



Mauritius Cane Industry Authority

# REPORT AND ACCOUNTS 2015



Mauritius Cane Industry Authority

**REPORT AND ACCOUNTS**

**1 JANUARY 2015 to 31 DECEMBER 2015**



## **VISION**

*To ensure a sustainable cane industry as an important pillar within the socio-economic framework of the country.*

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## **MISSION**

*To promote the development of the cane sector and its clusters through systematic policy measures, creating an enabling environment with innovative and efficient services, research and development, technology transfer and value addition to meet current and future challenges.*

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## MAURITIUS CANE INDUSTRY AUTHORITY

24 March 2017

**The Honourable Mahen Kumar SEERUTTUN**  
Minister of Agro-Industry and Food Security  
PORT LOUIS

*Sir*

*I have the honour to submit the Report and Accounts of the Mauritius Cane Industry Authority for period 1 January 2015 to 31 December 2015.*

*Yours faithfully*

V. GONDEEA  
CHAIRPERSON



## CORPORATE INFORMATION

Chairperson of Board	Mr Vishnou Gondeea
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## Introduction

The sugar cane industry crossed another milestone with the establishment of the Mauritius Cane Industry Authority (MCIA), bringing under its ambit the operations and functions of the six Service Providing Institutions. This merger formed part of the reform process within the industry, as a consequence of Government's policy to sustain the planting community subsequent to the 36 per cent drastic cut in the price of sugar. For the MCIA, the objective was to bring down cess not to exceed 4 per cent of the ex-Mauritius Sugar Syndicate price as from crop 2011.

The Ministry of Agro-Industry and Food Security took the initiative to provide for the establishment of the Mauritius Cane Industry Authority with a view to render the sugar cane industry more effective and efficient. With the Proclamation of the Mauritius Cane Industry Authority Act (No. 40 of 2011) on 19 March 2012, the Mauritius Cane Industry Authority was created as a body corporate to take over the powers and objects of the following six cess funded institutions, namely:

- (i) Cane Planters and Millers Arbitration and Control Board
- (ii) Farmers Service Corporation
- (iii) Mauritius Sugar Authority
- (iv) Mauritius Sugar Industry Research Institute
- (v) Mauritius Sugar Terminal Corporation
- (vi) Sugar Planters Mechanical Pool Corporation

The Mauritius Cane Industry Authority became the apex organisation of the sugar cane industry and the relevant Acts of the six cess funded institutions were repealed and the operations and activities of the institutions were vested with the MCIA.

## Establishment of the Authority

The Mauritius Cane Industry Authority was established as a body corporate on 15 December 2011 with the enactment of the Mauritius Cane Industry Authority Act (No. 40 of 2011). The Act came into force by Proclamation on 19 March 2012.

## Objectives of The Authority

*The objects of the Authority are to:*

- (a) monitor, oversee and coordinate all activities relating to, and ensure a fair, efficient and effective administration and operation of the cane industry;
- (b) promote and support the sustainable development, efficiency and viability of the cane industry;
- (c) formulate and implement policies, strategies, plans, programmes and schemes in relation to the cane industry;
- (d) promote and facilitate the sustainable development of the cane cluster in Mauritius and in the region;
- (e) by means of research and investigation, ensure the technical progress and efficiency of the cane industry;
- (f) monitor and co-ordinate the activities of the cane industry, including planting, milling, processing, transport, bulk handling and marketing;
- (g) co-ordinate the activities of organisations concerned with the cane industry in the private and public sectors;
- (h) overview the storage, sampling, bagging, packing, loading and unloading of sugar;
- (i) maintain a pool of machinery for agricultural purposes;
- (j) resolve disputes between planters, millers and middlemen;
- (k) overview the registration of cane contracts;
- (l) promote the development and use of co-products;
- (m) facilitate the participation of employees and planters in the cane industry;
- (n) ensure that necessary essential services are available to planters;

- (o) promote the setting up of cane nurseries and the supply of cane setts to planters;
- (p) facilitate the adoption of modern and efficient agricultural practices by planters.

### Functions of the Authority

The Authority has such functions as are necessary to further its objectives most effectively and may, in particular:

- (a) set up and manage such agricultural or other centres as the Minister may determine;
- (b) hire the agricultural machinery of the Authority to such persons and on such terms and conditions as the Board may determine;
- (c) provide technical advice, assistance and training to planters on cane cultivation, harvesting and transport of canes and post harvest operations;
- (d) manage agricultural land and, in particular, abandoned fields in FORIP or such other similar projects;
- (e) enter into management contracts on behalf of planters;
- (f) devise agricultural credit schemes in consultation with financing agencies;
- (g) ensure that arrangements are made so that canes of small planters are harvested at their optimal sucrose content;
- (h) assist cooperative societies in benefiting from the Fair Trade Initiative or such other similar projects;
- (i) provide, operate and maintain facilities for the storage, sampling, bagging, packing, loading and unloading of sugar or such co-product or other commodity as the Minister may approve;
- (j) set up a planters' data bank;
- (k) commission studies and consultancies in respect of any specific or general issue affecting the cane industry;
- (l) review, on a regular basis, the economic and financial performance as well as the problems and prospects of the cane industry;
- (m) periodically commission a revaluation of the fixed assets of the cane industry;

- (n) commission long-term master plans for the viability and sustainability of the cane cluster, with due regard to the interests of all parties concerned;
- (o) make recommendations to the Mauritius Revenue Authority regarding a rational and uniform system of granting capital allowances, including allowances in respect of equipment depreciation, in relation to the cane industry;
- (p) as and when appropriate, examine the accounts of millers and planters and offer advice on the forms to be used in connection with the presentation of those accounts;
- (q) collect contribution from the sale of sugar on the local market for the purposes of compensation under Section 46 (2) (k) of the MCIA Act ; and
- (r) advise the Minister on:
  - (i) the formulation and management of policies, strategies and schemes in relation to the cane industry;
  - (ii) the provision of adequate means of inland access or, after consultation with the Mauritius Ports Authority, sea access, to the sugar terminal;
  - (iii) the transport of sugar to and from the sugar terminal;
  - (iv) all measures necessary to ensure the viability of the cane industry.

For the purposes of Section 5(1) (i) of the MCIA Act, the facilities to be provided by the Authority include:

- (a) loading and unloading quays;
- (b) buildings, sheds and other structures; and
- (c) plant, machinery and equipment.

### Powers of Authority

The Authority has such powers as are necessary to attain its objectives and discharge its functions most effectively and may, in particular, subject to the MCIA Act:

- (a) enter into a contract, in accordance with the Public Procurement Act, including a contract for the



supply of goods, services, plant, equipment or materials for the execution of works;

(b) receive grants and donations, and raise funds;

(c) subject to para (e) (i), fix and levy fees and charges;

(d) enter into an agreement with any person for the performance, or provision, by that person, of any service or facility which the Authority is authorised to perform or provide;

(e) with the Minister's approval:

(i) fix the rate of charges in respect of the storage, bagging, packing, loading or unloading, at the sugar terminal, of sugar or any other commodity;

(ii) undertake, by agreement with the Mauritius Ports Authority, the execution of bulk handling or automated or semi-automated cargo handling operations in respect of any commodity other than sugar;

(iii) give such guidelines as it considers appropriate to the Mauritius Sugar Syndicate for the purpose of formulating, coordinating and harmonising the policies of those organisations in keeping with the objectives of the MCIA Act.

## Monopoly of Authority

Subject to Section 5(2) of the MCIA Act, no person, other than the Authority or an authorised body shall:

(a) as from the appointed date, store or load into a ship any sugar manufactured in Mauritius; or

(b) during such time as may be specified, store such other commodity as may be prescribed.

Subject to para (b) and to such conditions as may be prescribed, as from the appointed date:

(i) every miller shall cause all the sugar manufactured at his factory to be delivered to the Authority or, with the approval of the Authority, to an authorised body;

(ii) any sugar delivered under para (a) shall be consigned to the Mauritius Sugar Syndicate in the name of its owner;

(iii) the Authority or an authorised body, as the case may be, shall receive any sugar manufactured and delivered to it under para (a).

(b) The Board may authorise a miller to store sugar at his factory or at such other place as it may approve.

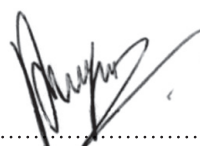
## Corporate Governance Report

### Compliance and Enforcement


The Mauritius Cane Industry Board is responsible for ensuring that proper standards of Corporate Governance are maintained, and applied throughout the organisation. The report has been prepared as far as practicable in accordance with the 'Code of Corporate Governance for Mauritius'. The Chairperson and Members of the Board fully understand the importance of Corporate Governance, and believe that the adoption of high standard of governance is imperative for the enhancement of all stakeholders' trust and confidence including the planters' community and continuously take steps to improve governance within the framework of the Mauritius Cane Industry Authority Act (No. 40 of 2011) and other applicable legislations.

### Statement of Compliance

We confirm that to the best of our knowledge that the Mauritius Cane Industry Authority has complied with all its obligations and requirements under the Code of Corporate Governance.



Amal K.M MUNGUR  
BOARD MEMBER



Vishnou GONDEEA  
CHAIRPERSON

## Role and power of the Board and its members

Structure and composition of the Mauritius Cane Industry Authority

The structure, composition and the manner of appointment of members have been established by Section 8 (1) of the Act.

The composition of the Mauritius Cane Industry Board during the period 1 January to 31 December 2015 is shown in the Table below:

<b>Table 1. Composition of the Board during the period 1 January to 31 December 2015</b>	
Mr Vishnou Gondeea (as from 21.1.2015) (Vacant from 27.12.2014 to 20.1.2015)	Chairperson
Mr Veersingh Boodhna (as from 13.5.2015)	Representative of the Ministry of Agro-Industry and Food Security
Mr Deobrut Bundhoo	Representative of the Ministry of Finance and Economic Development
Mr Jean Li Yuen Fong	Representative of Millers
Mr Patrick de Labauve d'Arifat	Representative of Millers
Mr Amal Kumar Mohabeer Mungur Mr Mumtaz Ally Edun (up to 12.5.2015)	Representative of Planters
Mr Heymant Rao Anand Sonoo (as from 13.5.2015)	Representative of Planters
Mr Youvraj Sharma Khorugdharry	Representative of Employees of Mauritius Cane Industry Authority
Mr Trilock Ujodha (up to 12.5.2015) Mr Gansam Boodram (as from 13.5.2015)	Independent Member having wide experience in the field of Agro-Industry
Mr Abdool Wahab Moosuddee (up to 12.5.2015) Mr Jean Désiré Philippe Etienne (as from 13.5.2015)	Independent Member having wide experience in the field of Agro-Industry

Section 8 (2) of the Act provides that the Board shall elect a Vice-Chairperson from among its members. Mr Jean Li Yuen Fong was elected Vice-Chairperson by the Mauritius Cane Industry Board at its meeting on 22 March 2012.

### Tenure of Office

Every member of the Board, other than the ex-officio member, holds office for a period of 3 years. The Chief Executive Officer is in attendance at Board Meetings and may take part in its deliberations, but does not have

the right to vote. The other Directors, Assistant Directors and Managers are also called to be in attendance as and when required. The Administrative Manager acts as Secretary to the Board.

## Powers of the Board

As per Section (9)(1) of the Mauritius Cane Industry Authority Act, the Mauritius Cane Industry Board shall meet as often as is necessary but at least once every month.

Sections 10 (1) to (6) of the Act stipulate the powers of the Board as follows:

- (1) (a) The Board may, on the recommendation of the Chief Executive Officer, set up one or more departments, split one of those departments into two or more, or merge two or more of those departments into one.
- (b) For the purpose of ensuring the efficient and effective operation of any department, the Board may set up within that department such number of sections or units as it may determine.
- (2) The Board may set up such committees of not more than five persons as may be necessary to assist it in the discharge of its functions and the exercise of its powers. The persons may be members and non-members.
- (3) The persons referred to above shall:
  - (a) be appointed by the Board on such terms and conditions as it may determine; and
  - (b) be paid such allowance as the Board may, with the approval of the Minister, determine.
- (4) A committee shall:
  - (a) be chaired by the Chief Executive Officer or such other person as the Board may determine;
  - (b) meet as and when required by the Board or as often as the Chairperson of that committee thinks necessary; and
  - (c) within such time as may be fixed by the Board, submit a report which shall contain its observations, comments and recommendations on any matter referred to it by the Board.
- (5) The committee shall regulate its meetings in such manner as it may determine.

- (6) The Board shall not concern itself with any matter relating to the exercise by the MSIRI or the Control and Arbitration Committee of their powers or the discharge of their functions.

## Conflicts of Interest

Section 9 (6) of the Mauritius Cane Industry Authority Act provides that where a member or a person related to him by blood or marriage has a pecuniary or other material interest in relation to any matter before the Board, the member shall:

- (a) disclose the nature of the interest before or at the meeting convened to discuss that matter; and
- (b) not take part in any deliberations of the Board relating to that matter.

## Role and Function of the Chairperson

The Chairperson of the Mauritius Cane Industry Board is non-executive and is appointed by the Minister of Agro-Industry and Food Security under Section 8(4) (a) of the Act. The role and functions of the Chairperson are set out below:

- (a) to preside over meetings of the Board and to ensure its smooth functioning in the interest of good governance;
- (b) to encourage and ensure active participation of members in discussions and board matters;
- (c) to ensure that all relevant information and facts are placed before the Board to enable members to reach informal decision;
- (d) to execute contracts, jointly with the Chief Executive Officer, on behalf of the Authority.

## Role and Function of the Chief Executive Officer

Section 11 (1) (a) of the Act provides that there shall be a Chief Executive Officer who shall be appointed by the Board on a fixed term performance contract and on such other terms and conditions as it may determine, subject to the approval of the Minister of Agro-Industry and Food Security. The Chief Executive Officer:

- (a) is responsible for the execution of the policy of the Board and for the control and management of the day-to-day business of the Authority;

- (b) acts in accordance with such directives as he may receive from the Board;
- (c) seeks to achieve such annual performance targets as may be set by the Board;
- (d) submits to the Board, every 3 months, a report on the activities and finances of the Authority.

In addition, the Board may, subject to such instructions as it may give, delegate to the Chief Executive Officer such of its powers and functions as may be necessary for the efficient management of the day-to-day business and activities of the Authority, other than the power to:

- (i) sell or exchange any property or make any investment or donations;
- (ii) borrow money; or
- (iii) enter into a contract which exceeds the prescribed amount.

With the approval of the Board, the Chief Executive Officer may also delegate his powers and functions to such employee as he may determine.

#### ***Role of the Executive, non-Executive and Independent non-Executive Directors***

The Mauritius Cane Industry Board, its composition and the manner it is constituted are set out in Section 8 of the Act. None of the members are executive. However, given the strategic importance of the Mauritius Cane Industry Authority, the Act has ensured that members of its Board represent appropriate Ministries and other stakeholder groups that have a direct interest in the different

operational aspects of the Authority for its efficient, effective and smooth running.

#### ***Statement of Remuneration Policy***

Section 8 (6) of the Mauritius Cane Industry Authority Act provides that every Board Member shall be paid such allowance as the Minister may determine. In practice, the remuneration of the members of the Board is determined by the Pay Research Bureau. The fees paid to the Chairpersons of the Board and other Committees during the period under review to 31 December 2015 amounted to MUR 755,097 and fees paid for other Board Members and Committees amounted to MUR 281,885. The salary paid to the key management personnel during the year under review amounted to MUR 3,059,001.

#### **Board and Sub-Committees**

The Board has two sub-committees appointed under its powers conferred by Section (10) (2) of the Act:

- (a) a Finance Committee which recommends to the Board in respect of financial matters; and
- (b) a Staff Committee which recommends to the Board on all staff matters relating to recruitment, etc.

#### **Finance Committee**

The Finance Committee is constituted of the following Board Members:

**Table 2. Finance Committee**

Mr Deobrut Bundhoo (up to 2.6.2015)	Representative of Ministry of Finance and Economic Development (as Chairperson)
Mr Gansam Boodram (as from 3.6.2015)	Independent Member having wide experience in the field of Agro-Industry (as Chairperson)
Mr Deobrut Bundhoo (as from 3.6.2015)	Representative of Ministry of Finance and Economic Development
Mr Patrick de Labauve d'Arifat (Alternate Mr Jean Li Yuen )	Representative of Millers
Mr Mumtaz Ally Edun (up to 2.6.2015)	Representative of Planters

The Chief Executive Officer and the Manager, Finance are in attendance. The Administrative Manager acts as Secretary.

### Staff Committee

The Staff Committee is constituted of the following Board Members:

Table 3. Staff Committee	
Mr Amal K M Mungur (as from 3.6.2015)	Representative of Planters (as Chairperson)
Mr Veersingh Boodhna	Representative of the Ministry of Agro-Industry and Food Security
Mr Jean Désiré Philippe Etienne	Independent Member having wide experience in the field of Agro-Industry
Mr Youvraj Sharma Khorugdharry	Representative of Employees of Mauritius Cane Industry Authority

The Chief Executive Officer and the Manager, Human Resource are in attendance. The Administrative Manager acts as Secretary.

### Other Committees

#### (1) Audit Committee

An Audit Committee has been set up by the Mauritius Cane Industry Board on 27 November 2014 and its composition is as follows:

Table 4. Audit Committee	
Chairperson	Representative of Ministry of Agro-Industry and Food Security Mr Veersingh Boodhna Deputy Permanent Secretary Ministry of Agro-Industry and Food Security
Members	Mr Jean Li Yuen Fong Representative of Millers
	Mr Heymant Rao Anand Sonoo Representative of Planters

#### (2) Risk Committee

There is no separate Risk Committee. Risk Management is the direct responsibility of the Board. Risk Assessment and the quality of Risk Management process is the responsibility of Management.

### (3) Management Committee

The Chief Executive Officer holds fortnightly management meetings with all the Directors, Assistant Directors and Managers to ensure the smooth running of all the departments of the Authority.

#### Access to Independent Advisers

The Board and the sub-committees have the right to retain independent external legal or other advisers as they deem necessary.

### Board Information

The members of the Board are given accurate, timely and clear information so that they can maintain full and effective control over the strategic, financial and operating policies of the Authority.

### Board and Sub-Committee Meetings

Thirteen Board Meetings were held during 1 January to 31 December 2015. The following table shows the attendance at the Board Meetings.

**Table 5. Attendance at the Board Meetings**

Names	Board Meeting
<b>MEMBERS</b>	
Chairperson: Mr Vishnou Gondeea (as from 21.1.2015)	13
Mr Veersingh Boodhna, Representative of Ministry of Agro-Industry and Food Security (as from 13.5.2015)	7
Mrs Damyantee Takoory (in replacement of Mr Boodhna when the latter was on leave)	2
Mr Deobrut Bundhoo, Representative of Ministry of Finance and Economic Development	10
Mr Jean Li Yuen Fong, Representative of Millers	7
Mr Patrick de Labauve d'Arifat, Representative of Millers	4
Mr Mumtaz Ally Edun, Representative of Planters (up to 12.5.2015)	2
Mr Heymant Rao Anand Sonoo, Representative of Planters (as from 13.5.2015)	8
Mr Amal Kumar Mohabeer Mungur, Representative of Planters	13
Mr Youvraj Sharma Khorugdharry, Representative of Employees	13
Mr Trilock Ujodha, Independent Member having wide experience in the field of Agro-Industry (up to 12.5.2015)	4
Mr Gansam Boodram, Independent Member having wide experience in the field of Agro-Industry (as from 13.5.2015)	6
Mr Abdool Wahab Moosuddee, Independent Member having wide experience in the field of Agro-Industry (up to 12.5.2015)	3
Mr Jean Désiré Philippe Etienne, Independent Member having wide experience in the field of Agro-Industry (as from 13.5.2015)	9



## Secretary

Section 8(10) of the Act provides that the Board shall designate an employee to act as Secretary. The Administrative Manager of the Authority acts as Secretary to the Board and other sub-committees. He is responsible *inter alia* to:

- (a) prepare and attend every meeting of the Board;
- (b) keep minutes of proceedings of every meeting of the Board; and
- (c) have such other duties as may be conferred on him by the Board.

## Risk Management, Internal Control and Internal Audit

### Risk Management

The Mauritius Cane Industry Board is responsible for the total process of managing risks while the Management of the Authority is accountable to the Board for the design, implementation and detailed monitoring of the risk management process.

### Environment Risk

The Mauritius Cane Industry Authority does not operate in a manner that may cause harm to the environment in general nor does it use materials of risky nature which may affect the environment. The Authority complies with the relevant environmental laws and regulations.

### Corporate Quality

A key aspect of risk management is to ensure high operational and service standards to all its stakeholders, especially the planters, so as to maintain a good corporate image.

### Operation Risk

The Authority maintains its fleet of vehicles, tractors, etc. so as to ensure continuous service to the planters' community. The Sugar Storage and Handling Unit is ready to receive sugar at any time. The Authority has never delayed any operation due to operating failures.

### Security

The Sugar Storage and Handling Unit being a national strategic facility is under the surveillance

of the Police on a 24h-basis. Access to the Sugar Terminal is restricted and controlled. The Authority ensures that security is maintained at all times.

### Foreign Exchange Risk

The Authority is not exposed to foreign exchange risk. It is financed mainly by means of a cess from sugar proceeds. The cess is levied each year and in such a manner and at such rate not exceeding 4% of the ex-Mauritius Sugar Syndicate price as may be prescribed and after consultation with the Board.

### Insurance Risk

All the assets and potential insurable liabilities are covered by appropriate insurance policies.

### Internal Control

The Board is primarily responsible for the effectiveness and efficiency of the system of internal control, while the design, implementation and monitoring of the system devolves on Management.

### Internal Audit

The system of internal control at the Authority includes checks and balances through the operation of internal checks. The internal control system ensures the efficiency and effectiveness of the Authority.

## Auditing and Accounting

### Accounting

The Board is responsible for the preparation of accounts which fairly presents the state of affairs of the Authority and the results of its operations and complies with International Financial Reporting Standards (IFRS). In this context, the Board is responsible for adequate accounting records, maintenance of an effective system of internal control, and choice of accounting policies supported by reasonable and prudent judgment.

### Audit

Section 52 (3) of the Mauritius Cane Industry Authority Act provides that the Auditor to be appointed under Section 5 (1) of the Statutory Bodies (Accounts and Audit) Act shall be the Director of Audit.



## Integrated Sustainability Reporting

The Authority is a not-for-profit organisation. It *inter alia* provides services to the sugarcane industry. The Authority has throughout acted responsibly both as a service provider in a strategic position and a 'responsible citizen'.

### Ethics

The Authority is committed to the highest standards of integrity and ethical conduct with all its stakeholders. It has built up a culture of efficiency and effectiveness at work and follows the general code of ethics prevailing in the public sector.

### Environment

The Authority carries out its activities in such a manner that they do not constitute any threat to the environment.

### Health and Safety

Security and safety assessment is carried out periodically by the Health and Safety Committee. Two part-time Safety and Health Officers replaced by a full time Officer as from October 2014 are employed to ensure compliance with the Authority's safety, health and environment policies and existing legislations and regulatory framework. Security and safety assessment of the Sugar Terminal is carried out periodically by a Registered Machinery Inspector. The Authority complies with all relevant Health and Safety legislations.

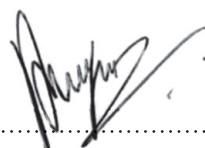
## Corporate Social Responsibility

The Authority is a not-for-profit entity and as such endeavours to minimise operating costs for the benefit of the planters' community.

The Sugar Storage and Handling Unit of the Authority organises guided visits to the Sugar Terminal during the crop season on Tuesdays and Thursdays for students of primary schools. From feedback received, such visits have been very beneficial to the students.

### Donations

No donations had been made to any political party or organisation.



Amal K.M MUNGUR  
BOARD MEMBER



Vishnou GONDEEA  
CHAIRPERSON

### Introduction

The role of the Human Resource Division is primarily to make an effective contribution towards the achievement of the Authority's corporate objectives as well as fulfilling its social responsibilities. To accomplish this role, the Human Resource Department is, *inter alia*, committed to:

- (i) Assist in the design and development of an effective structure which will respond to changing environment and needs of the Authority.
- (ii) Obtain and develop the human resources required by the Authority and to use and motivate them effectively.
- (iii) Assist in creating and maintaining a co-operative climate of relationships within the Authority through effective communication channels and cross-functional team work.

- (iv) Assist in meeting the Authority's social and legal responsibilities.

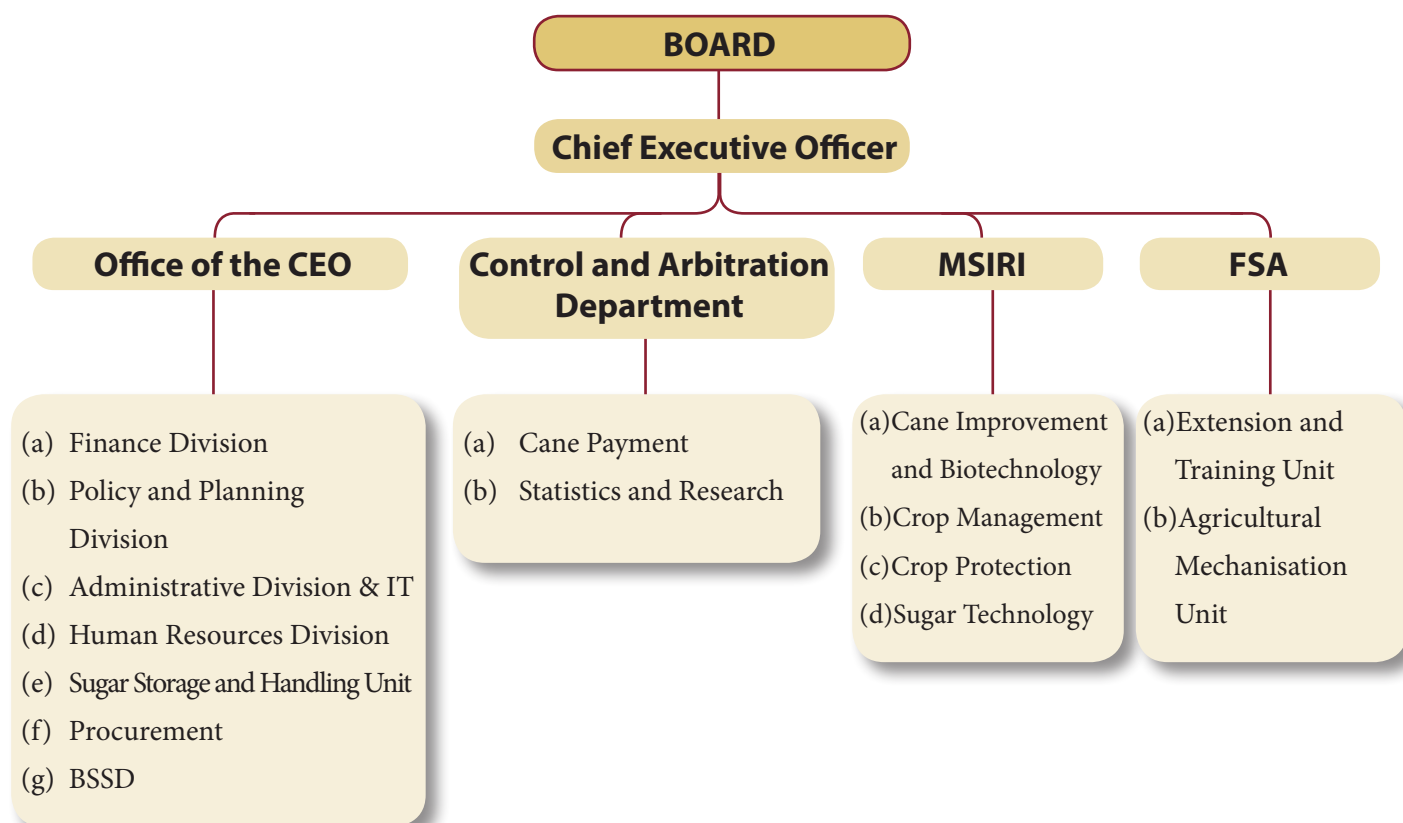
The Authority has a total workforce of 571 employees as at 31 December 2015 on its permanent and pensionable establishment and this includes 109 employees from the Bagged Sugar Storage and Distribution Co Ltd.

### Organisational Structure

The organisational structure of the MCIA, as approved by the Mauritius Cane Industry Board, provides for four departments, namely:

- (a) Office of the Chief Executive Officer
- (b) Control and Arbitration Department (CAD)
- (c) Mauritius Sugarcane Industry Research Institute (MSIRI)
- (d) Farmers Service Agency (FSA)

The Organisation Structure is depicted in the figure below:-



## OFFICE OF THE CHIEF EXECUTIVE OFFICER

This Department is responsible to provide support service throughout the Authority, ensuring that all resources and facilities are made available to facilitate all other departments to achieve their respective objectives. It assists the Chief Executive Officer in execution of policies and the overall administration and management of the MCIA. It comprises:-

- (a) **Finance Division** – responsible, *inter alia*, for the proper administration of the general fund of the Authority, preparation of the annual budget estimates, statement of accounts and annual reports. It also has to provide accurate and timely financial information and statistics to internal and external bodies.
- (b) **Policy and Planning Division** – responsible, *inter alia*, for the preparation and reviewing of the strategic plan of the Authority, carrying out regular assessment of the challenges and opportunities of the industry, both in the local and international scene and preparation of plans and policies with the objective of ensuring long term viability and sustainability of the sugar cane cluster.
- (c) **Administration Division** – responsible, *inter alia*, to provide secretary facilities to the Board and its sub committees, to establish and implement administrative procedures for the efficient functioning of the Authority, management of office space and general maintenance of building and premises and also for internal and external communication.
- (d) **Human Resources Division** – responsible, *inter alia*, for the development and implementation of HR policies and procedures, monitoring disciplinary cases, employees' grievances and promotion of a safe work environment and general welfare of staff. This department has also to undertake constant review of organisation structure in view of changing needs of the Authority.

- (e) **Sugar Storage and Handling Unit** – responsible, *inter alia*, for the receipt, storage and loading of sugar into ships. This unit was, prior to the setting up of the MCIA, an autonomous parastatal body, known as the Mauritius Sugar Terminal Corporation.
- (f) **Bagged Sugar Storage and Distribution** – responsible for the receipt, handling and storing bagged sugar from the Sugar Estates and to distribute sugar for local consumption and for export. Prior to its being merged with the MCIA, this Unit was a private company, the Bagged Sugar Storage and Distribution Co. Ltd.

## CONTROL AND ARBITRATION DEPARTMENT

Prior to the setting up of the MCIA, the Control and Arbitration Department was a department of the Ministry of Agriculture, known as the Cane Planters and Millers Arbitration and Control Board.

The objectives of the Control and Arbitration Department are, *inter alia*, to control milling activities, arbitrate disputes among Millers, Planters and other stakeholders and determine the quantum of sugar and by-products accruing to producers.

## MAURITIUS SUGARCANE INDUSTRY RESEARCH INSTITUTE (MSIRI)

The MSIRI, a Research Centre of international repute, was, prior to the creation of the MCIA, an autonomous statutory body, governed by its own terms and conditions of service as approved by its Board. With the creation of the Mauritius Cane Industry Authority, the MSIRI has now become a department of the Authority. This department is mainly responsible to carry out research on canes with a view to enhance competitiveness of the cane industry and also on technical and engineering

options for improving efficiency of factories and for value addition to co-products.

## FARMERS SERVICE AGENCY (FSA)

This department is, *inter alia*, responsible to:

- (a) provide mechanisation services to planters community
- (b) organise training/seminars with a view to improve the cane yield of planters
- (c) ensure the supply of planting materials to planters.

The structure of this department provides for 2 units, namely (a) Extension and Training Unit (ETU) and (b) Agricultural Mechanisation Unit (AMU). This department employs more than 50% of the Authority's workforce. Prior to the setting of the MCIA, these units were autonomous parastatal bodies, that is, the Farmers' Service Corporation and the Sugar Planters Mechanical Pool Corporation respectively.

## Senior Management Profile

Table 6. Senior Management Profile

SN	Name	Post	Qualifications
1	Mr Jugdis Bundhoo	Chief Executive Officer with effect from 01 October 2015  Manager, Policy and Planning up to 30 Sept 2015	BSc (Salford), MSc Soil Chemistry (Reading), MSc Information Science (City) Member of the Institute of Information Scientists
2	Mr Raj Kamal Soniah	Director, Farmers Service Agency (Ag. Chief Executive Officer with effect from 18 August 2014 to 30 September 2015)	BSc, MSc (Maur)
3	Dr Abdess Salem Saumtally	Director, MSIRI	BSc (Dund) MPhil (Cantab) PhD (Reading)
4	Mr Fong Yan Ip-Yam	Assistant Director, FSA (AMU)	BTech (Maur) Registered with the Council of Professional Engineers
5	Mr Sachidanand Seebrun	Administrative Manager	BA (Punjab) Dip Public Administration (Maur)
6	Mr Sunil Santbakshsingh	Manager, Human Resource	BA, MBA (Delhi), Master in Public Policy and Administration (Maur)
7	Mr Sachim Duth Deena	Manager, Finance	FCCA

**Table 6. Senior Management Profile (contd.)**

SN	Name	Post	Qualifications
8	Mr Satish Purmessur	Technical Manager	BSc, MSc (Maur)
9	Dr (Mrs) Asha Devi Dookun-Saumtally	Principal Research Manager	BSc MSc (Newcastle) PhD (Reading)
10	Dr Sumantlall Seeruttun (on leave without Pay wef from Oct 2015)	Research Manager	BSc (Maur), MSc (Cranfield), PhD (Pretoria), MIAgre
11	Mr Michel Laval Vivian Rivière	Research Manager	BSc (Maur), MSc (Cranfield)
12	Dr Seelavarn Ganeshan	Research Manager	BSc ((Maur), MSc, PhD (London), DIC
13	Dr Kessawa Payandi Pillay	Research Manager	Dip Agr, BSc (Maur), MSc (Reading), PhD (Kwa-Zulu Natal)
14	Dr Laval Ronald Ng Cheong	Research Manager	BSc (Reading), MSc (Cranfield), MBA (Maur), PhD (Free State)
15	Mr Devendranath Busgeeth	Manager, Cane Payment Ag. Director, CAD	BSc (Maur)
16	Mr Umeshlall Basant Rai	Manager, Operations and Research	Dip Computer and System Design (ACP), Dip Business Management, BA, MA (Delhi)
17	Mr Ishwurduth Mungroo	Field Manager	MSc (Maur), Registered Professional Engineer
18	Mr Toolsee Gunesh	Manager, ETU Ag. Assistant Director, ETU	BSc, MSc (Maur)
19	Mr Yashwantsingh Ramdharee	Manager, ETU	BSc, MBA (Maur)
20	Mr Anil Kumar Awotarowa	Manager, ETU	BSc, MBA (Maur)

## Industrial Relations

The majority of the employees at MCIA are members of unions.

To ensure prevalence of sound employees' relations, regular meetings are held with representatives of the unions, where most disputes are discussed and resolved. The union representatives have appointed a Coordinator in the person of Mr P. Ramasawmy. Meetings are also held with non-unionised employees and their grievances are, as far as possible, attended to.

## Health And Safety

The policy at the Authority is to provide a safe and healthy work environment and to bring to the minimum, potential accident hazards and risks of injury.

### Safety and Health Committees

The Safety and Health Committee provides the platform where Management and representatives of employees jointly identify potential hazards and find ways and means to eliminate or reduce them. For the Authority, Health and Safety is an absolute priority. Therefore, the safety- related objectives are

mandatory components for each unit/department while carrying out its activities. The MCIA is committed to implementing its Health and Safety Policy, through compliance of legislative requirements as a minimum standard. To achieve the objective, the Authority has appointed Miss Sonika Beejan as Safety and Health Officer on a full time basis as from 14th December 2015.

During year 2015, the Health and Safety Committee held 6 meetings.

## Training and Development

The Authority is aware that its objectives can be achieved only if it has a knowledgeable Human Resource.

The main objective of training is to establish a sound relationship between the employee and his jobs, the optimum man-task relationship. Such a relationship is at its best when employees' attitude to the job is right, when his knowledge of the job is adequate and he has developed the necessary and required skills. Thus, training is a continuous activity to provide employees with the desired knowledge, skill, aptitude and habit to manage external pressure and competition.

The following employees attended the following courses/workshops:

**Table 7. Courses/Workshops**

Course Title	Name	Organised by	From	To
Track Mounted Crane Batch I Crane Batch II	Hazaree H. A. M Bissessur F Khandhai R. G Treebhowon H Bigaignon S. M Texier J. E. M Moothy D Coonjan N	MITD, Ebène	20-Jan-15	02-Feb-15
Predictive Characterisation/ Pre-breeding	Dr Badaloo G	ACP EU Project	12-Apr-15	17-Apr-15
Attending Workshop on Plant Breeding in South Africa	Dr Badaloo G	ACP EU Project	12-Apr-15	17-Apr-15



**Table 7. Courses/Workshops (contd)**

Course Title	Name	Organised by	From	To
Training course on utilisation/ recycling of sugarcane industry wastes	Dr (Mrs) Soobadar Aneza	University of Assciat, Egypt	01-May-15	15-May-15
Dosimetry for Gamma Ray Irradiator	Goburdhun P	Entomology Division, MoA.	06-Oct-15	08-Oct-15
Method Validation for Microbiologist	Goburdhun P	Precision Events Centre, Precision Professional Services and Engineering (PTY) Ltd	29-Oct-15	30-Oct-15
Method Validation for Microbiologist	Mulleegadoo Karuna (Mrs)	Precision Events Centre, Precision Professional Services and Engineering (PTY) Ltd	29-Oct-15	30-Oct-15
Polysaccharides in Sugar Processing	Sakurdeep S	RTC	28-Oct-15	-
Workshop on biomass and energy cane	Dr Badaloo G	CIRAD, Montpellier, France	10-Dec-15	11-Dec-15
Workshop on Zero Budget Natural Farming	Gunesh T (Resource person)	Ministry of Business, Enterprise, and Cooperatives and FAREI	7-Sept-15	10-Sept-15
Workshop on Zero Budget Natural Farming	Gunesh T (Resource person)	Youth Centre, Rodrigues	14-Sept-15	16-Sept-15
Workshop on Zero Budget Natural Farming	Ramdharee Y Awotarowa A	Ministry of Business, Enterprise, and Cooperatives and FAREI	7-Sept-15	10-Sept-15
Workshop on Strategy, Talent and Leadership for Growth	Awotarowa A	National Productivity and Competitiveness Council (NPCC)	3-Sept-15	-



**Table 7. Courses/Workshops (contd)**

Course Title	Name	Organised by	From	To
National Workshop on Zero Budget Natural Farming	Pahladi S Seeburrin D Nunkoo O.G Thakoor R Soniah P.K Joyram P Ramburhose O.S Sookun M Jeeanah S Purmessur S Soojhawon S Cahoolessur R Seeam K Jeeha L Sookharee R Sobha S. K Veeraragavoodoo K Balkissoon D Beedessee D Doorjun A.K Mistry B Noruttun S Bhaugerutty R Jugnarain N Khugputh A	Ministry of Business, Enterprise, and Cooperatives and FAREI	7-Sept-15	10-Sept-15

The following overseas missions were carried out during the period 1 January 2015 to 31 December 2015:

**Table 8. Overseas Missions**

Name	From	To	Objective of Mission
Payandi Pillay K Dr	13-Jan-15	18-Feb-15	Mid-term Evaluation of the Accompanying Measures for Sugar Protocol Countries (AMSP) in Fiji - ACP EU Project
Mardamootoo Tesha Dr (Miss)	18-Jan-15	24-Jan-15	Submission of her PhD Thesis at the University of the Free State, South Africa
Dookun Saumtally Asha Dr (Mrs)	25-Jan-15	31-Jan-15	ISSCT Term Meeting in Chiang Mai, Thailand
Dookun Saumtally Asha Dr (Mrs)	28-Mar-15	04-Apr-15	To initiate a project of sugar cane cultivation in the Republic du Congo

**Table 8. Overseas Missions (contd)**

Name	From	To	Objective of Mission
Saumtally S Dr	14-Apr-15	15-Apr-15	Attended 6th Meeting of the ACP Sugar Research Program Steering Committee - Brussels, Belgium - ACP EU Project
Ganeshan S Dr	15-Apr-15	17-Apr-15	Implementation of the White Grub Protocol in Réunion Island
Teeluck M	15-Mar-15	22-Mar-15	ACP Project 2.4 Tambamkulu Sugar Estate in Swaziland
Ganeshan S Dr	03-May-15	15-May-15	Consultancy for Guanxi Funan East Asia Sugar Mill
Rivière V	08-May-15	16-May-15	To deliver lectures in field of Mechanisation to Staff of SUCAF-GABON on request by RTC
Seeruttun S Dr	08-May-15	14-May-15	To deliver lectures on Cultural Practices + Weed Agronomy to Staff of SUCAF-GABON on request by RTC
Koonjah S	12-May-15	20-May-15	To give training to the staff of SUCAF GABON on physiology of sugarcane on request by RTC
Umrit G	27-May-15	29-May-15	To discuss partnership with CIRAD and other regional research centres on future projects.
Saumtally S Dr	27-May-15	29-May-15	To discuss partnership with CIRAD and other regional research centres on future projects.
Dookun Saumtally Asha Dr (Mrs)	31-May-15	05-Jun-15	Breeding & Germplasm and Molecular Biology Workshop in Réunion
Badaloo G Dr	31-May-15	05-Jun-15	To attend workshop- Paper presentation on sucrose accumulation in parent Varieties - Réunion
Parmessur Y	31-May-15	05-Jun-15	ISSCT Workshop - Réunion
Dookun Saumtally Asha Dr (Mrs)	31-May-15	05-Jun-15	ISSCT Workshop - Réunion
Gaungoo A Dr	31-May-15	07-Jun-15	To provide training to technician working at Sucrivoire following request from the Regional Training Centre (RTC)
Santchurn D	06-Jun-15	14-Jun-15	To Train Sucrivoire technicians on data analysis and designs in sugarcane - Sucrivoire IVORY COAST on request by RTC

**Table 8. Overseas Missions (contd.)**

Name	From	To	Objective of Mission
Koonjah S	14-Jun-15	20-Jun-15	To give training to staff of Sucrivoire-Cote D'Ivoire on request by RTC
Lau Ah Wing Ah Foon	16-Jun-15	18-Jun-15	To attend SYPECAR Workshop - Réunion Island
Rivière V	16-Jun-15	18-Jun-15	To attend SYPECAR Workshop - Réunion Island
Ng Cheong R Dr	11-Jul-15	31-Jul-15	Mission to Cote D'Ivoire as part of service contract, joint venture with Sopex.
Ganeshan S Dr	11-Jul-15	31-Jul-15	Mission to Cote D'Ivoire as part of service contract, joint venture with Sopex.
Gaungoo A Dr	10-Aug-15	14-Aug-15	WIKWIO Project - To conduct training on Weed Identification and Management in Zambia and Malawi.
Chung Tze Cheong Maryse (Miss)	17-Aug-15	21-Aug-15	To update of the Land Suitability and Land Use Mapping to support sustainable land resources management in Rodrigues.
Mardamootoo Tesha Dr (Miss)	22-Aug-15	29-Aug-15	Attended the International Society of Sugarcane Technologists (ISSCT) Workshop, Durban.
Ng Cheong R Dr	23-Aug-15	29-Aug-15	Attended ISSCT Agronomy/Agricultural Engineering Workshop , Durban, South-Africa.
Riviere V	23-Aug-15	29-Aug-15	Attended ISSCT Agronomy/Agricultural Engineering Workshop , Durban, South-Africa.
Behary Paray Nirupa (Mrs) Ganeshan S Dr, Joomun N and Saumtally S Dr	14-Sep-15	18-Sep-15	Attended ISSCT Workshop, Guayaquil, Ecuador.
Ng Cheong R Dr	11-Oct-15	16-Oct-15	Attended NASAC Africa Water Workshop, Nairobi, Kenya.
Gaungoo A Dr	12-Oct-15	16-Oct-15	Attended WIKWIO Project - 3rd Workshop in Comoros Islands
Bundhoo J and Saumtally S Dr	26-Nov-15	29-Nov-15	Meeting with Director of eRcane in Reunion Island Re: payment of bagasse and royalties for the cultivation of R varieties in Mauritius.
Umrit G	07-Dec-15	10-Dec-15	Visit to Queensland University of Technology, Brisbane and Mackay Re: Scaling up bioplastic production with QUT.

## Retirement and Leave Without Pay

### Retirement

The following officers retired during the year 2015:

Table 9. Retirement				
SN	Name	Post	Department /Section	Retirement Date
1	<i>Jean Louis Marilyn (Miss)</i>	Librarian	MSIRI	25 February 2015
2	<i>Francois Marcel Joseph</i>	Baghandler	BSSD	30 November 2015
3	<i>Bancal Marie José Manfred</i>	Baghandler	BSSD	6 May 2015
4	<i>Adrien Louis Sylvestre</i>	Baghandler	BSSD	17 July 2015
5	<i>Valamootoo Tangavele</i>	Operator	BSSD	13 January 2015

### Leave Without Pay

Dr Sumanatlall Seeruttun, Research Manager at the MSIRI was granted leave without pay for one year with effect from October 2015.

## B. POLICY AND PLANNING

### Mandate and Functions

The mandate of Policy and Planning Division revolves around the following main components:

- formulating policies, programmes and projects to promote the development of the sugar cane cluster
- directing the implementation of such policies, programmes and projects with a view to achieve the sectorial and national objectives within agreed timelines; and
- monitoring, reviewing and reforming systems and procedures to ensure the conduct of business in an efficient manner deploying modern management techniques and technology where applicable.

2014) which was amended on 1 August 2014 and published in Government Gazette No 75 of 21 August 2014.

The amendments brought to the MCIA Act were as follows:

**Section 2** by harmonizing the definition of the crop year to mean period extending from 16 January in a year to 15 January in the following year and deleting the definition of Middleman and Middlemen's permit as these no longer exist.

**Section 5** by enlarging the scope of activities of MCIA both locally and internationally that can allow for revenue generation.

### Mauritius Cane Industry Authority (Amendment) Act 2014

Amendments were brought to the MCIA Act 2011 through the MCIA (Amendment) Act (No 5 of

**Section 24** to control the use of canes in the production of cane juice for direct consumption and use of cane for the feeding of livestock and for research purposes.

**Sections 26 and 27** by deleting the word middleman.  
**Section 31** concerned with middleman's permit is repealed.

**Section 33** to delete the grade of Senior Area Superintendent which no longer existed in the establishment of the MCIA.

**Section 40** to add the definition of cane transit site as being the operational infrastructures that is the cane storage facilities, cane unloading and weighing facilities of closed factory sites and for which the refund of the excess 4 miles shall apply whenever canes are delivered to these transit sites.

**Section 52** to allow the MCIA to submit its Annual Report in conformity with the provisions of the Statutory Bodies (Accounts and Audit) Act.

**Section 66** by addition the definition for Voluntary Retirement Scheme and provide that an employee of the former Mauritius Sugar Industry Research Institute who has not opted to be transferred to the Mauritius Cane Industry Authority and has retired with compensation pursuant to a Voluntary Retirement Scheme shall be eligible to an actuarially calculated contributory retirement pension.

#### **Consequential amendments were:**

- The National Pensions Act in Section 20
- The Sugar Insurance Fund Act in Sections 2, 28, 44(1) and 45
- The Mauritius Cane Industry Authority (Cane Contract) Regulations 2012 in Regulation 3(1), revoking of the Second and Third Schedules

In the light of amendments brought in Section 24 of the MCIA Act, the Minister of Agro-Industry and Food Security is vested with the power to approve the delivery of canes for the production of cane juice used for direct consumption. In that context a new regulation was drafted in November 2015 and views of relevant stakeholders were sought. This was cited as the "Mauritius Cane Industry Authority (Delivery of canes for production of juice) Regulation.

Another new regulation made in August 2015 in conformity with Sections 17 and 63(1) of the MCIA Act is the Cane (Specification of Varieties) (Amendment) Regulations 2015.

### **Challenges of the Sugar Cane Cluster**

The sugar cane industry has over the years played a pivotal role in supporting the development of the national economy and social fabric of the country.

However, with the reform of the sugar regime of the EU and the ensuing 36% price cut the sugarcane industry had to accelerate the reform process through the preparation and implementation of the Multi Annual Adaptation Strategy (MAAS) Action Plan. The overriding intention of the reform is to ensure that the sector remains competitive and viable, and continues to fulfil its multifunctional role and operate in a cluster mode.

### **The Multi Annual Adaptation Strategy (2006 to 2015)**

During the course of the year 2015 all the initiatives in terms of policies, planning, and project implementation continued to be driven by the provisions of the MAAS and the Mid-Term Review (MTR) on the MAAS. A number of projects had been formulated in the MAAS to achieve the objectives set in the plan and these include the following:

Project 1: Field Operations and the Regrouping of Planters

Project 2: Rightsizing of Production Entities: the Implementation of a Voluntary Retirement Scheme

Project 3: Difficult Areas

Project 4: Centralization of Sugar Factories

Project 5: Emerging Sectors in the Sugar Cane Cluster

#### **Other components of the plan**

(i) Electricity and Ethanol Production

(ii) Cess Reduction

(iii) Research and Technological Development

## Field Operations and the Regrouping of Planters

The objectives of this project are to improve the cost competitiveness of the field sector and to ensure the sustainable and reliable supply of canes by small planters through regrouping.

The Field Operations Regrouping and Irrigation Projects (FORIP) was to cover some 12,000 ha during the period 2006 to 2015.

The implementation of FORIP was initially based on a multi-phased approach, i.e. Phases I, II and III. Phase IV was initiated in July 2009 and was completed in December 2010. However, as from 2010 the implementation of the project is based on a calendar year basis, which is in line with the Programme Based Budgeting (PBB) for the allocation of funds.

A summary of the different phases according to the targets set in respect of the indicators for the Accompanying Measures is given below:

## Metayers

Pursuant to agreement reached between the MoAIFS representing Government and MSPA on 29 March 2010 in the presence of all stakeholders, the ex-MSA requested members of the MSPA to implement provisions of the agreement. The MCIA will continue to monitor and act as a facilitator until all the issues concerned with the implementation of the agreement are resolved to the satisfaction of all parties concerned.

## Fair Trade

Export of sugar on behalf of the small planters under the Fair Trade Accredited System is yet another avenue for generating revenue which Government is securing for the small planters to obtain an additional premium and this will contribute towards overcoming the impact of reduction in sugar price.

**Table 10. Area involved under the different phases of FORIP [2006 -2015]**

Phase (Period)	Area (ha)	No. of Planters
Phase I (Aug 2006 – April 2007)	340	245
Phase II (May 2007 – April 2008)	973	785
Phase III (May 2008 – June 2009)	1,081	1,149
Phase IV (Jul 2009 – Dec 2010)	1,215	735
Phase V (Calendar year 2011)	1,325	1,407
Phase VI (Calendar year 2012)	1,396	1,675
Phase VII (Calendar year 2013)	1,331	1,597
Phase VIII (Calendar year 2014)	1,458	1,665
Phase VIII (Calendar year 2015)	564	677
<b>Total</b>	<b>9,683</b>	<b>9,935</b>

The total cumulative extent regrouped, derocked and planted as at end December 2015 is 9,683 ha (i.e. representing some 81% of the extent earmarked under this project) involving some 9,935 planters. For the calendar year 2015 the extent regrouped, derocked and planted under FORIP is 564 ha.



For the financial year 2015/16 a provision of MUR 5M is earmarked in the budget estimates to meet the administrative and surveillance costs incurred by planters under the Fair Trade Label.

Availability of Fair Trade labelled sugar has consequently increased to some 35,000 t for crop 2015 involving 26 Co-operative Societies. Fourteen Co-operative Societies are presently in the pipeline of getting their accreditation under this label. The total premium received and paid to producers for the Crop 2015 is estimated around MUR 75M.

Attention is being focussed on acquiring new markets in order to increase the volume of exports and to secure more premium.

### **Registration and payment of a contribution to the MCIA for the importation and sales of sugar on the local market.**

With the setting up of the Mauritius Cane Industry Authority (MCIA) pursuant to Section 63 of the MCIA Act, every importer of any sugar other than for refining in Mauritius, a miller or a refiner producing sugar other than sugar for refining, shall register with the MCIA for the sales of sugar on the local market for that specific calendar year.

Following the gazetting of the Regulation made under Section 63 of the MCIA Act in 2012 and subsequent amendment made on 25 March

2014 (Government Notice No 50 of 2014) the contribution from sales of sugar on local market is now MUR 3.70/kg of sugar.

For the year 2015, 37 companies/importers were registered at the MCIA. Some 32,596 Mt of sugar were imported / sold on the local market and the MCIA has received a total contribution of MUR 120.680 M, which have been used for the payment of pension of the ex-dockers.

As regards quality of sugar imported, the importers are required to submit the certificate of analysis to the Customs Department and the MCIA as a prerequisite for customs clearance of the imported consignment.

### **Sugar Cane Cluster Activities**

#### **Centralisation of sugar factories**

The target for factory closure in the MAAS was to move from 11 to 4 sugar factories by year 2012. In 2014 the last factory as planned by MAAS that is Deep River Beau Champ closed down and which meant that the target set for factory closures has been achieved.

One important activity of the MCIA during and after the centralisation process remains monitoring of the closure conditions set by Government. The main achievements and progress for the period 2005 to 2015 are shown in Table 11.



**Table 11. Main achievements and progress**

	Closed Factories in 2006	Disbursement of Fund From EU to meet Cash Compensation to Beneficiaries	Disbursement of Planters Fund	Handing over of Title Deeds to Beneficiaries	Erection of 150m <sup>2</sup> Fertiliser store or multipurpose buildings	Road Infrastructure
1	St Felix closure in 2006	√	√	√	In progress	√
2	Riche En Eau closure in 2007	√	√	√	In Progress	√
3	Mon Desert Mon Tresor closure in 2007	√	√	√	In Progress	√
4	Mon Desert Alma closure in 2008	√	√	√	In Progress	√
5	Union St Aubin closure in 2011	√	In Progress	√	In Progress	In Progress
6	Mon Loisir closure in 2012	√	In Progress	In Progress	In Progress	√
7	Deep River Beau Champ closure in 2014	√	In Progress	In Progress	In Progress	In Progress

### Energy Generation by the Sugar Cane Cluster

The total electricity supply in the country in 2015 was some 2,690 GWh. Out of this, electricity generated from coal was 1,047 GWh which represented 36.9%, from bagasse 381 GWh representing 14.1% and the remaining 47% was generated from diesel oil, fuel oil, kerosene, gasoline, hydro, solar, fuel wood, wind, photovoltaic and landfill gas.

The IPPs of the sugar sector produced around 53% of the total electricity generated and the CEB 45%.

The MAAS and the Mid Term Review had targeted to double the bagasse electricity generation with increase from 300 GWh to 520 GWh. This could

be made possible through:

- Improved technology of combustion using high pressure and temperature;
- Use of high fibre canes, cane leaves and residues; and
- Improvement on the use of steam for processing.

### The CEB/IPP's Power Purchase Agreement

The present Power Purchase Agreement of Alteo would come to term in 2018. New installations of higher capacity with increased combustion efficiency are in progress at Alteo Ltd. which will allow increase in electricity export by 40% from Alteo Ltd. and a reduction in pollution emissions.

The new plant would decrease coal consumption from 160,000 t to 140,000 t and increase use of biomass which goes in line with the *Maurice Ile Durable* vision of Government.

### **Molasses**

The proceeds derived from the use of molasses that is export, local distilleries for production of alcohol and from the livestock industry is paid to the planters. The price of molasses payable to planters increased from MUR 1970.98/t in 2013 to MUR 2316.51/t in 2014 per tonne of molasses.

### **Contribution from Distiller Bottlers**

For the Crop 2014 (July 2014 to June 2015) the contribution of MUR 20/L from distiller bottlers amounted to MUR 87.6 million which was generated from 4.38 million litres of potable alcohol used in the local market. The planters were paid at the rate of MUR 277.69/t sugar from this contribution.

### **Environmental issues of the sugar cane cluster**

The MCIA submits its clearances to the Ministry of Agro-Industry and Food Security which is considered at the level of the EIA Committee at the Ministry of Environment, Sustainable Development, Disaster and Beach Management (MOESDDBM) for issue of the EIA Licence to a promoter. The projects considered and assessed by the MCIA for 2015 are as follows:

- (i) The EIA License for the replacement of boilers and turbo generator at Médine was issued by the MOESDDBM on March 2015. The upgraded power plant was commissioned and made operational for crop 2015. The start of harvest at Médine was delayed due to teething problems encountered by Médine on its newly installed power plant, Médine could only end its harvest in January 2016.
- (ii) The Ministry of Environment had issued an

EIA License to the Consolidated Energy Co Ltd (CEL) at Beau Champ to run on coal only for a period ending July 2015 which corresponded to the date of its contractual expiry with CEB. However, CEL had requested for an extension of its EIA License from 2015 to December 2018 as it was in the national interest for the CEB to meet the demand for electricity. The MCIA had assessed the application of CEL against the background that CT Power Project could not materialise and that the peak demand for electricity was increasing at a yearly rate of 2.7%. The CEL was granted an extension of its EIA License by the Ministry of Environment up to December 2018.

#### **(iii) Air Pollution Monitoring System**

In order to show compliance to environmental standards and conditions set in the EIA License, a number of companies solicited the testing services available at the MCIA for the flue gases emanating from stacks, ambient air, particulate matter and indoor air quality on a monthly, quarterly and yearly basis depending upon the requirement of the Authorities. The number of tests being carried out for 2015 stands as follows:

- 47 continuous emissions monitoring
- 36 ambient air quality monitoring
- 40 particulate matter
- 18 particulate matter less or equal to 10 microns
- 10 indoor air quality

The Unit has also initiated and adopted a few procedures that would be helpful for accreditation of the laboratory.

For the period January to December 2015 the Unit has generated a total revenue of some MUR 5.1 M for tests undertaken both for the sugar and non-sugar sectors in Mauritius and Rodrigues.

## Socio – Economic Projects in favour of Employees of the Sugar Industry

The four main schemes implemented by the sugar industry and monitored by the MCIA are:

- Phasing out of sugar estate camps.
- Land and cash compensation for workers affected by factory closures-Blue Print.
- Land and cash compensation for workers terminating their contract of employment voluntarily under the “Voluntary Retirement Scheme-VRS”
- Land and cash compensation for workers terminating their contract of employment voluntarily under the “Early Retirement Scheme-ERS”

It is to be recalled that cash compensation for the above schemes has been completed while the

procedure for the offer of a residential plot of land with all infrastructural facilities (water supply, road, drainage network and electricity supply) is ongoing on certain sites.

The Ministry of Agro-Industry and Food Security had set a Monitoring Committee in March 2015 and chaired by the Minister of Agro-Industry. This Committee comprised of all the relevant Authorities including the MCIA and sugar companies. This Committee was very instrumental in addressing and resolving the administrative bottlenecks that caused delays in the procedures at various stages that eventually leads to handing over of Title Deeds to the beneficiaries.

The number of beneficiaries which were handed their Title Deeds in 2015 was as follows:

**Table 12. Handing over of Title Deeds**

Schemes	Total number of beneficiaries involved	Total number of beneficiaries Title Deeds handed over 2007 to Dec 2014	Total Number of beneficiaries Title Deeds handed over in 2015 and sites involved	% Completion From 2007 to 2015
VRS 2 (2007)	6617	3963	837 Queen Victoria 8 Cinq Arp Hermitage 255 Schoenfeld 133 B.Vue Maurel 49 P. D'Or Hamlet 50 Medine Camp de Masque 130 Providence (1) - 110 Ex Quartier Militaire (L'Avenir)- 102	73%
VRS 2 (2012)	607	0	0	0 %
ERS (2007)	220	183	3 (Queen Victoria)	85%
Blue Print	1132	474	149 (Riv. Des Anguilles)	55%
<b>TOTAL</b>	<b>8576</b>	<b>4620</b>	<b>989</b>	<b>65%</b>

## Abolition of the EU Sugar production quotas and the implementation of a new MAAS II (2016 to 2025)

With major developments taking place at the level of European Union, the main export market for our sugar, in particular the reform of the Common Agricultural Policy of the EU for the post 2013 period and the decision to end the sugar production quota in 2017 there was urgent need for action.

Notwithstanding the above, there are also concerns on the continuous reduction in the supply of raw material, sugar cane, to sugar factories. The main reason is the abandonment of cane plantations by small and medium planters due to an ageing planter population; no willingness of youngsters to take up agricultural activities, these two being worldwide trends; the absence of economies of scale of operations, small scattered plots; and unresolved succession problems leading to cessation of activities.

With all the challenges which are looming in the immediate future and which have serious impact on the cane sector there was therefore an accelerated need to review all the threats and challenges and formulate a new action plan.

The decision for EU to terminate sugar quota would have two major consequences:

- (i) Increase production of sugar by cost efficient EU beet sugar producers with the risk of overcrowding ACP producers;
- (ii) There would be greater exposure of the market to a supply-demand imbalance due to climatic conditions and unforeseen events. The market management tools will disappear with the end of sugar beet quotas in 2017. This will result in higher price volatility and unpredictability.

The objectives of this new study are:

- (a) To undertake a socio economic and environmental impact assessment of the abolition of the internal sugar quota in the EU market on the Mauritian economy and cane industry; and

- (b) To propose measures and actions to mitigate the likely impact on the industry stakeholders, including the small planters and metayers.

The overall objective is to ensure that the sector continues to be viable and sustainable, plays its multifunctional role and that it continues to contribute in a significant manner in the development of the socio economic framework of the country. Simultaneously, the viability of all the stakeholders of the industry, in particular the more vulnerable ones, i.e. the small planters and metayers, needs to be safeguarded so that they continue their operation in a profitable and sustainable manner and in so doing support the overall development of the sector. This would also contribute towards poverty alleviation in a significant manner.

The Consultant LMC has submitted the final report to Government in May 2015. A high level Implementation Committee was set up to review the report, consult all the major stakeholders and come up with a *modus operandi* for the implementation of the report. Certain measures will be implemented immediately, whereas others will require consultations and measures will be needed to transform into legislative form before implementation.

### International Scene

With these forthcoming developments on the EU market post 2017, there is an urgent need to have a more controlled and managed internal EU market necessary for an adequate remunerative EU market price. There is need for proper monitoring and coordination of activities between Port Louis and our foreign embassies to ensure that our interest is not jeopardized.

Mauritius will have to pursue more in depth discussion with the EU to try and explore the possibility for another Accompanying Measures Support Program (AMSP) from the EU for Sugar Protocol Countries and the provision of other global concessionary finance/grants dedicated to environment protection and preservation in order to enable ACP members' states to make appropriate reforms/adjustments and to complete ongoing reforms of their sugarcane industries.

## C. MAURITIUS SUGARCANE INDUSTRY RESEARCH INSTITUTE – RESEARCH AND DEVELOPMENT

### Introduction

As stipulated under the MCIA Act, a Research and Development (R&D) Committee advises the MSIRI on research programmes and on all technical matters relating to the functions of the MSIRI.

A new composition of the R&D Committee was established on 13 May 2015. The new Committee held seven meetings during the year.

**Table 13. Representatives on R&D Committee and Attendance**

Names	Representations	Attendance
<i>Dr Louis Jean Claude Autrey, CSK</i>	Chairperson	7
<i>Mr Gansam Boodram</i>	Representative of the MCI Board	6
<i>Mr Nitish Gopaul</i>	Representative of Ministry of Agro-Industry and Food Security	5
<i>Mr Jean Robert Lincoln</i> (Alternate <i>Mr Denis Lavoipierre</i> )	Representatives of the Chamber of Agriculture	3 2
<i>Mr Jean Arthur Pilot Lagesse</i>	Representative of Millers	5
<i>Mr Nundlall Basant Rai, PDSM</i>	Representative of Planters	7
<i>Mr Rajendra Kumar Hemoo</i>	Representative of Planters	7
<i>Prof Theesan Bahorun, GOSK</i>	Independent Member having wide experience in the field of Agro-Industry	7

The Committee considered promising varieties for release during the year and their attributes were analyzed before the data was submitted to the Cane Release Committee. The R&D Committee reviewed the eight projects under the ACP-Sugar Research Programme (ACP-SRP) and took note of the benefits obtained in terms of renewal of laboratories and infrastructure, procurement of consumables, state-of-the-art equipment, training of staff and capacity building. The sections on the MSIRI in the report by LMC International on ‘The Economic, Social and Environmental Impact on

Mauritius of abolition of Internal Quotas of Sugar in EU Market’ were examined in depth to re-engineer research at the Institute so that it can provide the necessary support to the industry. Furthermore, the variety development programme of the MSIRI was analysed in the light of previous external reviews of the programme and proposals made to improve efficiency and output. Discussions were initiated in August for the preparation of an R&D Plan 2016-2020 and meetings were held with stakeholders to gather their views on the new Plan.



The Committee discussed the rationale to develop high fibre cane and in that context, a meeting was held with the industry to gather their views. The conclusion reached was that while co-products such as fibre are of significant economic interest, without sugar as the main component, the industry was not economically viable. Therefore, the MSIRI breeding programme should continue to focus on high sucrose varieties, with fibre as an additional benefit. However, the total fibre content of the cane, in addition to other extraneous matter, should not exceed 20-22%. Deliberations were initiated on the future status of the MSIRI following the decision to detach it from the MCIA.

The activities undertaken during the year under review are highlighted in this report.

## The 2015 crop

Total sugar production in 2015 amounted to 365 591t from 4 004 301 t cane at an extraction rate of 9.14%, one of the lowest extraction rates recorded since 1947. Sugar production regressed by about 9% over the previous crop, as a result of reduced area harvested coupled with the delayed harvest of the previous crop. The weather was reasonably good for growth and development but this was not the case for the ripening phase which was characterized by excessive rain.

Some 1400 ha of carry-over crop of 2014 were monitored. It was found that the fields had lodged canes and that they were infested with weeds and rats. Sucrose content did not improve substantially during the ripening period compared to those harvested earlier in the season.

In view to assess ripening and assist planters in planning the optimal harvest schedule during crop 2015, cane samples from miller-planters' fields, representing the different agro-climatic zones and different cultivated varieties, were analyzed at monthly intervals for their sucrose content as from end-April 2015.

## Breeding and selection programme

The breeding and selection programme comprising hybridization and a selection process spanning over at least 12 years, was pursued to obtain the best clones for industrial exploitation and in line with industry requirements.

Four new varieties, *M 2283/98*, *M 683/99*, *M 2502/99* and *M 1392/00* were released for cultivation in Mauritius in 2015 (Fig1).



Fig1. Varieties released in 2015 (from top to bottom, clockwise): *M 2283/98*, *M 683/99*, *M 1392/00* and *M 2502/99*



*M 2283/98* is a high yielding variety with medium sucrose content released for the B and F soils of the superhumid zone for mid- and late-season harvest. It is slightly susceptible to gumming, resistant to smut, leaf scald and rust, and its susceptibility to yellow spot at 15% is considered acceptable. Variety *M 2283/98* has good ratooning ability and flowering is generally low.

*M 683/99* is a high-yielding variety with fairly high sugar yield released for the L and P soils of the humid and subhumid zones for mid- and late-season harvest. The variety was bred specifically for adaptation to dry conditions. It is resistant to gumming and rust, slightly susceptible to smut, susceptible to yellow spot and highly susceptible to leaf scald. It has good ratooning ability and flowering is low.

*M 2502/99* is a high cane and sugar yielding variety with high profitability released for the humid B and F soils, and the subhumid irrigated P soils for mid-season harvest. It is resistant to gumming, leaf scald and rust, but susceptible to smut and yellow spot. It has good ratooning ability and flowering is average.

*M 1392/00* is a high cane and sugar yielding variety with high sucrose content and profitability released for the humid B and F soils and the L and P soils for mid-season harvest. It is resistant to gumming, smut, leaf scald and rust, and is susceptible to yellow spot. Flowering intensity is low and ratooning ability is excellent.

The setting up of Regional Committees with participation from scientists and growers has allowed the successful evaluation of promising varieties prior to release. The members of the Regional Committees of the South, Centre/East and North/West evaluated nine promising varieties in final phase trials and nurseries at the pre-harvest stage. Promising varieties *M 1002/02*, *M 2437/03*, *M 1256/04* and *M 915/05* were in general well appreciated.

Within the framework of the ACP-SRP, a total of 400 varieties planted at Réduit under irrigation were followed over two ratoon crops at three harvest dates and analysed for the determination of laboratory cane quality characters. The results showed that out of 14% of the population screened as being early ripening, only 3% belonged to the category early ripening and high sucrose type. With the centralization of factories, early varieties are required as the harvest needs to start earlier. Apart from high sucrose varieties, the breeding programme is also developing varieties resistant to yellow spot, the most important disease in the super humid zone as well as high biomass varieties.

For cane analysis, a newly acquired InfraCana II was used as from August 2015 to process and to analyse some 3800 samples using near-infrared spectroscopy. This new technology has proved to be more efficient, faster and less labour intensive.

A total of 35 sugarcane varieties were exported in 2015 as follows: seven varieties to Cameroon, eight to Congo, five to Ivory Coast, four to Gabon, five to Chad and six to Burkina-Faso. The sales were carried out on a pay basis agreement following contracts signed with the respective countries.

### **Field experimentation and liaison with stakeholders**

Activities of field experimentation were geared towards establishing variety trials and selection over some 64 ha in different environments. Crop protection and crop management trials were also established. All trials were closely monitored and data collected. Observation plots with several promising and newly released varieties were planted in different sectors.

Furthermore, apart from regular contacts with estate staff and other stakeholders in the sugarcane industry, several activities were organized during the year to promote the exchange of information and the transfer of technology to stakeholders. Meetings were convened with sugar estates and FSA

staff to discuss subjects such as the carry over crop from 2014, the crop season 2015, establishment of observation plots with promising varieties, distribution of planting material of newly released varieties and the phasing out of the herbicide atrazine.

## Biotechnology

In Mauritius, breeding for sugar cane varieties resistant to yellow spot disease is a resource intensive process, which necessitates the setting up of replicated field trials in at least two sites of the superhumid zone and scoring the disease reaction in not less than two ratoon crops. In view of reducing the cost and length of such screening and to improve on its efficiency, a quantitative trait loci (QTL) mapping study was carried out to identify molecular markers linked to the disease resistance. The preliminary screening results for the marker SAT2033 in some 100 individuals are highly promising for identification of yellow spot resistance. Genotypes in the breeding programme carrying this marker may be identified early and earmarked as potential yellow spot resistant clones.

In a study of QTL mapping for early ripening and high sucrose accumulation, a population derived from a cross between *CP 67412* and *M 245/76* was used to identify markers linked to early ripening and high sucrose content. In 2014, a linkage map of variety *CP 67412*- early ripening/high sucrose- was constructed using some 3000 markers developed by RADseq technology. In the same year, the mapping population of 300 individuals was established in the field and in 2015, the population was sampled in May, August, and October to assess for sucrose related traits. Based on the results, the distribution of the ripening profile among 300 genotypes was established and will be used for association of markers to early ripening.

Additional traits were scored in the population included and preliminary data analysis from information obtained indicated a correlation between early ripening and high percentage

flowering and an association between low percentage pithiness and late ripening.

A project funded by the Mauritius Research Council aiming at the genotyping of sugarcane clones from the *Saccharum* complex investigated the phylogenetic relationship among the various members of the *Saccharum* spp. complex. The close relationship between *S. robustum* and *Erianthus* was revealed, in addition to a number of *S. officinarum* clusters, which have so far not been introgressed in cultivated sugarcane and these *S. officinarum* clusters may represent valuable resources for further widening the genetic base of sugarcane.

*Sugarcane yellow leaf virus* (SCYLV), causal agent of yellow leaf disease of sugarcane, is reported to be genetically diverse. At least eight genotypes have been described based on geographical origin. In Mauritius, a survey performed in the past revealed widespread occurrence of the milder REU genotypes. However, sequence analysis suggests that the diversity of SCYLV present in Mauritius is higher than previously believed. This information would be useful in developing additional diagnostic tests for the virus.

As part of the ACP-SRP a series of molecular diagnostic tests for *Sugarcane yellow leaf virus*, *Sugarcane mosaic virus* (ScMV), *Sorghum mosaic virus*, *Sugarcane streak mosaic virus*, *Xanthomonas albilineans*, *Leifsonia xyli* subsp. *xyli* and *phytoplasmas*, were developed or improved and applied for disease testing in the International Quarantine Facility. Fourteen imported varieties were screened and SCYLV was detected in five and ScMV was co-infected in one clone. This clone was destroyed. Mosaic disease remains one of the major viruses infecting sugarcane worldwide and since it is not present locally, the newly implemented RT-PCR test would help to reduce the threat posed by the introduction of this pathogen in the island.

In 2015, some 23 000 plantlets of different sugarcane varieties were multiplied *in vitro*. These consisted of newly released varieties, high biomass clones, and

other commercial varieties. The majority (18,000) were the new variety *M 1392/00* released during the year. These plantlets were transferred into pots and some 10 000 were delivered by end of the year.

## Fertilizer management

The economics of nitrogen (N) fertilization of sugarcane was reviewed in the light of the price of sugar for 2015 and the prevailing price of N fertilizers. The recommended rate of N was maintained at 1.2 kg for each tonne of cane expected in order to maximize net returns. Recommendations for phosphorus (P) and potassium (K) remained unchanged.

Analytical services to sugar estates were provided to small and medium planters for the determination of pH, available phosphorus (P), potassium (K) and silicon (Si) in soils sampled from sugarcane fields that were replanted in 2015. A total of 911 soil samples were analysed and on the basis of soil test results, recommendations were made for the correction of soil acidity and of nutrient deficiencies so as to ensure optimum fertilizer use by growers.

The monitoring of N, P, K and Si status in TVD leaves on ratoon canes was maintained in 2015 on leaf samples coming from 279 Permanent Sampling Units (PSU's) with the aim of guiding growers to fine-tune the fertilization of their ratoon crops.

In addition to the routine soil and plant testing, non-routine analytical services were provided on request from stakeholders in the sugarcane industry as well as from other private organizations. Some 1036 samples, comprising of a wide range of matrices including fertilizer, sugar, molasses and water amongst others, were analysed.

Improving soil organic matter of sugarcane soils is vital in terms of enhancing the soil physical, chemical and biological properties and processes. Improvement in the properties of soil amended with composts through added organic matter is

considered to be the greatest potential benefit in addition to serving as a partial fertilizer substitute for N, P and K. The value of municipal solid waste compost (MSWC) as a soil ameliorant was assessed in field trials. Data obtained showed that application of MSWC at a rate of 5  $\text{tha}^{-1}$  in combination with the normal NPK rate at time of planting generally increased cane yields compared to NPK alone. Application of 5  $\text{tha}^{-1}$  of MSWC contributed about 12 kg N, 22 kg  $\text{P}_2\text{O}_5$  and 27 kg  $\text{K}_2\text{O}$  which represent the amounts by which fertilizer NPK can be reduced.

## Management of agricultural phosphorus for environmental protection

Data obtained from rainfall simulation studies carried out in the five major soil groups of Mauritius and historical meteorological data, were used to develop a soil P index for use as a decision support tool for determining vulnerability of a field to P losses. The P index incorporates source factors (e.g. soil P content, the quantity of added P, timing and method of application) as well as transport factors (e.g. runoff and erosion potential) to assess P losses from an agricultural landscape. The developed software is now ready for validation under different field conditions in which sugarcane is grown. The output will help identify farms that are more vulnerable to P losses and also which factors most strongly influence this vulnerability. These identified factors will form the basis for adopting the most appropriate farm management practices so as to reduce the risks of P losses from fields.

## Weed management

The activities of the Weed Identification and Knowledge in the Western Indian Ocean (WIKWIO) project have progressed since its launching in January 2014. The project aims to consolidate existing scientific knowledge and facilitate sharing of new information on weeds of food and cash crops of the region and effective management practices. The development of

appropriate information technology solutions to build a multi-stakeholder community consisting of researchers, extension services, civil society and farmers around an ICT knowledge base of weeds was the main focus during the year. This is expected to enhance the capacities of researchers, reinforce the institutional capabilities, empower extension services and improve their quality of service, through a participatory, technology facilitated platform. The English-French bilingual collaborative platform is operational at [www.portal.wikwio.org](http://www.portal.wikwio.org) and is constantly being updated by a team of experts to meet the various objectives of the project. Also, ICT developments this year have made applications available on smartphones and tablets to enable stakeholders to have ready access to information on weeds and their management practices. This is being complemented with capacity building training sessions locally and in the different countries of the regions to facilitate users' access to the information present on the WIKWIO portal.

The collaboration among the five partners, namely CIRAD (France), IFP (India), MCIA/MSIRI (Mauritius), FOFIFA (Madagascar) and CNDRS (Comoros) has enabled significant progress to be made. An IDAO identification tool and a dataset of 347 weed species of the different cropping systems of the Western Indian Ocean region are available. This Web 2.0 portal is linked with the two mobile applications available for IOS and Android devices, namely **“WIKWIO IDAO”** for weed identification and **“WIKWIO Citizen Science”** for collecting observations directly from the field.

Weed surveys have been carried out since the beginning of the 1950s in herbicide trials at the MSIRI. The development of modern techniques of data management such as the geographical information system (GIS) makes it possible nowadays to perform spatial and temporal analyses of these weed survey data. Work accomplished in the year has allowed compilation of data from 209 surveys carried out at over 190 locations and

involving 242 weed species. Work is under progress to link this weed data with the MSIRI Land Index Database in order to generate weed maps to provide information on the trend of weed ecology and distribution over the years using GIS tools.

## Cultural Operations and Mechanization

Trials harvested at Alteo (Beau Champ) (5th ratoon) and Terra (Belle Vue) (4th ratoon) showed that at both sites, a leguminous break within the fallow break satisfied the full N requirement of the plant cane crop. At Belle Vue where controlled traffic is current practice, a yield advantage (PC+4R) of 7% was obtained when cane was planted in dual rows at 1.90 m compared to single rows at the same spacing. However, at Beau Champ, no marked difference was observed in cumulative cane yield (PC+5R) between dual rows at 1.90 m and single rows at the conventional spacing of 1.62 m. In this particular region, the adoption of dual rows at 1.90m can be still favourably considered, since there are associated benefits of better weed control with earlier canopy closure, fuel saving during harvest with shorter distances to travel and less risk of damage to the cane rows with the controlled traffic.

Monitoring of visible cane losses on twelve sites has shown that higher than average pick-up losses (whole or part of cane left behind by the harvester) were encountered only in fields carried over from 2014. This was attributed to the brittle nature of stale stalks present in these fields. During harvest, the fragile stalks on adjacent rows were easily brought to the ground on contact with the crop dividers and on the next pass, they were effectively picked up by the crop lifters. As regards to extractor fan losses (pieces of stalks blown out during the cleaning process), the acceptable limit of 1.0 t ha<sup>-1</sup> was not exceeded.

Load cells have been installed on an in-field trailer to obtain instantaneous plot weight during mechanized harvesting of field trials. The equipment



was used particularly for the harvest of fifteen final phase variety trials in 2015. This system was found to be as reliable as the conventional method of manual harvesting of trials and recording weights using electronic scales.

A joint project with Terragen, and partly funded by the Mauritius Research Council, was initiated to use sugar cane trash for electricity generation with the main objective of increasing cane growers' revenue to alleviate the decrease in sugar price. A potential of 10 - 15 tonnes of trash (dry matter basis) per hectare is available after mechanized harvest. Due to its agronomic value particularly in the dry regions, only partial collection (not more than 50%) of trash should be envisaged in ratoon fields. For cost effective transport of trash to the power plant, a baling operation is required. Effective baling can only be achieved after the trash has been windrowed.

At the power plant, a shredder has been installed to separate the trash. As a result of its higher ash content, the trash cannot be burned alone in the boilers and therefore it has to be mixed with the bagasse. With the present conveying system, the mixture contains only 13 to 15% trash. Combustion of this mixture has given satisfactory results.

Field trials have been implemented to assess the impact of partial removal of trash on the sugarcane growth and development. Sensors have been installed to monitor soil moisture and surveys undertaken to measure the extent of weed infestation. At harvest the cane yield data will be recorded.

## Irrigation

An irrigation management software called IMIS (Irrigation Management Information System) has been developed and released for use under the aegis of the ACP-SRP, with funding provided by the EU. It is a tool that allows large-scale farmers to maximize water use efficiency (WUE) through

better management of water resources leading to optimal irrigation scheduling. The final version of the software takes on board a number of parameters, such as soil moisture status, meteorological and irrigation data, existing irrigation systems, as well as crop growth and water availability in the network. IMIS is GIS-based and as such, it allows the user to visualize the current soil moisture deficit in different parts of the farm and provides irrigation recommendations, not only in terms of the amounts of water needed, but also in terms of priorities for irrigation. The software has undergone desktop testing, debugging and updating, followed by field testing in partner sugar estates (Médine in Mauritius, TPC in Tanzania, Tambankulu in Swaziland and Sucrivoire in Côte d'Ivoire). Two international workshops (one in English, the other one in French) were held at the end of the project to train potential users in mastering the software.

A trial was implemented at Médine to investigate the effects of using a drip irrigation system to apply different water doses (100% vs. 80% irrigation water requirement), fertilizer treatments (estate practice vs. fertigation) and planting pattern (single vs dual row) on the growth and yield of different sugar cane varieties. There were significant varietal differences in tiller density and stalk height but no difference among the different water and fertilizers treatments. The cane was heavily lodged at time of harvest, due to a combination of the long growing period and the passage of cyclone Bansi. For both single and dual rows, significant differences were observed in cane and sugar yields among the varieties, but not with the water regimes. In single row, variety *R 579* had the highest cane yield followed by variety *M 2502/99*, *M 1400/86* and *M 1176/77*. With regards to dual row, variety *M 2502/99* had the highest cane yield, followed by *M 1400/86*, *R 579* and *M 1176/77*. For sugar yields, irrespective of planting system, there were no differences among varieties *M 1400/86*, *M 2502/99* and *R 579*, but they were all significantly better than variety *M 1176/77*.



It has been observed that for the same variety, sugar yields were better in dual rows than in single rows. Overall, these harvest results show that dripline placement in dual and single row planting did not affect early growth and overall crop development, and no difference in productivity was observed whether fertilizers were applied at planting or through the drip system. The trial continues and the effects of lodging will be closely monitored in the 1st ratoon crop.

## Land resources

The total area under sugarcane has kept on decreasing, with 57 463 ha being registered by SIFB for the 2014 cropping season. This represents a loss of 853 ha compared to 2013, most of which (78%) was observed within the small planters' group. The trend in terms of distribution of sugarcane land remained the same for all geographical sectors with respect to cultivated area (Fig 2).

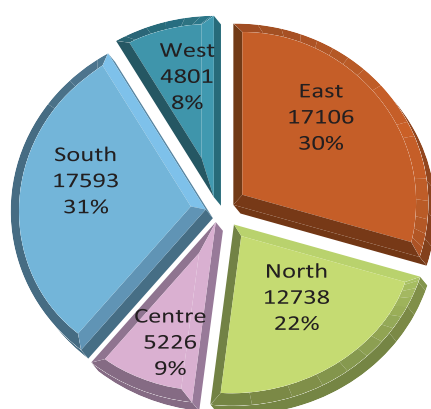


Fig2. Distribution of registered sugarcane land for 2014 by geographical sector

As plot size is a good indicator of sugarcane land ownership, breaking down the registered area into three plot size categories gave an idea of the distribution of planters' category in these mill areas. These categories are: more than or equal to 40 ha for Miller-/Corporate- and large planters, between 10 and 40 ha for medium planters, and less than 10 ha for small planters. The large planters' group occupied more than 73% of the total registered area, small planters 25%, and medium planters only 2%.

Out of the four operating mills, Alteo was supplied by the east and central sectors, totalling 22 332 ha (40%), Omnicane, in the south, was supplied by 17 593 ha (31%), whereas in the north Terra was supplied from 12 738 ha (22%), and Médine from only 4,801 ha (8%) in the west. The energy generated from bagasse by each mill is shown in Table 14. Terragen and Omnicane were well ahead of the two other mills in terms of energy production from bagasse, Terragen generating 40% more output (8,118 kW/ha) per unit of sugarcane land than the island average output (5,822 kW/ha). This indicates that there is further potential for energy exploitation from sugarcane land.

**Table 14. Bagasse energy output per unit of sugarcane land (kW/ha) in the 2014 harvest season**

Sector (Mill)	kW/ha
East & Centre (Alteo)	4,069
North (Terragen)	8,118
South (Omnicane)	7,617
West (Médine)	1,303
Total average	5,822

## Diseases

The excess rainfall during the period November 2014 to January 2015 was favourable to an early onset of yellow spot infection. Disease infection in variety M 703/89 varied from 13.8% in February to a peak of 57.7% in June while for variety R 579, infection was at 8.4% in February and peaked at 35.9% in May.

Routine disease assessment was carried out in Stage 4 trials to identify susceptible varieties at an early stage. Varieties at an advanced stage of selection were assessed in resistance trials to the main diseases, namely yellow spot, gumming, rust, leaf scald and smut. For yellow spot of the 135 varieties assessed since 2011, 61 were found to be susceptible or highly susceptible. For gumming disease five varieties were rated as slightly susceptible. Preliminary results based on plant

cane and 1<sup>st</sup> ratoon showed that four varieties were highly susceptible to smut, three were susceptible, and two were slightly susceptible. Compared to the controls, one variety was found to be highly susceptible to leaf scald, three varieties were susceptible, three varieties were slightly susceptible and three varieties were resistant. For rust, one variety was found to be highly susceptible, two were susceptible and one was slightly susceptible to brown rust.

The sugarcane quarantine facilities located on the premises of the Ministry of Agriculture at Réduit were renovated during the year. The five varieties that were imported from Australia in 2013 namely Q 183, Q 186, Q 200, Q 208 and Q 209 completed the two-year cycle in closed quarantine. All varieties were tested negative for *Sugarcane yellow leaf virus*, *Sugarcane mosaic virus*, *Sorghum mosaic virus* and *Fiji leaf gall virus* and clearance was given for release and planting in open quarantine.

During the year, 19 varieties were planted in N0 nurseries and 12 in N1 nurseries after undergoing short hot water treatment (50°C for 30 min) and fungicide dip. Three varieties namely M 1292/00, M 831/01 and M 1256/04 were promoted from N1. Seventeen varieties were established in N2 nurseries at Trois Ilots, covering a total area of 1.8 ha. Variety M 1698/02 was promoted to N3 and M 1002/02 to N4. Some 152,128 setts were prepared for final phase trials, disease trials, multiplication, for the nursery at Trois Ilots and various other trials. At the hot water treatment facility, 102,538 setts were treated. Nurseries also provided cuttings of the newly released varieties M 683/99 and M 1392/00.

## Pests

Severe infestation by the soft scale *Pulvinaria iceryi* occurred at Constance, St Felix, and Alteo (Beau Champ) over an area of approximately 10 ha. The infestations were closely monitored and only 1 ha had to be cut back; the rapid development of the coccinellid predator *Cryptolaemus montrouzieri* caused a drastic reduction in the pest population

at St Felix and at Alteo (Beau Champ). An infestation of *Alissonotum piceum* occurred over 1 ha in the cane nurseries at Ferney. Treatments with *thiamethoxam*, applied as a soil drench, and field sanitation (removal of dead stools) helped to reduce the infestations.

Promising varieties in final stages of selection were assessed for their susceptibility to the spotted borer *Chilo sacchariphagus* and the armoured scale insect *Aulacaspis tegalensis*. Varieties M 591/01, M 1961/03 and M 1292/00 at Alteo (Mon Loisir) had levels of infestation by the spotted borer exceeding the generally accepted threshold of 5% internodes bored. Incidence of the scale insect was low in all trials.

The effect of the leafhopper *Numicia dorsalis* on sugar cane yield parameters was studied on variety M 2593/92 at Chebel. There was no significant difference between healthy canes and canes slightly infested for all the yield parameters assessed.

The white grub *Hoplochelus marginalis*, was not detected during field surveys carried out over the island in February to September and in light trappings in January, November and December.

The project on the development of biopesticides against sugar cane white grubs, under the ACP-SRP was pursued. Field surveys were carried out and light traps were operated to collect larvae and adults for establishment of laboratory colonies of white grubs for subsequent bioassays with the most promising *entomopathogenic fungi*. Strains MSIRI 134 and CADZW of *Metarhizium anisopliae* were mass produced on rice and were used for laboratory bioassays which also included strains BbrC17 and HHWG1 of *Beauveria brongniartii* formulated by the Plant Health Products Pty Ltd., South Africa. *Heteronychus licas* beetles were dipped in a suspension at a concentration of 108 conidia ml<sup>-1</sup>. Highest mortality was obtained when the beetles were dipped in suspensions of both strains of *Metarhizium* with 45% mortality and 73% mortality with MSIRI 134 and CADZW respectively. Low mortality (15%) was observed

with BbrC17. Topical application to the beetles did not cause mortality. A replicated trial was also carried out in a field severely infested by *H. licas* at Terra (Beau Plan). However, the entomopathogens did not give the expected results compared to chemical treatment.

## Microbiological analyses of sugars and water

Routine microbiological analyses were carried out on 193 sugar samples (white refined, raw and special sugars) and related products (e.g molasses and massecuite) and 36 water samples.

## Sugar technology

The Sugar Technology Laboratory investigated several constraints encountered by factories such as sugar colour, elimination of mercuric iodide and use of aluminium chloride as a clarifying agent. It also provided support for ring tests and laboratory audits to factories.

Trials showed that, in terms of Brix, pol and sucrose, mixed juice samples can be satisfactorily preserved with the biocide sodium dimethyldithiocarbamate at -250C. This biocide, applied at a level of 1000 ppm and juice freezing, is expected to preserve sugar cane juice samples for analytical purposes for a period of 24 hours. The biocide is not toxic and could provide preservation that is both safe and environmentally acceptable.

Aluminium chloride was tested to clarify the filtrate from the Jeffco disintegrator for bagasse analysis. Preliminary data have shown that results are promising and it is therefore intended to discontinue trials with activated carbon for the pressure filtration method started in 2014, and to carry out further trials with the use of aluminium chloride as the clarifying agent.

The main objective of the ring tests on mixed juice is to monitor the performance of the laboratory analysts and to ensure that standard analytical methods are being used, and corrective actions

are recommended where necessary. Comparative analyses of mixed juice samples have been carried out for the months of September and November at MSIRI, at sugar factories and at CAD laboratories during crop 2015.

The aim of laboratory audits is to ensure that a good practice is maintained in terms of product sampling and the analytical procedures as described in the ICUMSA Official Methods are followed diligently. Since the beginning of the 2015 crushing season, visits have been conducted to all sugar factories and CAD laboratories. Verification of laboratory equipment such as refractometers, polarimeters, pH meters and analytical balances has been carried out using Certified Reference Materials and known standards. Reports have been issued and necessary corrective measures have been recommended.

## The ACP Sugar Research Programme (ACP-SRP)

The MSIRI undertook eight out of thirteen projects under ACP Sugar Research Programme (ACP-SRP), financed through a total grant of EUR 13 million from the EU, for the period August 2010 to 31 December 2015.

The eight projects listed below were reviewed by the Scientific Advisory Group of the ACP-SRP in August 2015:

1. Project 1.2 - Increasing sugar productivity through the development of high sucrose and early-ripening genotypes
2. Project 1.3 - International quarantine facility for the exchange of sugar cane germplasm among ACP countries
3. Project 2.1 - Use of biopesticides for the control of sugar cane white grubs
4. Project 2.2 - Regulating phosphorus in sugar cane to decrease production costs and to protect fresh water resources in ACP states
5. Project 2.4 - Efficient conjunctive use of water for sustainable sugar cane production



6. Project 3.2 - Efficient use of energy resources in cane processing
7. Project 3.3 - Technology development for disposal of vinasse by incineration
8. Project 3.4 - Production of poly (3-Hydroxyalkanoates) from sugar cane

The review concluded that the eight projects had made significant progress and had contributed to knowledge, innovation and that MSIRI had managed to build up its research capacity considerably with the EU grant, using funds cautiously and effectively and also contributed to build up some research capacities in other ACP member states.

The ACP/EU once again chose Mauritius as destination for the final ACP-SRP workshop after the mid-term meeting that was also held in Mauritius in October 2012. The final Workshop was hosted by the MSIRI from 5 to 7 October 2015 and attracted some 56 foreign delegates and 21 local participants (Fig3). During the three days the main findings of the research projects were communicated. In addition, the possible implementation of a Phase II of the SRP was discussed.

Three other technical workshops in the framework of the ACP-SRP were also held during the year. Participants from various ACP countries attended these workshops. The first and second workshops held from 21 to 25 September and 28 September to 2 October 2015 respectively aimed at training participants from English speaking and French speaking ACP countries in the utilisation of an Irrigation Management Information Software (IMIS) software developed in project 2.4, with the objective to assist sugarcane growers to improve water use efficiency in their fields.

The third workshop, held from 7 to 11 December 2015, was attended by 11 Plant Health Officials from different ACP countries. The objective of this workshop was to disseminate information on the importance of sugarcane quarantine. The workshop also provided an opportunity to create

more visibility of the International Sugarcane Quarantine Facility set up under the SRP on the MSIRI premises at Réduit. This facility can now facilitate safe sugar cane germplasm exchange amongst ACP and other countries.



Fig 3. The Honourable Minister of Agro Industry and Food Security, Mr Mahen Seeruttun addressing the participants at the Final ACP Workshop.

## ACP Sugar Research & Innovation Programme (SR&IP) – Phase II

A new call for projects, under the ACP SR&IP, with the objective to introduce innovations and new products in the commodity chain to enhance the competitiveness of the sugar cane sector in ACP countries was launched in 2014. Ten out of the 16 concept notes submitted in April 2014, were selected for full proposal submission. In February 2015, MSIRI elaborated and submitted the ten full proposals to the EU and outcome for funding is being awaited.

## Collaborative Research and Innovation Grant (CRIG) Scheme

The Ministry of Finance and Economic Development launched the CRIG Scheme under the Mauritius Research Council during the year where a matching grant of up to MUR 5 million can be obtained for projects involving public and private sectors collaboration. MSIRI with Omnicane Ltd. as partner, secured grants for a total sum of MUR 13 245 000 for a period of 2 years for two research projects aiming at adding value to sugars.

## D. SERVICE TO FARMERS (EXTENSION & TRAINING UNIT)

### Objectives

- (i) Ensure that essential services are available to planters.
- (ii) Promote the setting up of cane nurseries and the supply of cane setts to planters.
- (iii) Facilitate the adoption of modern and efficient agricultural practices by planters.

### Functions

- (i) Provide technical advice, assistance and training to planters on cane cultivation, harvesting and transport of cane and post-harvest operations.
- (ii) Manage agricultural land and, in particular, abandoned fields in FORIP or such other similar projects.
- (iii) Enter into management contracts on behalf of planters.
- (iv) Devise agricultural credit schemes in consultation with financing agencies.
- (v) Ensure that arrangements are made so that cane of small planters are harvested at their optimal sucrose content.
- (vi) Assist cooperative societies in benefitting from the Fair Trade initiative or such other similar projects.

### Field Visits

The main form of contact with the grower is through field visits. A total of 24,063 visits were carried out by field staff with a view towards assessing cane growers' problems and advising them on Good Agricultural Practices. Visits were mainly geared towards grouping of planters within the Field Operation Regrouping and Irrigation Project (FORIP).

### Field Visits 2015

Table 15. Field Visits	
Year	2015
FORIP	17,290
Non-FORIP	6,773
<b>Total</b>	<b>24,063</b>

### Demonstrations

Eighteen demonstrations were carried out on growers' fields with a view to allow growers to observe new technologies. These comprised result as well as method demonstrations including:

- (i) new herbicides mixes of Fluoxypr and Escort, Fluoxypr compared with 2-4D amine salt for the control of difficult weeds, particularly vines, *Ipomoea obscura* (liane lastique) and *Paederia foetida* (liane lingue);
- (ii) newly released varieties, namely M1989/99 compared with variety R570, M2283/98 compared with variety M1400/86, M1392/00 compared with variety R579;
- (iii) Integrated Weed Management using mulching and herbicides.

### Field Demonstrations 2015

Table 16. Field Demonstrations	
Year	2015
Herbicide mix	13
Fertilization	1
Variety	4
<b>Total</b>	<b>18</b>



## Conducted Tours

A total of twelve conducted tours were carried out and were attended by 60 growers who visited the demonstration sites. These included weedicide and varietal demonstration sites.

## Group Meetings

Twelve group meetings were carried out and these were attended by some 219 growers. Topics dealt are given in Table 17.



Fig4. Group Meetings

## Group Meetings 2015

Table 17. Group Meetings	
Topic	2015
Weed control/fertilization	5
Cane fires	4
Harvest organisation	1
FORIP (mechanical harvests)	21
Total	31

## Info Sheets

A total of 293 info sheets on cane fire mitigation were distributed to cane growers.

## Soil Sampling

The field staff collected 203 soil samples from small growers' fields which were then sent for analysis to the MSIRI Soil Chemistry Laboratory. Results of the soil analyses were utilized for appropriate

fertilizer regimes and soil amendments mainly in FORIP sites.

## Field Days

- (i) Some ten leader planters attended a field day at Forbach, Belle Vue related to mechanized harvest using whole stalk harvesters organized by Mecom Ltd.
- (ii) Fourteen planters of the Bon Accueil FSC area attended an Open Day at Flacq Fire Station organized by the Mauritius Fire and Rescue Services (MFRS). Fire bats were handed over to them by the MFRS.

## Visit by Planters to FSC

A total of 18,644 growers visited the Farmers Service Centres for technical advice and information mainly related to FORIP and weed control.

## Liaison Meetings

Fourteen liaison meetings with stakeholders chaired by FSC Managers were held at the different FSCs.

## Information Meetings

- (i) Three information meetings on "Cane Fire Mitigation" were held during the year and were attended by 101 cane growers.
- (ii) Five talks on "Pesticide Container Management" were held with Fair Trade Certified Cooperatives in collaboration with the NGO Croplife (Mauritius). 212 planters attended.
- (iii) A workshop was organized jointly with Omnicane and the ETU at Rose Belle FSC to inform Co-operative Credit Societies representatives of the south about Fair Trade Initiatives and 40 CCS representatives attended.

## Planters Vocational Training

Three workshops on "Management of Cane Fires" were held during the year 2015 in collaboration

with the Mauritius Fire and Rescue Services, Police Department and the Control and Arbitration Department.



Fig 5. Planters Vocational Training

### Seed Cane Supply

Seed cane supply to small planters was an important activity at the level of Farmers Service Centres.

Table 18. Seed Cane Supply

Variety	Quantity Supplied 2014 (Tonnes)	Percentage 2014 (%)	Quantity Supplied 2015 (Tonnes)	Percentage 2015 (%)
R 579	715	5.67	717	8.68
R 570	6,103	48.4	5,056	61.17
M 1176/77	127	1.0	205	2.48
M 1400/86	3,077	24.42	878	10.62
M3035/66	2,505	19.9	1,252	15.15
M 1989/99	25	0.2	61	0.73
M 1672/90	51	0.41	97	1.17
<b>Total</b>	<b>12,603</b>	<b>100</b>	<b>8,266</b>	<b>100</b>
<b>No of Purchasers</b>	<b>1,835</b>		<b>1,306</b>	

Compared to the previous year, a significant decrease in seed cane supply has been observed. This has been mainly due to the lower area planted under FORIPs during year 2015. R570 was the main variety supplied representing 61% of the

total amount followed by variety M3035/66. It is to be noted that there was no demand for varieties M2593/92, M1861/89 and M1394/86 whereas a slight increase in demand was observed for varieties M1672/90, M1989/99 and R579.

### Nurseries Established

During the year 2015, cane nurseries were established as shown in Table 19 below.

Table 19. Nurseries Established	
Variety	Area Established (Ha)
<i>M 2283/98</i>	0.362
<i>M 1989/99</i>	1.055
<i>R 570</i>	1.266
<i>R 579</i>	0.422
<i>M 1672/90</i>	0.422
<b>Total</b>	<b>3.830</b>

It is also to be noted that for main established varieties like *R570*, *M3035/66*, *M1400/86*, planting material was supplied from fields planted in FORIPs.

### FORIP Establishment

The Extension and Training Unit has been involved in the canvassing of planters and implementation of FORIP sites during year 2015. FORIPs established during the year were as follows:

Table 20. FORIP Established			
Sector	No of FORIPs	Area (Ha)	No of Planters
North	12	35.73	35
East	14	267.00	367
Centre/West	7	37.58	45
South	17	176.62	259
<b>Total</b>	<b>50</b>	<b>516.93</b>	<b>706</b>

Most of the FORIPs established during the year were carried out under the Planter Participation Scheme (PPS) whereby beneficiaries were responsible for the planting operations in their fields. Under the PPS, land preparation facilities are provided by AMU and the beneficiaries are refunded for the planting operations and for inputs.

### FORIP Rehabilitation

Due to the poor performance of certain varieties such as *M703/89*, *M387/85* and due to unfavourable climatic conditions at planting, poor yields resulted. Hence, such fields had to be rehabilitated with a proven variety adapted for the region. Area rehabilitated under FORIP during the year was as follows:

Table 21. FORIP Rehabilitation		
Sector	Area Rehabilitated (ha)	No of Planters
North	2.751	1
East	13.564	21
Centre/West	12.222	6
South	8.514	5
<b>Total</b>	<b>37.051</b>	<b>33</b>

### Road Mending Scheme

Road mending works (mainly patching) were carried out over a total length of some 19.5 km at 16 sites. Opening of drains over a length of 90 m was completed at Bambous Virieux.

### Radio Talks 2015

The following radio talks were broadcasted during year 2015:

- (i) Long season planting;
- (ii) Integrated Nutrient Management;
- (iii) Cane fire preventive measures;
- (iv) Fair Trade Initiatives;
- (v) Weed control in plant cane and ratoons;
- (vi) Post harvest field operations;
- (vii) Control of vines in sugar cane;
- (viii) Control of difficult weeds.

### Farming News Articles

An interview based article on Fair Trade initiatives was published in the Farming News Bulletin of FAREI.

## Event

The Extension and Training Unit (ETU) participated in the World Food Day Celebrations held at SSR Botanical Garden, Pamplemousses between 16 October 2015 and 17 October 2015.

## Committees

The following staff represented the Extension and Training Unit, MCIA on several committees:

Table 22. FORIP Rehabilitation		
Name	Grade	Committee
<i>Mr R.K. Soniah</i>	Director	Mauritius Sugar Syndicate
<i>Mr T. Gunesh</i>	Ag Assistant Director	Standards Committee, Mauritius Qualifications Authority Sectoral Committee, HRDC Steering Committee, FANRPAN Node (Mauritius) Bio-Farming Committee (Ministry of Finance) Mount and Beau Plan Planters Fund
<i>Mr Y. Ramdharee</i>	Manager	e-Agriculture Project and Technical Steering Committees (MAIFS)

## **E. SERVICE TO FARMERS (AGRICULTURAL AND MECHANISATION)**

### **Objectives and Functions**

- (i) To maintain a pool of machinery for agricultural purposes
- (ii) To hire the agricultural machinery of the Authority to such persons and on such terms and conditions as the Board may determine.

### **Services to the Planting Community**

The Agricultural Mechanisation Unit of the Mauritius Cane Industry Authority manages a fleet of agricultural machines and equipment consisting mainly of Crawler Tractors, Pneumatic Tractors, Excavators, Bell Loaders, Roller, as well as various equipment and accessories. Table 23 shows the different types and numbers constituting the fleet.

<b>Table 23. Services to the Planting Community</b>				
<b>SR</b>	<b>DESCRIPTION</b>	<b>TYPE</b>	<b>CAPACITY</b>	<b>QUANTITY</b>
1	Crawler Tractor	'D6'	165 - 185 HP	27
2	Crawler Tractor	'D7'	220 HP	14
3	Crawler Tractor	'D8'	300 HP	6
4	Excavator	SOLAR 500 LC-V	50 Tonnes	2
5	Excavator	PC - 350	35 Tonnes	2
6	Loader	950 F	170 HP	1
7	Bell Loader	1250 Cane Loader	38 HP	5
8	Roller	3410P	130 HP	1
9	Wheel Tractor	-	90 HP	1
10	Wheel Tractor	-	175-185 HP	14
11	Wheel Tractor	-	250 HP	1

The Unit undertakes land preparation works for various categories of planters. The types of service provided consist mainly of:

1. Land Clearing
2. Derocking
  - (i) Coarse
    - Bulldozing
    - Rock breaking
    - Ripping
    - Raking
  - (ii) Fine
    - Chiselling
    - Rock aligning
    - Stone crushing

3. Levelling
4. Furrowing
5. Road tracing and road-making

More than 85% of work performed by AMU machines is for sugarcane plantation.

### **Main Categories of Hirers**

#### **1. Small sugarcane planters**

This category of planter consists mainly of small sugarcane planters and constitutes approximately 33% of the AMU's workload. More than 85% have land of less than 1 ha while more than 65% have



less than 0.5 ha. These planters benefit from highly subsidized tractor rates.

## 2. Sugar Estates

Some sugar estates also hire the machines of AMU for their sugarcane land preparation. They benefit from subsidized tractor hire rates but at a slightly higher hire rate.

## 3. Field Operations Regrouping and Irrigation Project (FORIP)

More than 45% of works undertaken by AMU are

dedicated to land preparation works in FORIP, including derocking. The rates charged are approximately at cost.

## 4. Food Security Fund Projects

AMU is also involved in land preparation works falling under Food Security Fund Projects. The rates charged are same as for FORIP.

## 5. Small non-sugar planters

This category consists mainly of vegetable and food crop growers. They constitute approximately 4% of the total workload.

## 6. Revenue

**Table 24. Revenue**

Planters/ Category	2014		2015	
	Effective h	Revenue (MUR)	Effective h	Revenue (MUR)
Small Sugar Cane Planters	13,246	7,287,145	18,400	10,224,595
Sugar Estates	4,002	4,561,740	3,069	3,450,050
Large Planter	433	363,510	859	721,770
Projects including FORIP	42,660	137,098,036	23,925	76,796,350
Ministry /Parastatal including Food Security Fund Project	1,135	3,402,248	55	162,085
Small Non-Sugar Planters	2,709	3,350,665	3,430	4,367,857
Others	138	387,791		
<b>Total</b>	<b>64,323</b>	<b>156,451,135</b>	<b>49,738</b>	<b>95,722,707</b>

## F. CANE MILLING ARBITRATION AND CONTROL

### Introduction

The Control and Arbitration Department (CAD) is a unit of the Mauritius Cane Industry Authority (MCIA). It has replaced the former “Cane Planters and Millers Arbitration and Control Board” with the proclamation of the MCIA Act No.40 of 2011 on 19 March 2012.

The CAD is headed by a Director who is responsible for the day-to-day management of the department and for the execution of the policies of the Control and Arbitration Committee. The Director is assisted by the Manager (Cane Payment), the Manager (Operations and Research) and three Sugar Technologists.

The composition of the Control and Arbitration Committee is as follows (list of Members is at Table 25):

- a Chairperson who is, and has for at least 10 years been, a judicial officer, a law officer or a barrister;
- a representative of the MCIA Board;
- a representative of the Ministry;
- one independent member;
- one representative of millers; and
- two representatives of planters, one of whom shall be a representative of small planters

**Table 25. List of Committee Members**

<b>Chairperson</b>	Mr Dheerendra Kumar Dabee, G.O.S.K
<b>Members:</b>	
Mrs Damyantee Takoory	Representative of the Ministry of Agro-Industry and Food Security
Mr Jean Li Yuen Fong	Representative of millers
Mr Soobas Muniah	Representative of small planters
Mr Vhinaye Dookhony, P.M.S.M	Representative of large planters
Mr Patrick de Labauve d'Arifat	Representative of the MCIA Board
Mr Reshad Mahamoodally	Independent member

The Control and Arbitration Committee ensures the efficient and effective operation of the department and is not subject to the directions or controls of any other person.

The functions and powers of the Control and Arbitration Committee include:

- the arbitration of disputes between planters and millers ;
- the control of the milling of canes and the manufacture of sugar;
- the determination of the quantity of sugar and co-products accruing to planters and millers;

- the execution of the functions assigned to it under Parts IV, V, VI and VII of the MCIA Act.

During the year 2015, the Control and Arbitration Committee met on 13 occasions and examined 59 papers.

## Crop Estimate

The Crop Estimate Coordinating Committee, under the aegis of the Mauritius Chamber of Agriculture, initially estimated a sugar production at 410,000 t from 4,000,000 t of cane in May 2015. In November 2015, the production of sugar was revised to 370,000 t.

## Milling Activities

The 2015 Crop Season started on 25 May 2015 at Alteo and ended on 07 February 2016 at Medine. The start of harvest at Medine initially scheduled

for 01 July 2015 was greatly delayed due to the construction of a new power generator and the breakdown of a mill turbine at the factory. The construction works could not be completed on time and the factory finally started its operation on 18 August 2015 with its existing power generator. This delay coupled with frequent breakdowns of the factory resulted in an extension of the harvest at Medine which went beyond December 2015 and consequently ended on 07 February 2016. The start and end of milling activities for all sugar factories are shown in Table 26.

For Crop 2015, sugarcane growers supplied a total of 4,009,231.920 t of cane to the mills while 4,004,300.580 t were milled by the four factories representing a loss of 4,931.340 t during transportation. The final sugar production for crop 2015 was 369,071.949 t at 98.5° Pol with an island extraction rate of 9.14. The amount of sugar produced tel quel was however, 366,070.297 t.

**Table 26. Start and End of Crop 2015**

Factory	Start of Crop	End of Crop
Terra	6 July	23 December 2015
Alteo	25 May	29 December 2015
Medine	18 August	07 February 2016
Omnicanne	01 June	12 December 2015

For Crop 2015, the island average sucrose in cane was 10.74 as compared to 11.54 in 2014 indicating a decrease of 0.80%. The highest richness was recorded at Terra (11.21) and the lowest at Alteo (10.38).

The island average extraction rate was 9.14 and is lagging by 0.77 percent when compared to 2014 crop (9.91).

## Registration of Cane Contracts

Section 28 of the MCIA Act (Provision relating to Cane Contracts) provides that cane contracts between planters and millers shall be entered

into for any crop year on or before 31 May and forwarded to the Committee for registration not later than 15 June of that crop year.

The registration of Cane Contracts for Crop 2015 was done at the weighbridges of all cane reception sites during the month of May. However, as in the previous years, a one-stop-shop facility for cane registration was offered to planters of Omnicanne at Mare D'Albert and Souillac Sugar Insurance Fund Board Offices. Following amendments to the SIFB Act, as from the year 2013, only 20% of planters are required to register their crop as per an established schedule of 5 years.

Compared to previous campaigns, Officers of CAD were not posted to different registration sites except at the SIFB sub-offices of Mare D'Albert and Souillac where cane contracts were handed directly to the planters after registration. Cane Contracts from other sites were brought to the Head Office on a weekly basis for registration and copies were posted to respective planters after registration while millers' copies were dispatched in bulk.

A total of 5,264 cane contracts have been issued to the recipients. The number of late registration permits granted was 442.

### Final Road Rate for Crop 2015

Pursuant to section 40 of the MCIA Act, "where the distance over which a planter's canes are transported to a factory is greater than **6.4 kilometres**, the miller shall" –

- (i) where the transport is undertaken by the planter, reimburse to the planter the amount by which the cost of transport over that distance exceeds the cost of transport over 6.4 kilometres;
- (ii) where the transport is undertaken by the miller, be refunded the cost of the cost the transport over the first 6.4 kilometres only.

The rate of refund (Final Assessment of Road Rate) was determined by the Committee on 15 February 2015 and the recommended rates are given below in Tables 27 and 28 together with those for crop 2014 for comparative purposes.

Table 27. Rate of refund for transport undertaken by the planter above 6.4 km)		
Type of Planters	Crop 2014 Rates	Crop 2015 Rates
Planters supplying up to 100 tonnes of canes during the crop	MUR 7.34 /t/km	MUR 7.54/t/km
Planters supplying more than 100 tonnes of canes during the crop	MUR 6.67 /t/ km	MUR 6.85 /t/ km

Table 28 – Rate of refund for transport undertaken by the miller (first 6.4 km)		
	Crop 2014 Rates	Crop 2015 Rates
Fixed cost	MUR 23.92/t	MUR 24.57/t
Variable cost	MUR 6.67/t/km	MUR 6.85/t/km

## Final Assessment of Scum

The Final Assessment of Scum for Crop 2015 based on the average quantity of scums produced by each factory per tonne of canes milled during the preceding crop year was approved by the Control and Arbitration Committee on 11 March 2015.

The amount of scums accruing to planters at specified moisture content is shown in Table 29 below:

Table 29 - Final Assessment of Scum		
Factory	Mositure % scum	kg scums per tonne cane
Terra	70.79	51.20
Alteo	72.80	55.10
Medine	79.80	50.00

For Omnicane factory, the Committee decided that the mill supplies 7 tonnes scums per acre to planters during re-plantation.

sites, cane consignments were sampled as usual and the samples collected were transported to the centralized laboratories for analysis.

## Sucrose Content Tests

The Control and Arbitration Department carries out sucrose content tests on the canes of planters at the CAD Laboratories.

Every year, any planter or group of planters having an amount of canes as specified by the Committee may apply for a separate sucrose content test in case he wants his canes to be assessed separately. The last date for the submission of an application for a separate test is 15 March in any crop year. For 2015, the Committee approved applications for four new tests, Seventy one cancellations, one amendment to existing tests and twelve renewals.

Sucrose content tests were carried out in five laboratories. At the remaining fifteen cane transit

A total of 128,063 sucrose content tests were carried out during the whole crop (see Table 30) as compared to 141,001 for the preceding year. This can be explained by the fact that during the 2014 harvest season, only 5% of the total number of samples were processed in parallel using both the Infra Cana equipment and wet analysis method.

The First, Second and Third Provisional Assessments which enable planters to obtain financial advances from the Mauritius Sugar Syndicate for canes already delivered were approved on 06 August, 10 September and 14 October 2015 respectively. Since the harvest season was extended beyond December 2015 at Medine, the Final Assessment of Sugar and Molasses was computed as at 23 January 2016 and was approved by the Committee on 15 February 2016.



**Table 30. Sites for collection and analysis of cane**

Laboratory site	Sampling sites	Number of sucrose content tests
Terra	Beau Plan, Solitude, Mon Loisir and St Antoine	35,717
Alteo	Mon Desert Alma, Highlands, Constance, Beau Champ	37,044
Medine	Bel Ombre and Reufac	11,619
Omnicanne	Riche en Eau, Rose Belle, Mon Tresor,	28,184
Union St Aubin	St. Felix, Bel Ombre and Britannia	15,499

### Present Determination of Price of Molasses

The present price payable to planters is a blended price which is related to the proceeds obtained from the trade of that commodity towards the three markets (European Market, local distillers and for local livestock feed). It is based upon the European published referenced price known as the LEI (Landbouw Economist Institute). LEI is the reference price published by the Dutch Ministry of Agriculture for the European market. This price is used to determine the FOB Port Louis price. The FOB price is then used to determine the price payable by Omnicane Ethanol distillery and the Ex-Factory price payable by Alcohol and Molasses Company (AMCO) Limited for molasses exported while other local distilleries and livestock breeders pay a fixed price of MUR 3,000/t.

The LEI reference price is deemed to be the CIF price and the FOB price is arrived at by deducting various cost items from the LEI published rate.

These costs comprise of the following items:

- Throughput cost
- Commission
- Freight
- Second port discharge
- Adjustment total sugar

For Crop 2015, the Control and Arbitration Committee has decided:

- 1) to abolish the \$2 commission that is being deducted from the LEI price in the determination of price of molasses
- 2) That all distilleries and AMCO would pay FOB price for all molasses destined for exportation.
- 3) That all distilleries would pay MUR 3,500/t for all molasses used for the production of potable alcohol for sales locally.
- 4) Local breeders would continue to purchase molasses at MUR 3,000/t.

The Committee also felt that there is unfair competition between the local distilleries and importers of potable alcohol and was of opinion that all distilleries and importers of potable alcohol should be placed at same level playing field. Consequently, the contribution of MUR 20 made by distilleries per litre of absolute alcohol removed from a factory for home consumption under the Excise Act and which Government has agreed to increase from MUR 20 to MUR 40 should equally be applicable to imported potable alcohol.

### Weighbridge Calibrations and Checks

Section 32 of the MCIA Act stipulates that the Control and Arbitration Committee may require an employee to verify the accuracy of cane or sugar weighing machines wherever situated and the

records kept by any person relating to the weighing of canes or sugar.

The CAD possesses two lorries equipped with crane and forty five 1-tonne cubic metallic standard weights to carry out the accuracy verification of the weighbridges of the different sugar factories, Cane Transit Sites, the Bulk Sugar Terminal, the Bagged Sugar Storage and Distribution Co. Ltd. and the Refineries.

The number of cane weighing platforms tested and the various accuracy checks performed as at end of December 2015 are given in Table 30 and 31.

**Table 31. Number of sites/platforms**

Site	Number	Number of platforms
Factories and cane reception sites	21	46
Sugar refineries	2	3
Mauritius Sugar Terminal Corporation	1	4
Bagged Sugar Storage and Distribution Co. Ltd.	3	3
<b>Total</b>	<b>27</b>	<b>56</b>

**Table 32. Weighbridge accuracy checks**

Type of check	Number of checks
Calibration/recalibration	65
Taring	260
Daily weighbridge accuracy checks	4766
Reconciliation of weighbridge planters tickets	2425
<b>Total</b>	<b>7516</b>

## Development and Improvement of Quality of Models for Crop 2015 (Crop 2014 Data)

A good working calibration model must continually be checked and updated. This is because models developed with samples from one season may not have the same expected performance during the following crop seasons. Changes in environmental conditions, cane varieties, degree of maturity, moisture variation and many other factors do occur and may affect the reliability of NIR results. The models must, therefore, be updated and improved by including samples of different seasons in the calibration database. Samples should regularly be validated in order to confirm the quality and robustness of the models developed.

In this context, wet analysis using the traditional non-lead method (auto filtration) was carried out on about 5% of the number of samples analysed during Crop 2015. They were matched with their respective spectra generated by the Infracana NIR cane analyser and included in the calibration database of Crop 2013 and 2014. An updated and improved model for each constituent will be developed and used for prediction for Crop 2016.

## Certification of ISO/IEC 27001:2005

The Control and Arbitration Department of the MCIA was accredited MS ISO/IEC 27001:2005 (Information Security Management System) on 23 June 2011 for a period of 3 years. The CAD is the second Department in the Public Service after the Passport and Immigration Office (PIO) and first parastatal body to be awarded this certification.

The ISO 27001:2005 is an International Information Security standard which provides a framework to establish, implement, operate, monitor, review, maintain and improve the information security within the organization through the implementation of an Information Security Management System (ISMS). Information security refers to the protection of information from a wide range of threats so as to preserve its confidentiality, integrity and availability.

After the recertification audit exercise carried out by the Mauritius Standard Bureau (MSB) on 12 and 13 August 2014, the ISMS certificate was renewed for a period of one year only since the CAD has to implement the new requirements of the ISO/IEC 27001:2013 by September 2015.

Some of the major changes from ISO/IEC 27001:2005 to ISO/IEC 27001:2013 are listed below:

- The structure mirrors the structure of the new management standards such as ISO 22301 (Business Continuity Management).
- Helps organisations who aim to comply with multiple standards, to improve their IT from different perspectives.
- Annexes B and C of ISO/IEC 27001:2005 have been removed.
- New term introduced of Risk Owners.

## Complaints and Disputes

During the year ending December 2015, only 25 complaints have officially been received from sugarcane planters and lorry drivers. All complaints have been attended to. In addition, during the harvest season, Senior Technical Officers have resolved many verbal complaints made by planters and lorry drivers at the various factory and cane transit sites.

## Value Added Products

During 2015, the Committee approved the following applications:

- 1) Three new applications for the production of sugarcane juice for direct consumption
- 2) One new application for the production of Rhum Agricole from sugarcane juice
- 3) Seven renewals for the production of sugarcane juice for direct consumption

The applications were recommended to the Minister for his approval in conformity with Section 24 (3) of the MCIA Act 2011.

## Allocation of Separate Tests for Crop 2015

The Committee approved the increase in the minimum tonnage of canes qualifying for a separate test from 200 t to 300 t. However, this measure would not be applicable to existing separate tests but only to new applications for separate tests as from Crop 2015 onwards.

## Closure of Mount Weighbridge

The Control and Arbitration Committee at its meeting of 11 March 2015 concluded that adequate arrangements have been made for the disposal of canes delivered at Mount weighbridge and that the application for the closure of Mount weighbridge submitted by Terra at the end of January 2015 was fully justified. The Committee therefore authorised the closure of Mount weighbridge as from Crop 2015 with an amended package to planters as follows:

1. The formula for payment of a fee to planters who are presently supplying canes to Mount platform for which an application for closure and centralization has been made would comprise three components, i.e. **Fee = (A) + (B) + (C)**.
2. Component **(A)** is a fixed payment of MUR 15/t of cane to be:
  - (i) extended to all planters concerned with the closure of Mount platform; and
  - (ii) valid for a period of 15 years.
3. Component **(B)** is calculated as  $S \times RR$ , the factor  $S$  being the distance between the closed platform and the new proposed platform for delivery of cane and  $RR$  being the official road rate determined each year by the Control and Arbitration Committee.  
This part of the formula will not be time bound and will be payable each year.
4. Component **(C)** is the excess of 6.4 km which is already being paid to planters for delivering their canes at Mount Weighbridge. Component **(C)** will also be paid to the planters concerned every year.

## Manning of The Control And Arbitration Department

For Crop 2015, the CAD required 80 seasonal employees to work at the cane testing laboratories and cane reception sites. The Agricultural Services, Réduit provided 45 employees while the remaining 35 were recruited from a list of potential applicants from the local market who worked for the CAD during crop 2014 and who again showed their interest to work for the CAD.

## Final Price of Molasses for Crop 2014

The CAD at its meeting of 16 July 2015 approved the FOB price, Ex-Factory price and Final Price of Molasses for Crop 2014 as follows:

- (1) The FOB Port-Louis Price : **MUR 2,050 at 86°Brix**
- (2) The Ex-Factory Price : **MUR 1,749 at 86°Brix**
- (3) The Price payable by distilleries : **MUR 3,000 at 86°Brix**
- (4) The Final Price of Molasses payable to planters : **MUR 2,316.51 at 86°Brix**

## Application for Value Added Products

The Committee approved the request made by Distillerie De Labourdonnais Ltd. to use a maximum of 1,200 t of sugarcane juice supplied by Terra factory for the production of Agricultural Rum.

## BCS IT Excellence Awards 2015

The CAD was awarded the Technology Excellence Award by British Computer Society.

The award was granted more specifically for our involvement in the implementation of the Near Infrared Technology at the Control and Arbitration Department Laboratories by making use of the Infracana Cane Analyser in the testing of cane and for meeting all the requirements leading to ISO 27001 recertification by the Mauritius Standards Bureau.

**Table 33. Summary of Crop 2015**

Factory	Crushing Period		Crushing days	Canes (tonnes)			Richeesse (Sucrose % Cane)	Extraction (Sucrose Extracted % Cane)	Sugar Produced (tonnes)				Molasses Produced tel quel (tonnes)
	Start	End		Received	Crushed	Loss in Transit			Tel Quel	Produced @ 98.5 Pol.	Average Efficiency	Diff	
Terra	07-Jul	23-Dec 15	142	953,331	952,304	1,027	11.21	9.63	91,878	92,733	92,101	632	31,616
	03-Jul	27-Jan 15	152	906,014	905,055	958	11.88	10.04	90,972	91,862	92,236	-374	34,878
Alteo	26-May	28-Dec 15	179	1,378,837	1,377,299	1,538	10.38	8.84	121,755	122,306	122,250	56	41,810
	26-May	02-Feb 15	188	1,386,361	1,384,672	1,689	11.25	9.66	133,672	134,288	134,761	-473	43,167
Medine	18-Aug	07-Feb 16	138	394,360	394,338	23	11.10	9.27	36,571	36,952	37,555	-603	13,620
	02-Jul	24-Nov	121	421,461	421,395	66	12.20	10.58	44,563	45,070	44,912	158	14,895
Omnicanne	02-Jun	12-Dec 15	165	1,282,704	1,280,360	2,344	10.65	9.05	115,866	117,081	117,146	-65	45,061
	10-Jun	31-Jan 15	174	1,330,586	1,327,784	2,802	11.41	9.86	130,967	132,383	131,699	684	46,369
Total				4,009,232	4,004,301	4,931	10.73	9.14	366,070	369,072	369,053		132,107
				4,044,421	4,038,906	5,515	11.54	9.91	400,173	403,603	403,608		139,309

*Note: Figures in italic relate to Crop 2014*



## G(1) SUGAR STORAGE AND HANDLING UNIT (SUGAR TERMINAL)

### Introduction

The Sugar Storage and Handling Unit (Ex-Mauritius Sugar Terminal Corporation) is located on a piece of reclaimed land having an area of 10.93 ha at Les Salines, Port Louis.

Initially, at its inception in 1980, the main activities at the Terminal were to receive, store and bulk load into ships the raw sugar produced by the sugar factories. The Terminal is equipped with receiving facilities, accurate weighing equipment, two storage sheds of bulk capacity of 175,000 t each and an efficient out-loading station with a loading rate of 1440 t/h.

Following the dismantling of the sugar protocol and the cessation of raw sugar production and exportation, the activities of the Sugar Storage and Handling Unit are mainly the sugar receipt, storage and delivery of both plantation white sugar and non-originating sugars to the two refineries of the island.

### Receiving Station

Sugar is transported in trucks from the sugar factories (PWS) or from the Terminal Quay (NOS) to the receiving station. Fully computerized weighbridges ensure accurate weighing of the sugar lorries at the receiving station. The sugar boxes are then tipped using electro-mechanical equipment to unload the sugar onto conveyor belts which is then conveyed to the storage sheds.



Fig 6. Unloading sugar boxes

### The Storage Sheds

Two storage sheds, each having a storage capacity of 175,000 t harbours in bulk the plantation white sugar as well as the non-originating sugar. The infrastructures are so designed to resist cyclonic winds of 300 km/h. The storage sheds are protected against any fire outbreak through a state of art fire detection and fire-fighting system.

Since 2009, Shed No. 2 is dedicated to the storage of special sugars in 1-t bags destined for exportation.



Fig 7. Storage Shed

### Unloading Of Non-Originating Sugar at The Terminal Quay

The unloading of sugar vessels is carried on a 24-h basis which may last between 6 to 8 days. The operations are complex with several operators within the port sector working simultaneously and converging towards the same goals and objectives. Thus, proper coordination, cooperation, communication and control are key factors for successful end results. The unloading rate is approximately 4000 t per 24 h with some 2000 trucks involved in the to and fro movement from the wharf to the receiving station for the whole operations.



*Fig 8. Storage of Non Originating Sugar (NOS) and Loading of trucks*



*Fig 9. Transport by trucks*

*Fig 10. Grabs filling chute*



## Delivery of Sugar To Refineries

Plantation White Sugar (PWS) and Non-Originating Sugar (NOS) from Shed No. 1 are delivered through a new conveying system (C14) inside the shed. The lorry is positioned under discharging hoppers where an operator triggers the pneumatic gate to load the sugar boxes. The lorry is then weighed at the receiving station and directed to the refineries namely Fuel and Omnicane.



*Fig 11. Delivery of sugar from Shed No.1*

Delivery of NOS is also done through the out-loading conveyors and reclaimed at the return bin of the sugar quay.



*Fig 12. Delivery of sugar from return bin of quay*

## Staff Matters

### Health and Safety Committee

The Health and Safety Committee met regularly to discuss matters relating to the health and safety of the employees. The Committee was chaired by the Technical Manager.

All provisions of the Occupational Safety and Health Act 2005 were complied with and all the equipment at the Sugar Storage and Handling Unit is inspected by a Registered Machinery Inspector.

### Meetings with Staff Associations

The management had regular meetings with the Mauritius Sugar Terminal Corporation Employees Union (MSTCEU) and the Mauritius Sugar Terminal Corporation Staff Association (MSTCSA) to discuss establishment problems, including those relating to the terms and conditions of service and the maintenance of good industrial relations.

### Maintenance and Repairs

All equipment and machineries undergo rigorous maintenance phases based on a pre-planned preventive maintenance programme and coupled to that, critical equipment are routed to a conditioned-based monitoring cycle.

Most of the maintenance and repair works are carried in-house except for big projects which are outsourced. The workshop is equipped with specialized tools and equipment and among others this include a lathe, a milling machine, a hydraulic press, welding equipment both arc and gas, heavy duty drilling machine. Two mobile cranes facilitate transportation of heavy loads, tarring of weighbridges, maintenance of sugar boxes and working at heights with the man-platform attachment.

In view of the geographical position of the Terminal and being exposed to the saline environment, the whole structure which is made of steel and aluminium cladding are subject to adverse environmental impacts. Coupled to that, the

ageing of the Terminal escalates the maintenance and repairs works. The total built-up area is approximately 43,000 m<sup>2</sup>.

## Sugar Movements

### Sugar Received at the Terminal

A total of 20,949 t of PWS was received at the Terminal during the 2015 sugar cane crop. A breakdown of the quantity of sugar received from each of the sugar estates is shown at Table 34.

### Import of NOS for processing in Mauritius

The MSS imported two consignments of NOS on board MV Clipper Trading and MV XO Lion totalling 70,990 t for refining in Mauritius. The

unloading operation lasted for 6 consecutive days and 11 consecutive days on a 24-h basis on board MV Clipper Trading and MV XO Lion respectively. A breakdown of the quantity of NOS received at the Terminal from each of the vessels is also given in Table 35.

### Reloading of Sugar on Trucks to Refineries

The PWS and the NOS stored in shed No. 1 were reloaded on trucks and sent to the two refineries, namely ALTEO Ltd. and Omnicane Milling Operations Ltd. During the year ending December 2015, a total of 20,886 t of Plantation White Sugar were loaded on trucks at the Terminal and sent to the two refineries.

**Table 34. Sugar Received at the Sugar Storage and Handling Unit for year 2015**

Sugar Estates	Plantation White Sugar (t)
Terra Milling Ltd.	9,783.120
Omnicane Milling Operations Ltd.	170.120
Médine Sugar Milling Company Ltd.	9,341.850
Alteo Limited Union Flacq	141.140
SSHU (Bagged Sugar) (Ex. BSSD Co Ltd.)	1,512.730
<b>Total</b>	<b>20,948.960</b>

**Table 35. Unloading of Non Originating Sugar (NOS) at the Sugar Storage and Handling Unit for year 2015**

Sugar Vessels	Non Originating Sugar (NOS) (t)
MV Clipper Tradition	28,539.020
MV XO Lion	42,451.290
<b>Total</b>	<b>70,990.310</b>

## G (2) SUGAR STORAGE AND HANDLING UNIT (BAGGED SUGAR)

### Transfer of the Operations of The Bagged Sugar Storage and Distribution Co Ltd to MCIA

In the context of the rationalization of the service providing institutions to improve cost effectiveness, quality services and optimal use of human resources, Cabinet, at its meeting on 22nd August 2014, had agreed to the transfer of the operations of the Bagged Sugar Storage and Distribution Co Ltd to the Mauritius Cane Industry Authority. The employees of the Company, who are on a permanent and pensionable establishment would be redeployed to the Mauritius Cane Industry Authority.

The Bagged Sugar Storage and Distribution Co Ltd has been removed from the Register of Companies, under Section 309(1)(d) of the Companies Act 2001, on 31st December 2014. All assets and liabilities have been transferred to the Mauritius Cane Industry Authority with effect from 1st January 2015.

### Principal Activities

The principal activity of the Bagged Sugar Unit comprises of the receipt, storage and distribution of bagged sugar as follows:

- Special Sugars are received from sugar estates for export markets
- White Refined / Raw Sugars are received from sugar estates for local market

- Imported Sugars were received from overseas suppliers for local market and bottlers up to year 2012.

To this end, the Unit operates three warehouses held on operating lease at the following locations:

- (a) The Albion Docks
- (b) MCIA Shed No 2
- (c) Caudan

The sugars are handled in 25 kg, 50 kg and one-tonne bags.

The Bagged Sugar Unit is also responsible for the following:

- Receipt of empty bags ordered by the Mauritius Sugar Syndicate from overseas and local suppliers for onward delivery to the sugar estates
- Receipt of steel bars and liners ordered by the Mauritius Sugar Syndicate from overseas and local suppliers for onward delivery to the sugar estates

The sugar weight received for the past 8 years are as shown in the Table 36 below:

Table 36. Weight of sugar								
Crop Year	2008	2009	2010	2011	2012	2013	2014	2015
<i>Sugar Received from Sugar Estates (t)</i>	72,158	101,418	118,847	136,144	142,772	121,042	126,714	98,957
<i>Imported Sugar (t)</i>	39,946	28,832	25,160	3,000	8,000	-	-	-
	<b>112,104</b>	<b>130,250</b>	<b>144,007</b>	<b>139,144</b>	<b>150,772</b>	<b>121,042</b>	<b>126,714</b>	<b>98,957</b>



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## **Operational Standards**

The Bagged Sugar Unit has been certified to be in general compliance with BS EN ISO 9001:2008.

The Bagged Sugar Unit has also carried out and implemented Hazard Analysis and Critical Control Point (HACCP) on Receipt, Storage, Delivery of Bagged Sugar and Empty Bags.

## **Employees**

The Bagged Sugar Unit had 90 employees as at 31 December 2015.

## H. DIRECTORS RESPONSIBILITY STATEMENT

### General

Directors are responsible to present financial statements of the Authority that give a faithful representation of the financial position as at the end of the financial period and of the results of its operations for the period then ended. It is responsible for the integrity of these financial statements and for the objectivity of any other information presented therein.

The Directors confirm that, in preparing these financial statements, they have ensured that proper accounting records which disclose with reasonable accuracy at any time the financial position of the Authority; the assets of the Authority have been safeguarded by maintaining appropriate internal control systems and procedures; reasonable steps have been taken for the prevention and detection of fraud and other irregularities; the financial statements have been prepared on the going concern basis; judgments and estimates have been made that are reasonable and prudent; and accounting policies have been selected in accordance with International Financial Reporting Standards and have been applied consistently.

### Internal Control

The Directors have overall responsibility for taking such steps, as are reasonably open to them, to safeguard the assets of the Authority and to prevent and detect fraud and other irregularities. The internal control system has been designed to provide the Directors with such reasonable assurance. Such systems ensure that all transactions are authorised and recorded and that any material irregularities are detected and rectified within a reasonable time-frame. The Authority has an established internal control system which assists management in effectively discharging its responsibilities. The internal control system is reviewed on an ongoing basis to ensure its effectiveness.

### Risk Management

The Authority does not have a specific Risk Management Committee. However, all risky issues are considered by the Board. The Board is responsible for taking appropriate action to mitigate risks, if any, using such measures, policies, procedures and other controls that it deems fit.



.....  
Veersingh BOODHNA  
Deputy Permanent Secretary  
Ministry of Agro-Industry  
and Food Security

BOARD MEMBER



.....  
Vishnou GONDEEA  
CHAIRPERSON

## **I. INDEPENDENT AUDITOR'S REPORT**



# NATIONAL AUDIT OFFICE

## REPORT OF THE DIRECTOR OF AUDIT TO THE MAURITIUS CANE INDUSTRY BOARD

### Report on the Financial Statements

I have audited the financial statements of the Mauritius Cane Industry Authority (MCIA), which comprise the statement of financial position as of 31 December 2015 and the statement of profit or loss and other comprehensive income, statement of changes in equity and statement of cash flows for the year then ended and a summary of significant accounting policies and other explanatory information.

### *Management's Responsibility*

Management is responsible for the preparation and fair presentation of these financial statements in accordance with the International Financial Reporting Standards and in compliance with the Statutory Bodies (Accounts and Audit) Act, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

### *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 International Standards of Supreme Audit Institutions. 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 misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity'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 entity's internal control. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

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

## Opinion

In my opinion, the financial statements give a true and fair view of the financial position of the MCIA as of 31 December 2015, and of its profit or loss and other comprehensive income and its cash flows for the year then ended in accordance with International Financial Reporting Standards.

## Emphasis of Matter

I draw attention to the following:

- Trade Receivables at Note 22 of the financial statements showed an amount of Rs 325,431,960, of which Rs 205,662,582 related to cash advance to planters under the Field Operation Regrouping and Irrigation Project, made from 2006 to 2015 with repayment terms scheduled over a period of five to seven years. No repayment had ever been effected and the recoverability of the advances was uncertain.
- Retirement Benefit Obligations balance under Non Current Liability amounted to Rs 610,096,897 as at 31 December 2015 as compared to Rs 395,132,489 as at end of previous financial year. The actuarial valuation of the MCIA pension funds as at 31 December 2014 revealed a deficit of 459.8 million for which a cash injection of Rs 50 million was recommended by the Actuaries. No cash injection was made in the pension fund during the year 2015.

My opinion is not qualified in respect of these matters.

## Report on Other Legal and Regulatory Requirements

### *Management's Responsibility*

In addition to the responsibility for the preparation and presentation of the financial statements described above, management is also responsible for ensuring that the activities, financial transactions and information reflected in the financial statements are in compliance with the laws and authorities which govern them.

### *Auditor's Responsibility*

In addition to the responsibility to express an opinion on the financial statements described above, my responsibility includes expressing an opinion on whether the activities, financial transactions and information reflected in the financial statements are, in all material respects, in compliance with the laws and authorities which govern them.



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

## **Opinion on Compliance**

### ***Statutory Bodies (Accounts and Audit) Act***

I have obtained all information and explanations for the purpose of my audit.

In my opinion, in all material respects, the activities, financial transactions and information reflected in the financial statements are in compliance with the Statutory Bodies (Accounts and Audit) Act.

### ***Public Procurement Act***

The MCIA is responsible for the planning and conduct of its procurement. It is also responsible for defining and choosing the appropriate method of procurement and contract type in accordance with the provisions of the Act and relevant Regulations. My responsibility is to report on whether the provisions of Part V of the Act regarding the Bidding Process have been complied with.

In my opinion, the provisions of Part V of the Act have been complied with as far as it appears from my examinations of the relevant records.

### ***Financial Reporting Act***

The Directors are responsible for preparing the Corporate Governance Report. My responsibility is to report on the extent of compliance with the Code of Corporate Governance as disclosed in the Annual Report and whether the disclosures are consistent with the requirements of the Code.

In my opinion, the disclosures in the Corporate Governance Report are consistent with the requirements of the Code.



**K.C.TSE YUET CHEONG (MRS)**  
Director of Audit

National Audit Office  
Level 14,  
Air Mauritius Centre  
**PORT LOUIS**

31 October 2016



Mauritius Cane Industry Authority

**FINANCIAL STATEMENTS**

**YEAR ENDED 31 DECEMBER 2015**

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## REPORT OF THE DIRECTORS

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1. The Directors have the pleasure to submit the financial statements of the Mauritius Cane Industry Authority (MCIA) for the year ended 31 December 2015.

2. State of affairs and review of activities

The Statement of profit or loss and other comprehensive income for the year ended 31 December 2015 is set on page 2 and the Statement of financial position as at that date on page 3.

The main activity of the Mauritius Cane Industry Authority, is unchanged since 31 December 2014.

- 3 Statement of Directors

The Directors state that :

- Suitable accounting policies are selected and applied consistently
- Judgements and estimates made are reasonable and prudent.
- Applicable accounting standards are followed subject to any material departures, disclosed and explained in the financial statements.
- Financial statements are prepared on the going concern basis, given the Board presumes that the Authority will continue its activities.



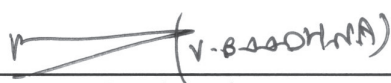
**CHAIRPERSON  
MAURITIUS CANE INDUSTRY BOARD**

**STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME**  
**FOR THE YEAR ENDED 31 DECEMBER 2015**

		31 Dec 2015	31 Dec 2014
	Notes	MUR	MUR
<b>Income</b>			
Cess	9	329,300,100	228,957,954
Grants - Co-financing from Government	9	59,000,000	52,000,000
Hire of tractors and trailers	10	98,994,179	158,371,601
Levy on sale of sugar	11	120,680,286	125,348,458
Release of funds	12	440,957,557	595,001,292
Other income	13	51,907,396	63,735,980
<b>Expenditure</b>			
Salaries and salary related expenses	14	(379,548,783)	(318,788,508)
Administrative and general expenses	15	(176,094,487)	(195,112,781)
Ex- dockers pensions	16	(116,727,656)	(104,969,291)
Depreciation of property, plant & equipment	17	(128,646,237)	(46,297,608)
Depreciation of investment property	18	(440,000)	(31,225)
Amortisation of intangible assets	19	(729,448)	(379,171)
FORIP expenses		(397,531,660)	(540,335,185)
Finance costs		(369,697)	(448,103)
Increase in retirement benefits obligations		(25,282,384)	(16,640,443)
<b>Comprehensive (deficit) / surplus for the period</b>		<b>(124,530,834)</b>	<b>412,968</b>
<b>Other comprehensive income</b>			
<i>Items that will not be reclassified to statement of profit or loss</i>			
Gain on non-current assets revaluation		233,014,537	2,045,577,553
(Loss) / Gain on investment revaluation		(263,500)	(17,000)
Actuarial losses on defined benefit pension plans		(189,682,024)	(10,680,125)
<b>Total comprehensive (deficit) / surplus for the period</b>		<b>(81,461,821)</b>	<b>2,035,293,395</b>

Approved by the Mauritius Cane Industry Board on 30 September 2016

  
Chairperson

  
Board member *aps*

The notes on pages 6 to 35 form an integral part of these financial statements.



**STATEMENT OF FINANCIAL POSITION**  
**AS AT 31 DECEMBER 2015**

	Notes	2015	2014
		<b>MUR</b>	<b>MUR</b>
<b>ASSETS</b>			
<b>Non-current assets</b>			
Property, plant and equipment	17	2,526,516,160	2,376,630,688
Investment property	18	8,360,000	8,800,000
Intangible assets	19	2,924,932	2,741,400
Investment in financial assets	20	677,500	1,961,000
Loans receivable	21	24,056,000	20,619,500
Trade receivables	22	246,303,612	239,376,398
		<b>2,808,838,204</b>	<b>2,650,128,986</b>
<b>Current assets</b>			
Inventories	23	57,641,658	59,660,669
Loans receivable	21	9,068,021	7,366,560
Trade receivables	22	87,840,961	182,214,613
Cash and cash equivalents	24	678,356,149	672,193,676
		<b>832,906,789</b>	<b>921,435,518</b>
<b>Total assets</b>		<b>3,641,744,993</b>	<b>3,571,564,503</b>
<b>EQUITY AND LIABILITIES</b>			
<b>EQUITY</b>			
Accumulated fund		(540,113,183)	(279,636,385)
Contributed capital	25	300,000,000	300,000,000
Revaluation reserve		2,246,164,935	2,095,674,092
Fair value reserve		539,750	803,250
Earmarked funds	26	659,980,765	608,356,099
Car and motorcycle loan fund	27	-	30,417,987
Car and motorcycle loan interest fund	28	48,165,738	45,640,311
<b>Total Equity</b>		<b>2,714,738,004</b>	<b>2,801,255,353</b>
<b>LIABILITIES</b>			
<b>Non-current liability</b>			
Financial liabilities	29	10,810,467	13,067,043
Provisions	30	137,458,174	71,403,462
Deferred income	31	38,255,617	76,511,233
Trade payables	32	6,037,342	1,672,400
Borrowings	33	19,783,260	20,487,772
Retirement benefits obligations	34	610,096,897	395,132,489
		<b>822,441,757</b>	<b>578,274,399</b>
<b>Current liabilities</b>			
Provisions	30	18,772,545	40,044,713
Deferred income	31	42,363,616	113,212,324
Trade payables	32	42,096,153	37,391,400
Borrowings	33	1,332,918	1,386,314
		<b>104,565,232</b>	<b>192,034,751</b>
<b>Total liabilities</b>		<b>927,006,989</b>	<b>770,309,150</b>
<b>Total Equity and Liabilities</b>		<b>3,641,744,993</b>	<b>3,571,564,503</b>

The notes on pages 6 to 35 form an integral part of these financial statements.

STATEMENT OF CHANGES IN EQUITY  
YEAR ENDED 31 DECEMBER 2015

	Contributed Capital MUR	Accumulated Fund MUR	Fair Value Reserve MUR	Revaluation Reserve MUR	Other Funds MUR	Total MUR
<b>As at 01 January 2015</b>	300,000,000	(279,636,385)	803,250	2,095,674,091	608,356,099	2,725,197,055
Vacation leave - Previous period	-	(51,541,545)	-	-	-	(51,541,545)
<b>As Restated</b>	<b>300,000,000</b>	<b>(331,177,930)</b>	<b>803,250</b>	<b>2,095,674,091</b>	<b>608,356,099</b>	<b>2,673,655,510</b>
Refund to ACP - SRP	-	(11,684,940)	-	-	-	(11,684,940)
Car Loan Fund transferred (Note 37)	-	30,417,987	-	-	-	30,417,987
Transfer - excess depreciation on revaluation	-	82,003,180	-	(82,003,180)	-	-
BSSD balances transferred	-	4,312,390	-	-	-	4,312,390
Released to Profit or loss	-	-	-	-	(402,701,940)	(402,701,940)
Received during period	-	(291,525)	-	-	454,035,081	454,035,081
Amount transferred to FORIP fund	-	-	-	-	291,525	-
Comprehensive deficit for the period	-	(124,530,835)	-	-	-	(124,530,835)
	300,000,000	(350,951,673)	803,250	2,013,670,911	659,980,765	2,623,503,253
Actuarial losses on defined benefit pension plans	-	(189,682,024)	-	-	-	(189,682,024)
Loss on investment revaluation	-	-	(263,500)	-	-	(263,500)
Non-current assets revaluation adjustments	-	520,514	-	232,494,024	-	233,014,538
<b>As at 31 December 2015</b>	<b>300,000,000</b>	<b>(540,113,183)</b>	<b>539,750</b>	<b>2,246,164,935</b>	<b>659,980,765</b>	<b>2,666,572,267</b>
<b>As at 01 January 2014</b>	300,000,000	(240,843,051)	820,250	59,744,875	606,459,362	726,181,436
Adjustment	-	-	-	-	(14,565,000)	(14,565,000)
Transfer - excess depreciation on revaluation	-	9,648,336	-	(9,648,336)	-	-
Transfer with respect to bank accounts closed	-	26,745,359	-	-	(26,745,359)	-
Transfer of cash advance 2007-2011	-	(64,919,872)	-	-	64,919,872	-
Released to Profit or loss	-	-	-	-	(552,044,805)	(552,044,805)
Received during period	-	-	-	-	480,332,829	480,332,829
Amount receivable	-	-	-	-	50,000,000	50,000,000
Amount charged against FARC fund	-	-	-	-	(800)	(800)
Comprehensive surplus for the period	-	412,968	-	-	-	412,968
	300,000,000	(268,956,260)	820,250	50,096,539	608,356,099	690,316,628
Actuarial losses on defined benefit pension plans	-	(10,680,125)	-	-	-	(10,680,125)
Loss on investment revaluation	-	-	(17,000)	-	-	(17,000)
Gain on non-current assets revaluation	-	-	-	2,045,577,552	-	2,045,577,552
<b>As at 31 December 2014</b>	<b>300,000,000</b>	<b>(279,636,385)</b>	<b>803,250</b>	<b>2,095,674,091</b>	<b>608,356,099</b>	<b>2,725,197,055</b>

The notes on pages 6 to 35 form an integral part of these financial statements.

**STATEMENT OF CASH FLOWS**  
**YEAR ENDED 31 DECEMBER 2015**

	Notes	2015	2014
		MUR	MUR
<b>Cash flows from operating activities</b>			
Cash absorbed in operations	38.1	(77,405,210)	(18,254,671)
Interest paid		(318,581)	(352,697)
<b>Net cash used in operating activities</b>		<b>(77,723,791)</b>	<b>(18,607,368)</b>
<b>Cash flows from investing activities</b>			
Capital expenditure		(34,041,690)	(9,335,505)
Disposal proceeds		365,000	1,000
Interest received		12,019,244	13,253,801
Dividend received		24,650	55,850
<b>Net cash generated from/(used in) investing activities</b>		<b>(21,632,796)</b>	<b>3,975,146</b>
<b>Cash flows from financing activities</b>			
Staff loans granted		(11,797,145)	(9,837,049)
Staff loans recovered		10,931,194	8,519,509
Accumulated interest fund - car & motorcycle loans		2,525,427	2,692,407
FORIP funds received		452,335,757	465,141,933
FORIP expenses		(397,550,070)	(541,227,563)
Deferred Cess		4,108,000	74,956,708
Funds received		1,699,325	15,190,096
Funds from BSSD		2,403,556	-
Release other earmarked funds		(5,151,872)	(10,817,244)
ACP refund for previous period		(11,684,940)	-
Repayment of loans		(1,300,172)	(1,381,240)
Contribution from MOFED - 2015 estimates		59,000,000	52,000,000
<b>Net cash flow generated from financing activities</b>		<b>105,519,060</b>	<b>55,237,557</b>
<b>Net Increase in cash and cash equivalents</b>		<b>6,162,473</b>	<b>40,605,335</b>
<b>Movement in cash and cash equivalents</b>			
		MUR	MUR
<b>As at 01 January 2015</b>		<b>672,193,676</b>	<b>631,588,341</b>
<b>Increase</b>		<b>6,162,473</b>	<b>40,605,335</b>
<b>As at 31 December 2015</b>	38.3	<b>678,356,149</b>	<b>672,193,676</b>

The notes on pages 6 to 35 form an integral part of these financial statements.

## NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2015

### 1 REPORTING ENTITY

The Mauritius Cane Industry Authority (**The Authority**) is a body corporate established under the Mauritius Cane Industry Authority Act 2011 which was proclaimed on 19 March 2012 to take over the activities of the following ex- Service Providing Institutions (SPIs)

- Mauritius Sugar Authority
- Mauritius Sugar Industry Research Institute
- Mauritius Sugar Terminal Corporation
- Farmers' Service Corporation
- Sugar Planters Mechanical Pool Corporation
- Cane Planters and Millers Arbitration and Control Board

The Authority's registered office is situated at 1, Moka Road, MSIRI Complex, Reduit.

The objectives of the Authority include:

- Monitoring, overseeing and coordinating all the activities relating to, and ensuring a fair, efficient and effective administration and operation of the cane industry.
- Promoting and supporting the sustainable development, efficiency and viability of the cane industry.
- Formulating and implementing policies, strategies, plans, programmes and schemes in relation to the cane industry.
- Promoting and facilitating the sustainable development of the cane cluster in Mauritius and in the region.
- Monitoring and coordinating the activities of the cane industry, including planting, milling, processing, transport, bulk handling and marketing.

The assets and funds of every former SPI have been vested in the Authority and all rights, obligations and liabilities subsisting in favour of or against a former SPI continued to exist under the same terms and conditions in favour or against the Authority. Consequently, the Authority has incorporated in its financial statements all the assets, liabilities and funds of the ex-SPIs which were reclassified and consolidated. Depreciation policies have been standardised to achieve consistency and uniformity in reporting.

MCIA took over the activities of BSSD Co. Ltd as from 1 January 2015. The audited financial statements of the company as at 31 March 2015 have been consolidated with those of MCIA.

### 2 REPORTING DATE AND COMPARATIVES

The financial statements cover a period of one year ending 31 December 2015.

Comparative information in respect of the preceding period covers 12 months ending 31 December 2014.

### 3 REPORTING CURRENCY

The financial statements of the Authority are presented in Mauritian rupees (MUR)

### 4 MEASUREMENT BASE

The Authority adopts International Financial Reporting Standards as appropriate for the measurement and reporting of the financial position and financial performance on an accrual basis.



## NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2015

### 5 NEW AND REVISED IFRS IN ISSUE

5.1 Below is a list of the amendments to IFRSs and the new interpretation that are mandatorily effective for accounting periods that begin on or after 1 January 2015.

- Amendments to IAS 19 Employee Benefits
- Amendments to IFRS 2 Share-based Payment
- Amendments to IFRS 3 Business Combinations
- Amendments to IFRS 8 Operating Segments
- Amendments to IFRS 13 Fair Value Measurement
- Amendments to IAS 16 Property, Plant and Equipment
- Amendments to IAS 24 Related party Disclosures
- Amendments to IAS 38 Intangible Assets
- Amendments to IFRS 1 First-time Adoption of International Financial Reporting Standards
- Amendments to IAS 40 Investment Property

Adoption of these new IFRSs has no impact on the financial statements.

5.2 New and revised IFRS that are not mandatorily effective ( but allow early application) for the year ending 31 December 2015:

- IFRS 9 Financial Instruments; which will be effective for the accounting periods beginning on or after 01 January 2018.
- IFRS 14 Regulatory Deferral Accounts; which will be effective for accounting periods beginning on or after 01 January 2016.
- IFRS 15 Revenue from Contracts with Customers; which will be effective for accounting periods beginning on or after 01 January 2018.
- Amendments to IFRS 10 and IAS 28 - Sale of Contribution of Assets between an Investor and its Associate or Joint Venture; which will be effective for accounting periods beginning on or after 01 January 2016
- Amendments to IFRS 11 - Accounting for Acquisitions of Interests in Joint Operations ; which will be effective for accounting periods beginning on or after 01 January 2016
- Amendments to IAS 16 and IAS 38 - Clarification of Acceptable Methods of Depreciation and Amortisation; which will be effective after 01 January 2016.
- Amendments to IAS 16 and IAS 41 - Agriculture: Bearer Plants; which will be effective for accounting periods beginning on or after 01 January 2016.
- Amendments to IAS 27 - Equity Method in Separate Financial Statements ; which will be effective after 01 January 2016
- Annual Improvement - 2010 - 2014 cycle ; which will be effective after 01 January 2016.
- Amendments to IFRS 10, IFRS 12 and IAS 28 - Applying the consolidation exception; which will be effective after 01 January 2016
- Amendments to IAS1 - Disclosure initiative; which will be effective after 01 January 2016.

Where relevant, the Authority is still evaluating the effect of these Standards, amendments to published Standards and Interpretations issued but not yet effective, on the presentation of its financial statements. The preparation of financial statements in conformity with the International Financial Reporting Standards requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in the process of applying the Authority's accounting policies. The areas involving a higher degree of judgement or complexity, or areas where estimates and assumptions are significant to the financial statements are disclosed in **note 8**.

### 6 SIGNIFICANT ACCOUNTING POLICIES

The principal accounting policies adopted in the preparation of these financial statements are set out below.

#### 6.1 Basis of preparation

The financial statements have been prepared on the historical cost basis except for non current assets and financial instruments that are measured at revalued amounts or fair values at the end of each reporting date.

#### 6.2 Statement of Compliance

The financial statements have been prepared in accordance with International Financial Reporting Standards.



## NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2015

### 6.3 Property, plant and equipment

Assets, liabilities and funds of all ex-SPIs have been vested into the MCIA at the commencement of the MCIA Act 2011 and transferred at their book values. Assets and liabilities of BSSD Co. Ltd have been transferred at their book values at 01 January 2015.

Non-current assets are stated at their revalued amount, based on periodic valuations, by external independent valuers, less subsequent depreciation for buildings. Any accumulated depreciation at the date of revaluation is eliminated against the gross carrying amount of the asset and the net amount is restated to the revalued amount of the asset.

All property, plant and equipment transferred are stated at their carrying amount. Historical cost includes expenditure that is directly attributable to the acquisition of the items.

Subsequent to initial recognition, property, plant and equipment are measured at fair value. Gains and losses arising from changes in the fair value of property, plant and equipment are included in other comprehensive income in the period in which they arise.

Subsequent costs are included in the assets carrying amount or recognised as a separate asset as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Authority and the cost of the item can be measured reliably.

Increases in the carrying amount arising on revaluation are credited to revaluation reserve. Decreases that offset previous increases of the same asset are charged against the revaluation reserve; all other decreases are charged to the statement of profit or loss.

Each period the difference between depreciation based on the revalued carrying amount of the asset charged to the statement of profit or loss and depreciation based on the asset's original cost is transferred from revaluation reserve to accumulated fund.

Depreciation is calculated on the straight line method to write off the cost or revalued amounts of the assets to their residual values over their estimated useful lives as follows:

	Annual rate
Buildings	2% - 20%
Plant, Machinery and Motor Vehicles	2.85% - 100%
Fixtures, Furniture and Fittings & Office Equipment	3.33% - 100%
Computer & Associated Equipment	6.67% - 50%
Laboratory Equipment	16.67% - 100%

Land is not depreciated.

Tractors are depreciated based on the number of effective hours. Tools are written off in the year of purchase.

Full provision for depreciation is made in the year of purchase and nil in the year of disposal.

The assets' residual values and useful lives are reviewed and adjusted if appropriate, at the end of each reporting period.

Where the carrying amount of an asset is greater than its estimated recoverable amount, it is written down immediately to its recoverable amount.

Gains and losses on disposal of plant and equipment are determined by comparing proceeds with carrying amount and are included in the statement of profit or loss.

### 6.4 Investment property

Investment property, which is building held to earn rentals and not occupied by the Authority, is carried at cost less impairment losses. Depreciation is calculated at 5% of the cost of the building. Subsequent to initial recognition, investment property is measured at fair value. Gains and losses arising from changes in the fair value of investment property are included in other comprehensive income in the period in which they arise.

## NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2015

### 6.5 Intangible assets

#### Computer Software

Acquired computer software licences are capitalised on the basis of costs incurred to acquire and bring to use the specific software and are amortised using the straight line method over their estimated useful lives.

Subsequent to initial recognition, computer software are measured at fair value. Gains and losses arising from changes in the fair value of computer software are included in other comprehensive income in the period in which they arise.

Costs associated with maintaining computer software are recognised as an expense as incurred.

### 6.6 Inventories

Inventories are valued at the lower of cost and net realisable value.

### 6.7 Financial instruments

#### 6.7.1 Financial assets

The Authority classifies its financial assets as loans and receivables and available-for-sale financial assets. Management determines the classification of its financial assets at initial recognition.

##### (i) *Loans and receivables*

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They arise when the Authority provides money, goods or services directly to a debtor with no intention of trading the receivable. They are included in current assets when maturity is within twelve months after the end of the reporting period or non-current assets for maturities greater than twelve months.

##### (ii) *Available-for-sale financial assets*

Available for sale financial assets are non-derivatives that are either designated in this category or not classified in any of the other categories. They are included in non-current assets unless Management intends to dispose of the investment within twelve months of the end of the reporting period.

Purchases and sales of financial assets are recognised on trade-date, the date on which the Authority commits to purchase or sell the asset. Investments are initially measured at fair value plus transaction costs for all financial assets.

Financial assets are derecognised when the rights to receive cash flows from the investments have expired or have been transferred and the Authority has transferred substantially all risks and rewards of ownership.

Available-for-sale financial assets are subsequently carried at cost.

Investments in equity instruments that do not have a quoted market price in an active market and whose fair value cannot be reliably measured are measured at cost.

The Authority assesses at the end of each reporting period whether there is objective evidence that a financial asset or a group of financial assets is impaired. In the case of financial assets classified as available-for-sale, a significant or prolonged decline in the fair value of the security below its cost is considered in determining whether the securities are impaired.

## NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2015

If any such evidence exists for available-for-sale financial assets, the cumulative loss, measured as the difference between acquisition cost and the current fair value, less any impairment loss on that financial asset previously recognised in profit or loss is removed from equity and recognised in the statement of profit or loss.

### (iii) *Long term receivables*

Long term receivables with fixed maturity terms are measured at amortised cost using the effective interest rate method, less provision for impairment. The carrying amount of the asset is reduced by the difference between the asset's carrying amount and the present value of estimated cash flows discounted using the effective interest rate. The amount of loss is recognised in the statement of profit or loss. Long term receivables without fixed maturity terms are measured at cost.

If there is objective evidence that an impairment loss has been incurred, the amount of impairment loss is measured as the difference between the carrying amount of the asset and the present value of estimated cash flows discounted at the current market rate of return of similar financial assets.

### (iv) *Other receivables*

Other receivables are recognised initially at fair value and subsequently measured at amortised cost using the effective interest method, less provision for impairment. A provision for impairment of other receivables is established when there is objective evidence that the Authority will not be able to collect all amounts due according to the original terms of receivables.

The amount of the provision is the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted at the effective interest rate. The amount of provision is recognised in the statement of profit or loss.

## 6.7.2 Financial liabilities

Financial liabilities are classified as borrowings, payables and other financial liabilities.

### (i) *Borrowings*

Borrowings are recognised initially at fair value being their issue proceeds net of transaction costs incurred.

Borrowings, except bank overdraft, are classified as current liabilities unless the Authority has an unconditional right to defer settlement of the liability for at least twelve months after reporting date.

### (ii) *Other payables*

Other payables are stated at their fair value and subsequently measured at amortised cost using the effective interest method.

### (iii) *Other Financial Liabilities*

They are recognised at fair value, net of any assets provided as guarantee to the financial institution issuing the loans.

Other financial liabilities are offset with financial assets to the extent that the liabilities and the assets are linked. Full disclosures of the gross amount used in the offsetting model are made below (note 29).



## NOTES TO THE FINANCIAL STATEMENTS

### YEAR ENDED 31 DECEMBER 2015

#### 6.7.3 Cash and Cash Equivalents

Cash and cash equivalents include cash in hand, cash at bank, bank overdrafts and deposits.

#### 6.7.4 Retirement benefit obligations

##### (i) *Defined benefit plans*

A defined benefit plan is a pension plan that defines an amount of pension benefit that an employee will receive on retirement, usually dependent on one or more factors such as age, years of service and compensation.

The Authority contributes to a defined benefit plan for its employees. The cost of providing benefits is determined and the regular cost is spread over the service lives of employees in accordance with the advice of qualified actuaries who carry out a full valuation of plans every year using the Projected Unit Method.

The retirement benefit obligation recognised in the statement of financial position represents the present value of the defined benefit obligation as adjusted for unrecognised actuarial gains and losses and unrecognised past service cost, and as reduced by the fair value of plan assets.

##### (ii) *Gratuity on retirement*

For employees who are not covered by the above pension plan, the net present value of gratuity on retirement payable is calculated by qualified actuaries and provided for. The obligations arising under this item are not funded.

#### 6.8 Impairment of assets

At each reporting date, the Authority reviews the carrying amounts of its assets to determine whether there is any indication that those assets have suffered an impairment loss. An impairment loss is recognised for the amount by which the carrying amount of the asset exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash-generating units).

#### 6.9 Revenue recognition

Revenue is measured at the fair value of the consideration received or receivable.

Revenues earned by the Authority are recognised on the following bases:

- Cess - Cess on sugar proceeds, receivable from the Mauritius Sugar Syndicate, is accounted for in the same accounting period in which the related expenditure is incurred ie accounted on a financial year basis rather than crop year basis.
- Grant - Grant from the Mauritius Sugar Syndicate to finance BSSD expenditure, is accounted for in the same accounting period in which the related expenditure is incurred.
- Hire of equipment - Upon completion of work at the invoiced value for hire of equipment. No value added tax is charged.
- Levy on sale of sugar - When imported & locally produced sugar is delivered for sale on the local market.
- Sales of cane and foodcrops - When goods are delivered and title has passed.
- Interest income - On a time-proportion basis using the effective interest method.
- Dividend income - When the Authority's right to receive payment is established.
- Cash advance to and contribution from planters - When it is probable that economic benefits will flow to the Authority.

## NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2015

### 6.10 Deferred Income

Deferred income of ex-SPIs incorporated in the financial statements of the Authority is credited to the statement of profit or loss equally over five reporting periods. Other deferred income is released to the statement of profit or loss in the year of related expenditure.

### 6.11 Specific Funds Investments

Specific funds investments are held with respect to funds received to carry out specific projects and included under cash and cash equivalent. Amounts disbursed on the projects are debited to the fund and released to the statement of profit or loss when expenses are incurred.

### 6.12 Provisions

Provisions are recognised when the Authority has a present or constructive obligation as a result of past events and when it is probable that an outflow of resources that can be reliably estimated will be required to settle the obligation.

## 7 FINANCIAL RISK MANAGEMENT

### 7.1 Financial Risk Factors

The Authority's activities expose it to a variety of financial risks.

#### 7.1.1 Market risk

##### (i) Currency risk

The Authority has limited exposure in respect of foreign currency risk.

##### (ii) Price risk

The Authority holds an investment of only MUR 677 500 ( at fair value on 31 December 2015) in equities and no investment in bonds or other securities. Accordingly, it has minimal exposure to price risk.

##### (iii) Credit risk

The Authority has limited concentration of credit risk, and has policies in place requiring loan refund to be deducted directly from employees' salary. A 'gage sans déplacement' is created in favour of the Authority on vehicles acquired through MCIA loans.

##### (iv) Liquidity risk

The Authority manages its liquidity risk by maintaining sufficient cash and also by ensuring the availability of funds through committed credit facilities.

The table below analyses the Authority's financial liabilities into relevant maturity groupings based on the remaining period at the end of the reporting period to the contractual maturity date.



## NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2015

	Due within 12 months	Due after 1 year	Total
	MUR	MUR	MUR
<b><u>At 31 December 2015</u></b>			
Borrowings	1,332,918	19,783,260	21,116,178
Trade Payables	42,096,153	6,037,342	48,133,495
	<b>43,429,071</b>	<b>25,820,602</b>	<b>69,249,673</b>
<b><u>At 31 December 2014</u></b>			
	MUR	MUR	MUR
Borrowings	1,386,314	20,487,772	21,874,086
Trade Payables	37,391,400	1,672,400	39,063,800
	<b>38,777,714</b>	<b>22,160,172</b>	<b>60,937,886</b>

**(v) Cash flow and fair value interest rate risk**

As the Authority has no investment in significant interest-bearing assets, the Authority's income and operating cash flows are substantially independent of changes in market interest rates.

### 7.2 Fair value estimation

The nominal value less estimated credit adjustments of other receivables and payables are assumed to approximate their fair values.

### 7.3 Capital risk management

The Authority manages its capital to ensure that it will be able to continue as a going concern. Its overall strategy remained unchanged from 31 December 2014. The capital structure of the Authority consists of accumulated fund, revaluation reserve and other funds and reserves.

## 8 CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

Estimates and judgements are continuously evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

### 8.1 Critical accounting estimates and assumptions

The Authority makes estimates and assumptions concerning the future. The resulting accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below.

## NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2015

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### 8.2 Impairment of available-for-sale financial assets

The Authority follows the guidance of IAS 39 on determining when an investment is other-than-temporarily impaired. This determination requires significant judgement. In making this judgement, the Authority evaluates, among other factors, the duration and extent to which the fair value of an investment is less than its cost, and the financial health of and near-term business outlook for the investee, including factors such as industry and sector performance, changes in technology and operational and financing cash flow.

### 8.3 Pension benefits

The present value of the pension obligations depend on a number of factors that are determined on an actuarial basis using a number of assumptions. The assumptions used in determining the net cost (income) for pensions include the discount rate. Any changes in these assumptions will impact the carrying amount of pension obligations.

The Authority determines the appropriate discount rate at the end of each year. This is the interest rate that should be used to determine the present value of estimated future cash outflows expected to be required to settle the pension obligations. In determining the appropriate discount rate, the Authority considers the interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and that have terms to maturity approximating the terms of the related pension obligation.

### 8.4 Revaluation of property, plant and equipment

The Authority measures property, plant and equipment, investment property and intangible assets at revalued amounts with changes in fair value being recognised in other comprehensive income. Independent valuation specialists were engaged to determine fair values.

### 8.5 Asset lives and residual values

Property, plant and equipment are depreciated over its useful life taking into account residual values, where appropriate. The actual lives of the assets and residual values are assessed annually and may vary depending on a number of factors in reassessing asset lives, factors such as technological innovation, product life cycles and maintenance programmes are taken into account. Residual value assessments consider issues such as future market conditions, the remaining life of the asset and projected disposal values. Consideration is also given to the extent of current profits and losses on the disposal of similar assets.

### 8.6 Depreciation policies

Property, plant and equipment are depreciated to their residual values over their estimated useful lives. The residual value of an asset is the estimated net amount that the Authority would currently obtain from disposal of the asset, if the asset was already of the age and in condition expected at the end of its useful life.

The directors therefore make estimates based on historical experience and use best judgement to assess the useful lives of assets and to forecast the expected residual values of the assets at the end of their expected useful lives.

## NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2015

### 9 CESS AND GRANTS

9.1 Cess is levied at the rate of 4% of sugar proceeds at ex MSS price.

Cess money is recognised when there is reasonable assurance that the cess will be received and all attaching conditions will be complied with.

Government grants are received to finance the Authority's operating deficit.

All conditions relating to the Government grants are fulfilled.

#### 9.2 (i) MSS - Cess on sugar proceeds

	MUR	2015 MUR	2014 MUR
Cess released from deferred income			
- Crop 2014 (note 31)		74,956,708	
Cess received during period			
- Crop 2014	29,925,287		
- Crop 2015	100,000,000		
		129,925,287	303,914,661
Cess deferred to future period			
- Crop 2015		(4,108,000)	(74,956,707)
		200,773,995	228,957,954
(ii) MOFED- Contribution towards 2015 Estimates		59,000,000	52,000,000
(iii) MOA - Contribution towards Mauritius Herbarium		296,105	-
(iv) MSS - Grant to finance BSSD expenditure		128,230,000	-
<b>TOTAL</b>		<b>388,300,100</b>	<b>280,957,954</b>

#### 9.3 OTHERS

##### (i) Harvest Logistics

An amount of MUR 7,000,000 was disbursed by the Ministry of Agro-Industry to MCIA to carry out a study on sugar cane harvest logistics. The grant is fully refundable to the Ministry in the event that the study is not conducted.

	MUR
Amount received	7,000,000
Amount paid	-
Amount payable	7,000,000

##### (ii) LMC International Ltd

MUR 5,516,695 was received from the Ministry of Agro- Industry, representing 80% of contract value to LMC International Ltd for consultancy services to assess the economic, social and environmental impact in Mauritius of abolition of internal quotas of sugar in EU market . As at 31 December 2015, MUR 811,263 is due by the Ministry of Agro-Industry to MCIA.

	MUR
Amount received	5,516,695
Amount paid	(6,327,958)
Amount receivable	(811,263)

## NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2015

### 10 HIRE OF TRACTORS AND TRAILERS

	2015 MUR	2014 MUR
Hire of tractors	97,534,829	156,494,776
Hire of trailers	1,459,350	1,876,825
	<b>98,994,179</b>	<b>158,371,601</b>

### 11 LEVY ON SALE OF SUGAR

A contribution of MUR 3.70 per kg of sugar is levied on the sale of imported sugar on the local market to meet pensions payable to ex-dockers from ex-MSTC.

Levy earned during the period:

	2015 MUR	2014 MUR
- Received	115,635,957	119,605,462
- Receivable	5,044,329	5,742,996
	<b>120,680,286</b>	<b>125,348,458</b>

### 12 RELEASE OF FUNDS

	2015 MUR	2014 MUR
Release with respect to:		
- Deferred income (note 31)	38,255,616	43,479,918
- FORIP expenses	397,550,070	540,704,132
- VRS fund	955	830
- Other funds	5,150,916	10,816,412
	<b>440,957,557</b>	<b>595,001,292</b>

### 13 OTHER INCOME

#### 13.1 Other income consists of:

	2015 MUR	2014 MUR
Interest & dividend received	14,710,064	17,500,529
Profit on disposal	365,000	136,716
Sale of cane	2,774,333	3,697,447
Interest on car/motor cycles Loans	165,771	145,544
Rent received	10,320,233	10,995,350
Analytical & agronomic services	2,877,962	7,898,880
Anchorage dues	249,774	406,239
Berthing dues	660,000	600,000
Rent of warehouse for special sugar	6,341,300	6,342,500
Amounts written back	2,254,138	1,502,773
Sale of rocks	542,063	2,622,375
Exchange gain	1,481,682	1,951,656
Sale of varieties / Royalties	1,135,304	2,430,907
Stale cheques written back	118,227	1,111,065
Air Pollution Monitoring	5,094,500	1,243,000
Rental of sugar boxes	-	811,266
Miscellaneous	2,817,045	4,339,733
	<b>51,907,396</b>	<b>63,735,980</b>

## NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2015

### 13.2 Miscellaneous income includes:

	2015 MUR	2014 MUR
OHDS - Loading & Uploading	766,500	479,874
SICOM - refund for damages & accidents	24,559	946,352
Accountant General - rental hall	11,975	60,450
Revenue for recycled oil	17,000	27,500
Refund for tractor repairs	40,529	60,923
DBM - SPES decrease in liabilities	1,300,775	2,114,004
AUF - refunds	-	57,655
CEB - refunds	-	382,964
Others	655,707	210,011
	<b>2,817,045</b>	<b>4,339,733</b>

### 14 SALARY AND SALARY RELATED EXPENSES

	2015 MUR	2014 MUR
Salaries & wages	275,296,606	206,830,692
Travelling	28,610,079	26,706,908
Uniforms	1,663,895	882,525
Pension - Ex-MSIRI	1,142,657	1,172,887
Pension contribution - SICOM	15,749,206	16,990,986
Pension contribution - MSIRI Pension Fund	9,429,566	6,324,155
Pension contribution - AMAS	263,814	256,067
National Savings Fund	2,833,516	2,148,180
National Pension Scheme	4,253,492	2,888,707
Family Protection Scheme	1,941,228	1,766,090
Civil service FPS	78,421	95,958
IVTB contribution	1,344,725	766,392
Sick leave	6,923,883	6,286,920
Vacation leave & retirement gratuity	2,824,064	2,008,293
Passage benefits	6,487,476	8,567,994
Increase in provision	1,390,804	31,824,211
Insurance of employees	5,661,002	596,600
Medical expenses	6,954,349	2,674,943
Compensation and damages	6,700,000	-
	<b>379,548,783</b>	<b>318,788,508</b>



## NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2015

### 15 ADMINISTRATIVE AND GENERAL EXPENSES

	2015	2014
	MUR	MUR
Audit Fees	400,000	517,500
Board & Committee Fees	1,257,329	1,660,419
Consultancy Fees	1,899,856	393,735
Legal & Professional Fees	1,726,335	345,675
Subscriptions	83,640	298,010
Cleaning	1,009,783	918,879
Maintenance & Repairs	4,148,169	4,349,727
Security	6,159,997	6,817,490
Tools & Spare Parts	6,261,644	18,953
Computer Maintenance	377,736	489,390
Outsourcing of IT & Remote Connection	1,310,969	945,493
Computer Supplies	730,685	550,800
Software licences	69,874	483,920
Field Experimentation Expenses	46,717	324,236
Other Office Expenses	455,409	1,044,470
Welfare	684,229	453,382
Advertisement	394,737	240,032
Maintenance of Office Equipment	284,279	445,152
Printing , Photocopy , Postage and Stationery	4,060	931,855
Health & Safety	1,408,021	563,400
Missions	295,714	199,641
Publications	75,175	205,645
Rent	11,406,603	7,234,148
Rates	1,558,896	1,560,796
Electricity	11,573,888	10,705,656
Water	1,882,467	1,629,291
Telephone , Internet & E-Mails	2,403,451	1,993,252
Research & Development	9,743,918	16,798,904
Running Expenses - Tractors & Cranes	90,723,248	108,231,465
Running Expenses - Other Vehicles	7,127,811	7,954,493
Training	190,390	426,613
Increase In Provision	1,714,492	1,669,000
Assets Written Off	1,088,772	-
Insurance of Building and Equipment	1,554,198	3,437,585
Other Funds Expenses	5,150,916	10,816,312
Air Pollution Monitoring Expenses	891,079	457,461
	<b>176,094,487</b>	<b>195,112,781</b>

MUR 11,684,940 representing a refund to ACP-SRP is charged against opening Accumulated Fund.

## NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2015

### 16 EX-DOCKERS PENSIONS

- (i) The Authority has a legal obligation to provide and pay pension to ex-dockers who became redundant as a result of the coming into operation of the Bulk Sugar Terminal in 1980. The pension is currently funded by a contribution levied on sale of imported sugar on the local market.

Pension cost and the number of pensioners for the past years are as follows:

Financial Year	No. of Pensioners	As at	MUR
2004/05	2277	Dec-04	77,594,665
2005/06	2247	Dec-05	82,595,731
2006/07	2186	Dec-06	82,448,588
2007/08	2149	Dec-07	86,914,478
2008/09	2107	Dec-08	90,556,365
2009/10	2065	Dec-09	141,846,047 **
2011	1997	Dec-10	92,132,395
2012	1960	Dec-11	97,982,123
2013	1910	Dec-12	102,167,493
2014	1860	Dec-13	104,969,291
2015	1789	Dec-14	116,727,656

\*\* For 18 months from 1 July 2009 to 31 December 2010

- (ii) Charge to Statement of profit or loss is made up of the following:

	2015 MUR	2014 MUR
Paid during the period	115,667,183	104,716,768
Add Pension due at end	4,789,942	3,729,469
	120,457,125	108,446,237
Less Pension due at start	(3,729,469)	(3,476,946)
	116,727,656	104,969,291

NOTES TO THE FINANCIAL STATEMENTS  
YEAR ENDED 31 DECEMBER 2015

17 PROPERTY, PLANT AND EQUIPMENT

17.1

COST OR VALUATION

As at 01 January 2015

Revaluation adjustment

Additions

Disposal

As at 31 December 2015

DEPRECIATION

As at 01 January 2015

Charge for the Year

Disposal

As at 31 December 2015

NET BOOK VALUE

As at 31 December 2015

As at 31 December 2014

	LAND & BUILDINGS		PLANT, MACHINERY & VEHICLES		FFF & OFFICE EQUIPMENT		COMPUTER & ASSOCIATED EQUIPMENT		LABORATORY EQUIPMENT		TOTAL	
	MUR		MUR		MUR		MUR		MUR		MUR	
	1,754,464,000		602,193,678		5,346,760		1,898,250		12,728,000		2,376,630,688	
	178,825,000		60,905,200		519,700		262,400		-		240,512,300	
	-		35,546,671		742,939		1,691,799		38,000		38,019,409	
	-		-		-		-		-		-	
	1,933,289,000		698,645,549		6,609,399		3,852,449		12,766,000		2,655,162,397	
	57,837,089		65,164,842		1,202,521		853,713		3,588,072		128,646,237	
	-		-		-		-		-		-	
	57,837,089		65,164,842		1,202,521		853,713		3,588,072		128,646,237	
	1,875,451,911		633,480,707		5,406,878		2,998,736		9,177,928		2,526,516,160	
	1,754,464,000		602,193,678		5,346,760		1,898,250		12,728,000		2,376,630,688	

## NOTES TO THE FINANCIAL STATEMENTS

### YEAR ENDED 31 DECEMBER 2015

- 17.2** Property, plant and equipment, investment property and intangible assets of the Authority have been revalued at 31 December 2014 by BDO & Co. , Chartered Accountants. BDO & Co. hired the services of Mr. Vyas S. Ramphul, MRICS, Chartered Valuation Surveyor at Broll Indian Ocean.
- The income capitalisation approach has been used as basis for valuing investment property, sales comparison approach and depreciated replacement cost basis for land and buildings and for plant, machinery and motor vehicles.

The revaluation surplus was credited to revaluation reserve. Total revaluation surplus arising on revaluation of property, plant & equipment and intangible assets of BSSD amounted to MUR 233,014,537.

- 17.3** If the property, plant and equipment were stated on a historical cost basis, the amounts would be as follows:

	2015 MUR	2014 MUR
Cost	1,549,730,687	1,511,842,953
Accumulated depreciation	(1,218,452,976)	(1,171,068,487)
Net book value	331,277,711	340,774,466

## 18 INVESTMENT PROPERTY

### 18.1 COST OR VALUATION

#### As at 01 January 2015

Additions

Revaluation adjustment

#### As at 31 December 2015

#### DEPRECIATION

#### As at 01 January 2015

Charge for the year

Revaluation adjustment

#### As at 31 December 2015

#### NET BOOK VALUE

#### As at 31 December 2015

	2015 MUR	2014 MUR
	8,800,000	1,561,251
	-	-
	-	7,238,749
	8,800,000	8,800,000
	-	1,014,814
	440,000	31,225
	-	(1,046,039)
	440,000	-
	8,360,000	8,800,000

If the investment property was stated on a historical cost basis, the amounts would be as follows:

	2015 MUR	2014 MUR
Cost	1,561,251	1,561,251
Accumulated depreciation	(1,077,264)	(1,046,039)
Net book value	483,987	515,212

- 18.2** The following have been recognised in the statement of profit or loss:

	2015 MUR	2014 MUR
Rental income	300,000	300,000
Direct operating expenses arising from investment property that generates rental income	-	(127,305)

## NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2015

### 19 INTANGIBLE ASSETS

Computer software

COST OR VALUATION

As at 01 January 2015

Additions

Revaluation adjustment

As at 31 December 2015

DEPRECIATION

As at 01 January 2015

Charge for the year

Revaluation adjustment

As at 31 December 2015

NET BOOK VALUES

As at 31 December 2015

2015	2014
MUR	MUR
2,741,400	10,740,923
676,580	1,145,960
236,400	(9,145,483)
3,654,380	2,741,400
-	10,202,855
729,448	379,171
-	(10,582,026)
729,448	-
2,924,932	2,741,400

If the intangible assets were stated on a historical cost basis, the amounts would be as follows:

Cost

Accumulated depreciation

Net book value

2015	2014
MUR	MUR
12,563,463	11,886,883
(10,978,817)	(10,582,026)
1,584,646	1,304,857

### 20 INVESTMENT IN FINANCIAL ASSETS

Investment represents .

- 74,000 shares in Sugar Investment Trust

- 850 000 ordinary shares in SBM Ltd

Fair Value

SIT

BSSD Co. Ltd

SBM Ltd

Cost

Available-for-sale financial assets

At 31 December 2015

2015	2014
MUR	MUR
74,000	74,000
-	1,020,000
603,500	867,000
677,500	1,961,000
222,750	1,242,750

BSSD Co. Ltd was set up to provide services to sugar factories with respect to bagging and storage of sugar.

Its cost of operations is financed by the Mauritius Sugar Syndicate. It makes no profit.

Ex - MSTC held 200 shares and State Investment Corporation Ltd ( SIC Ltd) 120 shares out of 400.

The remaining 80 shares are unallotted. In February 2014, MCIA purchased the 120 shares from SIC Ltd bringing its total shareholding to 80% of the authorised share capital of BSSD Co. Ltd.

Investment in BSSD Co. Ltd did not fall within the definition of IFRS 10 as MCIA does not have exposure, or rights, to variable returns from its involvement with BSSD Co. Ltd and the ability to use its power over the company to affect the amount of its returns.



## NOTES TO THE FINANCIAL STATEMENTS

### YEAR ENDED 31 DECEMBER 2015

In August 2014, Cabinet decided to transfer the operations of BSSD Co. Ltd to MCIA .

BSSD Co. Ltd applied for removal from the register of Registrar of Companies, At 31 December 2014. The procedures have been completed in early 2015. BSSD operated under the aegis of MCIA as from January 2015.

#### 21 LOANS RECEIVABLE

	2015 MUR	2014 MUR
Staff loans	33,124,021	27,986,060
<b>analysed as follows:</b>		
- Current	9,068,021	7,366,560
- Non-current	24,056,000	20,619,500
	<b>33,124,021</b>	<b>27,986,060</b>

Loans are issued to employees at 4% to 8% interest per annum and are refundable over a period of five to seven years.

A 'gage sans déplacement' is created in favour of the Authority on vehicles acquired.

#### 22 TRADE RECEIVABLE

##### 22.1

	2015 MUR	2014 MUR
Receivables	325,431,960	418,404,607
Prepayments	8,712,613	3,186,404
	<b>334,144,573</b>	<b>421,591,011</b>
<b>analysed as follows:</b>		
	<b>MUR</b>	<b>MUR</b>
Current	87,840,961	182,214,613
Non Current	246,303,612	239,376,398
	<b>334,144,573</b>	<b>421,591,011</b>

##### 22.2 Receivables consist of:

Planters - Hire of tractors	56,876,185	171,103,362
Planters funds	29,589,930	32,589,930
Cash advance to planters	205,662,582	135,449,885
MSS - Levy on sale of sugar	5,044,328	5,742,996
MSS - Warehouse for special sugar	9,511,950	3,170,650
Analytical & Agronomic Services	6,498,194	11,661,418
Interest & dividend	2,690,821	4,184,078
ACP & WIKWIO	2,912,162	372,691
Air Pollution Monitoring Unit	2,216,500	1,173,000
MSIRI Employees	898,188	-
Rodrigues Assembly	780,590	-
Ministry of Agro-Industry	811,263	-
A.Dip- sale of rocks	-	567,000
MOFED- Forip funds	-	50,000,000
Others	1,939,267	2,389,597
	<b>325,431,960</b>	<b>418,404,607</b>

## NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2015

- 22.3** The carrying amount of receivables approximate their fair value. Receivables do not contain impaired assets. The maximum exposure to credit risk at the reporting date is the fair value of each class of receivable mentioned above.

### 23 INVENTORIES

Cost of spare parts and consumables

SSHU  
AMU  
MSIRI

2015	2014
MUR	MUR
30,134,039	34,423,825
27,319,440	24,954,215
188,179	282,629
<b>57,641,658</b>	<b>59,660,669</b>

Inventories are valued at the lower of cost and net realisable value.

Net realisable value is estimated to approximate cost of inventories.

The recoverable amount of the inventories is estimated to be not less than their carrying amount. No impairment loss is noted.

### 24 CASH AND CASH EQUIVALENT

- Deposits with MSS
- Deposits with NCB Ltd
- Deposits with MPCB Ltd
- Bank account with MPCB Ltd
- Bank account with SBM Ltd- FORIP
- Other bank balances
- Cash

2015	2014
MUR	MUR
181,200,000	181,200,000
273,500,000	-
-	100,000,000
<b>454,700,000</b>	<b>281,200,000</b>
17,504,131	173,500,000
20,345,880	(14,857,902)
<b>492,550,011</b>	<b>439,842,098</b>
185,697,216	232,262,541
108,922	89,037
<b>678,356,149</b>	<b>672,193,676</b>

The effective rate of interest on bank overdrafts at the reporting date is 7 %.

### 25 CONTRIBUTED CAPITAL

The initial capital of ex-Mauritius Sugar Terminal Corporation is MUR 300M, made up as follows:

- Proceeds from cess levied on the sugar crop for years 1974 and 1975
- Interest accrued on amount of cess levied above
- Contribution by Government

MUR
109,440,675
17,077,540
173,481,785
<b>300,000,000</b>

## NOTES TO THE FINANCIAL STATEMENTS

### YEAR ENDED 31 DECEMBER 2015

#### 26 EARMARKED FUNDS

##### 26.1 MOVEMENT IN EARMARKED FUNDS

	Opening MUR	Transfer in MUR	Transfer out MUR	Closing MUR
<b>VRS FUND</b>	173,755,171	-	955	173,754,216
<b>FORIP FUND</b>	170,591,983	452,627,282	397,550,070	225,669,195
<b>PLANTERS FUND</b>				
Constance	28,615,608	-	-	28,615,608
Bel Ombre	24,004,459	-	-	24,004,459
Rose Belle	25,810,061	-	-	25,810,061
Highlands	25,385,179	-	-	25,385,179
Britannia	24,669,795	-	-	24,669,795
Mon Desert Alma	14,978,131	-	-	14,978,131
St Felix	12,695,185	-	-	12,695,185
MTMD	21,795,882	-	-	21,795,882
Riche En Eau	12,695,185	-	-	12,695,185
Union St Aubin	15,000,000	-	-	15,000,000
Mon Loisir	15,000,000	-	-	15,000,000
DRBC	15,000,000	-	-	15,000,000
	235,649,485	-	-	235,649,485
<b>OTHER FUNDS</b>				
Housing Scheme for S.E Workers fund	947,264	-	210,000	737,264
Sponsorship of University Students fund	585,000	-	-	585,000
Modernisation Fund for Trade Union	1,539,401	-	965,716	573,685
Bois Cheri Tea Camps fund	32,667	-	-	32,667
Northern Plains Irrigation Project fund	1,036,280	-	-	1,036,280
Phasing out of sugar camps fund	18,247,949	-	3,769,588	14,478,361
Flora fund	1,111,169	-	-	1,111,169
Flora Fascicles fund	2,099,605	63,919	-	2,163,524
MRC fund	52,053	142,500	168,660	25,893
SABRN fund	950,936	-	-	950,936
SOPEX fund	1,757,136	1,492,906	36,952	3,213,089
	28,359,460	1,699,325	5,150,916	24,907,868
<b>TOTAL</b>	<b>608,356,099</b>	<b>454,326,607</b>	<b>402,701,941</b>	<b>659,980,765</b>

During the year MCIA has received MUR 452M to finance the FORIP Scheme.

## 26.2 PLANTERS FUND

26

Gross Planters Fund		Planters Fund Debtors				Net Planters Fund
	31 December 2015		Increase	Decrease	31 December 2015	31 December 2015
	MUR		MUR	MUR	MUR	MUR
Constance	28,615,608	-	-	-	-	28,615,608
Bel Ombre	24,004,459	5,589,930	-	-	5,589,930	18,414,529
Rose Belle	25,810,061	-	-	-	-	25,810,061
Highlands	25,385,179	-	-	-	-	25,385,179
Britannia	24,669,795	-	-	-	-	24,669,795
Mon Desert Alma	14,978,131	-	-	-	-	14,978,131
St Felix	12,695,185	-	-	-	-	12,695,185
MTMD	21,795,882	-	-	-	-	21,795,882
Riche En Eau	12,695,185	-	-	-	-	12,695,185
Union St Aubin	15,000,000	6,000,000	-	-	6,000,000	9,000,000
Mon Loisir	15,000,000	9,000,000	-	3,000,000	6,000,000	9,000,000
DRBC	15,000,000	12,000,000	-	-	12,000,000	3,000,000
	<b>235,649,485</b>	<b>32,589,930</b>	<b>-</b>	<b>3,000,000</b>	<b>29,589,930</b>	<b>206,059,555</b>

## NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2015

### 27 CAR AND MOTORCYCLE LOAN FUND

	2015 MUR	2014 MUR
As at 31 December 2015	-	30,417,987

The car loan fund represented funds received from ex-MSA to be used for the granting of loans to employees of MSIRI. The fund balance has been transferred to Accumulated Fund.

### 28 CAR AND MOTORCYCLE LOAN INTEREST FUND

The fund represents mainly the interest element on car and motorcycle loans to employees.

	2015 MUR	2014 MUR
As at 01 January 2015	45,640,311	42,947,903
Interest on car and motorcycle loans	1,838,780	1,604,247
Bank interest	686,647	1,088,161
As at 31 December 2015	48,165,738	45,640,311

### 29 FINANCIAL LIABILITIES

Under the Small Planters Efficiency Scheme ( SPES ), ex-MSA signed an agreement with Development Bank of Mauritius Ltd (DBM Ltd) in May 1991. Ex-MSA guaranteed DBM Ltd the repayment of loans granted to planters under the SPES . For that purpose, a savings account is held by ex-MSA with DBM Ltd

ex-MSA guaranteed DBM Ltd the repayment of all instalments of principal and interests of any loans granted by DBM Ltd from its own funds, remaining unpaid together with legal costs and other charges for recovery, if any. There exists a right of set off between the savings account and the loans granted by DBM Ltd under the SPES.

The financial asset is offset with the financial liabilities.

	2015 MUR	2014 MUR
Gross financial liabilities	37,715,813	39,016,589
Financial assets set-off	(26,905,346)	(25,949,546)
Net financial liabilities	10,810,467	13,067,043



### 30 PROVISIONS

Provisions are recognised when the Authority has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation, and a reliable estimate of the amount can be made.

Provisions are reviewed at each reporting date and are adjusted to reflect the current best estimate.

Employees entitlement to bank of sick leave and vacation leave as defined in the PRB 2013 Report are recognised as and when they accrue to employees. An accrual is made for the estimated liability for bank of sick leave and vacation leave. Provision for vacation leave now recognised is charged against opening Accumulated Fund.

Salary increase for employees of Ex MSA who have chosen to retain their present terms and conditions of employment and not to adhere to the recommendations of the PRB 2013 Report is provided for in anticipation of the revision of salary with effect from January 2013, after payment of an interim increase.

All provisions made are present obligations of uncertain timing or amount.

Movement in provisions is shown below.

	Sick Leave	Passage Benefit	Vacation Leave	Salary Increase	Rental & Other Services	Legal Cost	TOTAL
	MUR	MUR	MUR	MUR	MUR	MUR	MUR
<b>Balance as at 01 January 2015</b>	<b>54,837,230</b>	<b>24,316,947</b>	<b>3,257,149</b>	<b>26,288,849</b>	<b>-</b>	<b>2,748,000</b>	<b>111,448,175</b>
Earned	6,078,835	6,487,476	2,824,064	8,390,479	-	-	23,780,853
Accumulated Fund ***	-	-	51,541,545	-	-	-	51,541,545
Increased / (Decreased)	10,517,725	2,160,296	29,622	(7,198,174)	2,258,492	(544,000)	7,223,961
Paid	(4,885,735)	(6,895,395)	(576,129)	(25,406,556)	-	-	(37,763,815)
<b>Balance as at 31 December 2015</b>	<b>66,548,055</b>	<b>26,069,323</b>	<b>57,076,251</b>	<b>2,074,598</b>	<b>2,258,492</b>	<b>2,204,000</b>	<b>156,230,719</b>
<i>analysed as follows:</i>							
Current	6,078,835	7,500,000	645,620	2,074,598	2,258,492	215,000	18,772,545
Non-Current	60,469,220	18,569,323	56,430,631	-	-	1,989,000	137,458,174
	<b>66,548,055</b>	<b>26,069,323</b>	<b>57,076,251</b>	<b>2,074,598</b>	<b>2,258,492</b>	<b>2,204,000</b>	<b>156,230,719</b>

\*\*\* MUR 51,541,545 representing provision for vacation leave now recognised, is charged against opening Accumulated Fund and MUR 29,622 to Statement of Profit or Loss.

## NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2015

### 31 DEFERRED INCOME

	2015	2014
	MUR	MUR
<b>At 01 January 2015</b>	<b>189,723,557</b>	158,246,767
Received during period	4,108,000	74,956,708
Less : Amount transferred to statement of profit or loss		
- Cess and Grants (note 9)	(74,956,708)	-
- Release of Funds (note 12)	(38,255,616)	(43,479,918)
<b>At 31 December 2015</b>	<b>80,619,233</b>	189,723,557
<b>analysed as follows:</b>		
	MUR	MUR
- Current	42,363,617	113,212,324
- Non-current	38,255,616	76,511,233
	<b>80,619,233</b>	189,723,557

### 32 TRADE PAYABLES

	2015	2014
	MUR	MUR
<b>32.1 Payables</b>	<b>48,133,495</b>	39,063,800
<b>32.2 analysed as follows:</b>		
	MUR	MUR
- Current	42,096,153	37,391,400
- Non-current	6,037,342	1,672,400
	<b>48,133,495</b>	39,063,800
<b>32.3</b>	MUR	MUR
Omnicanne & others - Rental of land	2,043,497	6,260,776
Ex- dockers pensioners	4,789,942	3,729,469
Planters - Deposits	3,066,258	3,396,159
Mauritius Revenue Authority	2,498,170	1,175,539
SIC - Investment in BSSD Co. Ltd	600,000	800,000
Ministry of Agro - Industry	7,000,000	-
Dr J C Autrey	6,700,000	-
Scomat Ltee	3,169,962	-
Mauritius Sugar Syndicate	572,486	-
Salary Commissioner	1,435,000	-
National Pension Fund	2,723,224	-
MSIRI Employees	3,707,130	-
Servequip Ltd	1,185,355	-
LMC International Ltd	-	5,516,695
Strategic Networking Partners & Consulting Ltd	-	562,212
CEDCOM Ltd	-	703,500
Rey & Lenferna Ltd	-	797,816
ENL Agri	-	6,240,000
ABC Coach	-	742,440
Others	8,642,471	9,139,194
	<b>48,133,495</b>	39,063,800

## NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2015

### 33 BORROWINGS

#### Loans

- EDF loan
- Australian aid loan

Repayable as follows:

- Within one year
- Within two to five years
- After five years

*analysed as follows:*

- Current
- Non-current

2015	2014
MUR	MUR
20,905,666	21,637,260
210,512	236,826
<b>21,116,178</b>	<b>21,874,086</b>
MUR	MUR
1,332,918	1,386,314
5,331,672	5,545,256
14,451,588	14,942,516
<b>21,116,178</b>	<b>21,874,086</b>
MUR	MUR
1,332,918	1,386,314
19,783,260	20,487,772
<b>21,116,178</b>	<b>21,874,086</b>

Loans are unsecured and repayable by annual instalments. The rate of interest ranges from 1 to 4 %.

The carrying amount of borrowings are not materially different from their fair value.

EDF loan is denominated in Euro and is translated at closing rate.

Exchange loss of MUR 542,264 is recognised on translation of the EDF loan.

### 34 RETIREMENT BENEFITS OBLIGATIONS

#### 34 A 31 DECEMBER 2015

- 34 A.1** (i) The Authority operates a defined benefit pension scheme. The scheme is a final salary scheme which provides benefits to employees in the form of a guaranteed pension payable for life. The level of pensions depends on the employees' length of service and their salary at the date of retirement.
- (ii) IAS 19 figures are computed by qualified actuaries - Feber Associates Limited for MSIRI pension liabilities and SICOM Ltd for the other ex-Service Providing institutions.
- (iii) IAS 19 *employee benefits* requires estimating the amount of liability that the employer has to recognise in its financial statements with respect to employees who are going to retire at normal retirement age.

Under IAS 19, liabilities refer to the liability of the employer at the reporting date, in respect of retirement benefit obligations. They represent estimates of the future stream of retirement benefit obligations which has been discounted to its present value.

The fair value of plan assets represents the value at the reporting date of the investment fund that shall be used to cover the liabilities as and when they become due.

## NOTES TO THE FINANCIAL STATEMENTS

### YEAR ENDED 31 DECEMBER 2015

- (iv) Under the revised IAS 19 amendments (2011) effective on or after 1 January 2013, the cost deferral mechanism of unrecognised gain/loss is no more permitted.

IAS 19 (as revised in 2011) changes the accounting for defined benefit plans and termination benefits. The amendments require the recognition of changes in defined benefits obligations and in the fair value of plan assets when they occur. The "corridor approach" permitted under the previous version of IAS 19 is eliminated. The recognition of past service costs is accelerated and past service costs can no longer be deferred and recognised over future vesting periods. All actuarial gains and losses are recognised immediately through the statement of profit or loss and other comprehensive income so that the net pension asset or liability recognised in the statement of financial position reflects the full value of the plan deficit or surplus.

The above change has been implemented in the financial statements ending 31 December 2013 where a net liability of MUR 367,811,921 has been recognised.

- (v) The three components of the defined benefit plan are accounted as follows:
- Service cost and net interest components accounted for in the statement of profit or loss.  
Service cost component includes current and past service costs and net interest component relates to the change in measurement in both the plan obligation and plan assets arising from the passage of time.
  - The remeasurement component which comprises actuarial gains and losses made on obligations and the difference between the actual investment return and the expected return on assets during the reporting period.  
Remeasurements are accounted for in the statement of profit or loss.
  - Plan obligations and plan assets reported in the statement of financial position.

#### 34 A.2 Amounts recognised in statement of financial position

	<b>MSIRI 2015 MUR</b>	<b>OTHER SPIs 2015 MUR</b>	<b>TOTAL 2015 MUR</b>
Defined benefit obligation	591,029,341	781,969,351	1,372,998,692
Fair value of plan assets	(447,301,583)	(315,600,212)	(762,901,795)
	<b>143,727,758</b>	<b>466,369,139</b>	<b>610,096,897</b>

#### 34 A.3 Amounts recognised in statement of profit or loss.

<b>Service cost:</b>			
Current service cost	8,835,325	14,415,710	23,251,035
Past service cost	-	-	-
Employee contributions	(1,821,722)	(6,182,743)	(8,004,465)
Other contributions - redeployed members	-	(564,597)	(564,597)
Fund Expenses	1,211,144	436,721	1,647,865
Net Interest expense/(income)	5,886,108	28,663,083	34,549,191
<b>Charge to statement of profit or loss</b>	<b>14,110,855</b>	<b>36,768,174</b>	<b>50,879,029</b>
<b>Remeasurement:</b>			
Liability (gain)/loss	39,465,111	48,824,311	88,289,422
Assets (gain)/loss	11,160,045	23,784,998	34,945,043
<b>Charge to statement of other comprehensive income</b>	<b>50,625,156</b>	<b>72,609,309</b>	<b>123,234,465</b>
<b>Total</b>	<b>64,736,011</b>	<b>109,377,483</b>	<b>174,113,494</b>



## NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2015

### 34 A.4 Movements in liability recognised in statement of financial position

At start of period			
- As previously reported	24,326,859	370,805,630	395,132,489
- Effect of restatement	66,447,559	-	66,447,559
- As restated	90,774,418	370,805,630	461,580,048
Amount recognised in statement of profit or loss	14,110,855	36,768,174	50,879,029
Actuarial reserves transferred in	-	-	-
Employer contributions and direct benefits	(11,782,671)	(12,624,018)	(24,406,689)
Other contributions - redeployed members	-	(1,189,956)	(1,189,956)
Amount recognised in OCI	50,625,156	72,609,309	123,234,465
Effect of curtailment	-	-	-
At end of period	<b>143,727,758</b>	<b>466,369,139</b>	<b>610,096,897</b>

### 34 A.5 Reconciliation of the present value of defined benefit obligation

Present value of obligation at start of period	353,886,712	708,457,253	1,062,343,965
Restatement	179,448,918	-	179,448,918
Current service cost	10,046,469	14,415,710	24,462,179
Interest cost	36,404,104	53,134,294	89,538,398
Benefits paid	(27,010,829)	(42,862,217)	(69,873,046)
Fund Expenses & Life Insurance	(1,211,144)	-	(1,211,144)
Effect of curtailment	-	-	-
Expected present value of obligation at end of period	<b>551,564,230</b>	733,145,040	1,284,709,270
Liability (gain)/loss	39,465,111	48,824,311	88,289,422
Actual present value of obligation at end of period	<b>591,029,341</b>	<b>781,969,351</b>	<b>1,372,998,692</b>

### 34 A.6 Reconciliation of fair value of plan assets

Fair value of plan assets at start of period	329,559,853	337,651,623	667,211,476
Restatement	113,001,359	-	113,001,359
Expected return on plan assets	30,517,996	24,471,211	54,989,207
Employer contributions	13,604,393	12,563,118	26,167,511
Employee Contributions	-	6,182,743	6,182,743
Other employer contributions - redeployed members	-	1,189,956	1,189,956
Other employee contributions - redeployed members	-	564,597	564,597
Funds Expenses & Life Insurance	(1,211,144)	-	(1,211,144)
Actuarial Reserves Transferred In	-	-	-
Benefits paid + other outgo	(27,010,829)	(43,238,038)	(70,248,867)
Expected fair value of plan assets at end of period	<b>458,461,628</b>	<b>339,385,210</b>	<b>797,846,838</b>
Asset gain/(loss)	(11,160,045)	(23,784,998)	(34,945,043)
Actual fair value of plan assets at end of period	<b>447,301,583</b>	<b>315,600,212</b>	<b>762,901,795</b>

### 34 A.7 The plans are exposed to actuarial risks such as investment risks, interest rate risk, longevity risk and salary risk.

The cost of providing the benefits is determined using the Projected Unit Method.

Discount rate determined by reference to market yields on bonds.

Significant actuarial assumptions for determination of the defined benefit obligation are discount rate, expected salary increase and mortality.



**NOTES TO THE FINANCIAL STATEMENTS**
**YEAR ENDED 31 DECEMBER 2015**
**34 B 31 DECEMBER 2014**

	<b>MSIRI 2014 MUR</b>	<b>OTHER SPIs 2014 MUR</b>	<b>TOTAL 2014 MUR</b>
<b>34 B.1 Amounts recognised in statement of financial position</b>			
Defined benefit obligation	353,886,712	708,457,253	1,062,343,965
Fair value of plan assets	(329,559,853)	(337,651,623)	(667,211,476)
	<b>24,326,859</b>	<b>370,805,630</b>	<b>395,132,489</b>
<b>34 B.2 Amounts recognised in statement of profit or loss.</b>			
<b>Service cost:</b>			
Current service cost	7,194,915	13,069,815	20,264,730
Past service cost	-	-	-
(Employee contributions)	(1,444,471)	(6,996,151)	(8,440,622)
Fund Expenses	1,158,957	437,141	1,596,098
Net Interest expense/(income)	1,304,903	28,361,888	29,666,791
<b>Charge to statement of profit or loss</b>	<b>8,214,304</b>	<b>34,872,693</b>	<b>43,086,997</b>
<b>Remeasurement:</b>			
Liability (gain)/loss	3,335,092	(1,497,018)	1,838,074
Assets (gain)/loss	950,692	7,891,359	8,842,051
<b>Charge to statement of other comprehensive income</b>	<b>4,285,784</b>	<b>6,394,341</b>	<b>10,680,125</b>
<b>Total</b>	<b>12,500,088</b>	<b>41,267,034</b>	<b>53,767,122</b>
<b>34 B.3 Movements in liability recognised in statement of financial position</b>			
At start of period	24,165,943	343,645,978	367,811,921
Amount recognised in statement of profit or loss	8,214,304	34,872,693	43,086,997
(Actuarial reserves transferred in)	-	-	-
(Employer contributions and direct benefits)	(12,339,172)	(14,107,382)	(26,446,554)
Amount recognised in OCI	4,285,784	6,394,341	10,680,125
Effect of curtailment	-	-	-
At end of period	<b>24,326,859</b>	<b>370,805,630</b>	<b>395,132,489</b>

## NOTES TO THE FINANCIAL STATEMENTS

YEAR ENDED 31 DECEMBER 2015

### 34 B.4 Reconciliation of the present value of defined benefit obligation

Present value of obligation at start of period	332,502,425	684,542,689	1,017,045,114
Current service cost	8,353,872	13,069,815	21,423,687
Interest cost	24,437,518	54,763,415	79,200,933
(Benefits paid)	(13,583,238)	(42,421,648)	(56,004,886)
Fund Expenses & Life Insurance	(1,158,957)	-	(1,158,957)
Effect of curtailment	-	-	-
Expected present value of obligation at end of period	<b>350,551,620</b>	<b>709,954,271</b>	1,060,505,891
Liability (gain)/loss	3,335,092	(1,497,018)	1,838,074
Actual present value of obligation at end of period	<b>353,886,712</b>	<b>708,457,253</b>	<b>1,062,343,965</b>

### 34 B.5 Reconciliation of fair value of plan assets

Fair value of plan assets at start of period	308,336,482	340,896,711	649,233,193
Expected return on plan assets	23,132,615	26,401,527	49,534,142
Employer contributions	12,965,126	14,055,182	27,020,308
Employee Contributions	-	6,996,151	6,996,151
Funds Expenses & Life Insurance	(1,158,957)	-	(1,158,957)
Actuarial Reserves Transferred In	-	-	-
(Benefits paid + other outgo)	(12,764,721)	(42,806,589)	(55,571,310)
Expected fair value of plan assets at end of period	<b>330,510,545</b>	<b>345,542,982</b>	<b>676,053,527</b>
Asset gain/(loss)	(950,692)	(7,891,359)	(8,842,051)
Actual fair value of plan assets at end of period	<b>329,559,853</b>	<b>337,651,623</b>	<b>667,211,476</b>

### 35 FINANCIAL COMMITMENTS

	2015	2014
	MUR	MUR
Financial commitments relating to goods and services already contracted for	<b>41,825,809</b>	29,037,622

### 36 RELATED PARTY TRANSACTIONS - COMPENSATION OF KEY MANAGEMENT PERSONNEL

	2015	2014
	MUR	MUR
Compensation paid during the period to and on behalf of executive and non-executive Directors, including pension contributions.	<b>3,059,001</b>	2,965,345

### 37 ACCUMULATED FUND

Opening Accumulated Fund has been restated to cater for MUR 51,541,545 relating to Vacation Leave for previous periods for all SPIs (except ex MSA) now recognised.

Adjustments have also been made to cater for :

- MUR 11,684,940 relating to a refund made to ACP funds by MCIA. A transfer of EUR 286,747 was made to MSIRI in 2011 but was later qualified as ineligible cost for ACP projects.
- Car Loan Fund of MUR 30,417,987 representing money obtained by MSIRI from ex MSA to be used as a revolving fund. As it is no more used for the intended purpose, it has been transferred to Accumulated Fund.

**STATEMENT OF CASH FLOWS**  
**YEAR ENDED 31 DECEMBER 2015**

**38 STATEMENT OF CASH FLOWS NOTES**

<b>38.1 Cash absorbed in operations</b>	<b>2015</b>	<b>2014</b>
	<b>MUR</b>	<b>MUR</b>
<b>Total comprehensive surplus / (deficit) for the period</b>	<b>(124,530,835)</b>	<b>412,968</b>
<i>Adjustments for:</i>		
Depreciation on property, plant and equipment	<b>128,646,237</b>	<b>46,297,609</b>
Depreciation on investment property	<b>440,000</b>	<b>31,225</b>
Amortisation of intangible assets	<b>729,448</b>	<b>379,171</b>
Financial assets written off	<b>1,020,000</b>	<b>-</b>
Loans receivable written off	<b>47,152</b>	<b>-</b>
Profit on disposal	<b>(365,000)</b>	<b>(136,716)</b>
Exchange Gain	<b>(1,481,682)</b>	<b>(1,744,359)</b>
Release of deferred income	<b>(113,212,324)</b>	<b>(43,479,918)</b>
Actuarial loss	<b>25,282,384</b>	<b>16,640,443</b>
Contribution from MOFED - 2015 estimates	<b>(59,000,000)</b>	<b>(52,000,000)</b>
Interest paid	<b>318,581</b>	<b>352,697</b>
Interest received	<b>(12,019,244)</b>	<b>(13,253,801)</b>
Dividends received	<b>(24,650)</b>	<b>(55,850)</b>
<b>Operating deficit before working capital changes</b>	<b>(154,149,933)</b>	<b>(46,556,531)</b>
(Increase) / decrease in accounts receivables (excluding car loans)	<b>89,470,384</b>	<b>14,356,096</b>
(Decrease) / increase in accounts payables	<b>4,415,396</b>	<b>(7,413,394)</b>
(Decrease) / increase in financial liabilities	<b>(2,256,576)</b>	<b>(3,035,851)</b>
(Decrease) / increase in provisions	<b>(16,903,492)</b>	<b>28,672,140</b>
(Increase) / decrease in inventories	<b>2,019,011</b>	<b>(4,277,131)</b>
<b>Cash absorbed in operations</b>	<b>(77,405,210)</b>	<b>(18,254,671)</b>

**38.2 Non cash transactions**

The principal non cash transactions are the adjustments for contribution from MOFED, depreciation, exchange gain, investment income, actuarial loss and release of deferred income to statement of profit or loss.

**38.3 Cash and cash equivalents**

Cash and cash equivalents include the following for the purpose of the statement of cash flows:

	<b>2015</b>	<b>2014</b>
	<b>MUR</b>	<b>MUR</b>
Cash in hand and at bank	<b>678,356,149</b>	<b>687,051,578</b>
Bank overdraft	<b>-</b>	<b>(14,857,902)</b>
	<b>678,356,149</b>	<b>672,193,676</b>

## K. LIST OF ABBREVIATIONS

ACP	African Caribbean and Pacific
AMCO	Alcohol and Molasses Company
AMSP	Accompanying Measures for Sugar Protocol
AMU	Agricultural Mechanization Unit
CAD	Control and Arbitration Department
CCSs	Cooperative Credit Societies
CEB	Central Electricity Board
CEL	Consolidated Energy Co. Ltd
CIRAD	Coopération Internationale en Recherche Agronomique pour le Développement
CRIG	Collaborative Research and Innovation Grant
EIA	Environmental Impact Assessment
ERS	Early Retirement Scheme
ETU	Extension and Training Unit
EU	European Union
FORIP	Field Operations Regrouping and Irrigation Project
FAREI	Food and Agricultural Research and Extension Institute
FSA	Farmers Service Agency
FSC	Farmers Service Centre
GIS	Geographical Information System
ICT	Information and Communication Technology
IMIS	Irrigation Management Information Software
IPP	Independent Power Producer
ISMS	Information Security Management System
ISO/IEC	International Organization for Standardization and the International Electrotechnical Commission
ISSCT	International Society of Sugarcane Technologists
LEI	Landbouwe Economist Institute
LMC	Landell Mills Commodities
MAAS	Multi Annual Adaptation Strategy
MFRS	Mauritius Fire and Rescue Services
MoAIFS	Ministry of Agro Industry and Food Security

MOESDDBM	Ministry of Environment, Sustainable Development, Disaster and Beach Management
MSA	Mauritius Sugar Authority
MSB	Mauritius Standards Bureau
MSIRI	Mauritius Sugarcane Industry Research Institute
MSPA	Mauritius Sugar Producers' Association
MSS	Mauritius Sugar Syndicate
MSTC	Mauritius Sugar Terminal Corporation
MSTCEU	Mauritius Sugar Terminal Corporation Employees Union
MSTCSA	Mauritius Sugar Terminal Corporation Staff Association
MSWC	Municipal Solid Waste Compost
MTR	Mid Term Review
MUR	Mauritian Rupees
NASAC	Network of African Science Academies
NGO	Non-Governmental Organization
NIR	Near Infrared Spectrometer
NOS	Non Originating Sugar
PBB	Programme Based Budgeting
PCR	Polymerase Chain Reaction
PIO	Passport and Immigration Office
PPAs	Power Purchase Agreements
PPS	Planter Participation Scheme
PSU	Permanent Sampling Unit
PWS	Plantation White Sugar
QTL	Quantitative Trait Loci
R&D	Research and Development
RTC	Regional Training Centre
ScMV	Sugarcane Mosaic Virus
SCYLV	Sugar Cane Yellow Leaf Virus
SIFB	Sugar Insurance Fund Board
SLDC	State Land Development Corporation
SPMPC	Sugar Planters Mechanical Pool Corporation
SRP	Sugar Research Programme
SUCAF	Sucrerie d'Afrique
VRS	Voluntary Retirement Scheme
WIKWIO	Weed Identification and Knowledge in Western Indian Ocean
WUE	Water User Efficiency



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