

SUGARCANE RESEARCH INSTITUTE

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Hon. Minister of Plantation Industries,
Ministry of Plantation Industries,
C wing, 11th Floor, *Sethsiripaya* 2nd Stage,
Battaramulla.

Hon. Minister,

**Annual Report of the Sugarcane Research Institute for the Period from
01.01.2016 to 31.12.2016**

I am submitting herewith the Annual Report of the Sugarcane Research Institute for the period from 01.01.2016 to 31.12.2016, including its progress, financial statements and Auditor General's report.

Yours faithfully,

SUGARCANE RESEARCH INSTITUTE

K. A. F. Karunasena

K A F Karunasena
Chairman
Board of Governors
31st October 2017

Vision

To be the centre of excellence in sugarcane technologies and the leader in sugarcane industry development in Sri Lanka

Mission

Development and transfer of appropriate sugarcane technologies to enhance competitiveness of, and to contribute to expand and develop the local sugarcane industry in a sustainable manner

Board of Governors

Mr. K A F Karunasena	-	Appointed member (Chairman)
Mr. N V T A Weragoda	-	Appointed member
Prof. A L T Perera	-	Appointed member
Mr. T V D Dharmasiri	-	Appointed member
Ms. Hansika Kumarasinghe	-	Nominated member of the Ministry of Plantation Industries
Mr. A K A Y Tharanga	-	Nominated member of the Ministry of Finance
Dr. A P Keerthipala	-	<i>Ex-Officio</i> member

Chairman's Review

During the year under review, the Sugarcane Research Institute received a total of Rs 365 million from the Treasury; Rs 250 for recurrent and Rs 53 million for capital expenditures, Rs. 12 million for the development of the sugarcane nurseries and infrastructure in Kantale and Kilinochchi and Rs. 50 million for strengthening the institute. In addition, the institute allocated Rs 23 million out of its incomes to meet the recurrent expenditure needs. Thus, the total allocation for the year was Rs 388 million. During the year, Rs 373 million was spent for the research and development work, support services for research and development, manpower development and infrastructure development activities undertaken according to the Action Plan of the institute.

In order to provide technical know-how for the development of sugarcane industry, a long-term research program and a technology transfer program were continued. The most significant achievements during the year were identification of five new superior sugarcane varieties for commercial testing, development of protocol for direct regeneration of plants from sugarcane leaf tissues, identification of an effective herbicide formulation for control of weeds in sugarcane, development of a land layout for improving drainage and minimising soil erosion, identification of measures for managing white leaf disease by managing its vector, and production of sugarcane juice-based ready-to-serve drink. The technology transfer program mainly focused on the promotion of adoption of the SRI-developed sugarcane varieties and sugarcane machinery, new low-cost planting methods, intercropping short-duration crops with sugarcane, soil fertility improvement and management of pests and diseases. A development program consisting of production of foundation seedcane of the newly-introduced sugarcane varieties to supply genetically pure healthy seedcane to sugar companies for further multiplication, development of sugarcane-based small-scale industries in Badulla and Kilinochchi districts were continued.

The manpower position of the institute was strengthened by recruiting a Research Officer, Assistant Director (Administration), five Technical Officers, two Lab/Field Attendants and a Driver. It was not possible to find suitable candidates for the positions of Deputy Director (Administration and Finance), Senior Research Officer and Senior Technology Transfer Officer. There were no qualified internal candidates to fill the positions of the Principal Research Officer. For capacity building of the staff, in addition to continuation of the PhD programmes of the two Senior Research Officers and the Research Officer, study leave was granted for a Research Officer to complete her PhD. A Research Officer and two Senior Technical Officers were provided with overseas training to improve their skills on the disciplines of their work. In addition, the skills of the staff in all categories were improved by providing training opportunities relevant to the work that they carry out.

The funds allocated for the development of infrastructure and strengthening the institute were effectively utilised for the intended purposes. In addition to procurement of the most-required laboratory and field instruments/equipment, the institute could improve the processing technology and tissue culture laboratories, office for the accounts section, irrigation facilities for the farm, accommodation facilities for the staff and internal roads and the perimeter fence at Uda Walawe and plant quarantine office-cum-laboratory at Hantane. Construction of a hot-water treatment plant for the foundation seedcane nursery and improvement of office and other facilities at Kantale were continued. Because of some issues with the Northern provincial council, the activities planned to be undertaken at Kilinochchi could not be carried out.

The institute also made arrangements for initiating scientific collaboration with Pakistan and China, but the process could not be completed due to the procedural delays. Action was also initiated to amend the Sugarcane Research Institute Act to broaden its scope of the mandate to enable the institute to carry out the functions more effectively.

Apart from the need for the development of the scientific infrastructure for research and facilities for the staff, the main bottleneck for the institute was the dearth of qualified and experienced staff at senior-level for research and management functions. It was difficult to find qualified staff for senior scientific and managerial grades, and this situation will become more serious in future, if remedial action is not taken without further delay. To enable recruiting and retaining the highly-qualified and experienced scientific and managerial positions, a better remuneration package commensurate with that for the positions of similar qualifications in other institutes has to be offered.

K. A. F. Karunasena

K. A. F. Karunasena
Chairman

Director's Review

As per the mandate given under the Act No. 75 of 1981, the Sugarcane Research Institute continued its functions in 2016 for the development of the sugarcane industry of Sri Lanka by developing sugarcane technologies and dissemination of knowledge and technical know-how to sugar companies and farmers. A long-term research program consisting of sugarcane crop improvement, crop and resource management, crop nutrition, crop protection, farm mechanisation and processing and product development was continued aiming at development of technical know-how to cater to the needs sugarcane industry development in the country. The technology dissemination and development program was also geared to the needs of the sugarcane industry development program in the country.

The most significant achievements of the crop improvement program were identification of five superior varieties from 2000 series and development of protocol for direct regeneration of plants from sugarcane leaf tissues. In addition, 138 superior sugarcane varieties; 07, 21, 28, 27, 55 from 2000, 2001, 2002, 2003 and 2004 series respectively, were identified for further testing. From 2005 series, 27 promising varieties have been identified, and they are in testing in replicated yield trials. In the 2016 crossing season, a total of 948 crosses were made for sugarcane crop improvement. From the sugarcane seeds generated from 2015 crosses, 128,000 seedlings were generated for subsequent selection. After testing the varieties in different stages of selection, the varieties identified as superior will be released for commercial cultivation. Up to 2016, total of 15 SRI-bred varieties and one imported variety have been released for commercial cultivation, and the institute provides foundation seedcane of those varieties for commercial planting. Currently, nearly 80% of sugarcane plantations in Pelwatte, 60% in Hingurana and 40% in Sevanagala are with newly-developed sugarcane varieties.

Under crop and resource management, application of the herbicide formulation Diuron + Hexazinone mixture at the rate of 3 – 4 kg/ha was found to be effective in controlling weeds in sugarcane. In addition, a new drainage layout was developed for safe removal of rainfall run-off water on undulating terrain, and its effect of minimising soil erosion in sugarcane fields in Uda Walawe and Sevanagala was confirmed.

In order to provide fertiliser recommendations, the response of the standard variety SL 83 06 to fertiliser was studied, and it was found that the variety showed significant response to applied nitrogen and not so for the phosphorus and potassium. It was also found that the solubility of Eppawala Rock Phosphate (ERP) and High-grade Eppawala Rock Phosphate (HERP) could be increased by nearly 3-4% by treating with the distillery effluent, vinasse.

Under sugarcane crop protection, the highest priority was given to control white leaf disease (WLD) and sugarcane borers. To control sugarcane white leaf disease, studies on the control of vector were continued. The chemical Fipronil was identified for border treatment to control white leaf disease vector. Furthermore, mustard (*Brassica juncea*) was identified as an effective repellent for the WLD vector. The institute also regularly monitored the disease and pest situations in commercial sugarcane plantations, and the relevant officials of the sugar companies were made aware of the prevailing situations to enable them to take timely action to contain the spread of diseases and pests.

Furthermore, regular awareness and training programmes were conducted for farmers and field-level officers to improve and update their knowledge on the management of sugarcane diseases and pests.

For sugarcane farm mechanisation, fabrication of the SRI-designed prototype of sugarcane trash-cutting machine was continued. Fifteen units of the two-wheel tractor-mounted tyne cultivator was produced and distributed among the farmers who requested the implement. In addition, a cold-soak hot-water treatment plant for the foundation nursery at Kantale was designed.

The processing and product development program was continued for the diversification of sugarcane-based products by processing sugarcane and its by-products and differentiation of jaggery. The phosphate-solubilising bio-fertiliser produced in the previous year was tested under confined conditions to examine its effect on the crop. In addition, in order to improve the production of jaggery as a cottage industry, identification of suitable sugarcane varieties for jaggery production and studies on addition of different clarificants were continued. Sodium bicarbonate was found as a suitable clarificant. Pineapple-flavoured ready-to-serve sugarcane juice-based drink was produced, and it will be ready for commercialisation after patenting the process.

Promotion of application of the research findings was continued by conducting a technology transfer program. The emphasis was placed on the promotion of SRI-developed sugarcane varieties, SRI-developed tyne cultivator, furrow opener and disc moulder, spaced planting method and intercropping with sugarcane. Programmes were also conducted to increase the knowledge on soil fertility management and disease and pest management. Some selected farmers were also trained on the improvement of their entrepreneurship skills. A total of 1,464 farmers and 617 field officers were trained on new sugarcane technologies by conducting 39 training programmes, 29 field demonstrations and 02 field trips and 470 visits were made to farmers' fields. In addition, 320 students of universities, 49 students of the National Institute of Plantation Management (NIPM) and 133 students of schools were also trained on sugarcane technologies. Furthermore, 18 tyne cultivators were distributed among farmers to promote their use. A total of 71 field demonstration sites were established for demonstrations, and 6,900 copies of advisory publications were distributed for dissemination of knowledge.

The following activities were also carried out to contribute to develop the sugar industry:

- i. Establishment and maintenance of 12ha foundation seedcane nursery with new improved commercial sugarcane varieties; SL 83 06, SL 95 4443, SL 96 128, SL 96 328 and SL 98 2524 at Uda Walawe.
- ii. Establishment and maintenance of 12ha foundation seedcane nursery with new-improved commercial sugarcane varieties, SL 88 116, SL 90 6237, SL 92 4918, SL 92 5588, SL 96 128 and SL 96 328 as the plat crop and 25 ha as ratoon I crop at Kantale to provide seedcane to sugar industries.

- iii. Provision of 40,000 disease-free mericloned plants to Gal Oya Plantations (Pvt) Ltd. and Lanka Sugar Company (Pvt) Ltd. – Pelwatte and 260 tonnes of hot-water-treated seedcane of new sugarcane varieties to Lanka Sugar Company (Pvt) Ltd. – Sevanagala, Ethimale Plantations (Pvt) Ltd. and Gal Oya Plantations (Pvt) Ltd. for multiplication in their primary nurseries.
- iv. Development of about 04 ha, and establishing and maintaining sugarcane nurseries on about 3.5 ha in Kilinochchi to supply seedcane to farmers.
- v. Establishing two mills in Badulla district for making jaggery using 40 ha sugarcane plantations established in the previous year for making jaggery. Total of 3,000kg of high-quality improved jaggery was produced, and 200 tonnes of cane were supplied to the sugar mill at Pelwatte.

During the year under review, the vacancies of a Research Officer, Assistant Director (Administration), five Technical Officers, two Lab/Field Attendants, and a Driver were filled to strengthen the manpower requirements of the institute. Even though applications were called for the positions of Deputy Director (Administration and Finance), Senior Research Officer and Senior Technology Transfer Officer, no suitable candidates were found. There were no qualified applicants internally for the position of Principal Research Officer. Staff capacity building activities were undertaken by providing an opportunity for a Research Officer for pursuing studies leading to PhD, in addition to continuation of the previously-released two Senior Research Officers and a Research Officer for undertaking their doctoral degrees. One Research Officer who was on study leave returned to duties after successfully completing the degree. A Research Officer in Crop Nutrition Division was provided with two-day training in India on laboratory instruments. Two Senior Technical Officers in Crop Improvement Division were also trained on sugarcane breeding and selection in the Yunnan Sugarcane Research Institute in China. Furthermore, research, technical, accounting, and administrative staff was provided with opportunities for attending short training courses relevant to their work.

Development of infrastructure requirements for research and development work was continued. During the year under review, development of the following activities was undertaken:

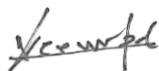
- i. Improvement of processing technology and tissue culture laboratories and Accounts section at Uda Walawe and quarantine facilities at Hantane.
- ii. Rehabilitation of D3 canal at Uda Walawe.
- iii. Improvement of internal roads at Uda Walawe.
- iv. Improvement of quarters for staff accommodation at Uda Walawe.
- v. Procurement of important laboratory instruments.
- vi. Rehabilitation of part of the perimeter fence at Uda Walawe.
- vii. Development of facilities of the seedcane nursery at Kantale.

The institute also provided analytical services to MG Sugars Lanka (Pvt) Ltd. by analysing 102 soil samples received from Kantale area for their physical and chemical properties. In addition, necessary information was provided to interested parties for the involvement in

sugarcane industry development in the country. Furthermore, the institute also provided training service to undergraduate students and students from Agriculture schools and technical collages.

In order to undertake collaborative research, exchange of sugarcane germplasm and sharing knowledge and training staff, links were developed with the Yunnan Sugarcane Research Institute in China. But this could not be completed due to the delay in the procedures. Action for the continuation of the collaborative research project with Sugarcane Research Institute in Faisalabad, Pakistan, was initiated, but it could not be materialised.

The main limiting factor for fulfilling the mandate of the activities of the institute was shortage of trained and experienced manpower. Even though action was taken to revise the cadre for the requirements of the institute, it could not be materialised. This will adversely affect the progress of the research, technology transfer and development functions of the institute.



Dr. A P Keerthipala
Director/Chief Executive Officer

DIVISIONAL REPORTS



CROP IMPROVEMENT DIVISION

Crop Improvement Division

Staff

Dr A Wijesuriya BSc (Agric.), M Phil, PhD	-	Principal Research Officer and Head
Ms A M M S Perera BSc, MSc	-	Research Officer
Dr (Mrs) D Manel BSc (Agric.), MSc, PhD	-	Research Officer
Mr K P Wickramasinghe BSc (Agric.), M Phil	-	Research Officer (from 01.02.2016)
Ms A L C Kumari	-	Senior Technical Officer
Mr R A Premachandra	-	Senior Technical Officer
Mr D Weerasinghe	-	Senior Technical Officer
Mr B P G S Sandanayake Dip. (Agric.)	-	Senior Technical Officer (up to 17.07.2016)
Ms L D D P Gunarathna Dip. (Agric.)	-	Technical Officer
Mr B Witharana	-	Works Supervisor
Mr S H Karunarathne	-	Lab/Field Attendant
Mr R G S L Premarathne	-	Lab/Field Attendant
Mr M B Rohan	-	Lab/Field Attendant

Achievements

Research

- Releasing five locally-bred new-improved sugarcane varieties; SL 00 95, SL 00 354, SL 00 401, SL 00 603 and SL 00 652 to the Crop and Resource Management Division for multiplication of seed material for further evaluation at large-scale prior to release them for commercial cultivation.
- *Ex-situ* conservation of sugarcane germplasm of 1,460 accessions in duplicate plots at Enselwatte Hybridisation Station.
- Quarantine of thirty six sugarcane varieties; 30 from Vietnam and 6 from Australia, imported under sugarcane germplasm exchange program to enrich the germplasm collection for breeding.
- Multiplication of seed material of fifty seven sugarcane varieties imported from Pakistan at Uda Walawe for preliminary field evaluations.
- Establishing and maintaining the progenies of recurrent breeding for population improvement of *Saccharum officinarum* and high-sucrose breeding stock.
- Establishing and maintaining the first and second generation inter-specific and inter-generic hybrids developed for nobilisation of wild cane species.
- Effecting a total of 948 crosses during 2016 sugarcane hybridisation season.
- Generating genetically variable seedling population of 128,000 genotypes from SL 2015 series for selection.

- Initial selection of varieties with desirable features from SL 2014, SL 2013, SL 2012, SL 2011, SL 2010, SL 2009 and SL 2008 breeding series for further evaluation in subsequent stages.
- Multiplication of 245 sugarcane varieties with desirable traits from SL 2006 (100) and 2007 series (145) for preliminary assessment of their yields, and establishment and maintenance of the relevant field experiments.
- Establishment and maintenance of replicated yield trials with 27 varieties of SL 2005 series for assessment of their yield performance.
- Assessment of the yield performance of 138 promising sugarcane varieties of SL 2000 (7), SL 2001 (21), SL 2002 (28), SL 2003 (27) and SL 2004 (55) series in plant crop, ratoon 1 crop and ratoon 2 crop under replicated conditions.
- Establishment and maintenance of 4 field experiments of SL 2003 series with 27 varieties for testing their suitability to cultivate under different sugarcane-growing areas in Sri Lanka.
- Establishment, maintenance and data collection of eight field experiments involving the following:
 - a. Estimation of breeding values of 1,000 accessions for cane yield, and sucrose and fibre contents.
 - b. Estimation of breeding values of 500 accessions for varietal resistance to smut, leaf scald and white leaf diseases.
 - c. Investigation of inheritance patterns of varietal resistance to smut, leaf scald and white leaf diseases.
- Perfection of the tissue culture protocol for *in-vitro* direct regeneration of sugarcane shoots from leaf tissues for generation of genetically identical and white leaf disease-free plants. This protocol propagates plants at 8-10 times higher rate than the existing meristem culture protocol.
- Classification of 25 *Saccharum spontaneum* accessions using SSR markers for identifying parents for sugarcane crop improvement.

Development

- Maintaining a breeders' seed garden with seventy two commercial and near-commercial sugarcane varieties to obtain genetically pure planting material for multiplication in the foundation seedcane nurseries.
- Establishment and maintenance of 12 ha foundation seedcane nursery with new-improved commercial sugarcane varieties; SL 83 06, SL 95 4443, SL 96 128, SL 96 328 and SL 98 2524 at Uda Walawe.
- Establishment and maintenance of 12 ha foundation seedcane nursery with new-improved commercial sugarcane varieties; SL 88 116, SL 90 6237, SL 92 4918, SL 92 5588, SL 96 128 and SL 96 328 as the plat crop and 25 ha as ratoon I crop at Kantale to provide seedcane to sugar companies.
- Supply of 40,000 disease-free mericloned sugarcane plants to Lanka Sugar Company (Pvt) Ltd. – Pelwatte and Gal Oya Plantations (Pvt) Ltd. and 260 tonnes of hot-water-treated seedcane

of new sugarcane varieties to Lanka Sugar Company (Pvt) Ltd. – Sevanagala, Ethimale Plantations (Pvt.) Ltd. and Gal Oya Plantations (Pvt) Ltd. for establishing their primary nurseries. Sugarcane Research Institute used 178 tonnes of seedcane for the establishment of its own foundation seedcane nurseries.

Training Trainees

Supervision of the following student training:

- Research project on the evaluation of *in-vitro* plant regeneration ability of sugarcane (*Saccharum* spp. hybrids) meristem with respect to acyclovir dosage carried out by Ms. Thilini Madhushara Peiris, a final-year student of the Open University of Sri Lanka for the requirement of her degree.
- One-month training on sugarcane tissue culture for Ms. K H W Siriwardhana, a final-year student of the University of Keleniya, for the fulfilment of the course unit PRPL 31012 of her B.Sc. degree.



CROP AND RESOURCE MANAGEMENT DIVISION

Crop and Resource Management Division

Staff

Mr L M J R Wijayawardhana BSc (Agric.) MPhil	-	Research Officer-In-Charge
Mr A L C De Silva BSc (Agric.), MPhil	-	Senior Research Officer (on study leave from 01.01.2014)
Mr G A A Chaturanga BSc (Agric.)	-	Research Officer
Mr P R B Chandrasena BSc (Agric.), MSc	-	Farm Superintendent
Mr W G Nimal	-	Senior Technical Officer
Mr P.B.G.S Sandanayaka Dip (Agric.)	-	Senior Technical Officer (from 18.07.2016)
Mr S M D N D Seneviratne Dip (Agric.)	-	Technical Officer
Mr M Sivapalan	-	Lab/Field Attendant

Achievements

Research

- Identifying maturity patterns of the varieties in SL 2000 series. The variety SL 00 95 was found to mature at 10 months, and it retained sucrose content up to 16 months. The varieties, SL 00 354, SL 00 401, SL 00 589, SL 00 603, SL 00 619 and SL 00 652 reached maturity at 12 months, and they retained sucrose content up to 15 months.
- Finding out that application of the herbicide formulation, Diuron 46.8% + Hexazinone 13.2% mixture at the rate of 3 – 4 kg/ha is effective for controlling weeds in sugarcane at pre-emergent and early post-emergent applications.
- Developing a new drainage layout for safe removal of rainfall run-off water on undulating terrain to reduce significant soil erosion (gully formation) in sugarcane fields in Uda Walawe and Sevanagala.

Development

- Maintenance of about 3.5 ha nursery in Vannerikulum, Kilinochchi and producing nearly 200 tonnes of cane and production of 1,470 kg of jaggery and 40 bottles of syrup from 35,466 kg of cane harvested.

Services

- Preparation of 38 ha for field experiments and sugarcane nursery establishment.
- Developing and levelling about 01 ha of new land in D4 nursery area.
- Removing unwanted trees and other residuals of nearly 2 ha of new land in D3, D4 and D5 areas and completing landscaping of nearly 0.8 ha.
- Planting fruit trees in newly-developed land area of about 0.6 ha.

- Constructing runoff-water harvesting ponds in D4 and D5 areas and successfully using them for irrigation during the period when right bank canal was closed.
- Extending underground pipe irrigation network by another 800 metres.
- Selling 202 tonnes of seedcane and 378 tonnes of factory cane to Lanka Sugar Company (Pvt) Ltd.-Sevanagala.



CROP NUTRITION DIVISION

Crop Nutrition Division

Staff

Mr. B R Kulasekera BSc (Agric.)	-	Research Officer-In-charge
Mr. H A S Weerasinghe BSc, MPhil, MSc (NRM), MI Biol.	-	Research Officer (on study leave from 01.02.2014)
Ms. R A Sudarshani BSc (Agric.)	-	Research Officer
Mr. G S Udawatte	-	Technical Officer
Ms. W A S Wijesuriya Dip (Agric.)	-	Technical Officer
Mr. J Gunasiri	-	Lab/Field Attendant
Mr. P W D Kulatunga	-	Lab/Field Attendant

Achievements

Research

- Identifying a significant response of nitrogen and potassium on cane yield, pure obtainable cane sugar (POCS) and sugar yield for the variety SL 83 06 to be used for making fertiliser recommendations for newly-released sugarcane varieties.
- Confirming that application of filter-mud and vinasse enhances growth and yield of sugarcane variety SL 96 128 while improving soil quality and also as an effective method of disposing distillery waste of sugarcane industry.
- Identifying a medium-level ability of vinasse to dissolve ERP and HERP compared to the standard chemicals (Citric acid, Formic acid and Neutral Ammonium Citrate) under laboratory conditions.

Services

- Analysing 3,893 cane, jaggery and syrup samples for brix, pol and fibre contents (918 for Crop Improvement, 2,889 for Crop and Resource Management and 146 samples for Processing Technology Divisions).
- Completion of analysis of 16 juice samples for reducing sugar and 10 juice samples for pH for Processing Technology Division.
- Completion of analysis of
 - a. Plant samples – 10 for N for Crop and Resource Management Division.
 - b. Soil samples – 66 for N, 31 for P, 25 for K, 66 for pH and EC, 24 for CEC, 15 for OM (for Crop and Resource Management Division), 13 for texture (for Crop Protection Division).
 - c. 18 culture media samples for EC for Crop Improvement Division.

Notes: HERP = High-grade Eppawala Rock Phosphate, ERP = Eppawala Rock Phosphate, N = Nitrogen, P = Phosphorous, K = Potassium, OM = Organic matter, EC = Electrical conductivity, CEC= Cation Exchange Capacity.

- Analysis of 102 soil samples from MG Sugars Lanka (Pvt) Ltd. - Kantale for physical and chemical parameters.
- Investigation of low-sugar content in sugarcane at Sevanagala and submitting the report to the Lanka Sugar Company (Pvt) Ltd. - Sevanagala.
- Conducting lectures on soil fertility management of Sugarcane for the students of National Institute of Plantation Management.



CROP PROTECTION DIVISION

Crop Protection Division

Staff

Ms A N W S Thushari BSc (Sp)	-	Research Officer-In-Charge
Ms V K A S M Wanasinghe BSc (Sp), MSc	-	Research Officer
Ms K M G Chanchala BSc (Agric.), MSc	-	Research Officer (on study leave from 01.02.2016)
Mr M K D Ubesena	-	Technical Officer
Ms L M M Obeyesena Dip. (Agric.)	-	Technical Officer
Ms B N L Kumaranayake (Dip. (Agric.))	-	Technical Officer (from 01.02.2016)
Mr M R Premalal	-	Lab/Field Attendant
Mr J K U Madushanka	-	Lab/Field Attendant (from 08.02.2016)

Achievements

Research

- *In-vitro* identification of Laser Hexconazole (25-50 ppm) as an effective fungicide for controlling sugarcane smut pathogen.
- Identification of two types of smut spores, namely, irregular spores with marginal spikes and round shape spores without marginal spikes based on their morphological characters.
- Initiating experiments to examine the possibilities of using synthetic sex pheromones imported from Pherobank, the Netherlands to manage sugarcane borers (*Chilo sacchariphagus* and *Sesamia inferans*) in sugarcane (Figure 1).



Figure 1: A - Establishment of a pheromone lure trap in the Mahagoddayaya seed cane nursery at Buttala, B - Attracted male moths of internode borer to the pheromone lure trap in the Mahagoddayaya seed cane nursery at Buttala

- Confirming border treatment of Fipronil 0.3 GR (soil application of 18Kg/ha) as an effective treatment to manage the WLD incidence in sugarcane plantations.
- Identification of Mustard (*Brassica juncea* (L.) Czern&Coss) as a repellent crop for WLD vector.
- Identifying the fourth month as the most-preferred age of sugarcane for feeding by the WLD vector.

- Identifying the relationship between white leaf disease (WLD) of eight sugarcane varieties (Co 775, SL 83 06, SL 92 5588, SL 96 128, SL 96 328, SL 97 1442, SLC 2009 01, SLT 4921) and two wild species of sugarcane (*Saccharum spontaneum* and *Erianthus arundinaceus*) with the insect vector of the disease (*Deltocephalus menoni*) and the findings were:
 - Co 775, SL 96 128, SL 96 328 and SL 97 1442 are the most-preferred sugarcane varieties for feeding by the WLD vector and SL 92 5588, *Saccharum spontaneum* and *Erianthus arundinaceus* are the less-preferred varieties.
 - Co 775, SL 96 128, SL 96 328 and SLC 2009 01 are the most supportive sugarcane varieties for adult survival of WLD vector.
 - SL 96 128, SL 96 328 and SLT 4921 are the most favourable varieties for survival of nymphs of WLD vector.
 - Nymphal period of the WLD vector is shorter on SL 96 128, SL 96 328 and SLT 4921 and longer on SL 83 06, SL 92 5588 and SLT 4921. *Erianthus arundinaceus* does not facilitate the nymphal development.
 - The varieties Co775, SL 83 06 and SLT 4921 were identified as the most-preferred varieties for oviposition of WLD vector.

Services

- Identification of high incidence of WLD in all sugarcane-growing areas based on the regular disease surveys conducted by SRI.
- Conducting a field survey in 31 fields covering 34 hectares in Varipathanchena zone (including Muwangala, Uksiripura and Keenawaththa divisions) at Hingurana from 9th to 11th October 2016 to inspect the infestation levels of shoot and stem borers. It indicated that 9% of damage incidence of shoot borers, and 39% of damage incidence and 6% of damage intensity of stem borers.
- Recording a high infestation of sugarcane borers in some sugarcane plantations at Hingurana during the dry period of the year. Field demonstrations to farmers and field officers were conducted emphasising the recommended control practices of sugarcane borers (management of weed-free fields, removal of dry sugarcane leaves and infested plant materials, hand collection and destruction of borer larvae and cocoons, early harvesting or burning of highly-infested plantations and use of insecticides). The senior managers were also enlightened on the importance of control of sugarcane borers using cultural practices.
- Introducing field-collected 386 cocoons and 120 adults of *Cotesia flavipes* to nursery at Galmaduwa in Hingurana (Field No: 26) (Figure 2) to establish the parasitoid in the area under the biological control programme.



Figure 2: Established station in a field (No: 26) at Hingurana for releasing *Cotesia flavipes*

- Releasing 51 cocoons and 108 adults of *Epiricania melanoleuca* (Lepidoptera: Epipyropidae); an external parasitoid of *Pyrilla perpusilla* to the seedcane nursery at Kantale from October to December 2016 to establish the parasitoid in the area under the biological control programme.
- Giving necessary recommendations and instructions on the production of healthy seedcane in the sugar companies at Sevanagala, Pelwatte, Hingurana and Kantale to contain spread of WLD and smut diseases.
- Conducting regular crop protection committee (CPC) meetings and reviewing the existing situation of pests and diseases in sugarcane plantations by conducting surveys.
- Giving recommendation to release 34 sugarcane varieties imported from Pakistan for sugarcane germplasm after completion of the two-year post-entry quarantine period.
- Conducting lectures on sugarcane disease management, integrated management of sugarcane pests, WLD vector management and the use of healthy seedcane production at the training programmes organised by the Technology Transfer and Development Division.
- Identification of a hitherto unknown sugarcane mite species (*Aceria sacchari*; Eriophyidae; Sugarcane Blister Mite) (Figure 3) in Sri Lanka in collaboration with the Embrapa Genetic Resources and Biotechnology, Brazil.



Figure 3: A: A sugarcane clump with *Aceria sacchari* infestation, B: A colony of *Aceria sacchari* inside a leaf sheath, C: Microscopic view of an individual of *Aceriasacchari*

- Noticing hitherto unknown insect species associated with sugarcane plants in different sugarcane-growing areas of Sri Lanka during the field surveys (Figures 4, 5, 6 and 7).

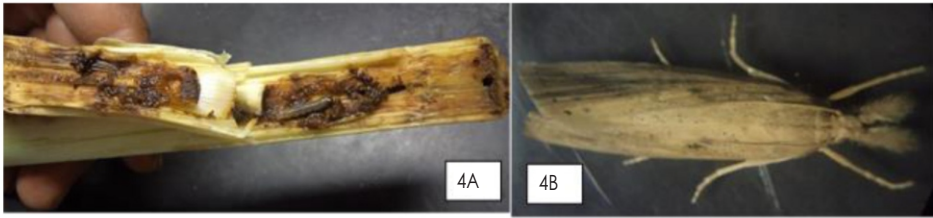


Figure 4: The unknown species of sugarcane borer in the seedcane nursery at Kantale observed on 24.06.2016, A: Borer larva-infested sugarcane plant; B: The adult moth of the borer larva



Figure 5: A white coloured moth from the seedcane nursery at Kantale on 05.10.2016 (Tentatively identified as the sugarcane top borer), A: moth on a young sugarcane plant; B: moth inside a glass vial, C: Dry preserved moth for identification purposes



Figure 6: The unknown species of sugarcane borer in the quarantine station at Hantane observed in April 2016 (Tentatively identified as *Chilo infuscatellus*), A: The borer larva-infested sugarcane leaves; B: The borer larva, C: Adult moth of the borer larva

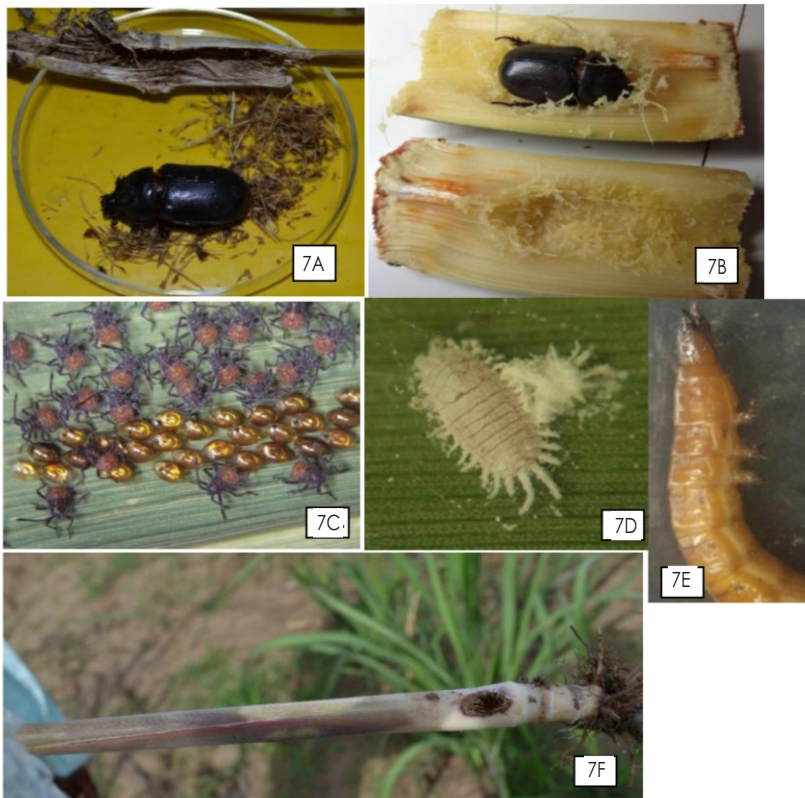


Figure 7: Some unknown insect species associated with sugarcane plants from different locations of the country. A, B: Coconut rhinoceros beetle found inside a sugarcane plant (Pelwatte), C: Unknown egg mass and emerged insects on a sugarcane leaf (Uda Walawe), D: Mealy bug species on a sugarcane leaf, E: A wireworm species in the soil near the root system (Uda Walawe and Pelwatte), F: Unknown insect damage to young sugarcane plants having dead heart symptom at Hingurana



MECHANISATION TECHNOLOGY DIVISION

Mechanisation Technology Division

Staff

Mr K H D Abeyratne BSc (Agric.)	-	Research Officer-In-Charge
Mr K T Ariyawansha BSc (Agric.), MSc	-	Research Officer (on leave from 04.06.2016)
Mr A S M A Fernando NDT	-	Technical Officer
Mr W M Anurapala	-	Technical Officer
Mr V Abeygunawardane	-	Welder
Mr G Ariyaratne	-	Fitter
Mr W A Premachandra	-	Blacksmith
Mr D M L Weerasiri	-	Mechanic
Mr D M Weerasiri	-	Lab/Field Attendant

Achievements

Research

- Completion of designing of 10,000L capacity hot-water treatment plant with 40,000L capacity cold-soak treatment plant for sugarcane nursery at Kantale.
- Completing the fabricating of 15 units of tyne cultivators and distributing them among sugarcane farmers through Technology Transfer Division of SRI.

Services

- Completing construction and installation of 300m and 500m length wire-mesh fence surrounding the nursery area under D4 canal and D5 canal respectively.
- Developing and landscaping the housing areas near D5 land.
- Completing designing and construction of 50'x30' shade house for crop nutrition division.
- Completing installation of solar-operated recharge unit for section-07 of the electric fence in research farm Uda Walawe to protect crops in research plots from wild boar.
- Making recommendations on necessary modifications to the design of the proposed hot-water treatment plant in Gal Oya Plantations (Pvt) Ltd.
- Supervising interlock paving work in the premises of SRI office complex in the collaboration with the maintenance section.
- Completing construction of two stainless steel jaggery pans of 4 feet diameter for sugarcane industry development project in Kilinochchi.
- Completing construction and installation of fifteen GI mesh gates (3'x15') for the area covered by electric fence in research farm Uda Walawe.

- Completing landscaping of housing complex - 02 and office area near the store.
- Completing renovation of D3 canal including the construction of its main gate of the main sump.
- Continuing construction and installation of 1.8m x1500m length wire mesh fence along the main access road of SRI.
- Provision of machinery services required for research.
- Maintenance and repair of vehicles and farm equipment of SRI.



PROCESSING TECHNOLOGY DIVISION

Processing Technology Division

Staff

Ms S M T A Maralanda BSc (Agric.)	-	Research Officer-In-Charge
Mr W G H Ruwanpura BSc (Agric.)	-	Research Officer (up to 29.07.2016)
Ms M.A.R.I.Perera Dip. (Agric)	-	Technical Officer (from 08.02.2016)
Mr W.K D.S Karunarathna Dip. (Agric)	-	Technical Officer (from 21.09.2016)

Achievements

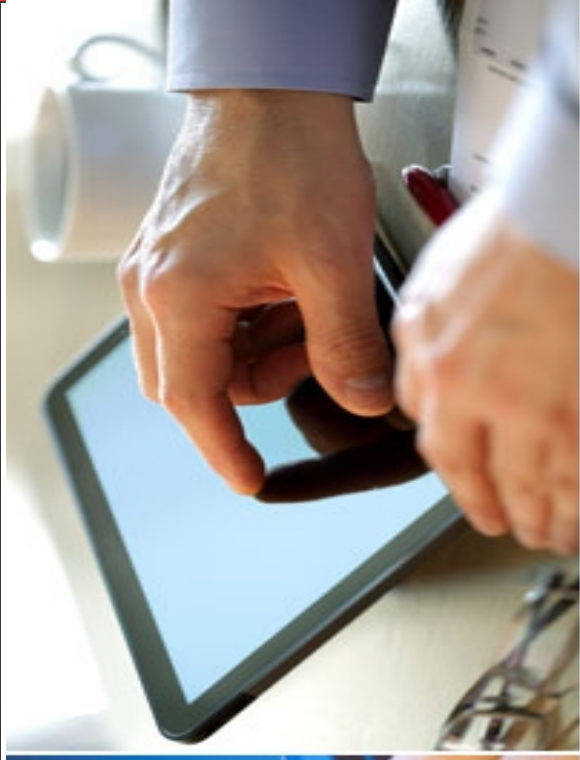
Research

- Isolating 21 yeast strains and evaluating their ethanol production abilities in molasses medium and maintaining a total of 98 yeast strains including the 21 strains isolated in 2016, for producing a yeast strain for efficient fermentation of molasses into ethyl alcohol.
- Confirming the possibility of producing fodder yeast from the distillery yeast sludge and identifying the nutrient composition of the fodder yeast by conducting proximate analysis. The crude protein content was found to be low, 7.2%, and hence, it cannot be used as a feed ingredient.
- Isolating 10 phosphate-solubilising bacteria strains from different soil types, plant and root samples, evaluating their phosphate-solubilising ability and maintaining total of 144 phosphate-solubilising bacteria strains including the 10 strains isolated in 2016.
- Confirming the possibility of using sugar factory and distillery waste for the production of a carrier medium for phosphate-solubilising microorganisms in laboratory level. It was found that for the two most effective phosphate-solubilising bacteria strains, the best filter-mud: spent-wash ratio was 2:1.
- Confirmation that jaggery could be produced using the varieties Co 775, SL 71 30, SL 83 06, SL 88 116, SL 90 6237, SL 92 4918, SL 96 128 and SL 96 328 grown at Kantale.
- Confirming the possibility of producing jaggery using the cane of 11-13 months age at Vannerikulam in Kilinochchi. Low purity in cane after 13 months age results non-solidifying sugarcane jaggery in Vannerikulam.
- Development of a recipe for producing sugarcane juice-based pineapple-flavoured ready-to-serve drink with a shelf life of two months under the refrigeration.
- Confirming that Sodium Bicarbonate can be used as a clarificant for making sugarcane jaggery without any adverse health effect.
- Confirmation of the best ratios for making sesame, ginger, vanilla and puff rice-flavoured sugarcane jaggery to improve its flavour. For 40 litres of juice, the requirements of sesame, ginger, and vanilla and puff rice are 150g, 250 g, 28 ml and 150 g respectively.
- Confirmation of the desired shapes and sizes of sugarcane jaggery cubes. They are square, rectangular and spherical shapes. For square cubes, the best length, width and thickness are

2.5 cm. For rectangular shape, there are two sizes of 2 cm thickness, and their length and width are 8x2 cm and 15.5x7 cm. For spherical shape the diameter is 11 cm and the height is 5.5 cm.

Services and Training of Trainees

- Conducting training programme on sugarcane processing and by-products to students of Sabaragamuwa, Ruhuna and Wayamba Universities, National Institute of Plantation Management and Postgraduate Institute of Agriculture.
- Production of jaggery with different flavours, shapes and sugarcane syrup for demonstration activities in Kilinochchi and for exhibitions at SRI and in Badulla.
- Production of 3,090 kg of jaggery from cane harvested from field trials.
- Supervision of the research project “Shelf Life Enhancement of Ready-To-Serve Sugarcane Juice by Adding Food Additives and Natural Pineapple Flavour” conducted by Ms K.G.R. Erandika, a student from the University of Ruhuna.



ECONOMICS BIOMETRY AND INFORMATION TECHNOLOGY DIVISION

Economics, Biometry and Information Technology Division

Staff

Mr. K A D Kodituwakku BSc (Agric.), MAGR	-	Senior Research Officer and Head
Ms. B D S K Ariyawansha BSc (Agric.), MPhil	-	Senior Research Officer (on study leave from 20.02.2015)
Mr. K G S U R Bandara HNDIT, CCNA	-	Technical Officer (from 19.09.2016)

Achievements

Research

- Updating costs and returns of sugarcane cultivation based on the prices of the year 2016. The average cost per hectare of sugarcane cultivated was Rs.284,544, Rs.241,490, Rs.168,043 and Rs. 243,460 for irrigated and rain-fed sectors at Sevanagala, Pelwatte and Hingurana respectively. The average net income from one hectare per year at Sevanagala was Rs 126,530 and Rs. 83,035 under irrigation and rain-fed respectively. At Pelwatte under rain-fed, the net income was Rs. 68,269/ha/year and that at Hingurana under irrigation was Rs.71,540/ha/year.
- Estimation of post-harvest losses of sugarcane plantations at Sevanagala; It was Rs. 43 million for the year 2015.
- Estimating commercial value of a tonne of sugarcane at Sevanagala and Pelwatte sugar industries during the year 2015 as Rs. 12,608 and Rs. 12,507 respectively. Accordingly, the commercial value of the sugarcane produced from one hectare of land in the irrigated sector at Sevanagala and rain-fed sector Pelwatte 2015 were Rs. million 1.1 and 0.6 million respectively, and it was much higher than the income of competitive crops.
- Estimation of cost of producing fodder yeast as an animal feed; it was nearly Rs. 5.00/kg.

Services

- Starting the redesign of SRI web site hosted under URL of www.sugarres.lk/, and updating it as and when required.
- Publishing 2nd issue of the “Sugarcane Sri Lanka” journal.
- Providing the following services to other divisions of SRI:
 - Designing field experiments conducted by Crop Improvement, Crop Nutrition and Procession Technology Divisions.
 - Implementation of IT activities within the institute.
- Providing the following services to other organisations:
 - Preparation of the INFORM database of SRI for the year 2015, and submitting the same to the Sri Lanka Council for Agricultural Research Policy (SLCARP) to be included in the national database.

Training Trainees

- Four students from Vocational Training Authority (VTA) on the use of computer software packages for a period of nine months.
- One student from Technical College, Embilipitiya on the use of computer software packages for a period of 06 months.



TECHNOLOGY TRANSFER AND DEVELOPMENT DIVISION

Technology Transfer and Development Division

Staff

Dr M S Perera BSc (Agric.), MPhil, PhD	-	Principal Research Officer and Head
Mr D P W Pottawela BSc (Agric.), PG. Dip. (BA)	-	Technology Transfer Officer
Mr R A P A Ranatunga Dip. (Agric.)	-	Development Officer
Mr K P Wickremasinghe BSc (Agric.), MPhil	-	Development Officer (upto 31.01.2016)
Mr S N Wickremasinghe BSc (Agric.), MSc	-	Development Officer
Mr W G M S Weragoda BSc (Agric.), MSc	-	Development Officer
Mr M K P C Gunawardene BSc (Agric.), MSc	-	Development Officer
Mr A P J Mohotti	-	Technical Officer
Mr G Somaweera	-	Management Assistant

Achievements

Technology Transfer Activities

Training a total of 1464 farmers and 617 field officers on new sugarcane technologies by conducting 39 training programmes, 29 field demonstrations and 02 field trips. A total of 470 visits were made to farmers' fields and 320 students of universities, 49 students of NIPM and 133 students of schools were also trained on sugarcane technologies.

Distribution of 18 tyne cultivators among farmers to promote their use.

Establishment and maintenance of 71 field demonstration sites in sugar mill areas.

Distribution of 6,900 copies of advisory publications among farmers/officers in sugar companies.

In the training programmes/demonstrations for farmers, field officers and students, the prioritised technological aspects/subject areas covered were;

- **Promotion of SRI-developed/introduced sugarcane varieties; SL 83 06, SLI 121, SL 90 6237, SL 92 4918, SL 92 4997, SL 92 5588, SL 95 4033, SL 95 4430, SL 95 4443, SL 96 128, SL 96 328 and SL 98 2524 among cane growers**
 - Establishing 04 demonstration/multiplication fields (2.2ha) with SL 92 4918, SL 96 128, SL 96 328 in Hingurana area.
 - Conducting 14 demonstration programs and 10 training sessions for 583 farmers at Pelwatte, Siyambalanduwa and Hingurana.
 - Conducting 06 training sessions on new varieties for 437 field officers (including Development Officers, Samurdhi and Agric. Research and Production Assistants) at Pelwatte Siyambalanduwa and Badalkumbura.
 - Conducting a field trip for 22 farmers in Deegawapi, Hingurana.

- Monitoring 05 demonstration fields at Siyambalanduwa.
- Conducting 60 field visits.
- **Promotion of tyne cultivator, furrow opener and disc moulder for sugarcane cultivation**
 - Conducting 05 training sessions for farmers on tyne cultivator and furrow opener for 120 farmers and 80 field officers at Siyambalanduwa and Hingurana.
 - Conducting 03 demonstrations for farmers at Siyambalanduwa and Hingurana.
 - Providing 18 tyne cultivators for farmers/farmer organisations at Sevanagala, Pelwatte and Siyambalanduwa.
 - Displaying tyne cultivators at field offices of Pelwatte.
 - Distributing 1,000 copies of advisory leaflets among farmers and field officers.
- **Promotion of intercropping cucumber, ground nut, cowpea, water melon and chillies with sugarcane**
 - Establishing and monitoring 51 demonstration fields (intercropped with ground nut, and cowpea) at Pelwatte, Siyambalanduwa and Hingurana.
 - Conducting 15 demonstrations and 21 training sessions for 565 farmers at Sevanagala, Pelwatte, Siyambalanduwa and Hingurana.
 - Conducting 06 training sessions for 380 field officers at Pelwatte, Siyambalanduwa and Hingurana.
 - Conducting a field trip for 22 farmers at Hingurana.
 - Providing seeds; 370kg of ground nut, 28kg of cowpea and small amount of water melon, cucumber, gingerly and black gram to farmers to establish demonstration fields.
 - Distributing 900 copies of advisory leaflets among farmers and field officers.
- **Promotion of soil fertility management among farmers**
 - Establishment of 12 demonstration sites.
 - Conducting two training programmes for farmers at Hingurana.
 - Conducting 10 demonstration programmes and 15 training sessions on soil fertility management for 218 farmers at Pelwatte, Siyambalanduwa and Hingurana.
 - Conducting three training programmes on operation and maintenance of four-wheel tractors and land preparation practices for 170 field officers/tractor operators at Pelwatte and Siyambalanduwa.

- Conducting 20 farmer field visits on fertiliser application and soil fertility management at Hingurana.
- Conducting one field tour on soil fertility management for 22 farmers at Deegavapi, Hingurana.
- Establishing 0.4ha demonstration field of Sunhemp at Hingurana.
- **Promotion of spaced planting technique**
 - Establishing 06 demonstration sites at Hingurana.
 - Conducting 05 demonstration programmes for 40 farmers at Hingurana.
 - Conducting one field tour on spaced planting for farmers at Deegavapi, Hingurana
 - Conducting 16 training sessions on planting techniques for 425 farmers at Pelwatte, Siyambalanduwa, and Hingurana.
 - Conducting 06 training sessions on planting techniques for 380 field officers at Pelwatte and Siyambalanduwa.
- **Improvement of cane quality by increasing farmer knowledge and adoption of best management practices**
 - Conducting 06 training sessions for field officers at Pelwatte, Siyambalanduwa and Badalkumbura.
 - Conducting 36 training sessions for 549 farmers on improvement of cane quality by adopting best management practices at Pelwatte, Siyambalanduwa, Hingurana, Meegahakiula and Rideemaliyadda.
 - Drafting a leaflet and video script on cane quality improvement.
- **Improvement of adoption of agronomic practices of sugarcane**
 - Conducting 35 training sessions for 469 farmers at Pelwatte, Siyambalanduwa and Hingurana.
 - Conducting 07 training sessions for 352 field officers at Pelwatte, Siyambalanduwa, Badalkumbura.
 - Conducting a field tour on crop management for farmers at Deegavapi.
 - Conducting a field day at SRI for 150 farmers at Sevanagala, Pelwatte and Siyambalanduwa.
 - Conducting a training programme on weed management for 22 field officers of Lanka Sugar Company (Pvt) Ltd.- Sevanagala.
 - Conducting a training programme on nursery management for 53 field staff of Lanka Sugar Company (Pvt) Ltd.- Pelwatte at Yalabowa sugarcane nursery.

- Conducting a training programme on nursery management for a farmer group at Hingurana.
 - Conducting 90 farmer field visits at Pelwatte and Hingurana.
 - Publishing a farmer manual on sugarcane cultivation and distributing 400 copies among field staff of the Lanka Sugar Company (Pvt) Ltd. – Sevanagala and Pelwatte, Gal Oya Plantations (Pvt) Ltd. and farmer organisations in sugar mill areas.
 - Conducting a training programme on sugarcane cultivation for students of the 4th mile post school at Siyambalanduwa.
 - Distributing 3,000 copies of advisory leaflets among farmers and field officers.
- **Improvement of knowledge and adoption of disease and pest management**
 - Conducting 2 one-day training programmes for farmers on disease and pest management at Siyambalanduwa and Hingurana.
 - Conducting a field day at SRI for farmers at Sevanagala, Pelwatte and Siyambalanduwa.
 - Conducting 35 training/demonstration sessions on disease and pest management for 665 farmers at Pelwatte and Siyambalanduwa.
 - Conducting 08 training/demonstration sessions on disease and pest management for 412 field officers at Pelwatte, Siyambalanduwa and Badalkumbura.
 - Conducting a field tour on disease and pest management for farmers at Deegavapi, Hingurana.
 - Conducting a training programme (Crop Clinic) for 40 farmers on disease and pest management at Uda Arawa.
 - Conducting 300 field visits on woolly aphid, WLD and smut at Pelwatte, Siyambalanduwa and Hingurana.
 - Conducting an awareness programme on control of smut and WLD by displaying posters at Pelwatte and Siyambalanduwa.
 - Preparing an advisory video on hot-water treatment for disease management.
 - Drafting picture book on weeds, pests and diseases of sugarcane.
 - Distributing 2,000 copies of advisory leaflets among farmers and field officers.
- **Improving sugarcane farmers' knowledge and skills on entrepreneurship**
 - Coordination with resource personnel and preparing a training module.
 - Conducting five training programmes for 120 selected farmers from Sevanagala, Siyambalanduwa and Badalkumbura.

- **Providing training/services at the requests of the sugar companies/other institutions and conducting exhibitions**
 - Participating in the exhibition "*Wasa Visa Nethi Hetak*" at BMICH by running an exhibition stall jointly with TRI and CRI.
 - Conducting a farmer day at SRI, Uda Walawe.
 - Printing Sugarcane Sri Lanka Journal volume 02.
 - Preparing and printing draft of Annual Report, SRI, 2014.
 - Preparing draft copy of SRI Newsletter 2016, December issue.
 - Coordinating a five-day training programme on agricultural extension at Gannoruwa for 30 field officers of Lanka Sugar Company (Pvt) Ltd.-Pelwatte and Development Officers of SRI.
 - Conducting sugarcane module of the training programme on Plantation Management for Youths in the Beneficiary Families of the SPEnDP Project for 28 participants on 20 and 21 December, 2017 at SRI, Uda Walawe.
 - Conducting a three-day training programme for 21 students (diploma course on plantation management (NIPM)) at SRI.
 - Conducting a training programme on sugarcane growing and processing for 55 *Grama Nildharis* in Siyambalanduwa area.
 - Coordinating a demonstration programme to make the farmers aware of the use of cane tops as cattle feed in collaboration with the Crop and Resource Management Division at Hingurana and SRI, Uda Walawe.
 - Conducting two training programmes on sugarcane growing and processing for students of Technical College, Moneragala.
 - Coordinating 07 training programmes for 230 students from the Universities of Sabaragamuwa, Ruhuna, Wayamba and Peradeniya.
 - Conducting two training programmes on sugarcane growing for 133 students at Galabedda and Siyambalanduwa.
 - Conducting a lecture session for induction course for planter trainees-2014 at NIPM, Athurugiriya.
 - Attending divisional coordinating committee meetings at Buttala and District Agriculture committee meetings at Moneragala.

Development Activities

- **Sugarcane Industry Development Programme**

Badulla District

- Harvesting 200 tonnes of commercial cane.
- Monitoring 40 ha multiplication/commercial fields at Rideemaliyadda, Meegahakiula, HaliEla and Aluthwela in Badulla District.
- Establishment of two sugarcane processing units and producing 3,000kg of quality-improved jaggery at Rideemaliyadda and Meegahakiula.
- Conducting 06 training programmes on jaggery processing for farmers at Meegahakiula.
- Making arrangements to get 35 jaggery moulds prepared and providing them to jaggery producers.

Nuwara Eliya District

- Holding discussions on expanding sugarcane cultivations into Walapane and Hanguranketha areas at Divisional Secretariats at Walapane and Hanguranketha.
- Inspecting fields proposed for growing sugarcane at Walapane and Hanguranketha and conducting awareness programme on sugarcane growing and its potential for two selected farmer groups at Serupitiya and Pallobowala and a group of farmers and officers at Rikillagaskada.
- Submitting a report to the Board of Governors of SRI on preliminary study on growing sugarcane at Walapane and Hanguranketha.
- Making preliminary arrangements to establish nursery/multiplication field as a pilot project in Serupitiya area.

- **Replacement of the disease-infected sugarcane nurseries in Sevanagala, Pelwatte and Hingurana**

- Establishment of 3ha primary nurseries of SL 83 06 and SL 96 128 at Kantale for producing disease-free seedcane.

Publications

Dapange, M., and Bhat, S. (2016). Identification of differentially expressed transporter genes under moisture deficit stress in sugarcane (*Saccharum* spp. hybrids). Proceedings of the Sixth Symposium on Plantation Crop Research, November 2 -4, BMICH, Colombo 15-24.

Wijesuriya, A., Jayamali, L. B. C., Perera, A. M. M. S., and Wijesuriya, B. W. (2016). Optimal plot and sample sizes for efficient assessment of varieties in sugarcane (*Saccharum* spp. hybrids) crop improvement. Proceedings of the Sixth Symposium on Plantation Crop Research, November 2 -4, BMICH, Colombo.45-55.

Ballagalla, D. N.,Wijesuriya, A., Ranathunga, N. P., and Perera, A. M. M. S. (2016). Near-optimal levels of 2,4-Dichlorophenoxyacetic acid and Indole acetic acid for *in-vitro* direct regeneration of shoots from sugarcane (*Saccharum* spp. hybrids) leaf tissues. Proceedings of Tropical Agricultural Research and Extension, University of Ruhuna. 112 – 116.

Afghan, S.,Shahzad, A., Afzal, M., Iqbal, Z., Shahzad, S., and Wijesuriya, A. (2016). Sugarcane improvement in Pakistan through traditional and modern breeding technologies. Proceedings of the International Society of Sugar Cane Technologists, Volume, 29, 1665-2016.

Wijayawardane, L.M.J.R., De Silva, A.L.C. and Witharama, W.R.G. (2016). Evaluation of alternate-row furrow irrigation technique for supplementary irrigation of sugarcane. Proceedings of the Sixth Symposium on Plantation Crop Research, 137-147.

Weerasinghe, H.A.S., Ariyawansha, B.D.S.K., and Wijesuriya, A. (2016). Response of Sugarcane (*Saccharum* hybrid spp.) Varieties SL 96 128 and SL 96 328 to Nitrogen, Phosphorous and Potassium under Irrigation at Uda Walawe, Sri Lanka: A Preliminary Analysis Sugarcane Sri Lanka, Volume.03, Sugarcane Research Institute, Sri Lanka.



ADMINISTRATION AND FINANCE DIVISION

Administration and Finance Division

Staff

Dr A P Keerthipala BSc (Agriculture), MPhil, PhD	-	Director/Chief Executive Officer
Dr W R G Witharama BSc (Agriculture), MPhil, PhD	-	Deputy Director (Research & Technology Transfer)

Administration Section

Mr P K N Priyadarshana BSc (Adm), CBA	-	Assistant Director (Administration) (from 15.02.2016)
Dr C Eritawala PhD (Moscow)	-	Administrative Officer
Ms T A D M G Jayathilaka	-	Senior Management Assistant (Clerical & Typing)
Ms J K Chandralatha	-	Senior Management Assistant (Clerical & Typing)
Ms T M K Senadeera	-	Senior Management Assistant (Clerical & Typing)
Ms M M I M K Manikkadawara	-	Management Assistant (Clerical & Typing)
Ms M A R Samarasekara	-	Management Assistant (Clerical & Typing)
Ms O U Subasinghe	-	Management Assistant (Clerical & Typing)
Mr W A Sameera Madhushanka	-	Management Assistant (Clerical & Typing)
Ms A K Rathnayake	-	Telephone Operator/Receptionist
Mr I Austin Perera	-	Driver
Mr S L Peiris	-	Driver
Mr H A U S Pamarathna	-	Driver
Mr J P S P Karunathilaka	-	Driver
Mr T P K Jayarathna	-	Driver
Mr S Ekanayake	-	Driver
Mr H S A Susantha Kumara	-	Driver
Mr G W M P S Manawadu	-	Driver
Mr A M Wijayarathna Banda	-	Driver
Mr W M A K Priyashantha	-	Driver
Mr K Duminda Manjula Abeysiri	-	Driver (from 03.10.2016)

Maintenance Unit

Mr G S K Dahanayake BSc	-	Works Superintendent
Ms D H S Wijesinghe	-	Inspector of Works
Mr G Gamage	-	Electrician
Mr R Palamure	-	Electrician
Mr J Wickramarachchi	-	Mason/Plumber
Mr D W S Chinthana	-	Carpenter
Mr R P Kulathunga	-	Carpenter
Mr D H Dharmadasa	-	Water Pump Operator
Mr H P Chandrawansha	-	Water Pump Operator
Mr K H Weerarathne	-	Water Pump Operator

Accounts Section

Ms D M J N Dissanayake BCom, MBS	-	Accountant
Mr I B Kodagoda BCom	-	Accounting Officer
Mr T M L S Thennakoon	-	Book Keeper

Ms A K Amarakoon	-	Senior Management Assistant (Accounts)
Mr L S Dayananda	-	Senior Management Assistant (Accounts)
Mr D M P Nickson	-	Senior Management Assistant (Accounts)
Mr T Ranjith Peiris	-	Management Assistant (Accounts)
Ms T S Weerasinghe	-	Management Assistant (Accounts)
Ms G D N M Anuruddhika	-	Management Assistant (Accounts)
Mr A G U S De Silva	-	Management Assistant (Accounts)

Procurement Unit

Mr H P R Kumara BB Mgt.	-	Procurement Officer
Mr G M S Nandadeva	-	Senior Management Assistant (Accounts)
Ms S S Chathurani	-	Management Assistant (Accounts)

Store

Mr R G S Niroshana	-	Store Keeper
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Internal Audit Unit

Mr S P Y Muneendra ICA (intermediate) MAAT	-	Internal Auditor
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Summary of the activities carried out during the year 2016

- Relocation of the Colombo Office from Kirulapna to Battaramulla.
- Procuring and installing CCTV camera system to enhance the institute's security.
- Filling ten vacancies; Assistant Director (Administration), Research Officer, Five Technical Officers, Driver and two Lab/Field Attendants.
- Obtaining security services from the Civil Security Department for the period from 1st May 2016 to 30th April 2017.
- Preparation of budget, annual accounts and progress reports.
- Carrying out day-to-day administration, personnel management, maintenance and welfare activities and staff training for the requirements of the research and development activities of the Institute.

Review of Financial Activities

The results for the year ended 31st December 2016 show the institute had another successful year generating a surplus of Rs.88 million.

Income:

Total grant received for the institute during 2016 was Rs.365 million and the breakdown of which is as follows:

	<u>Rs million</u>
Recurrent	250
Capital	53
Capital funds for institute strengthening	50 (34 million received in Jan 2017)
Project Funds (Kantale and Kilinochchi)	12 (2 million received in Jan 2017)

Expenditure

Expenditure during the year has reduced by 8% to Rs. 301 million (In 2015: Rs.324 million). Staff costs have been increased by 12.5% from Rs.159 million to Rs.179 million due to increased staff. Other operating expenses have decreased by 26% from Rs.165million to Rs.122 million.

Capital Expenditure

Out of the Rs 155 million received, the Institute could spend Rs 133 million on procurement of capital equipment and infrastructure development work.

STAFF STRENGTHENING AND MOTIVATION

Staff Recruitments

Ms B N L Kumaranayake	Technical Officer	01.02.2016
Ms R P D S B Dissanayake	Technical Officer	01.02.2016
Mr J S Ushan Madhusanka	Lab/Field Assistant	08.02.2016
Ms M A R I Perera	Technical Officer	08.02.2016
Mr K P Wickaramasinghe	Research Officer	01.02.2016
Mr P K Nadeeke Priyadarshana	Assistant Director (Administration)	15.02.2016
Mr R G S Lakmal Premarathne	Lab/Field Assistant	01.03.2016
Mr K G S U Rasika Bandara	Technical Officer	19.09.2016
Mr W K D Sampath Karunarathna	Technical Officer	21.09.2016
Mr K Duminda Manjula Abeyesiri	Driver	03.10.2016

Staff Turnover during the year 2016

Retirements

Mr. D.G. Manamudali	Deputy Director (Admin. & Finance)	01.06.2016
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Resignations

Mr.H.N.A.Prasanna	Driver	08.02.2016
Ms.R.P.D.S.B.Dissanayake	Technical Officer	08.02.2016
Mr.W.G.H.Ruwanpura	Research Officer	29.07.2016
Ms.B.A.S.Iranganie	Technical Officer	13.10.2016

Staff Training and Visits (Foreign)

- Mr H A S Weerasighe (Research officer) attended the two-day Executive Technology Forum on Separation and Mass Spectroscopy Techniques organised by Waters India (Pvt) Ltd, Bangalore, India from 07th to 09th March 2016.
- Messrs R A Premachandra and Dharmasiri Weerasinghe, the Senior Technical Officers of Division of Crop Improvement underwent a 21-day training on sugarcane breeding and variety selection at the Yunnan Sugarcane Research Institute, Kaiyuan, Yunnan, People's Republic of China from 23rd November to 13th December 2016.

Long-Term Training (Local)

- Mr A L C De Silva (Senior Research Officer in Crop and Resource Management Division), Ms B D S K Ariyawansa (Senior Research Officer in Economics, Biometry and Information Technology Division) and Mr. H A S Weerasinghe (Research Officer in Crop Nutrition Division) continued their postgraduate studies leading to PhD at the Postgraduate Institute of Agriculture, University of Peradeniya, Sri Lanka.
- Mr H P R Kumara (Procurement Officer) continued his studies leading to MSc degree in Service Management at the University of Colombo.
- Ms K M G Chanchala (Research Officer in Crop Protection Division) commenced her Postgraduate training leading to a PhD degree by research in Plant Protection Technology at the Postgraduate Institute of Agriculture from 01st February 2016 to 31st January 2017.

Training Programs/Workshops/Seminars Attended (Local)

- Mr K T Ariyawansa, Research Officer, underwent a twelve-week part-time training on Parametric 3D Modelling Using Pro/E and Soil Works at Die and Mould Facilitation and Development Centre of the University of Moratuwa.
- Mr D M L Weerasiri, Mechanic, attended a workshop on Common Rail Diesel Fuel system conducted by the Construction Equipment Training Centre (CETRAC), Battaramulla on 27th January 2016.
- Mr D M L Weerasiri, Mechanic, and Mr G Gamage, Electrician, attended a workshop on Operation and Maintenance of Generators conducted by the Construction Equipment Training Centre (CETRAC), Battaramulla on 9th and 10th February 2016.
- Dr M S Perera, Principal Research Officer participated in the national workshop on Capacity Need Assessment of Extension and Advisory Service Providers (EAS) on 10th and 11th February 2016 at the In-Service Training Centre, Department of Agriculture, Gannoruwa.
- Dr M S Perera, Principal Research Officer participated in the National Conference in Agriculture Extension and Policy Dialogue on 12th February 2016 at Hotel OAK Ray, Gatambe, Kandy.
- Ms T S Weerasinghe and Ms S S Chathurani, Management Assistants (Accounts) participated in a workshop on Import and Export Procedures at Skills Development Fund Ltd. on 15th and 16th February 2016.
- Mr D M L Weerasiri, Mechanic, attended a training on Maintenance of Diesel Engines at Construction Equipment Training Centre (CETRAC), Battaramulla from 15th to 19th February 2016.
- Mr K A D Kodithuwakku, Senior Research Officer, participated in a workshop on Procurement and Evaluation of IT Products at Skills Development Fund Ltd. on 14th and 15th March 2016.
- Mr G A A Chathuranga, Research Officer attended a one-day workshop on New Nozzle Technology on 15th March 2016 at the In-service training, Gannoruwa.

- Mr G S K Dahanayake, Works Superintendent, participated in a two-day workshop on Supervisory Management at Skills Development Fund Ltd. on 23rd and 24th March 2016.
- Mr D H Dharmadasa, Water Pump Operator, and Messrs R P Wijayananda and K K Warnakula, General Workers, attended a training on Maintenance of Water Pumps and Compressors at the Construction Equipment Training Centre (CETRAC), Battaramulla from 30th March to 03rd April 2016.
- Dr C Epitawela, Administrative Officer and Mr K P Wickramasinghe, Research Officer, attended an advanced program on Attitudes and Skills Development on 10th June 2016 at IHRA, University of Colombo.
- Research Officers, Ms S M T A Maralanda, Mr G A Amila Chathuranga, Mr B R Kulasekara and Mr K P Wickramasinghe attended a short course on Basic Statistics for Researchers: Principles and Practices, at ICT Centre, Wayamba University of Sri Lanka on 13th and 14th June 2016.
- Mr P K N Priyadarshana, Assistant Director (Administration), Mr S P Y Muneendra, Internal Auditor and Ms D M J N Dissanayake, Accountant, participated in a workshop on Essential Skills for Modern-day Managers at the Skills Development Fund Ltd. on 20th and 21st June 2016.
- Ms M A R Samarasekara and Ms M K Senadeera, Management Assistants (Clerical and Typing) participated in a workshop on Salary Conversions at Skills Development Ltd. on 30th June and 01st July 2016.
- Mr I B Kodagoda, Accounting Officer, participated in a workshop on Losses, Reporting, Loss Recoveries and Write off at the Skills Development Fund Ltd. on 28th and 29th July 2016.
- Ms D S Wijesingha, Inspector of Work, and Mr R Palamure, Electrician attended five-day training on Maintenance of Diesel Generators at the Construction Equipment Training Centre (CETRAC), Battaramulla from 30th to 31st July and 06th August to 08th August 2016.
- Mr K P Wickramasinghe, Research Officer, attended a short course on Plant Breeding Techniques for the Improvement of Annual Food and Floricultural Crops at PGIA, from 2nd to 5th August 2016.
- Ms M M Obesena, Ms B N L Kumaranayake and Mr M A R I Perera, Technical Officers, participated in a training programme on Safety in Chemical, Food and Microbiological Laboratories at the Industrial Technology Institute on 24th and 25th August 2016.
- Dr M S Perera, Principal Research Officer participated in the discussions on Cleaner Production Policy and Strategy for Plantation Sector, on 06th September 2016 at Central Environment Authority, Battaramulla.
- Mr D P W Pottawela, Technology Transfer Officer and Ms R A Sudarshani, Research Officer participated in the workshop on Writing Winning Research Proposals organised by the NASTEC, on 30th September, 2016 at SLIDA, Colombo.
- Dr A Wijesuriya and Dr M S Perera Principal Research Officers, participated at the training on Scientific Writing for Scientists Working in the National Agricultural Research System (NARS) organised by the Sri Lanka Council for Agricultural Research Policy on 3rd October 2016.

- Dr D Manel, Ms A M M S Perera, Ms S M T A Maralanda, Research Officers participated in a training programme on Effective Research Proposal Writing at the National Science Foundation on 7th October 2016.
- Mr S P Y Muneendra, Internal Auditor participated in a two-day workshop on Effective Internal Auditing at the Skills Development Fund Ltd. on 13th and 14th October 2016.
- Mr K H Weerathna and Mr H P Chandrawansa, Water Pump Operators, attended a five-day training on Maintenance of Water Pump and Compressor at the Construction Equipment Training Centre (CETRAC), Battaramulla from 29th to 31st October and 05th to 06th November 2016.
- Mr I B Kodagoda, Accounting Officer participated in two-day induction training at the Skills Development Fund Ltd. on 09th and 11th November 2016.

Audit and Management Committee Report

Four Audit and Management Committee meetings were held during the year 2016. The progress of the institutes' research activities as well as progress and issues of the administration and finance division were taken up for discussion.

The decisions taken at the committee meetings were referred to the Board of Governors of the institute for further discussion and taking the required decisions on administrative and financial issues. The institute was able to minimise quarries raised by the Government Auditors by discussing them at the Audit and Management Committee, and rectifying any faults.

In addition, activities of the SRI were streamlined according to circulars issued by the government from time to time and administrative set up of the institute. Necessary information was provided to the Board of Governors to take decisions, and thus, the institutes' Audit and Management Committee was able to fulfil its obligations without any deficiencies during the year 2016.



S.P.Y. Muneendra
Internal Auditor

22nd February 2016

Audited Financial Statetments

SUGARCANE RESEARCH INSTITUTE
STATEMENT OF FINANCIAL POSITION AS AT 31ST DECEMBER 2016

ASSETS	NOTE	2016 Rs.	2016 Rs.	2015 Rs.	2015 Rs.
Non - current assets					
Property, Plant and Equipment	1		255,143,450.98	209,469,360.42	
Investment	2		-	54,106,697.50	263,576,057.92
			255,143,450.98		
Current assets					
Consumables stock	3	21,526,424.72		16,457,595.04	
Livestock		252,695.00		225,201.00	
Advance payment for opening Letters of Credit		22,365,615.01		10,764,246.00	
Work in progress		250,000.00		2,780,752.00	
Trade and other receivables		82,611,248.95		48,310,366.99	
Investment (S / T)	4	167,913,141.77		110,673,401.33	
Prepayments & other deposits	6	653,900.74		1,274,900.74	
Cash and cash equivalents	7	17,696,751.78	313,269,777.97	32,337,603.76	222,824,066.86
Total assets			568,413,228.95		486,400,124.78
LIABILITIES					
Current liabilities					
Payable	8	5,977,087.41		3,296,083.33	
Accrued expenses	9	5,053,913.82	11,031,001.23	5,723,276.66	9,019,359.99
Non - current liabilities					
Differed income		(9.50)	(9.50)	5.70	
Provision for medical (Schedule 09)		3,150,030.84		2,920,732.67	
Provision for audit fee		300,000.00		500,000.00	
Provision for doubtful debts		367,839.81			
Provision for gratuity (Schedule 10)	10	50,961,660.50	54,779,531.15	63,478,439.25	66,899,177.62
Total liabilities			65,810,532.38		75,918,537.61
Total Net Assets			502,602,687.07		410,481,587.17
Retained earnings	11		367,273,578.56		275,152,478.66
Revaluation reserve		135,329,108.51	135,329,108.51		135,329,108.51
Total Net Assets/Equity			502,602,687.07		410,481,587.17

The governing body of an entity is responsible for the preparation and presentation of its financial statements and which should also contain a statement of responsibility.

The accounting policies on pages..... to ... and Notes on pages .. to... from and integral part of these financial statements.

The Board of Governors is responsible for the preparation and presentation of these financial statements.

These financial statements were approved by the Board of Governors and signed on their behalf.

K.A.F. Karunasena

K.A.F. Karunasena
Chairman

Dr. A.P. Keerthipala

Dr. A.P. Keerthipala
Director / Chief Executive Officer

D.M.J.N. Dissanayake

D.M.J.N. Dissanayake
Accountant

SUGARCANE RESEARCH INSTITUTE
STATEMENT OF FINANCIAL PERFORMANCE FOR THE YEAR ENDED 31ST DECEMBER 2016


Description	Notes	Year 2016 Rs.	Year 2015 Rs.
Operating Revenue			
Treasury Fund			
Capital		53,000,000.00	60,574,000.00
Recurrent		250,000,000.00	261,211,520.74
Treasury Grant for Ministry Project		12,000,000.00	17,298,720.00
Cess on local sugar production (Additional Note 1.2)		1,437,670.00	3,238,130.00
Other income	12	23,038,027.14	13,446,571.06
Capital Grant for the Purchase of equipment		50,000,000.00	
		389,475,697.14	355,768,941.80
Operating Expenses			
Personnel emoluments	13	179,594,282.69	159,202,581.59
Travelling & subsistence		2,513,622.20	2,906,551.18
Foreign visits		787,291.65	5,338,430.23
Supplies and consumables	14	3,862,315.28	2,044,616.03
Maintenance	15	17,384,252.06	25,960,485.71
Contractual services	16	12,747,881.56	36,429,026.49
Research & development	17	27,402,552.03	13,706,589.35
Depreciation and amortization expenses		44,624,297.78	24,938,587.99
Other operating expenses	18	11,877,079.08	28,751,966.92
Doubtful debts		367,839.81	-
Total operating expenses		301,161,414.14	299,278,835.49
Surplus / (Deficit) from operating activities		88,314,283.00	56,490,106.31
Finance cost		115,492.84	51,832.49
Total non-operating revenue (expenses)		88,198,790.16	56,438,273.82
Net surplus / (Deficit) before extraordinary items			
Net surplus / (Deficit) for the period		88,198,790.16	56,438,273.82

The governing body of an entity is responsible for the preparation and presentation of its financial statements and which should also contain a statement of responsibility.

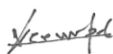
The accounting policies on pages to ... and Notes on pages .. to... from and integral part of these financial statements.

The Board of Governors is responsible for the preparation and presentation of these financial statements.

These financial statements were approved by the Board of Governors and signed on their behalf.



K.A.F . Karunasena
Chairman



Dr. A.P. Keerthipala
Director /Chief Executive Office



D.M.J.N. Dissanayake
Accountant

SUGARCANE RESEARCH INSTITUTE
CASH FLOW STATEMENT
FOR THE YEAR ENDED 31 ST DECEMBER 2016

Description	2016	2015
	(Rs)	(Rs)
Surplus /(deficit) from ordinary activities	88,198,790	56,438,273.82
Non - cash movements		
Depreciation	44,624,298	24,938,587.99
Provision for gratuity	-11,690,136	17,120,482.46
Provision for medicals	229,298	29,910.37
Provision for Audit fee	200,000	500,000.00
Prior - year adjustment	3,922,310	(4,602,362.90)
Written - off live stock	-27,494	294,174.00
Differed income	-10	5.70
Operating profit / (Loss) before working capital changes	125,457,056	94,719,071.44
Increase / Decrease in trade and other recievables (With out staff loan)	-34,753,530	2,936,435.47
Increase / Decrease in sundry stock	-5,068,830	(5,336,715.05)
Increase / Decrease in working progress	2,530,752	2,816,800.00
Increase/ Decrease advance payment for opening Letters of Credit	-11,601,369	11,859,097.00
Increase / Decrease in advance and prepayments	621,000	(855,000.00)
Increase / Decrease in staff loan	452,649	(1,415,688.46)
Increase / Decrease in creditors & other payables	2,011,641	(6,893,427.88)
Payment for gratuity	-826,643	(748,740.71)
Payment for medicals (From provision)	-32,146	(28,222.73)
Cash generated from operating activities before income tax	-46,666,476	2,334,537.64
Cash flows from / (used) in investing activities		
Purchase of property, plant & equipment	-90,298,389	(60,109,804.48)
Net cash flow from / (used) in investing activities	-90,298,389	(60,109,804.48)
Net increase / decrease in cash and cash equivalents	-11,507,809	36,943,804.60
Cash and cash equivalents at the beginning of the year	197,117,703	160,173,897.99
Cash and cash equivalents at the end of the year	185,609,894	197,117,702.59
Analysis of the balance cash & cash equivalents shown in the balance sheet		
Bank balance	17,696,752	32,337,603.76
Treasury bill deposit	104,705,504	110,173,401.33
Fixed deposits	63,207,637	54,606,697.50
Total	185,609,894	197,117,702.59

SUGARCANE RESEARCH INSTITUTE
NOTES TO THE STATEMENT OF FINANCIAL POSITION AS AT 31ST DECEMBER 2016

1	Property, Plant and Equipment		
	Please see schedule 01		
		2016	2015
2	Investment (L/T)	Rs	Rs
	Fixed deposit (Gratuity Fund) - N.S.B.	-	54,106,697.50
		2016	2015
3	Consumable stock	Rs	Rs
	Stationery	865,979.47	725,047.92
	Repair and maintenance of vehicles	2,055,625.60	-
	Repair and maintenance of buildings	13,802,160.08	8,774,622.35
	Repair and maintenance of machinery	947,432.10	589,077.50
	Fuel	970,928.00	756,526.40
	Staff welfare	166,204.00	244,360.45
	Research Metirials	2,718,095.47	3,540,156.45
	Chemicals		1,657,413.27
	Fertiliser		
	Other research materials		170,390.70
	Miscellaneous		
	Total consumable stock	21,526,424.72	16,457,595.04
		2016	2015
4	Trade & other receivables	Rs	Rs
	Advances :		
	Local purchases	53,723.31	1,024,290.86
	Travelling	125,860.20	117,060.20
	Fuel	6,071.05	136,471.05
	Advance payments for supliers and other institutes	607,607.80	444,685.30
	Research	93,876.01	33,876.01
	Sundry	537,589.54	7,412.86
	Interest receivables :		
	F.D. - N.S.B.	2,674,898.13	1,111,132.19
	Treasury bill - P.B.	1,007,562.76	
	Other Receivables :		
	Amendment charges for LCs	191,961.00	206,426.00
	Project fund from ministry & Treasury Grant	36,000,000.00	7,498,720.00
	Staff loans :		
	Housing loans (Schedule 02)	6,028,552.14	5,277,255.95
	Distress loans (Schedule 03)	22,039,017.91	22,811,309.77
	Festival advances (Schedule 04)	19,000.00	10,250.00
	Push cycle loans (Schedule 05)	(400.00)	3,000.00
	Motor cycle loans / Car (Schedule 06)	5,869,632.87	6,306,135.71
	Salary advances	(500.00)	
	Debtors :		
	Other Loans :		
	Kantale Sugar Industries Ltd.(Additional Note 1.3)	1,000,000.00	1,000,000.00
	Kantale Sugar Industries Ltd.(Additional Note 1.3)	385,333.00	385,333.00
	Sundry debtors :		
	Janatha Fertiliser		250.00
	Inland Revenue Department		9,222.74
	Lanka Sugar Co.(Pvt) Ltd- Sevanagala Sale of Sugarcane	3,317,317.00	1,531,591.00
	Gal Oya Plantations (Pvt) Ltd	282,870.00	
	Lanka Sugar Company (Pvt) Ltd	758,593.73	361,076.23
	Nanda Tractor Motors (Pvt) Ltd	-	34,868.12
	Ethimale Plantations (Pvt) Ltd	1,131,752.50	
	M.G.Sugars Lanka (Pvt) LTd	480,930.00	
	Total Trade & other receivable	82,611,248.95	48,310,366.99
		2016	2015
5	Investment (S/T) :	Rs	Rs
	Treasury bill - P.B	104,705,504.39	110,173,401.33
	Fixed deposit (Scholarship)- N.S.B.	500,000.00	500,000.00
	Fixed deposit (Gratuity)- N.S.B.	62,707,637.38	
	Total Investment (S/T)	167,913,141.77	110,673,401.33

		2016	2015
		Rs	Rs
6	Prepayments & other deposits		
	Prepayments - Repair & maintenance of office equipment	6,160.00	6,160.00
	Withholding Tax	(26,234.26)	(26,234.26)
	Other deposits C.B. Ellepola	2,500.00	2,500.00
	Electricity Board	150,100.00	150,100.00
	Embilipitiya M.P.C.S. Ltd.	155,000.00	155,000.00
	Gas cylinder	118,375.00	118,375.00
	M.T.N Net Work	2,500.00	2,500.00
	Soflogic Information	1,500.00	1,500.00
	Sri Lanka Customs	10,000.00	10,000.00
	Kanthale Multi Purpose Co- operative society	90,000.00	90,000.00
	Key money for the Colombo office	-	765,000.00
	Ceylon Oxygen Ltd	144,000.00	-
	Total prepayment and other deposits	653,900.74	1,274,900.74
7	Cash and cash equivalents		
	People's Bank - Uda Walawe A/C No. 295 1001 - 0000000 - 5	239,676.70	15,442,595.81
	People's Bank - Battaramulla A/C No. 080 - 1 -001-5-1334359	1,076,833.95	2,361,469.35
	Bank of Ceylon - Battaramulla A/C No. 272977 - 5	6,617,704.83	3,196,290.54
	_Kanthale A/C No. 0077736038	100,000.00	100,000.00
	_Kilinochchi A/C No. 0077731905	100,000.00	100,000.00
	People's Bank - Uda Walawa A/C No.295-100-8-0000186	178,103.83	384,991.57
	Bank Savings - People's Bank - People's Bank-Baththaramulla A/C No-208-2-001-0-1334	567,428.47	545,156.09
	- People's Bank - Uda Walawe - A/C No. 295-2-001-7-0020749	8,817,004.00	10,207,100.40
	Total cash and cash equivalents	17,696,751.78	32,337,603.76
8	Payables		
	Analytical Instruments (pvt)Ltd.	559,354.63	12,550.00
	Anuruddha Aluminium	422,293.25	-
	Asean Industrial Tradeways	15,384.60	-
	Bhoomi Tech	17,307.50	-
	Refundable tender deposit (Schedule 07)	50,000.00	230,750.00
	Retention (Schedule 08)	1,714,939.94	338,303.91
	U.G. Stores	224,625.00	383,762.70
	W.G. Nimal	(616.67)	(616.67)
	Wasantha Auto Electrician	(1,050.00)	(1,050.00)
	Wickrama Hard Ware	498,520.00	-
	Libra Agency	261,188.00	415,939.20
	Avon Pharmo Chem	-	174,031.01
	The Associated News Papers	45,540.00	-
	U.K.Electricals	-	7,370.00
	Shakthi Enterprises	11,900.00	-
	D.G.Lanka Security	-	681,763.13
	Hemsons International	-	97,402.50
	Organic Trading (Pvt) Ltd	-	13,431.00
	Titan Steels	-	53,246.70
	Damro Industries (Pvt) Ltd	-	115,130.70
	Science Land Information Technology	100,000.00	100,000.00
	Ceyco Metal Merchant(Pvt) Ltd	37,710.00	-
	ACTA Electricals	-	5,150.00
	Ajith Motor Stores	750.00	750.00
	Asian Electricals	-	23,420.00
	Farmers (Pvt) Ltd	-	280,000.00
	Narah Stationers	-	24,625.35
	R.S.Global Traders	15,190.00	270,920.00
	S & G Ref Engineers	-	17,500.00
	Uni Royal Electricals	-	51,703.80
	Brown & Company PLC	28,621.20	-
	D.R.Industries	295,950.17	-
	Director General Civil Security	981,656.55	-
	Embilipitiya Agro Centre	31,000.00	-
	Ewis Peripheral (Pvt) Ltd	30,000.00	-
	Lakshman Saw Mills	111,167.70	-

Mega Heaters	180,853.14	-
Menaka Auto AC	73,500.00	-
Sarathchandra & Com	5,150.00	-
State Timber Ceylon	208,402.40	-
Vijitha Yapa Bookshop (Pvt) Ltd	57,750.00	-
Total payables	5,977,087.41	3,296,083.33
9 Accrued expenses	Rs	Rs
Electricity	436,847.91	458,265.70
Fuel	700,890.00	119,295.00
Overtime	707,452.63	709,458.81
Postage	313,677.51	19,200.00
Repair & maintenance of vehicles	17,730.00	22,270.00
Resource personnel honorarium	-	134,869.81
Rent	-	8,000.00
Research materials	113,010.50	88,386.49
Stationery	3,799.00	1,172.00
Sugar sector development	-	272,905.90
Telephone	-	212,327.27
Travelling & subsistence	63,808.00	9,257.50
Water	-	14,855.09
News papers/ periodicals	-	2,030.00
Salaries, wages & allowances	952,133.81	413,069.83
Welfare	765.00	2,252.00
Workmen compensation	3,762.50	-
PAYE Tax	-	10,885.26
Repair & maintenance of office equipment	22,370.00	5,500.00
Repair & maintenance of buildings	20,825.00	-
Repair & maintenance of machinery & lab equipment	-	22,139.50
Employees' Provident Fund	1,998,669.11	2,791,668.52
Employees' Trust Fund	247,353.35	336,196.56
Kanthale project expenses	-	42,615.45
Kilinochchi project expenses	-	85,809.50
Others	-	2,816.00
Fuel advances	-	(15,000.00)
Local purchase advances	-	(50,000.00)
Salary & wages deductions	2,736.97	3,030.47
Other allowances	17,500.00	-
Diets & uniform	2,590.00	-
Other supplies	31,789.00	-
Security charges	18,300.00	-
Legal charges	63,837.30	-
Stamp duty	18,450.00	-
Research advances	(2,400.00)	-
Sundry advances	(631,740.00)	-
Fines	(30.00)	-
Special advances	(100,000.00)	-
Travelling advances	(11,000.00)	-
EPF control account	(10,410.26)	-
ETF control account	51,196.49	-
Total Accrued Expenses	5,053,913.82	5,723,276.66
10 Provision for Gratuity		
Please see the shedule 11		

SUGARCANE RESEARCH INSTITUTE

NOTES TO THE STATEMENT OF FINANCIAL PERFORMANCE FOR THE YEAR ENDED 31ST DECEMBER 2016

	2016	2015
	Rs	Rs.
12 Other Incomes		
Interest Income on staff loans	1,426,649.12	1,445,998.87
Interest Income on treasury bills	8,627,387.21	5,161,382.88
Interest Income on fixed deposits	4,314,845.19	2,647,106.89
Interest on savings A/Cs	264,673.06	672,945.33
Sale of seedcane/factory cane	5,243,061.00	484,481.50
Sundry income	3,161,411.56	3,034,655.59
Total other income	23,038,027.14	13,446,571.06
	2016	2015
	Rs	Rs
13 Personnel Emoluments		
Salaries, wages & holiday payments	137,668,767.00	98,948,099.73
Contribution to Employees' Provident Fund & Contribution of Employees' Trust Fund	17,926,356.40	22,500,546.12
Overtime	11,833,072.77	10,693,986.63
Wages	-	13,805,146.58
Welfare programme	11,345,999.52	11,265,541.82
Resource personnel & training allowance	-	1,989,260.71
Other allowances	820,087.00	-
Total personnel emoluments	179,594,282.69	159,202,581.59
	2016	2015
	Rs	Rs
14 Supplies and consumables		
Printing & translation	1,851,295.55	1,545,441.22
News papers & periodicals	-	92,925.00
Food & lodging	-	102,634.20
Translation	-	17,809.50
Stationery	1,188,512.18	285,806.11
Medical supplies	21,781.49	-
Other supplies	800,726.06	-
Total Supplies and consumable used	3,862,315.28	2,044,616.03
	2016	2015
	Rs	Rs
15 Maintenance		
Licence insurance & fitness certificates	1,736,322.63	1,849,413.64
Repair & maintenance of vehicles	5,717,012.86	8,004,150.02
Raepair & maintenance of buildings	1,415,731.70	5,846,302.94
Repair & maintenance of machinery & lab equipment	1,553,401.85	2,196,190.70
Fuel & lubricants	6,961,783.02	8,044,698.41
Web maintainance	-	19,730.00
Total maintenance	17,384,252.06	25,960,485.71
	2016	2015
	Rs	Rs
16 Contractual services		
News paper notifications	-	235,014.75
Postage & telecommunication	2,556,481.84	1,855,520.18
Rent rates & taxes	3,551,296.94	1,402,221.11
Legal charges	129,293.30	55,444.00
Audit fees	106,185.00	1,016,700.00
Electricity & water	6,183,272.47	5,903,364.70
Security charges	10,702,316.55	8,659,589.65
Retirement benefits (Additional Note 2.0)	(11,690,136.25)	17,120,482.46
Workmen's compensation	52,357.50	29,527.04
PAYE Tax	-	108,672.60
Staff requitment expenses	-	27,490.00
Cooperate social responsibility	-	15,000.00
Other Services	366,861.68	-
Stamp duty	(16,675.00)	-
Diets & uniform	307,883.46	-
Other transfers	498,744.07	-
Total contractual services	12,747,881.56	36,429,026.49

17	Research & Development	2016	2015
		Rs	Rs
	Research materials	18,453,692.73	6,393,721.19
	Media, publicity & journals	-	13,610.00
	Consultancy fees	-	12,000.00
	Chemicals	-	393,489.53
	Irrigation & land preparation	2,975,464.00	705,898.85
	Sugar sector development	3,633,471.48	6,069,304.78
	Symposium	1,558,660.00	-
	Infrastructute development activities	-	113,450.00
	Research review expenses	100,000.00	5,115.00
	Harvesting Expenses	475,840.22	-
	Other recurrent expenses	205,423.60	-
	Total research & development	27,402,552.03	13,706,589.35
18	Other operating expenses	2016	2015
		Rs	Rs
	Entertainment	-	484,900.03
	Staff welfare	-	255,017.54
	Transport	172,364.09	-
	Scholarship	249,500.00	255,750.00
	Board of Governor's		
	Chairman's remuneraton	-	1,023,122.21
	Payment to other members	-	85,646.60
	Board, Audit and Management meeting expenses	631,086.60	715,928.00
	Miscellaneous	-	230,098.54
	Staff training	599,448.57	711,315.00
	Kanthale project expenses	8,886,225.53	15,258,173.36
	Kilinochi project expenses	1,338,454.29	9,437,841.64
	Livestock witten-off	-	294,174.00
		11,877,079.08	28,751,966.92

SUGARCANE RESEARCH INSTITUTE
STATEMENT OF CHANGES IN NET ASSETS FOR THE YEAR ENDED 31ST DECEMBER 2016

Rs.

Description	Revaluation Reserve	Retained earnings/(Translation Reserve)	Total
Balance as at 31 December 2015	135,329,108.51	275,152,478.66	410,481,587.17
Prior-year adjustment (Additional Note 1.1)		3,922,309.74	3,922,309.74
Surplus / (deficit) for the period	-	279,074,788.40	88,198,790.16
Balance as at 31st December 2016	135,329,108.51	367,273,578.56	502,602,687.07

Additional Notes

1.1 Prior-year adjustment

The previous-year adjustments consist of following:

1. Purchase of motor vehicles	6,390,000.00
2. Working progress	(2,530,752.00)
3. Distress loans	1,546.92
5. Motor cycle loans	(3,335.68)
6. Nanda Tractors	(2,305.59)
7. Livestock	27,494.00
8. Correction to accrued expenses	49,134.83
9. Written-off the debts	(9,472.74)
	3,922,309.74

- 1.2 Cess on local sugar production has been added to 2016 final accounts on cash basis. The receivable amounts from the local sugar production as at 31/12/2016 are as follows:

Description	Rs.		
	Pelwatte	Sevanagala	Gal Oya
Balance as at 1/1/16	4,608,160.00	1,437,670.00	4,044,921.00
Amount to be received on the production in 2016	3,373,795.00	1,648,770.00	1,062,590.00
	7,981,955.00	3,086,440.00	5,107,511.00
Cash received in 2016		1,437,670.00	0
Balance as at 31/12/16	7,981,955.00	1,648,770.00	5,107,511.00

Production details were requested from respective sugar companies to calculate cess on local sugar production for the year 2016 and full details were not received from Gal Oya plantations Pvt (Ltd).

- 1.3 The receipt of the loan to Kantale sugar industries Ltd. Rs; 1,000,000/= and the interest there on is doubtful.
- 1.4 Service of Mr.Lalith Wirthamulla has been terminated & he has filed a case in labour tribunal against the institute.
- 1.5 Mr.S.D.N.U.S.Wimalasooriya has been sent on retirement & he has filed a case in Labour tribunal against the institute.
- 1.6 The accumulated fund shows the depreciation value of assets received by the government and foreign grants. Corrected the accounting of depreciation in the year 2016 according to the Board Resolution. LKAS 20)
- 1.7 The year of purchase is not considered the calculating of the depreciation
- 1.8 Fixed deposit stated at their cost value and Treasury bills are stating at their net realizable value.
- 1.9 Maturity date is not considered the calculating of Treasury bills.
- 2.0 Gratuity account
- | | |
|--|-----------------|
| 2016 Provision | 50,961,660.50 |
| 2015 Provision | 63,478,439.25 |
| Payment of the year 2016 | 826,643 |
| Balance to be deposit (Retirement benefit) | (11,690,135.75) |

Before the period of 2015 gratuity provision has been calculated on the basis of gross salary. After the year 2016 according to the MSD circular 2016/2, gratuity provision calculated on Basic salary + Cost of living allowance. Excess balance of the 2016 provision has been identified against the retirement benefit expenditure.

Schedule : 1

Property, Plant and Equipment

Discription	Cost (Rs.)			Depreciation (Rs.)			N.D.V * (Rs.) 31.12.2016
	Balance as at 01.01.2016	Addition / Removal	Balance As at 31.12.2016	Balance as at 01.01.2016	Depreciation for the year	Balance as at 31.12.2016	
Office equipment	5,268,716.85	6,507,059.46	11,775,776.31	429,762.94	790,307.53	1,220,070.47	10,555,705.85
Furniture fittings	7,896,363.69	2,306,565.60	10,202,929.29	805,684.35	1,184,454.55	1,990,138.91	8,212,790.38
Computer equipment	4,838,260.00	1,271,590.00	6,109,850.00	624,007.50	967,652.00	1,591,659.50	4,518,190.50
Laboratory equipment	49,295,827.30	21,473,641.57	70,769,468.87	4,210,550.39	7,394,374.10	11,604,924.49	59,164,544.38
Agricultural equipment	11,157,614.00	7,812,820.66	18,970,434.66	1,236,352.50	1,673,642.10	2,909,994.60	16,060,440.06
Field equipment	9,396,818.92	(1,811,986.99)	7,584,831.93	194,725.00	1,409,522.84	1,604,247.84	5,980,584.09
Workshop equipment	5,461,580.00	6,987,600.54	12,449,180.54	308,139.98	819,237.00	1,127,376.98	11,321,803.57
Other equipment	3,952,070.00	1,140,725.99	5,092,795.99	417,607.88	592,810.50	1,010,418.38	4,082,377.62
Bicycle	79,750.00	25,550.00	105,300.00	7,627.50	11,962.50	19,590.00	85,710.00
Motor vehicles	114,373,138.00	7,510,400.00	121,883,538.00	16,067,353.13	28,593,284.50	44,660,637.63	77,222,900.38
Computer software	924,574.00	-	924,574.00	4,125.00	92,457.40	96,582.40	827,991.60
Buildings	14,864,017.00	-	14,864,017.00	557,400.64	743,200.85	1,300,601.49	13,563,415.51
Library books	128,620.66	-	128,620.66	9,646.55	12,862.07	22,508.62	106,112.04
Infrastructure development	6,770,596.99	37,074,422.51	43,845,019.50	65,604.64	338,529.85	404,134.49	43,440,885.01
TOTAL	234,407,947.41	90,298,389.34	324,706,336.75	24,938,587.99	44,624,297.78	69,562,885.77	255,143,450.98

Auditor General's Report



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கணக்காய்வாளர் தலைமை அபிபதி திணைக்களம்
AUDITOR GENERAL'S DEPARTMENT



මගේ අංකය } පිළිල්/ඩී/එස්ආරඅයි/01/16/04
 My No. } Your No. }

දිනය } 2017 සැප්තැම්බර් 14 දින
 Date }

සභාපති,
 උක් පර්යේෂණ ආයතනය

උක් පර්යේෂණ ආයතනයේ 2016 දෙසැම්බර් 31 දිනෙන් අවසන් වර්ෂය සඳහා වූ මූල්‍ය ප්‍රකාශන පිළිබඳව 1971 අංක 38 දරන මුදල් පනතේ 14(2)(ඔ) වගන්තිය ප්‍රකාර විගණකාධිපති වාර්තාව

මාගේ සමාංක හා 2017 අගෝස්තු 04 දිනැති ලිපියට යොමුවේ.

02. ඉහත සඳහන් ලිපිය සමඟ එවන ලද මාගේ වාර්තාවේ ඉංග්‍රීසි අනුවාදය මේ සමඟ එවා ඇත.

ඩබ්ලිව්.ප්‍රේමනන්ද

අතිරේක විගණකාධිපති

විගණකාධිපති වෙනුවට.



- පිටපත් : 1. ලේකම් - වැවිලි කර්මාන්ත අමාත්‍යාංශය
 2. ලේකම් - මුදල් හා ජනමාධ්‍ය අමාත්‍යාංශය



විගණකාධිපති දෙපාර්තමේන්තුව
கணக்காய்வாளர் தலைமை அபிபதி திணைக்களம்
AUDITOR GENERAL'S DEPARTMENT



මගේ අංකය } PLA/D/SRI/16/04
 எனது இல. }
 My No. }

ඔබේ අංකය }
 உமது இல. }
 Your No. }

දිනය } 04 August 2017
 திகதி }
 Date }

The Chairman
 Sugarcane Research Institute

Report of the Auditor General on the Financial Statements of the Sugarcane Research Institute for the year ended 31 December 2016 in terms of Section 14(2)(c) of the Finance Act, No.38 of 1971

The audit of financial statements of the Sugarcane Research Institute for the year ended 31 December 2016 comprising the statement of financial position as at 31 December 2016 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 19(3) of the Sugarcane Research Act, No.75 of 1981. My comments and observations which I consider should be published with the Annual Report of the Institute in terms of Section 14(2)(c) of the Finance Act, appear in this report. A detailed report in terms of Section 13(7)(a) of the Finance Act was issued to the Chairman of the Institute on 17 May 2017.

1.2 Management's Responsibility for the Financial Statements

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

1.3 Auditor's Responsibility

My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with Sri Lanka Auditing Standards consistent with International Auditing Standards of Supreme Audit Institutions



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

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

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

1.4 Basis for Qualified Opinion

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

2. Financial Statements

2.1 Qualified Opinion

In my opinion, except for the effects of the matters described in paragraph 2.2 of this report, the financial statements give a true and fair view of the financial position of the Sugarcane Research Institute as at 31 December 2016 and its financial performance and cash flows for the year then ended in accordance with Sri Lanka Public Sector Accounting Standards.



2.2 Comments on Financial Statements

2.2.1 Sri Lanka Public Sector Accounting Standards

The following observations are made.

- (a) Even though the management shall use its judgement in developing and applying an Accounting Policy in the absence of a SLPSAS that specifically applies to a transaction, other event or condition, the Accounting Policy followed by the Institution relating to bringing to account the biological assets amounting to Rs.252,695 had not been disclosed.
- (b) A provision had not been made for the contingent liabilities remaining as at that date of the statement of financial position by considering the current position in two lawsuits relating to the Institution in terms of the Sri Lanka Public Sector Accounting Standard 08.

2.2.2 Accounting Deficiencies

The following observations are made.

- (a) The interest rate of Rs.385,333 for the loans recoverable from the Kantale Sugar Company, brought to account by an error in the year 2013 had not been rectified even in the year under review.
- (b) The building valued at Rs.250,000 which had completed construction activities had been indicated under work-in- progress from about a period of 04 years without taking action to capitalize it.
- (c) The expenditure of the year had been understated by that amount due to bringing to account the amount of Rs.300,000 of security deposits of 2 months paid for the Colombo Office as an expenditure and the receivable security deposits had been understated by that amount.



(d) The surplus of the year had been overstated and the capital grants had been understated by that amount in the accounts due to the capital grants amounting to Rs.50,000,000 received for the purchase of equipment from the Ministry in the year under review being brought to account as revenue.

2.3 Accounts Receivable

Action had not been taken to recover a sum of Rs.1,164,231 receivable from the Sewanagala Sugar Factory and a sum of Rs.172,834 receivable from the Lanka Sugar (Private) Limited from a period of 5 years and a sum of Rs.1,000,000 receivable from the Kantale Sugar Company over 5 years.

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

The following non-compliances with laws, rules and regulations were observed.

Reference to Laws, Rules and Regulations

Non-compliance

Public Enterprises Circular No.PED/12
of 02 June 2003

(a) Section 9.12

Even though the approval of the Treasury should be obtained in implementing any welfare programme, expenditure amounting to Rs.11,346,000 had been incurred in the year under review for the reimbursement of the medical bills of the employees without obtaining the approval in such a manner by the Institute.

(b) Section 9.14.2

The approval of the Department of Public Enterprises had not been obtained for the set of rules prepared and used for the execution of the functions of the Institute. (Functional Organizational Manual)



3. Financial Review

3.1 Financial Results

According to the financial statements presented, the financial result for the year under review had resulted in a surplus of Rs.88,198,900 as compared with the corresponding surplus of Rs.56,438,274 for the preceding year, thus indicating an improvement of Rs.31,760,516 in the financial result in the year under review as compared with the preceding year. The increase of the operating income by a sum of Rs.33,706,755 had been the main reason for this improvement.

In considering financial results of 04 preceding years and in the year under review, even though a deficit had been indicated in the years 2012 and 2013, a surplus had been indicated in the years 2014,2015 and 2016. However, in adjusting personnel emoluments, depreciation for fixed assets and taxes paid to the government again, the contribution of the Institute amounting to Rs.105,963,090 had been a sum of Rs.312,417,371 in the year under review.

3.2 Legal Action instituted against or by the Institute

Cases had been filed in the Courts against the Institute by two employees of the Institute who had been dismissed and retired from the service.

4. Operating Review

4.1 Performance

Even though the objectives of the Institute in terms of the Sugarcane Research Institute Act No.75 of 1981 are carrying out research on the cultivation and the production of sugarcane, functions such as introducing new varieties of sugarcane, recommending fertilizer for cultivation activities, suppression of pests and diseases and introducing necessary machines for the mechanization of agriculture are being carried out by the Institute.

- (a) Even though about 33 years had lapsed after the establishment of the Sugarcane Research Institute, the local sugar production remained at a low level of 9 per cent due to carrying out functions such as introducing new sugarcane varieties, control



of diseases, introducing methodologies of sugarcane cultivation and introducing necessary methodologies to increase the percentage of extracting sugar being carried out in a slow manner.

- (b) Action had not been taken to provide a sufficient contribution for the provision of quality sugarcane yield by introducing production machines with modern technology as a remedy for the shortage of the supply of labour remaining in the carving of the sugarcane harvest and raising awareness among farmers on their usage.
- (c) Seventeen research projects out of 19 research projects which expected a physical progress of 100 per cent in the year under review had achieved a low level of physical progress ranging from 5 per cent to 75 per cent. Moreover, there was no physical progress in the projects of CI/9/16 Preliminary evaluation of sugarcane varieties and PT/03/16 Testing sugarcane varieties for jiggery production.
- (d) Sugarcane nurseries and research activities had been carried out without acquiring the legal right of the lands of 5.4 hectares in extent of the Ensal Estate in Deniyaya, 200 hectares in extent in Kantale and 12 hectares in extent in Kilinochchi from several years in those lands by the Research Institute and a sum of Rs.20,350,242 had been spent for research and development activities even in the year under review. However, only 8 acres in extent in the land in Kilinochchi and 35 hectares in extent in the land in Kantale had been cultivated by the end of the year under review.

4.2 Management Activities

The following observations are made.

- (a) A building belonging to the Institute had been given on lease basis to an external party for maintaining a cafeteria from the year 2004 and tenders had been called every two years without calling for tenders annually. Further, even a fee had not been charged by the Institute for the water used in this cafeteria.



(b) Even though a Cess should be charged on the amount of sugar manufactured by local sugar manufacturing institutions in terms of Section 18 of the Sugarcane Research Institute Act No.75 of 1981, a Cess amounting to Rs.1,077,100 had not been charged from the Gal oya Sugar Factory.

(c) There are 27 vehicles belonging to the reserve of the Institute and even though it had been informed that 04 vehicles out of them are not in a running condition, they had not been confiscated.

4.3 Transactions of Contentious Nature

A Defender vehicle had been purchased without a proper requirement by the Sugarcane Research Institute in the year 2000 and this vehicle had been repaired by incurring an excessive expenditure of Rs.3,035,070 from the year 2010 to the year 2016 despite being recommended by the Engineer to sell, on repairing this vehicle not being fruitful, in the year 2010.

4.4 Uneconomic Transactions

Even though it had been informed that a building ranging from 2,000 square feet to 3,000 square feet is required according to the relevant paper advertisement to obtain a building instead of the building used in the preceding year for a monthly rent of Rs.85,000 for the Colombo Office, a building of 5,000 square feet had been obtained for a rent of Rs.150,000 monthly and a sum of Rs.2,100,000 had been paid at once for it before signing the lease agreement in the year under review.

4.5 Personnel Administration

The following observations are made.

(a) The approved cadre of the Institute being 193 and the actual cadre being 176, 17 vacancies remained for 13 posts.

(b) It had been difficult to carry out the research activities successfully, the main objective of the Institute, on posts such as Chief Research Officer, Chief



Technical Transmission Officer, Senior Research Officer, Senior Technical Transmission Officer, Technical Officer remaining vacant.

5. Systems and Controls

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

Areas of Systems and Controls

Observations

(a) Personnel Administration

Not getting approved the Functional Organizational Manual for carrying out the administrative activities of the Institute.

(b) Collection of income

Not taking action to calculate the Cess income by obtaining accurate information.

(c) Recovery of loans

Not taking action to recover the receivable balances which remain not recovered long term.

W.P.C Wikramaratne
Auditor General (Acting)

Sgd./ H.M. GAMINI WIJESINGHE
Auditor General

Financial Highlights from 2012 to 2016

Income

Item	Rs Million				
	2012	2013	2014	2015	2016
Treasury grant	-	-	112.80	321.78	353.00
Cess on sugar imports/production	139.32	132.82	91.81	3.24	-
Ministry projects	-	-	-	17.30	12.00
Interest income and sundry income	24.04	29.55	18.93	12.96	24.47
Sale of sugarcane	1.65	1.85	0.65	0.48	-
Total	165.01	164.23	224.19	355.77	389.47

Expenditure

Item	Rs Million				
	2012	2013	2014	2015	2016
Recurrent:					
Personnel emoluments	92.10	102.91	116.45	159.20	179.59
Travelling and subsistence	2.63	2.54	9.00	8.24	3.28
Research and development	9.88	9.31	26.81	13.71	27.40
Supplies and consumables	1.52	2.52	3.27	2.04	3.86
Contractual services	20.97	21.85	26.09	36.43	12.47
Maintenance	17.11	21.99	23.99	25.96	17.34
Other operating expenses	27.21	31.60	21.75	53.69	59.49
Finance cost	0.03	0.20	-	0.05	-
Total	171.45	192.96	227.41	299.33	300.43
Capital:					
Buildings	0.12	-	-	-	-
Office/Lab/Field equipment	3.21	5.50	3.76	24.37	33.96
Vehicles	6.50	21.05	-	28.68	7.50
Land development	-	-	0.38	5.02	37.07
Library books	-	0.06	0.02	-	-
Furniture	0.72	0.48	-	1.36	2.30
Other facilities	0.05	1.39	9.46	0.68	9.55
Total	10.60	28.51	13.62	60.11	90.38
Total	182.05	221.47	222.79	359.44	390.81