Services for Wijaya Kumarathunga Hospital

NERD Centre and the Wijaya Kumarathunga Hospital signed the agreement for the consultancy work for proposed construction work in year 2015.

Wijaya Kumarathunga Hospital stopped all work and their management informed NERD Centre to stop all respective consultancy work.

Then the NERD Centre requested the consultancy charges up to date as per the agreement. However NERD Centre spends Rs. 28,889.00 for this work until now. But the money we requested from Wijaya Kumarathunga Hospital was uncertain. However we reminded our charges as per the agreement by the letter dated 27.02.2017 and 18.05.2017.

TMD/COM-ACT/9/67/2017 – Training programs

Main objective of our training programs is to transfer our technologies to the society, for that we are charging very nominal fee. Further, we advertise these training programs on newspapers in three languages in order to make people aware on these technologies, where we had to spend RS 145,800.00. We have credited this expenditure to our project and that increased the cost of the project.

DICI / COM/05/114/2015 – Manufacture mould for Rubber mat.

We usually estimate cost for our services considering, utilization of our own machinery and human resources in manufacturing. But at the time we carry out this particular order we had some issues in our machinery. Therefore, we had to outsource some of the manufacturing services required for completing this mould. Hence we had to incur unexpected additional expenditure in meeting the delivery of this service which made a loss to the project.

5. Sustainable Development**5.1 Approaching the Sustainable Development Goals**

- (a) Activity Plan of the NERD Centre is usually prepared based on the SDGs and the targets.
- (b) Necessary arrangements would be taken to include SDGs, targets and relevant indicators for the Activity Plan - 2019 as per the 2030 SDG goals.

6. Accountability and Good Governance

6.1 Procurement and Contract Procedure

- (a) There was a detailed procurement plan for some procurement. Although some procurement had no detailed procurement plan but there was a plan with main activities. However, arrangements have been made to prepare detailed procurement plan for all the procurements, being carried out.
- (b) NERDC Front Office building is more than 40 years old and therefore it had been rehabilitated. Although low cost housing technology is used for newly built buildings but rehabilitation work cost effective technology is not used. However, low cost housing technology is given to the licensees and they carry out the work, but NERDC does not do the construction work. Therefore, this work was carried out by the outside contractors.

7. Systems and Control

- (a) Efficiency Bar Examination is conducted once a year
- (b) The officers will be instructed to take actions to avoid above omissions
- (c) (I) The vacancies continually exist in the posts of; Director - Technical, Principal Research Engineer, Senior Research Engineer. Even though vacancy advertisements for the above posts were published through newspapers and NERDC website throughout a period of one year (including 2016 and 2017), recruitments could not be done because there were no applicants with required qualifications and experiences. Further, because there is a high demand for engineering professionals, and also they are paid high salaries and allowances than the NERDC, newly recruited engineers leave the Centre within a short period from their recruitment. As a result, the continuous existence of vacancies in the posts of engineering professionals is one of the critical problems faced by the NERD Centre.

Furthermore, recruitments for the posts of Mason, Lab Attendants etc. couldn't be completed due to not receiving applications with relevant NVQ level qualifications, although the vacancies for the posts were advertised. This has been reported to Department of Management Services proposing suitable suggestions.

- (II) Since an officer representing the Ministry at the interview panel for the Technical Assistant (Electrical), MA 2-2, held on 06.06.2017 did not attend the interview panel therefore, his signature was not on the mark sheet.

Since the Head of Electrical & Electronic Department of the NERD Centre who represented the interview panel of Research Engineer (Mechanical), AR1 held on 04.11.2016 was permitted to leave the Centre due to her urgent personal matter, she did not participate at the interview panel and signature was not on the mark sheet.

- (d) In certain instances, noncompliance stated in here have been occurred, and presently arrangements have been taken to avoid such situations.



Eng. D D Ananda Namal
Director General



Eng. W J L S Fernando
Chairman