Food and Agricultural Research and Extension Institute

Annual Report
2018/2019

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List of Acronyms

AU-IBAR	African Union-Interafrican Bureau for Animal Resources
AGR	Animal Genetic Resources
SADC	Southern African Development Community
IAEA	International Atomic Energy Agency
CIAT	The International Centre for Tropical Agriculture
CIRAD	Centre de Coopération International en Recherche Agronomique pour le Développement
IITA	International Institute of Tropical Agriculture
AVRDC	Asian Vegetable Research and Development Centre
WVC	World Vegetable Centre (previously known as AVRDC)
AAA	Australian Awards in Africa
CGIAR	Consultative Group for International Agricultural Research
IRRI	International Rice Research Institute
REC	Regional Economic Communities
MAIFS	Ministry of Agro Industry and Food Security
AS	Agricultural Services
FTL	Food Technology Laboratory
MQA	Mauritius Qualifications Authority
MauriGAP	Mauritius Good Agricultural Practices
DBM	Development Bank of Mauritius
MCA	Mauritius Chamber of Agriculture
AMB	Agricultural Marketing Board

MRC	Mauritius Research Council
CLRS	Curepipe Livestock Research Station
PORS	Pamplemousses Organic Research Station
RCRS	Reduit Crop Research Station
RLCRS	Richelieu Crop Research Station
MF	Model Farm
BDU	Business Development Unit
APMIS	Agricultural Production and Management Information System
QDS	Quality Declared Seeds
EM	Effective Microorganisms
IPSAS	International Public Sector Accounting Standards
AEC	Agricultural Entrepreneur Club
APC	Agro-Processing Centre
HPLC	High Pressure Liquid Chromatography
GHG	Greenhouse Gasses
WCRS	Wooton Crop Research Station
BMRS	Belle Mare Research Station
SABRN	South African Bean Research Network

Chairperson's Statement

During the year under review, the Food and Agricultural Research and Extension Institute (FAREI) has continued its activities in line with the objectives laid down in the Strategic Plan 2016-2020. Emphasis has been laid on increasing agricultural productivity in order to raise the national food security level.

The early months of 2019 were marked by persistent heavy rains which impacted negatively on crop production. The FAREI provided all necessary support to farmers to recover from the losses incurred and assisted the Ministry of Agro Industry and Food Security in the implementation of various accompanying measures.

A new pest, the Fall Armyworm, was also recorded affecting maize fields in Mauritius and Rodrigues. In collaboration with the Ministry of Agro Industry and Food Security, several measures were put in place such as survey and treatment of affected fields, grower and public awareness campaigns. These measures contributed to contain the pest and no significant damage was observed.

Further research is being undertaken on neglected traditional crops and a new crop Quinoa has been introduced.

This annual report highlights the main achievements of the FAREI.

Hemraj Woodun
Chairperson

Chief Executive Officer's Statement

This report covers the research and extension activities of the Food and Agricultural Research and Extension Institute in the non-sugar sector and livestock for the period 01 July 2018 to 30 June 2019.

More than 300 varieties/lines both from the breeding programme and introduced ones have been evaluated on stations as well as in growers' fields in the various agro-climatic regions. Of these, 169 were found promising in terms of yield, quality, resistance/tolerance to pests and diseases, and adaptability. They were retained for further trials. Thirty new varieties including one potato, two French bean, six tomato, three chilli, three cauliflower, one broccoli, six carrot, six lettuce and two cucumber were recommended for commercial cultivation. For hydroponic production five sweet pepper and one salad tomato varieties have been recommended. For the fruit sector, 29 new varieties were found promising and are being further evaluated. These include 3 banana, 7 avocado, 2 strawberry, 3 guava and 14 papaya.

One potato variety from the breeding programme was released under the name *Vigora*. This variety is tolerant to late blight disease. *In-vitro* multiplication of this variety was carried and first year disease-free seeds were produced. From the French bean selection programme which was initiated in 2005, two varieties *FBS 1* and *FBS 2* have been released. These varieties have high yield potential. A maintenance breeding programme is being implemented for onion (var. *Local Red*), bean (var. *Long Tom*), local cauliflower, local cucumber and neglected leguminous/ pulse crops (local broad bean, pigeon pea and Jack bean). *Long Tom* bean variety is being improved in terms of yield, pod characteristics and physical purity.

For the ornamental sector, two new potted varieties of anthurium *Starlight* and *Twilight* have been released. After one year under quarantine the new anthurium varieties introduced from the Netherlands did not show any disease occurrence and were released for further evaluation. New techniques for anthurium growing using macadam chippings and coir proved to be more effective than bagasse. Rose, Gerbera, and Orchid varieties have also been introduced and are being evaluated.

Emphasis is being laid on the development of organic agriculture. In that context studies have been carried out on organic fertilizer packages which include crop rotation with legumes, incorporation of manure and soil conservation practices for lettuce, cabbage, beetroot, yam beans, squash, maize, and cauliflower.

Major crop diseases are the Tomato Leaf Curl Virus in tomato, Stemphylium leaf blight in onion, anthracnose in chilli, Phytophthora leaf blight in taro, and freckle in banana. Screening of several varieties for resistance/tolerance to these diseases were pursued and some promising varieties are being further evaluated.

In our endeavours to find safer means for the management of pests, several botanical pesticides were tested against aphids, broad mites, snails, mealybugs, termites, midges, fruit flies and tomato fruit worm. Pheromones, attractant/repellent plants as well as baits were also tested.

The potential of exploiting the inter-rows of macadamia plantations was demonstrated in the pilot macadamia orchard at RCRS. Bean, cucumber and potato have been successively grown in the inter-rows.

The benefits of using gravity-fed drip irrigation have been demonstrated at the level of vulnerable groups, women's groups and Agricultural Youth Clubs. Higher yields were obtained with drip fertigation in zucchini, broccoli, French bean, and cauliflower. Manual fertigation was found to increase yield of open-field grown vegetable crops under rainfed conditions.

For the livestock sector nutritional studies showed that a total mix ration with sugar cane trash as an alternative to conventional feeding practices had no detrimental effect on weaner cattle. The effect of partial replacement of concentrates by browse species in the diet on goat weaners showed that a replacement rate of up to 50% could be achieved.

Thirty-three locally available graminaceous and leguminous fodder species have been established in the germplasm collection. A small-scale hydroponic fodder system has been established and wheat and local available grasses are being grown.

The programme for the 'creole' cattle conservation has been further developed and four nuclei units have been set up on four farms located in different agro-climatic regions. Participants benefitted from one male and two female creole cattle. Promotion of rearing of small livestock has been pursued and the production of quails has been encouraged.

Interaction with farmers through field visits, on farm trials, group and individual meetings, technology review meetings, field days, recommendation sheets, booklets, SMS alerts and through the media (radio and TV programmes) were pursued. Several training programmes for entrepreneurs in agro-processing and agricultural youth clubs have been carried.

A mobile application 'Mokaro' has been developed to enable growers to plan their production.

To ensure food security, the development of organic household gardens has been encouraged. Training is being provided to the public at large for the production in the backyard, on roof tops or in mini-sheltered structures.

M Seenevassen Pillay (Mrs)
Acting Chief Executive Officer

Section 1:
Vision, Mission and Objectives

VISION

To help steer and promote the sustainable development of the National Agri-food System through the efficient and effective application of Research, Development and Training (RDT)

MISSION

To support and implement priority RDT programmes for food security and to enhance competitiveness, sustainability and stakeholder equity across the value chain

OBJECTIVES

a. Introduce, develop and promote such technologies in the food and non-sugar agricultural sector within a sustainable framework;

b. Co-ordinate, promote, and harmonise research activities in the non-sugar agricultural, food production and forestry sectors;

c. Promote and encourage agricultural and agri-business development through the setting up of agricultural youth clubs and agricultural women and agricultural entrepreneur clubs; and

d. Promote dissemination and practical application of the results.

STRATEGY

The Institute's approach is to implement strategic and adaptive research in a participatory framework with stakeholders in response to national requirements to improve farm productivity and income. Integrating ICT potential, the FAREI also seeks to ensure that there is a rapid transfer of innovative practices developed into relevant production systems for the benefit of growers, consumers and the environment.

SERVICES PROVIDED

- Evaluation of agricultural inputs
- Training of farmers in production practices
- Advisory service
- Pest and disease diagnostics
- SMS disease alert
- Processing and seed treatment facility (Hot water treatment)
- Interface between the farming community and service providers
- Information dissemination
- Facilitating access to incentive schemes and inputs
- Training in agro-processing for product development
- Agricultural Production and Management Information System (APMIS)

LINKAGE

The FAREI works closely with both public and private sector organisations as well as international research and development institutions for the common goal of optimising its strategic role. Linkages and participatory collaboration with stakeholders and farmer associations in the elaboration of our research and development agenda are also of high priority.

Section 2:
Organisational Structure

The FAREI came into operation on 14 February 2014 by virtue of section 24 of the FAREI Act 2013, further to the repeal of the Food and Agricultural Research Council Act 1985. It operates under the aegis of the Ministry of Agro Industry and Food Security (MAIFS).

The FAREI arose out of the merger of the Food and Agricultural Research Council (FARC) and the Agricultural Research and Extension Unit (AREU). It has been established with a view to improving the cost-effectiveness, quality of services and optimal use of human resources in both organisations.

The FAREI is administered by a Board and is managed by a Chief Executive Officer who is also the Accounting Officer and is responsible for the control and management of the day-to - day business. Its management team comprises three Assistant Directors.

The FAREI's research and development programme is conducted by the following departments:

- **Crop Research Department**
  Agronomy, Vegetable and Ornamental, Fruit, Resource Management, Plant Pathology and Entomology Divisions

- **Livestock Department**
  Animal Production and Animal Health Divisions

- **Extension and Training Department**
  Crop, Livestock and Information and Training Divisions

Crop Research

- Agronomy and Crop Production
  Research aims at the establishment of sustainable production systems and the development of improved cropping technologies. The research programme focuses on the development of novel varieties through breeding and biotechnology, optimal resource utilisation and value addition through agro-processing.

- Plant Protection (Plant Pathology and Entomology)
  The objective of the programme is to develop and implement integrated pest and disease management strategies in crop production so as to minimise the use of pesticides, to conserve biodiversity, and safeguard the environmental health whilst ensuring the provision of safe food.

Livestock Research

Research thrusts aim to respond to famers' needs in raising the production and productivity of livestock enterprises by developing improved management practices and techniques, feeding packages using locally available feed resources, the introduction of improved breeds and genetic improvement, the conservation and utilisation of animal genetic resources.

Extension and Training

The Extension and Training Department aims at increasing farmers' knowledge and skills to improve productivity and income. This is effected by timely cost-effective technology transfer of innovative production practices through a customer focus and participatory approach. The Department has a comprehensive network of sub offices, model farms, demonstration centres and a Farmer Training School to meet the objectives.

With the growing challenges in agriculture, the thrust is towards professionalization of farm operations; promoting value addition and agribusiness development.

Support Services

The Biometry and Engineering Divisions; the Economic, Business Development and IT units are cross-cutting entities and work with the various sections to ensure that FAREI's research is problem-oriented and quality-controlled. Appropriate technologies in irrigation, farm mechanisation, protected cultures and agro-processing are developed. Support is also provided to access agricultural information.

- **Biometry and Statistics Division**

The Biometry and Statistics Division continued to support research activities of the Institute. Assistance was provided in the development of research protocols, design and layout of experiments and field trials and to research staff in data analysis and interpretation of results.

The Division is responsible for the compilation of crop and livestock statistics and market price. Regular field surveys are carried out for collection of data on production and area cultivated. Some 40 crops are monitored at monthly intervals over the whole island. Monthly foodcrop statistics are published on website of FAREI and information provided to different institutions including the Statistics Mauritius for publication in the Annual Digest of Agricultural Statistics, the Mauritius Chamber of Agriculture, Agricultural Marketing Board and Ministry of Environment. Statistical analyses and forecasts were also conducted. Surveys to gather information on value chain, various aspects of farming were developed. Field supervision and analysis of survey data was also conducted in the same respect. Damage assessment surveys are conducted to evaluate crop losses due to bad weather and after heavy rains.

Support was provided to the Ministry of Agro Industry & Food Security and Ministry of Technology, Communication and Innovation in the development of a mobile App *MOKARO*. This application enables growers to have a planned production approach. Initially the project has been initiated with four crops namely carrot, tomato, potato and onion.

- **Business Development Unit**

Studies were carried out to evaluate farmer needs and problems. Support was also given for agri-business enterprise development, cost of production, project evaluation and counselling of agri-entrepreneurs and policy formulation in the national development of the agricultural sector.

Forty-eight bio-farming project proposals were evaluated, 36 agri-business proposals were prepared and some 65 prospective/existing entrepreneurs were counselled with respect to agri-business start-ups. Evaluation of business plans for loan acquisition was also conducted for some entrepreneurs upon request.

Cost of production for 30 food-crops were updated. With a view to assist prospective entrepreneurs, cost of production for tea, macadamia nuts and aquaponics was also conducted. Support was provided to various stakeholders in policy formulation. New curricula were developed for courses in Agri-business Development and Business planning.

- **The Administration Section**

The administration section assists management to achieve Government goals. Support was provided for the research and development activities so as to ensure effective management of overall activities and ensure good Corporate Governance.

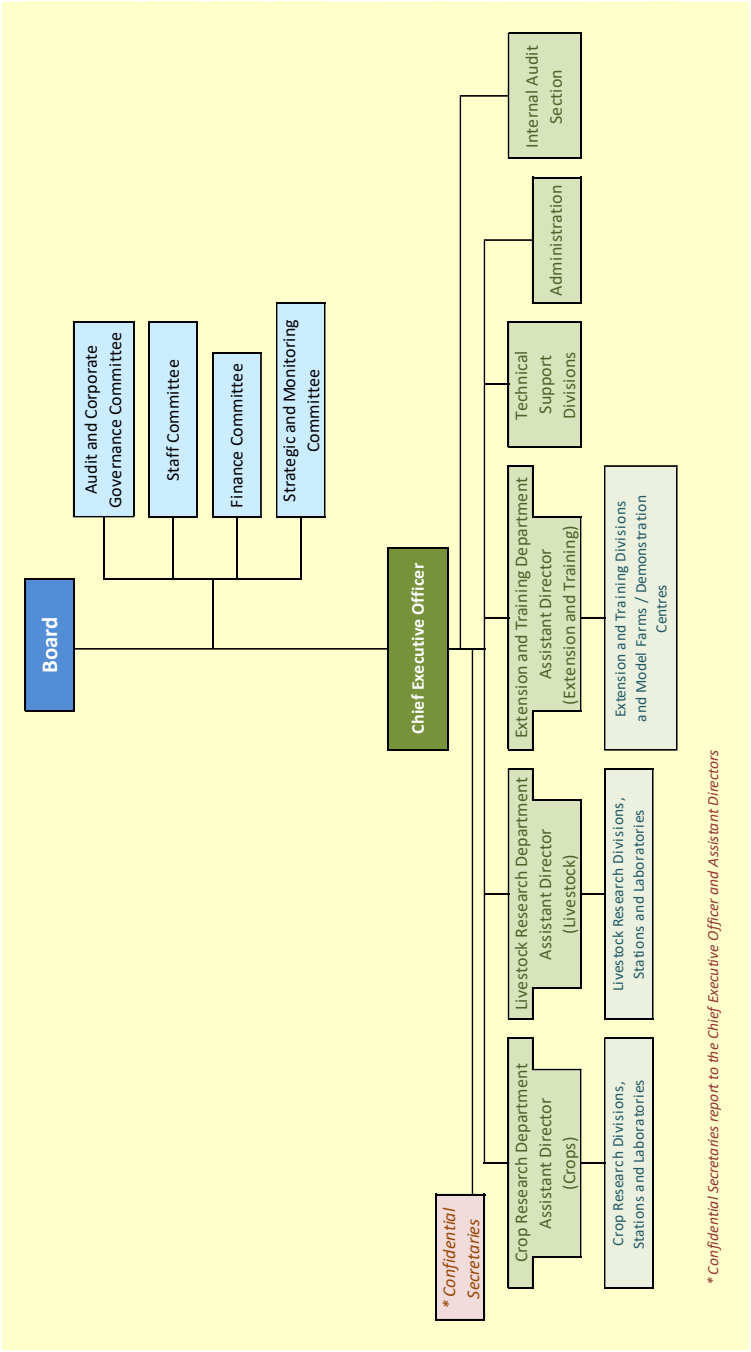
Research and development activities as well as services to the agricultural community take place at the following facilities: Wooton Crop Research Station, Réduit Crop Research Station, Richelieu Crop Research Station, Curepipe Livestock Research Station, Mapou Model Farm, Flacq Model Farm, Plaisance Demonstration Centre, Rivière des Anguilles Demonstration Centre, Pamplemousses Organic Research Station and Belle Mare Centre.

- **Engineering Division**

The Engineering Division provides support to research division in use of agricultural machinery, and development of novel technologies. Assistance is also provided to farmers in the design of greenhouses and irrigation networks.

The division submitted cost estimates and all technical requirements for preparation of bidding documents for procurement of work, equipment and machineries, irrigation systems amongst others. Following award of contact for works, supervision and monitoring of activities were carried out. Claims are verified and certified prior to fund disbursement. Engineering support and advisory services were provided within FAREI, in the implementation of research and development projects. Supports were also provided to farmers, promoters and other organisations / institutions / Ministries.

Organigram


Board
Audit and Corporate Governance Committee
Staff Committee
Finance Committee
Strategic and Monitoring Committee
Chief Executive Officer
Internal Audit Section
Administration
Technical Support Divisions
Extension and Training Department Assistant Director (Extension and Training)
Extension and Training Divisions and Model Farms / Demonstration Centres
Livestock Research Department Assistant Director (Livestock)
Livestock Research Divisions, Stations and Laboratories
Crop Research Department Assistant Director (Crops)
Crop Research Divisions, Stations and Laboratories
* Confidential Secretaries
* Confidential Secretaries report to the Chief Executive Officer and Assistant Directors

Section 3:
Corporate Governance Statement

The Food and Agricultural Research and Extension Institute (FAREI) was established as a body corporate under the FAREI Act 2013. It operates under the aegis of the Ministry of Agro Industry and Food Security. The FAREI became operational on 14 February 2014 and its main objectives and functions are spelt out at sections 4 and 5 of the FAREI Act 2013.

Objects of the Institute

The objects of the Institute as spelt out at section 4 of the FAREI Act are:

1. To introduce, develop and promote such novel technologies in the food and non-sugar agricultural sector as may be approved by the Minister;
2. To coordinate, promote and harmonise research activities in non-sugar agriculture, food production and forestry;
3. To promote and encourage agricultural and agri-business development through the setting up of agricultural youth clubs and agricultural entrepreneur clubs; and
4. To promote dissemination and practical application of the results of any research undertaken under this Act.

Functions of the Institute

As per section 5 of the FAREI Act 2013, the Institute shall have such functions as are necessary to further its objects most effectively and may, in particular:

1. Conduct research in non-sugar agriculture, food production and forestry, and maximize the benefits of such research;
2. Conduct extension and advisory activities in non-sugar crops, livestock, food production and agri-business;
3. Set research priorities in line with the needs of the food and non-sugar agricultural sector;
4. Coordinate, monitor and evaluate research programmes and projects of different institutions engaged in non-sugar agriculture, forestry and food production without any prejudice to existing legislation concerning those institutions;
5. Set up and manage research stations, model farms, greenhouses, hydroponic centres and other infrastructure for the purpose of promoting food and non-sugar agricultural technologies;
6. Carry out, subject to the approval of the Minister, such other research and related activities in non-sugar agriculture, food production and forestry; and
7. Advise the Minister generally on national policies and other matters related to research in non-sugar agriculture, food production and forestry.

Powers of the Institute

As per section 6 of the FAREI Act 2013, the Institute shall have such powers as are necessary to attain its objects and discharge its functions most effectively and may in particular:

1. With the approval of the Minister to whom responsibility for the subject of finance is assigned, raise such loan as may be required to finance the setting up of greenhouses, hydroponic centres and other infrastructure;
2. Rent out greenhouses, hydroponic centres and other infrastructure on such terms and conditions as it may determine;
3. Levy fees in respect of services in connection with greenhouses, hydroponic centres and other infrastructure and of transfer of any other food and non-sugar agricultural technologies;
4. Set up research advisory committees;
5. Enter into any contract in accordance with the Public Procurement Act;
6. Sell or exchange any property;
7. Receive grants and donations and raise funds; and
8. To do such acts and things as may be necessary for the purposes of this Act.

Our Core Values and Principles

- Professionalism
  To demonstrate high level professionalism in our day-to-day initiatives in relation to the business of the Institute and to achieve continuous self-improvement

- Commitment
  To develop the right attitude towards the job we undertake, to encourage individual initiative and to express our dedication in achieving our objects and functions

- Integrity
  To express what we mean, to deliver what we promise and to stand for what is lawful

- Respect
  To treat one another with dignity and fairness, appreciating the diversity of our workforce and the uniqueness of each employee

- Trust
  To build confidence through open and frank communication

- Honesty
  To be truthful in all our endeavors, to be honest and straightforward with one another and with our policy makers, service providers and stakeholders of the agri-food sector

Corporate Profile

This section outlines, inter-alia, the corporate governance structures in place at the FAREI and describes the organization of the Board's business.

The Composition and Role of the Board

Section 7 of the FAREI Act 2013 provides for the Institute to be administered by a Board consisting of:

- A Chairperson to be appointed by the Minister;
- A representative of the Ministry;
- A representative of the Mauritius Chamber of Agriculture;
- A representative of the Mauritius Agricultural Marketing Cooperative Federation;
- A representative of the University of Mauritius; and
- 4 persons with wide experience in food and non-sugar agricultural sector, to be appointed by the Minister.

The composition of the Board of FAREI for the period 01 July 2018 to 30 June 2019 was as follows:

	Remarks
Chairperson	
Mr Hemraj Woodun	
Members	
Mrs I Rugjee	Representative of Ministry of Agro Industry and Food Security
Mrs Jacqueline Sauzier	Representative of Mauritius Chamber of Agriculture
Mr R Kissoonah	Representative of Mauritius Agricultural and Marketing Cooperative Federation
Dr D Puchooa	Representative of University of Mauritius
Mr S Naidu	Appointed by Minister
Mr M Rughoo	Appointed by Minister
Mr L Mungry replaced Mr Gérard Cadet de Fontenay who resigned in September 2018	Appointed by Minister
Mr K Seechurn	Appointed by Minister
In Attendance	
Dr S Ganeshan	Chief Executive Officer, FAREI
Mrs S Auguste	Board Secretary

Sub-Committees

Four Board Sub-committees have been set up to assist the Board in the discharge of its duties and responsibilities. Each sub-committee operates under defined terms of reference and recommends specific matters to the Board. The Sub-committees of the FAREI Board for the period 01 July 2018 to 30 June 2019 were as follows:

1. Finance Committee;
2. Staff Committee;
3. Strategic and Monitoring Committee; and
4. Audit and Corporate Governance Committee.

Finance Committee (FC)

Composition of the FC and its functions

Mrs I Rugjee	**Chairperson**
Mr M Rughoo	Member
Mr L Mungry	Member
Mr K Seechurn	Member
Mr S Naidu	Member

In Attendance

Dr S Ganeshan	Chief Executive Officer
Mrs B Radha	Manager Finance
Ms A Dunputh	Secretary
Mrs S Auguste	Administrative Manager
Mrs V Hardowar	Stores Superintendent

Mr S Naidu, who was the Chairperson of the Audit and Corporate Governance Committee during the period under review, was replaced by Mr K Seechurn as he was already a member of the Finance Committee.

The Finance Committee reviews and recommends to the Board matters pertaining to the financial situation of the FAREI, financial statements and reports, budget estimates, tender committee and bid evaluation reports and award of contracts.

Five meetings of the Finance Committee were held during the period 01 July 2018 to 30 June 2019.

Staff Committee (SC)
Composition of the SC and its functions:

Mrs I Rugjee	**Chairperson**
Mr S Naidu	Member
Mr M Rughoo	Member
Mr K Seechurn	Member

In Attendance

Dr S Ganeshan	Chief Executive Officer
Ms A Dunputh	Secretary
Mrs B Veerapen	Acting Human Resource Manager

The Staff Committee examines and recommends to the Board matters relating to, inter-alia:

- Human Resource Strategies;
- Interviews, Selection and Appointment;
- Training and Development; and
- Industrial relations.

There were seven meetings of the Staff Committee during the period July 2018 to June 2019.

Strategic and Monitoring Committee (SMC)
The composition of the SMC was as follows:

Mr M Rughoo	**Chairperson**
Dr D Puchooa	Member
Mrs J Sauzier	Member
Mr L Mungry	Member

In Attendance

Dr S Ganeshan	Chief Executive Officer
Ms A Dunputh	Secretary
Mrs M Seenevassen Pillay	Assistant Director (Livestock)
Mr A Goolaub	Assistant Director (Extension and Training)
Mrs M Gungadurdoss	Assistant Director (Crop)

Terms of Reference of the SMC and shall inter-alia, focus on:

- Aligning with the strategic policy;
- Reviewing the performance and considering proposals regarding effectiveness and sustainability through Departmental review for crop, livestock and extension to farmers;
- Looking at the macro level issues and the FAREI's future in the medium term;
- Introducing, developing and promoting novel technologies in the food and non-sugar agricultural sector within a sustainable framework. To keep pace with the change, officers be given the opportunity to have access to new technologies (computer networking etc);
- Reflecting on FAREI's weaknesses, allocation of more resources in terms of recruitment and equipment, quality of reporting etc;
- Ensuring synergy among stakeholders;
- Preparing succession planning; and
- Addressing budgetary constraints to be able to unfold the strategic plan of action towards the farming community and avoiding departure from procedures.

There were three meetings of the Strategic and Monitoring Committee (SMC) during the period July 2018 to June 2019.

Audit and Corporate Governance Committee (ACGC)
Composition of the ACGC

Mr S Naidu	**Chairperson**
Mrs J Sauzier	Member
Mr R Kissoonah	Member
Dr D Puchooa	Member

In Attendance

Ms A Dunputh	Secretary
Ms P Sevathian	Internal Auditor, FAREI

The Terms of Reference of the ACGC are inter-alia to focus on:

- The functioning and monitoring of the Internal Audit system to improve efficiency;
- Compliance with rules and regulations;
- Reviewing significant accounting and reporting issues to understand their impact on the financial statements;
- Encouraging consultation between internal and external auditors; and
- Assessing the adequacy and effectiveness of the organisation's governance, risk management, control frameworks and legislative and regulatory compliance.

Only one meeting of the Audit and Corporate Governance Committee was held from July 2018 to June 2019.

Attendance records, remuneration and benefits of members
Remuneration Philosophy

During the period under review, the Chairperson and Board members were paid fees in accordance with the recommendations of the PRB report 2016.

The remuneration of the Chairperson for the period 01 July 2018 to 30 June 2019 amounted to MUR 399,590. Board members namely Mrs I Rugjee, Mrs K Jugroo, Dr D Puchooa, Mr S Naidu, Mrs J Sauzier, Nr K Seechurn, Mr G Cadet de Fontenay, Mr M Rughoo, Mr R Kissoonah were paid fees and travelling totalling MUR 127,415 for the period 01 July 2018 to 30 June 2019.

Total number of Board meetings held from 01 July 2018 to 30 June 2019 was 9.

	Board meetings attended
Mr H Woodun	9/9
Mrs I Rugjee	8/9
Mrs K Jugroo*	1/9
Mrs Jacqueline Sauzier	6/9
Mr R Kissoonah	7/9
Dr D Puchooa	8/9
Mr S Naidu	9/9
Mr M Rughoo	5/9
Mr Gerard de Fontenay	1/9
Mr K Seechurn	5/9
Mr L Mungry	6/9

* Alternate representative of the Ministry of Agro Industry and Food Security

Name	Fees (MUR)							
	FAREI Board	Telephone Bill	FC	SC	SMC	ACGC	Travelling	Total
Chairperson								
Mr H Woodun	**359,100**	30,600					9,890	**399,590**
Members								
Mrs I Rugjee	7,120		5,600	7,840			3,450	**24,010**
Mrs K Jugroo	890						230	**1,120**
Mr S Naidu	8,010		815	5,705		1,120	4,140	**19,790**
Mr M Rughoo	4,450		3,260	3,260	3,360		3,450	**17,780**
Mr G de Fontenay	890		815				460	**2,165**
Mrs J Sauzier	5,340				815	815	1,840	**8,810**
Mr K Seechurn	4,450		2,445	2,445			2,070	**11,410**
Mrs A Pompon*					1,630		460	**2,090**
Mrs D Ramful-Baboolall			815		815		460	**2,090**
Dr D Puchooa	7,120			2,445	1,630	815	3,220	**15,230**
Mr L Mungry	5,340		3,260		2,445		2,990	**14,035**
Mr R Kissoonah	6,230					815	1,840	**8,885**
Total	**408,940**	**30,600**	**17,010**	**21,695**	**10,695**	**3,565**	**34,500**	**527,005**

Note: Finance Committee: FC; Staff Committee: SC; Strategic and Monitoring Committee: SMC; Audit and Corporate Governance Committee: ACGC.
* Alternate representative of Mauritius Chamber of Agriculture

Code of Ethics

The Code of Ethics for FAREI employees rests on a number of core values which require that FAREI employees behave with integrity, selflessness, impartiality, objectivity, accountability, honesty and justice.

The three guiding principles of the code are that FAREI employees shall:

1. Fulfill their lawful obligations to FAREI with professionalism, integrity and loyalty;
2. Perform their official duties honestly, faithfully and efficiently while respecting the rights of the public and their colleagues; and
3. Not to bring the FAREI into disrepute through their private activities.

Related Parties Transactions

There has not been any related party transaction during the period under review.

Safety and Health Policy Statement

The FAREI is fully committed to maintain safety and health for employees. In order to provide a safe system of work in all worksites, a Safety and Health Policy has been set up. A Safety and Health Committee meets every two months in the presence of Unions to ensure that all worksites are complying with the related legislations and sub-legislations has been constituted.

A risk assessment at the workplace was carried out and a report on findings was drawn. Most issues mentioned in the report have been handled by designated officers. The risk assessment is renewed every two years or earlier to review methods, measure procedures or techniques.

A culture where employees' ways of working and attitude which encompasses safety and health is being promoted at the FAREI.

Statement of Directors' responsibility

The FAREI acknowledges its responsibilities for:

- Adequate accounting records and maintenance of effective internal control systems;
- The preparation of financial statements which fairly present the state of affairs of the Institute as at the end of the financial year and the results of its operations and cash flows for that period and which comply with International Public Sector Accounting Standards (IPSAS); and
- The selection of appropriate accounting policies supported by reasonable and prudent judgments.

The Director of Audit of the National Audit Office is responsible for reporting on whether the financial statements are fairly presented.

The Board of Directors reports that:

- Adequate accounting records and an effective system of internal control have been maintained;
- Appropriate accounting policies supported by reasonable and prudent judgments and estimates have been used consistently;
- Applicable accounting standards have been adhered to; and
- The Code of Corporate Governance as applicable to State-Owned Enterprises has been adhered to.

Directors' Statement for Internal Control

The FAREI acknowledges its responsibility for the setting up of adequate systems of Internal Control and for the setting up of appropriate policies to provide reasonable assurance that the control objectives have been attained. The activities of the Institute are closely monitored by the Board and its Sub-Committees. Procedures and policies are well documented and consistently applied. Management has the relevant experience and skills to ensure proper running of the Institute.

An effective system of Internal Control providing for the following has been implemented:

- Proper segregation of duties whereby the different functions in process are cross-checked and verified;
- Follow up and implementation of the recommendations of the Director of Audit by the divisions concerned in order to improve processes and to ensure proper accountability;
- Adequate supervision of duties performed by staff members;
- The assets of the Institute are properly safeguarded;
- All cheques issued by the Institute are signed by two authorized signatories; and
- Compliance with relevant laws, rules and regulations.

Risk Management

Risk management is closely linked to Corporate Governance. FAREI has set up an Audit and Corporate Governance Committee and is in the process of establishing a risk management framework. This framework will set out the organisational arrangements for designing, implementing, monitoring, reviewing and continually improving risk management throughout FAREI.

Signed on behalf of the FAREI Board of Directors

H Woodun
Chairperson

14 December 2021
Date

S Soborun (Mrs)
Board Member

Profile of Board Members

Mr Hemraj Woodun

Mr H Woodun is a Sole Trader and Company Director and has wide experience in the agricultural sector. He is presently Chairperson of FAREI.

Mrs Indira Rugjee

Mrs I Rugjee holds an MBA from the University of Birmingham, UK. She has wide experience in the public sector and is presently Deputy Permanent Secretary at the Ministry of Agro Industry and Food Security.

Mrs Jacqueline Sauzier

Mrs Jacqueline Sauzier has wide experience in the agricultural sector and is presently Secretary of the Mauritius Chamber of Agriculture.

Mr Mukesh Rughoo

Mr Mukesh Rughoo, holds a Master degree in Genetics and Plant Breeding from the University of Aberystwyth, Wales and a Bachelor degree in Agriculture from the University of Mauritius. Mr Rughoo has more than 35 years' experience in research and development of crops of strategic importance such as sugar cane, potato, tomato, maize, pulses, onion, garlic, wheat, rice and other crops.

Mr G Cadet de Fontenay

Mr G Cadet de Fontenay is appointed by Minister by virtue of his involvement in agricultural activities. Born in 1955, Mr G de Fontenay is a Consultant for the Compagnie Agricole de St Antoine, Groupe Mon Loisir, Medine and Savannah Sugar Estates. He is also the Director and Technical Manager of Cover All Pest Control.

Mr Rajdeo Kissoonah

Mr Rajdeo Kissoonah is presently the Secretary/Manager of the Mauritius Agricultural and Marketing Cooperative Federation Ltd. He is also the Vice President of the Mauritius Cooperative Alliance Ltd, Board Director of Belle Mare Water Users Multi-Purpose Cooperative Society Ltd and Board member of the Advisory Board of the Ministry of Business, Enterprise and Cooperatives.

Mr Kalyandutt Seechurn

Mr K Seechurn holds a School Certificate and has a wide experience in the agricultural sector.

Mr Sandrasagarren Naidu

Mr Sandrasagarren Naidu is a Freelance Consultant and a Trainer (MQA approved). His areas of expertise are as follows:

- Management of agricultural research and extension
- Statistics and agricultural surveys
- Capacity building of Non-State Actors/civil society organisations
- Poverty alleviation programmes

Mr Naidu holds a BSc. (Hons) Agriculture, University of Mauritius (1973), an MSc. Biometry, University of Reading, UK (1976) and a Diploma in Agricultural Surveys and Censuses, USDA (1981).

Mr L Mungry

Mr L Mungry holds a School Certificate and has a wide experience in the agricultural sector. He is the Secretary of the Agricultural Development Marketing Association (ADMA) in Glen Park, Vacoas. He is a member of the National Potato Committee, National Onion and Garlic Committee.

Dr Daneshwar Puchooa

Associate Professor Daneshwar Puchooa is the Dean at the Faculty of Agriculture, University of Mauritius. He joined the University of Mauritius in 1990 as a lecturer in Biotechnology and initiated the setting-up of the Tissue Culture Lab. and the Molecular Biology Lab. at the Faculty of Agriculture. He holds an undergraduate degree from the University of North London in Biology and Chemistry and post-graduate degrees in Applied Molecular Biology and Biotechnology from the University of London, Plant Biotechnology and Teaching & Learning in Higher Education from the University of Mauritius and in Biosafety from the University of Ghent, Belgium. Assoc. Prof. D Puchooa is highly engaged in research and is at present supervising five MPhil/PhD students. He is also the author of several chapters in books and has published over 50 peer-reviewed research papers in International Journals.

Environmental and Social responsibilities

The FAREI recognizes that it operates within a social and economic community. The organization highly values its social role as a "responsible corporate citizen" and acts in a manner which is non-exploitative, non-discriminatory and respectful of human rights.

Ethics

Every member of staff at FAREI is expected to conduct his/her work with utmost integrity, objectivity, fairness and professionalism. Staff members are required to uphold the reputation of the organization by treating its stakeholders, clients and the general public in a helpful and courteous manner, on a timely, reliable and where appropriate on a confidential basis, in an open, fair and efficient way. The senior management team ensures equality of opportunity and an open climate in which employees can have confidence in the fairness and impartiality of procedures.

Gender Policy statement

In line with the National Gender Policy Framework, FAREI strives to promote gender equity, equality and social justice among all its employees.
The staffing position gender-wise is as follows:

Grades	Male	Female
Directorate	2	2
Technical Staff	105	79
Administrative	12	48
Support Staff	274	21
Sub total	393	150
Total	**543**	

Section 4:
Technical Highlights

Crop Research and Development

Introduction

From July 2018 to June 2019, activities focused on the development of new crop varieties through breeding programmes, the introduction and evaluation of new improved germplasm, crop productivity and quality improvement, new crop production techniques, crop protection and the development of environment friendly packages for crop production.

Potato

Further evaluation of the agronomic performance of five introduced potato varieties was carried out in various agro-climatic regions during the first and second seasons. Variety *Everest* was found to be promising with high and stable yields (25-40 t/ha) in both seasons, yields which were comparable or higher than the control varieties *Spunta* and *Safari*. It has good cooking and processing characteristics.

Breeding and selection of local potato clones for ware production, processing and resistance to biotic and abiotic stresses was pursued. Clone *14-2* which gave excellent results was released under the name *Vigora*. Six tonnes of first year disease-free certified seeds were successfully produced at St Antoine SE from 770 kg of basic seeds.

Crosses planned between seven potato clones/varieties and two selected parents (*Safari* and *Delaware*) with proven agronomic and quality characteristics were carried out but were not successful. From the true potato seeds of crosses between *Safari* x *Delaware* carried out in 2017, 1.8 kg of 1st year selected tubers (5 -15 g) have been produced

Twenty-four clones of the 2013 and 2014 breeding series gave high and stable yields in both seasons which were at par with *Spunta* and *Safari*. These clones were retained for further selection trials. Ten of the clones showed better marketability. Dry matter content was in the range of 19 to 25 % indicating suitability of the clones as table potato and for processing into French fries and crisps.

The effect of closer intra-row spacing on the growth and yield of the variety *Safari* was studied. Closer intra- row spacing of 20 cm and 25 cm compared to the recommended 30 cm had no significant effect on tuber yield.

For the National seed potato programme, ELISA testing and field performance evaluation were conducted. Some 689 tonnes of seed potato were screened against Potato Virus X (PVX), Potato Virus Y (PVY) and Potato Leaf Roll Virus (PLRV). Re-testing was performed accordingly and all seed lots were below the threshold. For active growth inspection and seed inspection at harvest, 62.01 ha of seed potato plantation was surveyed.

Onion

Evaluation of hybrid and open pollinated onion varieties for increased yield, better storability and quality was continued. Of the 12 onion varieties evaluated, two hybrids namely, *10243* and *Russet*, two open-pollinated varieties *AVON 1067* and *AVON 1031* and five introduced breeding lines were found promising and are being further evaluated. Storage trials are ongoing with the collaboration of the Agricultural Marketing Board.

Evaluation for bulb production from sets was carried out with 15 onion varieties. Very good yield of bulbs was obtained with five hybrid varieties namely, *Russet* (41 t/ha), *Irati* (40 t/ha), *Chelsea* (32.7 t/ha), *Malbec* (28.3 t/ha) and *Rubex* (28.0 t/ha).

Trials with the open pollinated variety *Roxa* (red) and with the open pollinated variety *White Angel* (white) were pursued. Variety *Roxa* showed tolerance to *Stemphylium* leaf blight and *White Angel* had good potential for bulb production from sets and for green onion production.

Approximately 500 kg of *Francia* and 100 kg of *Bellarose* seeds were produced under contract growing using QDS on farm.

Taro

Out of the ten Colocasia germplasm introduced from Fiji in 2013, six namely PNG 13, MAL 08, SM 152, PHL 02, THA 09 and MAL 11 were assessed at WCRS, RCRS and RLCRS. Variety MAL 11 did not produce any corm and was eliminated, while varieties MAL 08, SM 152, PNG 13 were found promising in terms of yield and tolerance to Taro Leaf Blight disease.

New trials were also set with five Fiji varieties on research stations and with the varieties PNG 13, SM 152 and MAL 08 on-farm at St Antoine and Rivière du Poste. At RLCRS, MAL 08 showed better plant development compared to the four other Fiji varieties and local controls which could not withstand the dry conditions in absence of adequate irrigation.

Pulse crops

Seven dry bean varieties were tested on-station and on-farm. Of these, five were found promising in terms of yield and seed characteristics. To promote pulse cultivation on-farm, 10 kg seeds of NUA 45, 19 kg seeds of three recommended bush lima bean varieties (6.5 kg of Henderson bush, 8.5 kg of Dixie Butter pea and 4 kg of Babyford Hook), 14 kg of seeds of the recommended pole lima bean variety White Ventura 63 and 20 kg seeds of soybean VSS1 were produced.

In view of promoting neglected leguminous, accessions of broad bean, pigeon pea and jack bean are being maintained.

The performance of three cluster bean varieties was assessed. Yields of 3.0 - 6.5 t/ha were obtained.

Breeding activities were conducted for bean, pea and lima bean. For bean, 30 F4 lines from the crosses *Long Tom* x *Vilbel* were evaluated. Twenty lines found promising were selected based on desirable characteristics and stored for evaluation and selection of F5 lines. From crosses of *Long Tom* x *Acacia*, 53 F5 lines were evaluated. Twenty-five lines were selected for further evaluation and selection of F6 lines. From crosses of *Long Tom* x *Sodwana*, two promising lines were released for commercial cultivation under the name *FBS1* and *FBS2*. A third promising line *LTS 7/06*, at pre-release stage, has good potential for pulse as well as green bean production.

In order to ensure availability of seeds for growers, 26 kg seeds of *FBS1*, 12 kg of *FBS 2* and 6 kg of line *LTS 7/06* were produced.

For pea, evaluation of six promising lines and production of F11 seeds for the cross local x Star 6007 was carried on station and on-farm. Four lines were found promising with good yields (7-8 t/ha) and suitable pod characteristics (8-9 cm long and 7-8 seeded).

For the cross *Arcadia* x *Local*, among the 17 lines evaluated, 11 were selected for further studies.

For lima bean, F1 seeds from cross *White Ventura* x *BabyFord* were sown and 50 g of F2 seeds were produced. New crosses were made and F1 seeds of crosses *White Ventura* x *Babyford* and *White Ventura* x *Henderson* were produced.

Garlic

A garlic germplasm collection of 44 local accessions is being maintained on-station. These include 12 promising accessions.

Of the five varieties received from the AVRDC, varieties *VFG158* and *VGF141* were found to be promising in terms of yield (7- 9 t/ha), large clove size and good storability.

Tomato

Among the twenty-six varieties tested, six varieties namely *Abhimanyu, Super Rose, Tachian, Indam 004, AXPM 235* and *Mission 002* will be recommended to growers. Most of the varieties are suitable for winter production. Varieties such as *Hero*, *NS 1315*, *NS 1068*, and *NS 626* are suitable for summer plantation. Varieties *V389 F1* and *V392 F1* will be re-evaluated.

Conventional breeding activities were conducted whereby four F1 lines were grown. A total of 500 plants were under evaluation and 81 promising lines were selected based on plant growth habit, fruit shape, colour and disease tolerance.

Out of 16 mutant lines tested from the tomato mutation breeding programme, three were found promising giving yields of 34-45 t/ha. Two of them are heat tolerant. All three will be recommended for commercial cultivation in 2019.

Chilli

Varieties *NS 222* and *NS 238* have been recommended to the farming community. *Bandhai* F1, being a small chilli type will also be recommended. Morphological characterisation of three varieties received from AVRDC was conducted and seeds multiplied for further evaluation.

Crucifers

Cauliflower varieties *TSX C35*, *TSX C22* and *Bullet 9101* have been recommended for commercial cultivation. Cabbage varieties *New Wind* and *Summer Times* were found promising. They can be grown all year round and are adapted to the sub-humid, humid and super-humid areas.

Five broccoli varieties with curd weight ranging from 0.3 - 0.4 kg were found to be promising, out of which TSX 0001 will be recommended. This variety is suitable for both winter and summer production.

Improvement of landraces of cabbage and cauliflower through use of nuclear techniques for mutation breeding and biotechnology is on-going.

Salad crops

Ten carrot varieties were evaluated. Varieties *Pamela*, *Amazonia*, *Morelia*, *Kazo F1*, *Kex 609*, and *Summer Fresh* are being recommended for commercial cultivation. Varieties *Verano* and *SCR 1008* will be further evaluated. Improvement of landraces of carrot through use of nuclear techniques for mutation breeding and biotechnology is on-going.

Several lettuce varieties were evaluated. Varieties *NLT051*, *NLT02*, *LT 05*, *MLT02*, *MLT08* and *MLT06* are being recommended for commercial cultivation. Promising varieties identified for further evaluation are *Nomuge RZ*, *Excite*, and *NLT 05*.

Five new beetroot varieties were evaluated, and good performance was obtained with varieties *Crimson Globe*, *Early Wonder*, *Tall Top, Detroit Short Top* and *Red Atlas* with yields of 33.5 -36.0 t/ha as compared to the local variety (23.1 t/ha).

Cucurbits

Of the nine cucumber varieties under evaluation, six were found promising with yields of 9.6 - 17.3 t/ha. Varieties *CU 968* and *CU1619* are being recommended for commercial cultivation.

Of the seven zucchini varieties evaluated, best performing ones were *Himanshu*, *Dark Green* and *Star 01*.

Mushroom

The three new strains of *Pleurotus* with different cap colours (pink, yellow and grey) gave cumulative yields ranging from 350 g to 445 g per fruiting bag of 750 g while King Oyster strain which is adapted to the colder months yielded 72 g/bag.

Five Shiitake strains were evaluated and among best performing ones were strains *CC37*, *CC20*, *CC60*, and *CC59.*

Quinoa

In an attempt to develop new crops, fifteen varieties of quinoa have been introduced from the USA for evaluation. The seeds have been sown at RCRS and WCRS for preliminary studies on the agronomic characteristics and seed multiplication.

Crop production under protected structures

Tomato variety *Padma* was found suitable for production under low cost protected structure and is being recommended.

Of the five melon varieties evaluated at RCRS, variety Emerald Green gave the highest yield of 2.0 kg/plant.

Studies were pursued on the fertilizer regimes for different cultures in hydroponic production. A regime with lower rate of calcium nitrate was evaluated for one English cucumber and three Gherkin varieties. Good yields for both cucumber and gherkins were obtained with this formulation and further evaluation is being undertaken. Higher tomato yields were recorded with the premix fertilizer (Timasol®) as compared to the conventional hydroponics solution.

Five sweet pepper varieties namely, *Tiberio*, *AXPB 5027*, *AXPSL 6116*, *AXPB 5021* and *Palombo* have been recommended for commercial cultivation. Seven new sweet pepper varieties are under evaluation at RCRS. All the varieties performed equally well with yields ranging from 4.0 to 5.8 kg/plant and will be further evaluated.

Maintenance breeding

Maintenance breeding programme is being implemented for onion Local Red, local cauliflower, local cucumber.

Organic agriculture

To promote organic agriculture, chemicals free food production and sustainable production systems, several activities and initiatives were undertaken. The Biofarming Unit carried out 610 field visits, 16 talks and 36 group meetings on topics which were geared towards capacity-building of organic promoters on benefits of organic farming, soil fertility management, management of pests and diseases, and planning and layout of model organic plots.

Some 258 farmers are now growing fruits and vegetables as per organic principles on an estimated area of 121 ha.

The public in general was sensitized on the benefits of organic food, and on the basic principles of organic farming.

Thirty-nine demonstration on producers' plots, mainly on compost making, use of chipper for production of mulch, establishment of plants to attract beneficial organisms, , trap / repellent / green manure /border crops, were carried out to promote organic practices. Furthermore, 16 trainings on 'Guidelines to organic Crop Production' were run and 475 persons attended the courses which were run across the island.

The Rivière des Anguilles DC and Pamplemousses Organic Research Station underwent an audit exercise in connection with organic certification. The two farms were audited as per the COR (Canadian Organic Regime) standards. The audit was conducted by BioCert International, an international certification body based in India. Following submission of the relevant documents and site visits carried out, both farms have been certified as organic in conversion - first year.

Assistance was given to 12 farmers whose farms were audited for the organic certification. They were advised on the organic plans, farm plans, list of permissible products, insect/ disease/ weed management plans.

Under the supervision of the Biofarming Unit, the prisons at Beau Bassin (New Wing, Women prison, Women Open Prison) and Petit Verger Prison, are converting an area of about 0.84 ha for organic crop production. In addition to promoting sustainable foodcrop production, the organic plot will also serve as a training to inmates. Twelve Prison officers have been trained in Organic Production principles.

Talks, demonstrations were held in eight schools and fourteen NGOs to promote organic crop production principles. Assistance to set small organic plots and training was provided.

Untreated seeds of both local and imported varieties have also been distributed to 28 farmers/institutions to promote organic/chemicals free farming. Eight organic promoters at the Britannia Organic Zone benefitted from untreated seeds/bio fertilizers/bio insecticides/bio fungicides.

The concept of organic household gardens at regional level is being promoted. The project was initiated at Union Park and then extended to the villages of St Julien d'Hotman and Panchavati. The project is being extended to other villages. The mini-sheltered farming has also been developed. Several units of $10m^2$ were set and training is being provided to the public at large.

The objectives of this project is to encourage the production of vegetables as per organic principles at backyard level, to give a boost to the consumption of fresh and pesticides-free vegetables at family level and encourage the recycling of household waste through composting and improve soil fertility.

Biotechnology

- Potato

Propagation of potato plantlets by single nodal cuttings were pursued and 5,290 hardened plantlets were potted and 157.7kg of good quality mini-tubers of variety *Vigora* were produced.

- *Colocasia*

Three Fiji *Colocasia* varieties, *PNG 13*, *SM 152*, and MAL 08 were multiplied *in-vitro* and about 1,200, 150 and 50 plantlets were produced respectively.

- Anthurium

Two potted type anthurium lines (*PVGR S3*, *PVGR S4*) initiated from embryos and kept in slow growth, were multiplied for release. A total of about 1500 plantlets were hardened. These were released under the names *Starlight* and *Twilight* respectively. About 1800 plantlets of eight different lines are being maintained.

- Tea

The protocol for *in -vitro* initiation, multiplication and growth of tea plantlets was developed and fine-tuned. About 5,000 plantlets of Assam type and Cambodge type have been produced.

- Supply of plants

A total of 16,366 hardened plants were sold to growers and 606 supplied to research divisions.

Ornamentals

- Anthurium

Evaluation and selection of progenies for productivity and resistance/tolerance to diseases was carried out. Two potted and two standard types are in final stage of evaluation prior to release.

The varieties which were introduced from Netherlands are being evaluated. No symptom of bacterial blight disease has been observed.

A new technique of production was evaluated for anthurium production whereby the substrates used were coconut coir and macadam chippings (10 mm) and plants were fertilized with hydroponics nutrient solution. Varieties grown were *Tropical*, *Anushka* and *Midori*. Better results in terms of yield, productivity and quality were obtained with the coconut coir – macadam substrate as compared to bagasse.

- Rose

Nine rose varieties were evaluated. The best performers were *Samourail*, *Secret*, *Just Joey*, *Wham*, *Blush and High* and *Magic* giving 10-15 flowers per plant per month. Seven additional new varieties are also being evaluated.

- Gerbera

Ten gerbera varieties were evaluated and six were found promising producing 4-5 flowers/ plant/month.

- Orchid

Forty-five varieties of orchids belonging to ten families, introduced from Thailand, are under evaluation.

Fruits

- Banana

Several banana varieties are under evaluation in the sub-humid, humid and super-humid regions. Varieties *FHIA23, Banane carré* and *FHIA17* have been found tolerant to freckle disease. The mutation breeding programme for improvement of banana variety *Gingeli* to induce tolerance to fusarium wilt (race 1) and improve yield is ongoing.

- Avocado

Characterisation and assessment of seven introduced avocado varieties were conducted. Six varieties namely, *Rincon*, *Fuerte*, *Ettinger*, *Hass*, *Sharwil* and *Pinkerton* were identified for commercial production. The three former ones are early bearers (early March to mid- April), while *Pinkerton* and *Sharwil* are intermediate bearers (late April to mid-June) and *Hass* as late bearer (June to August). With these varieties the avocado production season can be further extended.

- Papaya

Thirteen local accessions with promising traits and one imported variety '*Forte*' are under evaluation at PORS. Some 5,100 bagged papaya seeds were produced and distributed to planters.

- Pitaya

Phenological studies are being carried out on new and local pitaya accessions at RCRS and PORS. More than 8,000 pitaya segments have been distributed to small scale growers. Demonstration of pruning and training of segments was carried out on nine on-farm plots. Advice were provided on pollination of flowers, particularly during rainy period.

- Strawberry

The performance of frigo plants of four varieties of strawberry under protected culture was evaluated at WCRS and showed that *Agathe* and *Charlotte* were early season varieties. Fruit yield was highest in variety *Agathe*.

- Guava

Two varieties *Red Round* and *George* are under evaluation at PORS. Three new guava accessions with promising traits were propagated and transplanted at RCRS and PORS for evaluation.

- Anonaceae

Underutilised species of Anonaceae (*Atte, Coeur de boeuf, Coronsol*) are being conserved. Phenological data are being compiled and seed collected for propagation. Two newly introduced atemoya varieties namely *Tropic Sun* and *African Pride* were planted at RCRS and PORS for performance evaluation.

- Cocoa

Local cocoa germplasm is being assessed. Nine new introduced varieties were sown and 220 seedlings were obtained. Agronomic studies are being carried out.

- Macadamia

Some 5000 rootstock seedlings were produced from 208 kg of seeds. Training on grafting was conducted. Some 700 plants were grafted. Studies are being undertaken with the few existing trees in Mauritius. Two species namely *Macadamia integrifolia* and *M. tetraphylla* have been identified.

Extending shelf life of whole fresh produce

Studies have been carried out on different treatments, packaging and storage conditions for several species. Protocols have been developed for cabbage, carrots, breadfruit, avocado, pitaya, papaya, tomato and for minimally processed ripe jackfruit, cabbage, green banana chunks and papaya.

Soil and Water Management

Under the IAEA funded project 'Enhancing crop nutrition and soil and water management and technology transfer in irrigated systems for increased food production and income generation', 25 gravity-fed drip kits have been implemented at the level of vulnerable groups, women's groups and Secondary Schools -Agricultural Youth Clubs

Two demonstration plots were implemented on-farm at Plaisance and Bon Accueil with Taro (*Arouille Carri* and *Arouille Violette*) and tomato respectively under quarter arpent gravity-fed drip fertigation system with the objective to train farmers and assess the productivity of high-value crops.

Higher yields were obtained when off-season chilli (var. *NS 238*) was grown under drip irrigation with recommended fertilizer rates and drip fertigation with compost tea.

Drip fertigation gave better yield and quality of zucchini (var. *Dark Green*) and broccoli (var. *Ax 11-405* F1) than conventional fertilizer application. However, yield and quality were further enhanced when the granular fertilizer rates are reduced by 50% and application of foliar fertilisers.

Drip fertigation gave higher yield and quality compared to drip irrigation under protected conditions in French bean (var. *Long Tom*) and cauliflower (var. *NS 60N*).

Manual fertigation of cauliflower (Var. *NS 60N*), Pakchoi (Var. *Hong Tae*) and Chinese cabbage (Var. Local) in open-field under rainfed conditions gave higher yields ranging from 28 % to 36 %.

The effect of Oxycompost on decomposition and quality of livestock and crop waste were evaluated. Analytical analysis showed that the chemical characteristics of the compost for both treated and untreated waste were within the compost standard (according to MSB Compost Standards, MS164:2010).

Organic fertilizer packages comprising of a combination of crop rotation/ mixed cropping including legumes/soil conservation practices, incorporation of manure, compost and organic fertilizers were developed for maize, lettuce, cabbage, beetroot, yam beans and baby squash, Red cabbage and cauliflower.

Crop Protection

- Disease management

Fifteen tomato varieties were screened against Tomato Yellow Leaf Curl Virus (TYLCV) and varieties which showed tolerance to TYLCV were: *NS 1068*, *NS 626*, *NS 1372*, *Super rose*, *Amigo*, *NS 1072*, NS *4012* and three AVRDC varieties (*A3024 A*, *3022 C* and *3022 F*).

AVRDC onion varieties and breeding lines were evaluated for tolerance to *Stemphylium* leaf blight at RCRS and RLCRS. Two varieties *AVON 1067* and *AVON 1031* were moderately tolerant at RLCRS and moderately susceptible at RCRS. None of the varieties/lines showed resistance to the disease.

In one on-station trial, three AVRDC chilli lines *AVPP9813*, *AVPP0514* and *AVPP0906* did not show symptoms of anthracnose disease after six harvests. Trial is ongoing.

Further trials confirmed the efficacy of the eco-woven bag for management of banana freckle disease and is being recommended to growers.

Disease screening for tolerance to leaf blight was carried out with introduced Fiji *Colocasia* varieties and mutant lines (*AL1*, *AL2*, *AL3*, *A*/*Violette* and *Grondin*). All mutant lines were susceptible to *Phytophthora* leaf blight while three Fiji varieties showed tolerance.

- Insect pest management

The efficacy of Last Call LFM for mass trapping *C. peltastica* males in litchi orchards was evaluated at Poudre D'Or and Calebasse. The mean percentage damage by C. *peltastica* larvae on harvested litchi fruits was lower in Last Call treatment plots (Calebasse: 1.0%, Poudre D'Or: 2.4%) compared to control plots (Calebasse: 3.0%, Poudre D'Or: 4.0%) at both sites.

The efficacy of bucket traps (baited with ABW pheromone lure impregnated in a white rubber septum) for mass trapping the tomato fruit worm was tested in a tomato field at Medine SE. Percentage fruit damage in ABW plots was significantly lower (2.9%) compared to control plots (7.7%). ABW pherolure can be used in an IPM package.

The efficacy of four baits (wine @ 300mL/L, Success @ 10mL/40 mL water, Protein hydrolysate @ 20mL/L baited in bottle traps, and Ceratipack) to capture tomato fruit fly was tested in a plot at RLCRS. The wine bait and Ceratipack traps were comparatively more effective.

The attractiveness of maize, castor bean and *Clerodendron wallichii* plants to the melon fly (*Zeugodacus cucurbitae*) for roosting was evaluated in wooden cages in a choice test in the laboratory. *C. wallichii* plants were found to be more attractive to *Z. cucurbitae* compared to maize and castor bean.

Studies were initiated on the incidence of natural enemies of the newly detected pest *Spodoptera frugiponda* (fall Armyworm) on maize.

Sixteen products were evaluated against various pests. Eleven were found to be effective as listed below:

a. Cineole 2% SL (extracts eucalyptus leaf) and Prev-Am against aphids and broad mites.
b. Protect-Us (iron) against the garden snails.
c. Thiamethoxam against the tomato mealy bug respectively.
d. Spinosad and abamectine against termites.
e. Vamoose Bird Repellent Gel was found effective as a repellent to the nesting sparrow bird.
f. *Bacillus amyloliquefaciens* and *Streptomyces* against broad mites.
g. Lambda cyhalothrin and spinetoram against the blossom midge, *Contarinia maculipennis*, on eggplant.

Twenty-seven tomato varieties were assessed for their susceptibility/ resistance to main pests. Varieties *Mission 102*, *Indam 004*, *Super Rose*, *Abhimanyu*, *Swaraksha* and *Jarrah* were found to be more susceptible to thrips. On the other hand, varieties *Mission 102* and *Victoria* were relatively less susceptible to red spider mite attack. Variety *Nirvana* and *1203* were more susceptible to fruit worm attack.

Pest and disease surveillance

A pest and disease surveillance system has been maintained on major crops around the island. Disease and pest diagnosis were carried out on 849 and 99 samples of plants respectively and appropriate control measures were recommended.

Two disease alerts were issued to farmers.

New pests detected

Three new pests were detected namely,

1. Hawaiian Flower Thrips (*Thrips hawaiiensis*) on rose
2. Pepper Whitefly (*Aleurotrachelus trachoides*) on chilli
3. Fall Armyworm (*Spodoptera frugiperda*) on maize

Livestock Research and Development

Introduction

The Livestock Research Department pursued its activities on animal nutrition, fodder production and conservation, conservation and management of animal genetic resources, climate change related activities and food safety.

Development works were pursued for the relocation of the ruminant laboratory, upgrading of CLRS and BMRS.

Comprehensive support was given to the MAIFS for the setting up of heifer farm and Livestock Zone for dairy farming at Melrose and sheep reproduction farm at Salazie. Support was also given for the setting up of the National Animal Identification System, and a Biosecurity Plan.

Research and Development

- Animal Nutrition

Nutritional studies carried out to evaluate the effect of feeding sugar-cane trash on weaner cattle showed that a total mix ration comprising 38% sugar cane trash as an alternative to conventional feeding practices had no detrimental effect on weaner cattle and can thus be fed during period of fodder shortages.

The use of concentrates only as compared to conventional feeding (swill feed and concentrates) was investigated in fattening pigs. Use of concentrates only decreased the fattening period by one month, resulting in animals reaching market weight earlier at five months. However, the concentrate-based diet resulted in higher backfat value compared to a targeted backfat of 1.5 cm at the 10^{th} rib of the carcass.

Feeding trial to assess the effect of partial replacement of concentrates by browse species such as 'Bois Noir' and 'Gros Feuilles' in the diet on goat weaners was conclusive and showed a replacement rate of up to 50%.

- Fodder Research

The fodder germplasm collection at CLRS was further consolidated with addition of new fodder species. The collection counts 33 species and includes locally and introduced species of Poaceae and Leguminosae. Data collected are being used to consolidate the feed database for characterization of fodder. The new fodder species were also assessed for suitability for conservation as hay and silage.

A total of 916 samples of fodder was characterized and comprise creepers (four species), crop residues (six types), Poaceae (31 species), legumes (eight species), shrubs (16 species) as well as hydroponic fodder (three species).

Within the project funded under the Australian Awards in Africa (AAA) Small Grants Scheme, a small-scale hydroponic system (3m x 4m x 3m) has been set up and is fully operational at CLRS. Wheat has been successfully grown and locally available grains are also being assessed.

- Conservation and Utilisation of Farm Animal Genetic Resources

Within the implementation of the project on the Conservation and Utilisation of Farm Animal Genetic Resources, 41 Creole cattle are being maintained in the *ex situ* nuclei herd at CLRS and Casela World of Adventures Ltd.

Through funding from AU-IBAR, four nuclei units have been set up on four farms located in different agro-climatic regions under the project "Conservation and utilisation of critically endangered Creole Cattle in Mauritius". Participants benefitted from one male and two female creole cattle under the project. One female Creole calf was born on one farm as outcome of the breeding and conservation programme.

Data Collection on the productive and reproductive parameters is on-going in view of establishing the profile of the Creole breed.

- Livestock Waste Management

A manure platform of size 150m^2 and covered with transparent plastic material has been setup at CLRS, to assess the composting properties of manure under this innovative structure which has potential to accommodate around 200 tons of fresh manure.

The division collaborated with the Mauritius Standards Bureau and contributed to the preparation of the Mauritian Standard 196: 2018, "Specifications for treated farm animal manure" under the Switch Africa Green Project

- Climate Change – Greenhouse Gasses (GHG) Inventory

Data for the livestock sector has been submitted to the consultant under the GHG Emission project for preparation of the Biennial Update Report (2014-2017).

- Promoting Small Livestock Rearing

Feeding studies were conducted to assess quail meat and egg production of different types of quail. The age at egg laying was similar for all four types and was six weeks. The Brown and White types had a higher average egg laying rate of 71% compared to 60% for the Jumbo and Golden types. However, the Brown and White types gave lower egg weight of 9 to 10 g, compared to the Jumbo and Golden which was 12 g.

Commented [Ref1]: List of publications to be compiled

- Promoting Food Safety

The IAEA Technical Cooperation Project "*Building Capacity to Analyse Veterinary Drug Residues and Related Chemical Contaminants in Animal Products (MAR/5024)*" is on-going. A five-day training session was conducted by two IAEA Technical Experts, on the effective use of chromatographic techniques for the analysis of chemical food contaminants using the HPLC equipment. Six participants from Livestock and Veterinary Division and Food Technology Laboratory of the Agricultural Services also attended the training.

- Milk Quality

In the quest to adopt good animal husbandry practices and produce quality milk, three dairy farms in the northern region were monitored to assess the efficacy of using 0.5% active iodine solution as post milking teat dip in view of decreasing the incidence of sub clinical mastitis. The incidence of sub clinical mastitis on 12 cows under study, decreased from 100% to 80% confirming the efficacy of the solution.

- Deer Carcass Assessment

The carcass weight of 17 deer shot on one deer ranch was monitored for data collection. The average weight of the hot undressed carcass pooled for sex and age, was 63.1 kg with an average dressing out percentage of 57.4%.

- Service to Community

During the year under review, around 430 tonnes of manure were sold to farmers, other institutions and to the public to promote natural farming. Some 36,500 litres of milk were sold to the public and cooperatives in addition to 79,315 litres sold to Maurilait Company Limited. A total of 30 cattle were sold to livestock farmers for breeding and fattening purposes.

Extension and Training Department

Introduction

The Extension and Training Department aims at increasing farmer's and agro-entrepreneurs' knowledge and skills through a participatory approach. The core activity of the Extension and Training Department is to provide advisory services, training to the farming community and other stakeholders as well as to promote food production and increase farmers productivity and income.

The beginning of first quarter of 2019 was marked by torrential rainfall from 28 to 30 January 2019 and 18 to 19 February 2019 and Cyclone Gelena on 08 to 09 February 2019. By end of March 2019, a new pest (Fall Armyworm) was detected in maize. Full support was given to the Agricultural Services for incidence surveys and management of the pest. Also, growers were sensitised on management practices to reduce problem caused due to cyclone and torrential rain with emphasis on care of crops. Surveys were also carried out to assess damage caused by these adverse weather conditions. The supply of vegetables was disrupted due to the compounded effect of the adverse climatic conditions.

Crop Extension Activities

A total of 22,856 advisory visits were effected and 19,215 office calls from farmers have been recorded. Moreover, 215 extension activities were organized and attended by 4,019 planters. Extension activities were disrupted due to the presence of Fall Armyworm on maize plantation and the impact of rain in the first quarter. The department organized 105 group meetings based on 24 themes, 29 field demonstrations on 6 themes and 51 conducted tours on 9 themes. A total of 52 MQA approved training courses was completed and was attended by 1,349 trainees. The total foodcrop area harvested for the year 2018 in open field was 7,931 ha with a production of 99,644 tonnes. While 4,532 tonnes were produced in protected culture (both hydroponic and in soil) over an area of 47 ha.

- Surveys

Some 42,214 food crop surveys were conducted. Further 6,238 surveys were carried out in relation to:

i. State Land occupancy;
ii. pests and diseases;
iii. market price; and
iv. impact of adverse climatic conditions.

- Strategic crops

The potato season 2018 covered a total acreage of 734 ha with a total production of 17,449 tonnes as compared to 2017 for a production of 14,124 tonnes for 715 ha. Total area planted for first season crop 2018 was 112 ha. Production of 2018 was better than 2017 since pests and diseases were under control and also due to a favourable climatic condition. For period January to June 2019 the area planted was 118.17 ha with 9.5 ha harvested and production of 144.28 tonnes.

Total area planted under onion for 2018 was 275 ha (143 ha for small farmers and 132 ha for Corporate sector) with a production of 3,075 tonnes. Area planted for bulb production as at June 2019 was 5.18 ha. For onion sets the area planted was 16.41 ha and production was 141.87 tonnes. In 2018, due to adverse climatic conditions, damping off and *Stemphyllium* diseases occurred in onion seedlings in the regions of Belle Mare, Palmar and Trou D'Eau Douce. There was also a moderate to severe infestation of thrips across the island. The main constraints for onion being shortage of seeds, poor performance of hybrid var (*Rosada* and *Panthera Rose*). For both crops, 4,323 advisory visits were carried out along with nine demonstrations and 12 conducted tours. A total of 36 extension activities were carried out.

- Planters' Liaison Meeting

Four Planters' Liaison meetings were held in each of the four extension regions with a total of 41 planters attending the meetings. Planter representatives of cooperatives, water users' associations, commodity groups, together with other stakeholders of commercial or other services sector participated actively in this forum.

- Model Farms

Visits on the four regional Model Farms were effected by 1,089 growers. 19 demonstrations and 18 conducted tours were carried out. Revenue generated by the four model farms was about MUR 278,521.

- Other Services to Planters

Extension staff collected 18 soil samples and appropriate recommendations were provided after laboratory analysis. 513 seed vouchers were given to planters for seed to be purchased at the Agricultural Services. Field assessments for crop damage due to herbicide drift were carried on 41 occasions. 214 planters were assisted in their request for loan facilities at the Development Bank of Mauritius (DBM). In view of minimizing use of chemicals in disease management, 102 hot water treatments of seeds were effected.

589 vegetable and fruit samples were collected at farm gate and forwarded to the Agricultural Chemistry Division of the Agricultural Services for pesticide residue analysis.

Livestock Extension

As at June 2018, the livestock population and corresponding number of small farmers comprised 3,508 cattle (606 farmers), 25,540 goats (2,353 farmers), 3,005 sheep (259 farmers), 19,662 pigs (462 farmers), 5,706 ducks (242 farmers), 510,630 broilers (276 farmers with up to 5,000 birds), 158,109 layers (242 farmers with up to 5,000 birds) and 1,251 rabbits (111 farmers).

Fourteen training courses were held with an attendance of 301 breeders and potential breeders. In addition, 75 farmers' meetings, 60 demonstrations and 24 conducted tours were held on livestock technical issues and attended by 743 farmers. 6,555 advisory farm visits were carried out and 2,040 office calls for advisory service were entertained.

Support was maintained to the livestock farmers through processing of 118 applications for feed, 56 for molasses, 30 for bagasse, 20 in connection with DBM loans. Sixty-five samples of milk were taken and were sent to FTL for quality analysis.

Information and Training

- Agricultural radio and TV programme / public lectures

98 radio talks and 35 TV programmes dealing with a variety of themes related to agriculture were broadcasted weekly for public in general and farmers in particular. This service provides timely information especially to farmers on crop and livestock production.

- SMS Alerts

Five alerts on potential threat of pest and diseases were sent by SMS to 304 farmers. As at to-date, 413 planters and 377 breeders are registered to the service.

- Training on MauriGAP Standards

MauriGAP standards comprehensively define basic requirements for sustainable agriculture specifically for crop production in local context, focussing on Good Agricultural Practices for food safety, environmental stewardship and farmer/worker welfare.

Four training sessions were conducted with a total attendance of 68 farmers to get them more acquainted with particulars and importance of the said standards.

- Empowerment of Women and Youth

Thirty-two Agricultural Youth Clubs with 970 members and 32 Agricultural Women Clubs with 831 members, were registered with FAREI for services.

Ten Agricultural Entrepreneur Clubs (AEC) with 176 members are engaged in commercial farming. Training support and club activities promoted kitchen gardening, roof gardening, crop and fruit production, livestock production, compost making, mushroom production, plant propagation, rain water harvesting and agro-processing. Six training sessions were run during school holidays for 302 members of the Agricultural Youth Clubs.

- Training in Agro-Processing, Post-Harvest Technology and Food Safety

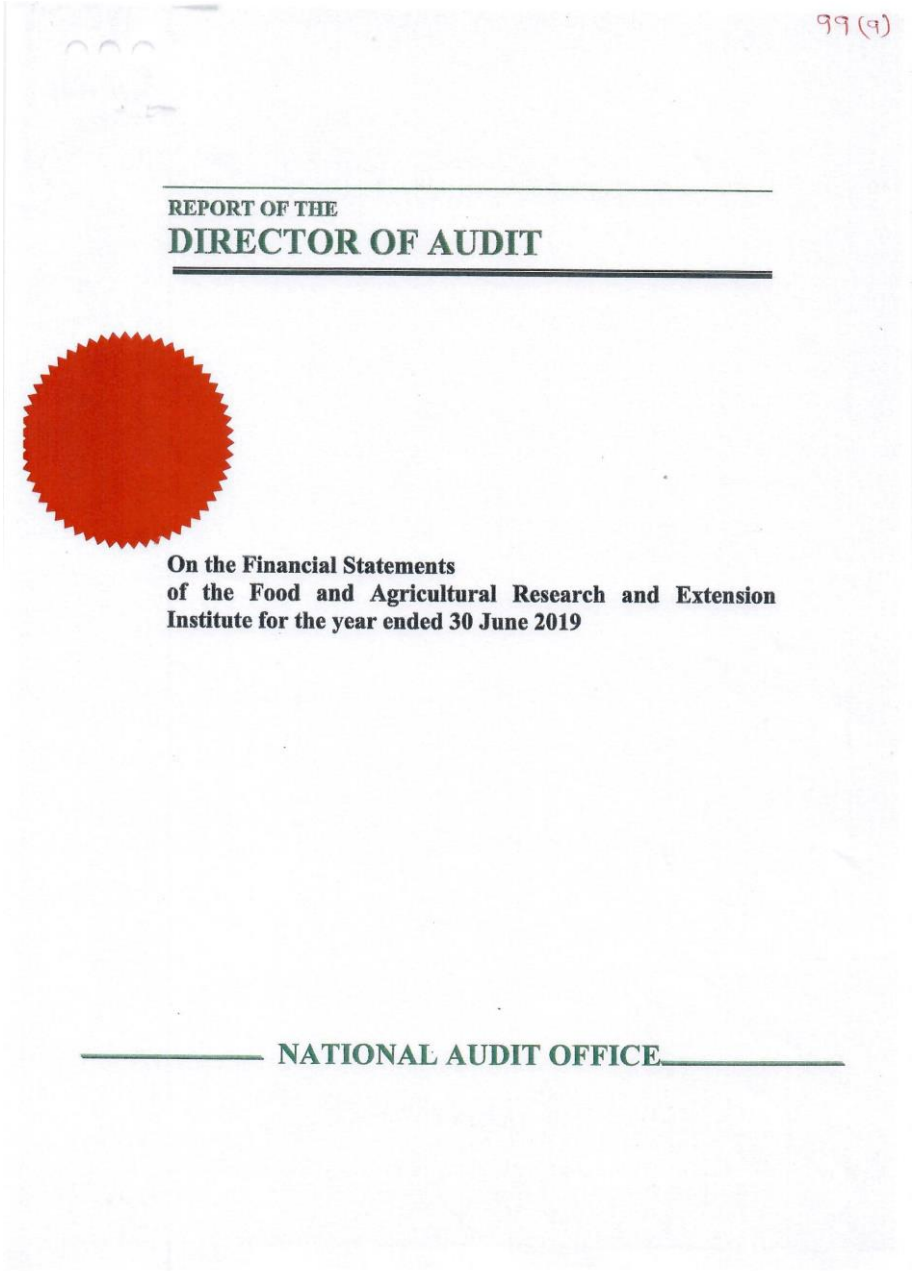
Eight training sessions on agro-processing techniques were held and attended by 198 potential agro entrepreneurs. Fifty agro-entrepreneurs used the facilities of the Agro-Processing Resource Centre at WCRS to test their processing techniques and evaluate their finished products. Nineteen conducted tours to the Wooton Agro-Processing Centre were organised with 309 participants. Seventy-five agri-business enterprises were advised on product improvement.

Business Development Unit

The Business Development Unit has been actively involved in facilitating the implementation of several schemes announced by the Government.

More than eighty million rupees have been disbursed to more than 600 beneficiaries of the above-mentioned schemes since their inception in the year 2015. For the financial year (July 2018 to June 2019) MUR 39,723,764.00 have been disbursed to 237 beneficiaries. A mechanism has been put in place to monitor beneficiaries so as to ascertain that the beneficiaries are effectively producing and that the various schemes have contributed to an increase in production. As such, 233 field visits have been carried out. More than 90% of the farms were operational.

Section 5:
Report of the Director of Audit and Financial Statements for the year ended 30 June 2019



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REPORT OF THE
DIRECTOR OF AUDIT

On the Financial Statements
of the Food and Agricultural Research and Extension Institute for the year ended 30 June 2019

NATIONAL AUDIT OFFICE

NATIONAL AUDIT OFFICE

REPORT OF THE DIRECTOR OF AUDIT
TO THE BOARD OF THE
FOOD AND AGRICULTURAL RESEARCH AND EXTENSION INSTITUTE

Report on the Audit of the Financial Statements

Qualified Opinion

I have audited the financial statements of the Food and Agricultural Research and Extension Institute, which comprise the statement of financial position as at 30 June 2019 and the statement of financial performance, statement of changes in net assets/equity, statement of cash flow and statement of comparison of budget and actual amounts for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In my opinion, except for the effects of the matters described in the Basis for Qualified Opinion section of my report, the accompanying financial statements give a true and fair view of the financial position of the Food and Agricultural Research and Extension Institute as at 30 June 2019, and of its financial performance and cash flows for the year then ended in accordance with International Public Sector Accounting Standards.

Basis for Qualified Opinion

Property, Plant and Equipment - Rs 63,786,819

A survey was not carried out, at time of transfer or in the ensuing years, in respect of the assets of the ex-Food and Agricultural Research Council that were vested in Food and Agricultural Research and Extension Institute on 14 February 2014.

Also, the assets owned by Food and Agricultural Research and Extension Institute could not be surveyed as important details were not included in the Fixed Asset Register.

Hence, the existence of the assets could not be ascertained.

Employee Benefit - Rs 70,681,368

The employee benefits under non-current liabilities had been understated as provision for vacation leave was not made in respect of all eligible employees.

I conducted my audit in accordance with International Standards of Supreme Audit Institutions (ISSAIs). My responsibilities under those standards are further described in the 'Auditor's Responsibilities for the Audit of the Financial Statements' section of my report. I am independent of the Food and Agricultural Research and Extension Institute in accordance with the INTOSAI Code of Ethics, together with the ethical requirements that are relevant to my audit of the financial statements in Mauritius, and I have fulfilled my other ethical responsibilities in accordance with these requirements. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my qualified opinion.

14th Floor, Air Mauritius Centre, John Kennedy Street, Port Louis – Mauritius
Tel: 212 2096-97/ 211 0882 – Fax: (230) 211 0880

Key Audit Matters

Key Audit Matters are those matters that, in my professional judgment, were of most significance in my audit of the financial statements of the current period. These matters were addressed in the context of my audit of the financial statements as a whole, and in forming my opinion thereon, and I do not provide a separate opinion on these matters. I have determined that there are no key audit matters to communicate in my report.

Other Information

Management is responsible for the other information. The other information comprises the information included in the annual report of the Food and Agricultural Research and Extension Institute, but does not include the financial statements and my report thereon.

My opinion on the financial statements does not cover the other information and I do not express any form of assurance conclusion thereon.

In connection with my audit of the financial statements, my responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or my knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work I have performed, I conclude that there is a material misstatement of this other information, I am required to report that fact. I have nothing to report in this regard.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with International Public Sector Accounting Standards, 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.

In preparing the financial statements, management is responsible for assessing the Food and Agricultural Research and Extension Institute's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management intends to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible of overseeing the Food and Agricultural Research and Extension Institute's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

My objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISSAIs, will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with ISSAIs, I exercise professional judgement and maintain professional scepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit 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 Food and Agricultural Research and Extension Institute's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Food and Agricultural Research and Extension Institute's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the Food and Agricultural Research and Extension Institute to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

I communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

I also provide those charged with governance with a statement that I have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on my independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, I determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. I describe these matters in my auditor's report unless law or regulation precludes public disclosure about the matter or, when, in extremely rare circumstances, I determine that a matter should not be communicated in my report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Report on Other Legal and Regulatory Requirements

Management's Responsibilities for Compliance

In addition to the responsibility for the preparation and presentation of the financial statements described above, management is also responsible to ensure that the Food and Agricultural Research and Extension Institute's operations are conducted in accordance with the provisions of laws and regulations, including compliance with the provisions of laws and regulations that determine the reported amounts and disclosures in an entity's financial statements.

Auditor's Responsibilities

In addition to the responsibility to express an opinion on the financial statements described above, I am also responsible to report to the Board whether:

(a) I have obtained all the information and explanations which to the best of my knowledge and belief were necessary for the purpose of the audit;
(b) the Statutory Bodies (Accounts and Audit) Act and any directions of the Minister, in so far as they relate to the accounts, have been complied with;
(c) in my opinion, and, as far as could be ascertained from my examination of the financial statements submitted to me, any expenditure incurred is of an extravagant or wasteful nature, judged by normal commercial practice and prudence;
(d) in my opinion, the Food and Agricultural Research and Extension Institute has been applying its resources and carrying out its operations fairly and economically; and
(e) the provisions of Part V of the Public Procurement Act regarding the bidding process have been complied with.

I performed procedures, including the assessment of the risks of material non-compliance, to obtain audit evidence to discharge the above responsibilities.

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

Statutory Bodies (Accounts and Audit) Act

I have obtained all information and explanations which to the best of my knowledge and belief were necessary for the purpose of my audit.

As far as it could be ascertained from my examination of the relevant records, no direction relating to the accounts has been issued by the responsible Minister to Food and Agricultural Research and Extension Institute.

Based on my examination of the records of Food and Agricultural Research and Extension Institute, nothing has come to my attention that causes me to believe that:

(a) expenditure incurred was of an extravagant or wasteful nature, judged by normal commercial practice and prudence; and
(b) the Institute has not applied its resources and carried out its operations fairly and economically.

Late Submission of Annual Report

The Annual Report, including the financial statements of Food and Agricultural Research and Extension Institute for the financial year ended 30 June 2019, was submitted on 29 January 2020, that is, some three months after the statutory deadline. Following audit, management was informed of amendments to be made to the financial statements. The amended financial statements were received on 16 December 2021.

Except for the late submission of the Annual Report, the Food and Agricultural Research and Extension Institute has complied with the Statutory Bodies (Accounts and Audit) Act in so far as it relates to the accounts.

Public Procurement Act

In my opinion, the provisions of Part V of the Act have been complied with as far as it could be ascertained from my examination of the relevant records.

C. ROMOOAH
Director of Audit

National Audit Office
Level 14,
Air Mauritius Centre
PORT LOUIS

4 February 2022

STATEMENT OF FINANCIAL POSITION AS AT 30 JUNE 2019

	Notes	Year Ended June 2019 MUR	Year Ended June 2018 Restated MUR
ASSETS			
Current Assets			
Cash and cash equivalents	6	85,262,698	51,465,618
Receivables	7	9,118,547	8,595,238
Work in progress	8	1,529,508	137,290
Prepayments	9	748,125	16,250
		96,658,878	60,214,396
Non-current assets			
Receivables	10	20,428,483	28,059,667
Property, plant and equipment	11	63,786,819	60,362,160
Intangible Assets	12	165,134	195,728
		84,380,436	88,617,555
Total assets		**181,039,314**	**148,831,951**
LIABILITIES			
Current liabilities			
Payables	13	3,387,532	5,447,222
Car loan payable	14	7,183,191	7,082,515
Employee benefit	15	16,150,176	16,175,789
Liabilities recognized under transfer arrangements	19	76,288,786	61,766,670
		103,009,685	90,472,196
Non-Current Liabilities			
Employee benefit	16	70,681,368	70,420,483
Car loan payable	17	17,932,050	19,575,619
Defined pension benefit	18	207,106,935	262,162,604
Liabilities recognized under transfer arrangements	19	18,446,084	13,841,950
		314,166,437	366,000,656
Total liabilities		**417,176,122**	**456,472,852**
Net liabilities		**(236,136,808)**	**(307,640,901)**
NET ASSETS / EQUITY			
General fund		(236,136,808)	(307,640,901)
Total net asset / equity		**(236,136,808)**	**(307,640,901)**

Notes 1 to 28 form an integral part of the financial statements.

H Woodun
Chairman FAREI Board

S Soborun (Mrs)
Board Member

Approved by the Board on 14 December 2021.

STATEMENT OF FINANCIAL PERFORMANCE FOR THE YEAR ENDED 30 JUNE 2019

	Notes	Year Ended June 2019 MUR	Year Ended June 2018 Restated MUR
Revenue			
Revenue from non-exchange transactions			
Transfers from government	20	400,050,160	360,256,863
Transfers from other entities	21	648,816	701,072
Revenue from exchange transactions			
Other revenue	22	11,764,349	9,241,205
Total Revenue		412,463,325	370,199,140
Expenses			
Salaries and employee benefits	23	275,450,409	274,483,519
Supplies and consumables used	24	34,897,449	33,025,616
Depreciation and amortisation expense	25	11,148,761	8,691,581
Other expenses	26	77,774,301	51,430,782
Total Expenses		399,270,920	367,631,498
Surplus/(deficit) for the year		**13,192,405**	**2,567,642**

CASH FLOW STATEMENT FOR THE YEAR ENDED 30 JUNE 2019

	Year Ended June 2019 MUR	Year Ended June 2018 Restated MUR
CASH FLOW FROM OPERATING ACTIVITIES		
Surplus for the year	13,192,405	2,567,642
Interest received	(20,217)	(20,217)
Non-cash movements		
Depreciation for the year	11,029,607	8,537,060
Amortisation of intangible asset	119,154	154,521
(Loss)/Gain on disposal of fixed assets	20,003	(23,663)
Increase /(Decrease) in defined pension benefit	3,256,020	8,294,466
(Increase) / Decrease in receivables	6,376,003	(11,844,937)
Increase / (Decrease) in payables	15,523,666	25,776,010
(Decrease)/Increase in employee benefit	235,273	(1,092,923)
Net cash flows from operating activities	**49,731,914**	**32,347,960**
CASH FLOW FROM INVESTING ACTIVITIES		
Purchase of property, plant and equipment	(14,481,773)	(23,590,357)
Purchase of intangible assets	(88,560)	(55,746)
Increase in work in progress	(1,392,218)	(137,290)
Proceeds from disposal of fixed assets	7,500	36,000
Interest received	20,217	20,217
Net cash flows from investing activities	**(15,934,834)**	**(23,727,178)**
CASH FLOWS FROM FINANCING ACTIVITIES		
Loan received from Ministry	6,544,685	12,873,660
Loan repaid to Ministry	(8,087,578)	(7,748,376)
Loan release to staff	(6,544,685)	(12,873,660)
Loan refunded by staff	8,087,578	7,748,376
Net cash flow from financing activities	**-**	**-**
Net (decrease) / increase in cash and cash equivalents	**33,797,080**	**8,620,782**
Cash and cash equivalents at the beginning of the year	**51,465,618**	**42,844,836**
Cash and cash equivalents at end of the year	**85,262,698**	**51,465,618**

STATEMENT OF CHANGES IN NET ASSETS / EQUITY FOR THE YEAR ENDED 30 JUNE 2019

	MUR
General Fund	
Balance as at 01 July 2018	(307,640,901)
Remeasurement of employee benefit: IPSAS 39	58,311,689
Surplus for the period	13,192,405
Closing balance as at 30 June 2019	(236,136,808)
Balance as at 01 July 2017	(132,921,039)
Remeasurement of employee benefit: IPSAS 39	(177,287,504)
Surplus for the period	2,567,642
Restated balance as at 30 June 2018	(307,640,901)

STATEMENT OF OUTTURN FOR THE YEAR ENDED 30 JUNE 2019

	Revised Budget MUR	Financial Statement MUR	Comments
Expenditure			
Salaries and other related costs	217,922,852	207,178,472	Vacant posts were not filled
Pension cost (SICOM)	30,000,000	32,785,069	Decrease of MUR55M on pension benefit following adoption of IPSAS 39 and remeasurement of prior years pension fund
Passage benefits	9,000,000	7,686,871	Decrease in provision for passage benefit due to cashing during the year
Travelling and transport	29,750,740	27,799,997	
Office expenses	2,500,000	3,283,665	Includes provision of MUR0.28 M
Utilities	5,600,000	6,430,152	
Rent	900,000	904,815	Rented offices at Quatre Bornes were released in October 2017
Maintenance and running cost of vehicles	3,900,000	3,856,055	
Maintenance of building and equipment	1,000,000	5,809,204	Urgent infrastructure works had to be carried out in office buildings and on stations
Training	1,400,000	126,780	Overprovision in training budget for staff and farmers
Information technology facilities	100,000	475,563	
Uniform and protective clothing	2,000,000	2,264,075	
Nursery and laboratory consumables	1,000,000	523,140	
Security services	6,426,408	7,213,186	
Other operating expenses (animal feed, fertiliser, seeds, etc)	16,200,000	15,111,203	
Schemes	-	64,112,506	Budgeted by the Ministry and implemented by FAREI
Insurance non-motor	400,000	814,622	Budget was underestimated
Legal and professional fee	450,000	1,208,478	
Chairman and board members fee	450,000	538,307	Increase in the number of meetings and sub-committees
Total expenditure	**329,000,000**	**388,122,158**	

STATEMENT OF COMPARISON OF ACTUAL AND BUDGET AMOUNTS
FOR THE YEAR ENDED 30 JUNE 2019

	Approved Budget MUR	Actual Received / Paid MUR	Financial Statement MUR
Revenue			
Government grant (capital and recurrent)	300,000,000	400,085,855	400,698,975
Other Income	10,000,000	11,764,349	11,764,349
	310,000,000	411,850,204	412,463,324
Expenditure			
Salaries and other related costs	217,922,852	207,907,550	207,178,472
Pension cost (SICOM)	30,000,000	29,529,048	32,785,069
Passage benefits	9,000,000	6,365,679	7,686,871
Travelling and transport	29,750,740	27,075,087	27,799,997
Office expenses	2,500,000	3,278,589	3,283,665
Utilities	5,600,000	6,430,152	6,430,152
Rent	900,000	904,815	904,815
Maintenance and running cost vehicles	3,900,000	3,853,905	3,856,055
Maintenance of building and equipment	1,000,000	5,809,204	5,809,204
Training	1,400,000	126,780	126,780
Information technology facilities	100,000	475,563	475,563
Uniform and protective clothing	2,000,000	2,264,075	2,264,075
Nursery and laboratory consumables	1,000,000	523,140	523,140
Security services	6,426,408	7,213,186	7,213,186
Other operating expenses (animal feed, fertilizer, seeds, etc)	16,200,000	15,091,199	15,111,203
Schemes	-	64,112,506	64,112,506
Insurance non-motor	400,000	814,622	814,622
Legal and professional fee	450,000	670,171	1,208,478
Chairman and Board members fee	450,000	538,307	538,307
Total Expenditure	**329,000,000**	**382,983,577**	**388,122,158**

NOTES TO THE ACCOUNT FOR YEAR ENDED 30 JUNE 2019

1 PRINCIPAL ACTIVITIES

The Food and Agricultural Research and Extension Institute (FAREI), a body corporate, was established on 14 February 2014 to serve the purpose described in the **Food and Agricultural Research and Extension Institute Act 2013**.

The establishment of the FAREI was to take over the activities of the Food and Agricultural Research Council (FARC), including the Agricultural Research and Extension Unit (AREU).

The objects of FAREI is to introduce, develop and promote such novel technologies in the food and non-sugar agricultural sector as may be approved by the Minister; to coordinate, promote and harmonise research activities in non-sugar agriculture, food production and forestry; promote and encourage agricultural and agribusiness development, through the setting up of agricultural youth clubs and agricultural entrepreneur clubs; and promote dissemination and practical application of the results of any research undertaken under the FAREI Act.

1B BASIS OF PREPARATION

a. Statement of compliance

The financial statements have been prepared and complied with the International Public Sector Accounting Standards (IPSAS) issued by the International Public Sector Accounting Standards Board (IPSASB) which is a Board of the International Federation of Accountants Committee (IFAC).

Where an IPSAS does not address a particular issue, the appropriate International Financial Reporting Standards (IFRS) and International Accounting Standards (IAS) of the International Accounting Standards Board (IASB) are applied.

b. Basis of preparation

The financial statements have been prepared on an accrual basis and on a going concern basis and the accounting policies have been applied consistently throughout the year.
The presentation of Financial Statements as per IPSAS1 comprise of:

- Statement of Financial Position
- Statement of Financial Performance
- Statement of Cash Flow
- Statement of changes in net assets and equity
- Statement of comparison of actual and budget amounts, and
- Notes comprising of significant accounting policies and other explanatory notes

c. Reporting date

The financial statements cover transactions for twelve months period from 01 July to 30 June.

d. Level of rounding

The figures in the Financial Statements have been rounded to the nearest rupee.

e. Cash Flow

Indirect method has been used to prepare the Cash Flow Statement.

f. Standards issued but not yet effective

- IPSAS 40 Public Sector Combinations – Effective for annual periods beginning on or after 1 January 2019 - Date of issue: January 2017
- IPSAS 41 Financial Instruments – Effective as from January 2022 - Date of issue: August 2018
- IPSAS 42 Social Benefits – Effective as from January 2022 - Date of issue: January 2019

The Institute anticipates that the adoption of these Standards in the future periods will have no material impact on the Financial Statements.

g. Presentation currency
The Financial Statements are presented in Mauritian Rupee.

2 ACCOUNTING POLICIES

a. Revenue Recognition

- Exchange Transactions
  Revenue from sales, services provided and training activities are being recognised when the transactions have been performed and are billable.

- Non-exchange Transactions
  Assets and revenue arising from transfer transactions are recognised in accordance with the requirements of IPSAS 23, Revenue from Non-Exchange Transactions (Taxes and Transfers) and includes any grants (Transfers) from Government and other institutions.

  Advances received from non-exchange transactions are recognised as liability. The amortised amount of advances is treated as revenue in the Statement of Financial Performance.

b. Property, Plant and Equipment
Property, plant and equipment are stated at historical cost less accumulated depreciation. Historical cost is the amount of cash or cash equivalents paid to acquire an asset at the time of acquisition. No impairment in value was considered.

Depreciation is provided on the Straight Line basis so as to write-off the depreciable value of the assets over their expected useful economic lives. Depreciation has been provided for in the month following the month of purchase.

No depreciation is provided in the month of disposal.

The annual rates of depreciation are as follows:

Buildings	2%
Office equipment	20%
Furniture and fittings	10%
Infrastructure Assets	10%
Field equipment	25%
Heavy duty field equipment	20%
Motor vehicle	20%
Computer hardware	20%
Laboratory equipment	15%
Greenhouse	25%
Greenhouse equipment, fog unit and polycarbonate greenhouse	10%

c. Intangible Assets

Intangible assets comprise computer software which is recorded at cost. Computer software is amortised using the straight line method over a useful life of five years (20%). Cost incurred towards licence renewal is expensed.

d. Impairment of non-current assets

The carrying values of property, plant and equipment are not reviewed for impairment as there is no indication that the carrying value may be recoverable.

e. Operating Lease

Rentals payable under operating lease agreements are charged to the Statement of Financial Performance on a straight line basis over the term of the relevant lease.

Operating leases are leases and assets, the ownership of which is retained by the lessor (see note 27).

f. Leasehold Land and Building

Land occupied by the Institute is owned by the Ministry of Agro Industry and Food Security and has not been capitalised.

The buildings occupied by FAREI, apart from the Head Office building at Réduit, the Tissue Culture Laboratory and the Farmers Training School at Wooton, belong to the Ministry and are as such not reflected in the Financial Statements. However, buildings and structures that have been refurbished or constructed during the financial period are reflected in the financial statements.

g. Grant

Grant received to meet recurrent and capital expenditure is treated as revenue in the statement of financial performance in the year of receipt.
Capital grant are funded by the Government and other entities. Expenditure incurred is both of recurrent and capital nature.

h. Employee Benefits

All permanent employees of FAREI have pension plans which are managed by the State Insurance Company of Mauritius Limited.

i. Defined Benefit Pension Plan

Provision for retirement benefits to employees of the FAREI is made under the Statutory Bodies Pension Funds Act, as subsequently amended. The Scheme is a Defined Benefit for employees who joined FAREI prior to 2013. The contribution rate by employees is 6% and 13.9% for employer. The cost of providing benefits is actuarially determined using the projected unit credit method (see Note 18).

The present value of these funded obligations is recognised in the Statement of Financial Position as a non-current liability after adjusting for the fair value of plan assets, any unrecognised actuarial gains and losses and any unrecognised past service cost.

The net total of the current service cost, interest cost, expected returns on plan assets, current service cost, any recognised actuarial gains and losses, any recognised past service cost and the effect of any curtailment or settlement is recognised in the Statement of Financial Performance.

ii. Defined Contribution Scheme

As from January 2013, the Public Pensions Defined Contribution Pension Scheme (PPDCS) was set up. Consequently, with effect from January 2013, all new entrants shall join the new PPDCS and shall earn benefits according to the new provisions as compared to existing members who shall continue to be members of the existing Defined Pension Scheme (DPS) and earn benefits accordingly. The contribution rate for the PPDCS is 6% for employees and 12% for employers.

iii. State Pension Plan

Contribution to the National Pension Scheme on behalf of temporary and contract employees are expensed in the Statement of Financial Performance in the period in which they fall due.

iv. Family Protection Scheme

A Family Protection Scheme exists at the FAREI whereby 4% of monthly salary of each employee on a permanent and pensionable establishment is paid to either the Civil Service Family Protection Scheme or the State Insurance Company of Mauritius Limited (SICOM) which manage the scheme. A contribution of 2% respectively by FAREI and the employee is made towards the schemes.

v. Other Employee Benefits

Other employee benefits include accumulated sick leave, passage benefits and refund of unutilised vacation leave. Employees are allowed to accumulate sick leaves not taken at the end of each year up to a maximum of 110 days, in a sick leave bank as at 30 June 2019. The balance of banked sick leave is valued at the end of the financial year and is recognised as long term payables. Beyond this ceiling of 110 days, officers are refunded part of the annual entitlement of sick leaves not taken at the end of every calendar year and is expensed to the Statement of Financial Performance.

A provision is made for the estimated liability for passage benefits. The passage benefit for each staff is valued at year end and is included as short term liabilities. The annual increase in passage benefit is expensed to the Statement of Financial Performance.

i. Key Management Personnel Compensation

Key management personnel are those persons having authority and responsibility of planning, directing and controlling the activities of the Institute, directly or indirectly, including directors (whether executive or otherwise) of the Institute.

The compensation paid to key management personnel is based on the recommendation of the Pay Research Bureau Report and is included in salaries and benefits.

The key management personnel of FAREI comprise the Chief Executive Officer and Assistant Directors.

Key Management Personnel Emoluments:
Year ended 30 June 2018 ..... MUR 6,974,820
Year ended 30 June 2019 ..... MUR 7,547,748

j. Provisions

Provisions are recognised when there is a present or constructive obligation as a result of past events which it is probable will result in an outflow of economic benefits that can be reasonably estimated.

k. Use of estimates and judgement

The preparation of financial statements in accordance with the International Public Sector Accounting Standards requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the Financial Statement and the reported amounts of revenues and expenses during the reporting period. Although these estimates are based on management's best knowledge of current events and actions, actual results ultimately may differ from these estimates.

3 RELATED PARTY TRANSACTIONS

Related parties are considered to be related if one party has the ability to control the other party and exercise significant influence over the party in making financial operating decisions. No such transactions were reported during the period ended 30 June 2019.

4 PENDING LITIGATIONS

As at 30 June 2019 there were three cases of pending litigations with total claims of Rs6,051,954 against FAREI. The outcome of these cases will depend on court judgements. The likelihood of the potential litigation costs were assessed by management. It is believed that the possibility of any possible obligation accruing to FAREI in all these cases is remote in this accounting period. Accordingly, no provisions have been made to the accounts.

5 RISK MANAGEMENT POLICIES

A description of the various risks to which the FAREI is exposed is shown below as well as the approach taken by management to control and mitigate those risks.

Liquidity risk: This refers to the possibility of default by the FAREI to meet its obligations because of the unavailability of funds to meet both operational and capital requirements. In order to ensure adequacy of its funding, cash flow forecasts are prepared regularly and actions are taken accordingly.

Credit risk: Credit risk relates to the possibility of default by employees in settling their loan obligations towards the FAREI. The FAREI has established a "lien" policy on cars purchased by those employees who benefit from such car loans.

Health Surveillance: management has a statutory obligation to comply with the Occupational Safety and Health Act 2005. This pertains to the provision of a safe workplace, protective clothing and equipment, health surveillance and sensitisation.

		Year Ended June 2019 MUR	Year Ended June 2018 MUR
6	**CASH AND CASH EQUIVALENTS**		
	This is made up of bank balances and cash in hand		
	Current accounts	85,227,149	51,458,289
	Cash in hand	35,549	7,329
		85,262,698	**51,465,618**
7	**RECEIVABLES – CURRENT ASSETS**		
	Debtors car loan	7,183,191	7,225,375
	Sundry debtors	139,664	261,871
	Debtors chargeable services	1,795,692	1,107,992
		9,118,547	**8,595,238**

		Year Ended June 2019 MUR	Year Ended June 2018 MUR
8	**WORK IN PROGRESS**		
	This relates to ongoing infrastructure works		
	Conversion of ex-quarter into office at Curepipe LRS	429,725	137,290
	Refurbishment of nursery tables at the Tissue Culture Lab	123,575	-
	Conversion of Stomoxys Lab into Ruminant Lab at Curepipe LRS	371,936	-
	Fencing at Wooton	604,272	-
		1,529,508	**137,290**
9	**PREPAYMENT ON INSURANCE FOR MOTOR VEHICLES AND RENT**	**748,125**	**16,250**
10	**RECEIVABLES – NON-CURRENT ASSETS**		
	Grant receivable from MAIFS	2,413,121	8,400,736
	Debtors car loan falling due more than one year	18,015,362	19,658,931
		20,428,483	**28,059,667**

11. PROPERTY, PLANT AND EQUIPMENT

	Buildings MUR	Furniture and Fittings MUR	Office Equipment MUR	Computer Hardware MUR	Infrastructure Assets MUR	Motor Vehicle and Heavy Duty Field Equipment MUR	Laboratory Furniture, Fittings and Equipment MUR	Post-Harvest and Plant Pathology Laboratory MUR	Fog Unit and Polycarbonate and Hydroponic Greenhouse MUR	Food Processing and PCR Laboratory MUR	Light Field Equipment MUR	Total MUR
Cost and Valuation												
At cost as at 01 July 2018	**35,975,510**	**15,270,874**	**13,509,718**	**12,341,815**	**4,778,504**	**37,526,465**	**27,262,304**	**3,018,454**	**22,399,944**	**7,196,064**	**18,586,802**	**197,866,455**
Additions	435,054	455,968	1,540,476	598,126	6,310,565	1,279,673	343,275	-	2,741,828	165,953	610,855	14,481,773
Disposal	-	-	-	(44,600)	-	-	-	-	-	-	(16,850)	(61,450)
At cost as at 30 June 2019	**36,410,564**	**15,726,842**	**15,050,194**	**12,895,341**	**11,089,069**	**38,806,138**	**27,605,579**	**3,018,454**	**25,141,772**	**7,362,017**	**19,180,807**	**212,286,777**
Depreciation												
Depreciation as at 01 July 2018	**9,742,368**	**12,067,974**	**11,857,525**	**10,400,847**	**450,526**	**25,463,392**	**24,742,505**	**3,018,454**	**17,849,004**	**5,935,473**	**15,976,229**	**137,504,295**
Change for the year	724,849	336,708	761,785	613,675	808,280	3,417,097	1,467,404	-	1,696,555	240,356	962,898	11,029,607
Eliminated on disposal	-	-	-	(17,096)	-	-	-	-	-	-	(16,850)	(33,946)
Depreciation as at 30 June 2019	**10,467,217**	**12,404,682**	**12,619,310**	**10,997,426**	**1,258,806**	**28,880,489**	**26,209,909**	**3,018,454**	**19,545,559**	**6,175,829**	**16,922,277**	**148,499,958**
Carrying Amount												
As at 30 June 2019	**25,943,347**	**3,322,160**	**2,430,884**	**1,897,915**	**9,830,263**	**9,925,649**	**1,395,670**	**-**	**5,596,213**	**1,186,187**	**2,258,530**	**63,786,819**
As at 30 June 2018	**26,233,142**	**3,202,900**	**1,652,194**	**1,940,968**	**4,327,978**	**12,063,074**	**2,519,799**	**-**	**4,550,941**	**1,260,591**	**2,610,573**	**60,362,160**

			Year Ended June 2019 MUR	Year Ended June 2018 MUR
12	**INTANGIBLE ASSETS – SOFTWARE COSTS**			
	Software costs are capitalized in accordance with the provisions of IPSAS 31			
	At cost as at 01 July 2018		2,586,052	2,530,306
	Additions		88,560	55,746
	At cost as at 30 June 2019		2,674,612	2,586,052
	Amortisation as at 01 July 2018		2,390,324	2,235,803
	Amortisation for the year		119,154	154,521
	Amortisation as at 30 June 2019		2,509,478	2,390,324
	Written down value as at 30 June 2019		**165,134**	**195,728**
13	**PAYABLES**			
	Creditors falling due within one year		194,130	1,377,693
	Accruals		3,193,402	4,069,529
			3,387,532	**5,447,222**
14	**CURRENT PORTION OF LONG TERM BORROWING**			
	Car loan falling due within one year		**7,183,191**	**7,082,515**
15	**EMPLOYEE BENEFIT**			
	Sick leave	16(a)	8,072,705	8,560,735
	Passage benefits	16(b)	8,077,471	7,615,054
			16,150,176	**16,175,789**
16	**LONG TERM PROVISIONS**			
	Provision for sick leave	16(a)	55,680,350	56,278,240
	Provision for passage benefits	16(b)	15,001,018	14,142,243
			70,681,368	**70,420,483**
16(a)	**Provision for sick leave**			
	Opening balance		64,838,975	63,693,127
	Less: Payment during the year		(9,584,460)	(8,711,136)
	Add: Provisions for the year		8,498,540	9,856,984
	Closing balance		63,753,055	64,838,975
	Less: Amount falling due within one year		(8,072,705)	(8,560,735)
	Amount falling due more than one year		55,680,350	56,278,240
16(b)	**Provision for passage benefits**			
	Opening balance		21,757,297	21,607,615
	Less: Payment during the year		(6,365,679)	(7,470,233)
	Add: Provisions for the year		7,686,871	7,619,915
	Closing balance		23,078,489	21,757,297
	Less: Amount falling due within one year*		(8,077,471)	(7,615,054)
	Amount falling due more than one year		15,001,018	14,142,243
	* It is assumed 35% of the provision shall be payable within one year			
17	**LONG TERM BORROWING**			
	Car loan amount falling due more than one year		**17,932,050**	**19,575,619**

18 DEFINED PENSION BENEFIT

The assets of the fund are held independently and administered by SICOM Ltd. Disclosures regarding movement in the scheme are as follows:

	Year Ended June 2019 MUR	Year Ended June 2018 Restated MUR
Employee benefit	**207,106,935**	**262,162,604**
Employee Benefit statement as per IPSAS 39		
Amounts recognised in statement of financial position at end of year		
Defined benefit obligation	598,903,689	625,020,991
(Fair value of plan assets)	(391,796,754)	(362,858,387)
Liability recognized in statement of financial position at end of year	207,106,935	262,162,604
Amounts recognised in statement of financial performance:		
Current service cost	19,009,897	20,106,774
Past service cost recognised	-	-
(Employee contributions)	(9,538,930)	(9,510,005)
Fund expenses	799,935	795,397
Net interest expense/(revenue)	18,068,484	19,187,261
P & L charge	28,339,386	30,579,427
Remeasurement		
Liability(gain)/loss	(63,139,098)	(14,406,687)
Assets (gain)/Loss	4,827,408	(17,370,784)
Net assets/equity (NAE)	**(58,311,690)**	**(31,777,471)**
Total	**(29,972,304)**	**(1,198,044)**
Movements in liability recognised in statement of financial position:		
At start of year	262,162,604	285,645,610
Amount recognized in P & L	28,339,386	30,579,427
(Actuarial Reserves Transferred in)	(2,984,837)	(254,729)
(Contributions paid by employer)	(22,098,528)	(22,030,233)
Amount recognized in NAE	(58,311,690)	(31,777,471)
At end of year	**207,106,935**	**262,162,604**

The plan is defined benefit arrangement for the employees and it is funded. The assets of the funded plan are held independently and administered by the SICOM of Mauritius Ltd.

	Year Ended June 2019 MUR	Year Ended June 2018 Restated MUR
Reconciliation of the present value of defined benefit obligation		
Present value of obligation at start of period	625,020,991	606,595,497
Current service cost	19,009,897	20,106,774
Interest cost	43,751,469	40,945,196
(Benefits paid)	(25,739,570)	(28,219,789)
Liability (gain) / loss	(63,139,098)	(14,406,687)
Present value of obligation at end of period	598,903,689	625,020,991
Reconciliation of fair value of plan assets		
Fair value of plan assets at start of period	362,858,387	320,949,887
Expected return on plan assets	25,682,985	21,757,935
Employer contributions	22,098,528	22,030,233
Employee contributions	9,538,930	9,510,005
Actuarial Reserves Transferred in	2,984,837	254,729
(Benefits paid + other outgo)	(26,539,505)	(29,015,186)
Asset gain / (loss)	(4,827,408)	17,370,784
Fair value of plan assets at end of period	391,796,754	362,858,387
Distribution of plan assets at end of period	June 2019	June 2018
Percentage of assets at end of year	%	%
Fixed interest securities and cash	58.7	59.5
Loans	3.4	3.7
Local equities	13.1	14.6
Overseas bonds and equities	24.2	21.6
Property	0.6	0.6
Total	100.0	100.0
Additional disclosure on assets issued or used by the reporting entity	June 2019	June 2018
Percentage of assets at end of year	%	%
Assets held in the entity's own financial instruments	0	0
Property occupied by the entity	0	0
Other assets used by the entity	0	0
Components of the amount recognized in NAE		
Year	**30 June 2019**	**30 June 2018**
Currency	**MUR**	**MUR**
Asset experience gain / (loss) during the period	(4,827,408)	17,370,784
Liability experience gain / (loss) during the period	63,139,098	14,406,687
	58,311,690	31,777.471
Year	**2019/2020**	
	MUR	
Expected employer contributions	23,024,377	

(estimate to be reviewed by the Food and Agricultural Research and Extension Institute)

Weighted average duration of the defined benefit obligations 14 years

(Calculated as a % change in PV of liabilities for a 1% change in discount rate)

The plan is exposed to actuarial risks such as: Investment risk, interest rate risk, longevity risk and salary risk. The risk relating to death in service benefits is re-insured.

The cost of providing the benefits is determined using the Projected Unit Method. The Principal assumptions used for the purpose of the actuarial valuation were as follows:

	Year Ending June 2019	Year Ending June 2018 Restated
Discount Rate	7.00%	6.75%
Future salary increases	4.00%	4.00%
Future pension increases	3.00%	3.00%
Mortality in retirement	A6770 ultimate Tables PA (90) Tables	PA (90) Tables- Rated down by 2 years
Retirement age	As per second Schedule in the Statutory Bodies Pension Funds Act	

The discount rate is determined by reference to markets yields on bonds.
Significant actuarial assumptions for determination of the defined benefit obligation are discount rate, expected salary increase and mortality. The sensitivity analyses below have been reasonably determined based on the possible changes of the assumptions occurring at the end of the reporting period.

- If the discount rate would be 100 basis points (one percent) higher (lower), the defined benefit obligation would decrease by MUR75.4M (increase by MUR93.8M) if all other assumptions were held unchanged.
- If the expected salary growth would increase (decrease) by 100 basis points, the defined benefit obligation would increase by MUR47.3M (decrease by MUR40.9M) if all assumptions were held unchanged.
- If life expectancy would increase (decrease) by one year, the defined benefit obligations would increase by MUR16M (decrease by MUR16M) if all assumptions were held unchanged.

In reality one might expect interrelationships between the assumptions, especially between discount rate and expected salary increases, given that both depends to a certain extent on expected inflation rates. The analysis above abstracts from these interdependence between the assumptions.

		Year Ended June 2019 MUR	Year Ended June 2018 MUR
19	**LIABILITIES RECOGNISED IN RESPECT OF TRANSFERS**		
	FAREI received advances from the Government and other institutions for the implementation of projects and payment of schemes to beneficiaries. As at 30 June 2019 there were on-going projects and outstanding claims due to beneficiaries:		
	Opening balance	75,608,620	59,911,142
	Receipts	99,825,007	57,477,245
		175,433,627	117,388,387
	Expenses	(80,698,757)	(41,779,767)
	Closing balance	**94,734,870**	**75,608,620**
	Current liabilities	76,288,786	61,766,670
	Non-current liabilities	18,446,084	13,841,950
		94,734,870	**75,608,620**
20	**REVENUE FROM NON-EXCHANGE TRANSACTIONS**		
	TRANSFERS FROM GOVERNMENT		
	Recurrent Grant	320,156,420	294,638,183
	Capital Grant	79,893,740	65,618,680
		400,050,160	**360,256,863**
21	**REVENUE FROM NON-EXCHANE TRANSACTIONS**		
	TRANSFERS FROM OTHER ENTITIES		
	MRC	-	2,800
	UNDP	-	125,000
	Small Grant Scheme Australia	297,285	61,699
	CIAT	351,531	511,573
		648,816	**701,072**
22	**REVENUE FROM EXCHANGE TRANSACTIONS**		
	OTHER REVENUE		
	Sales of guide agricole	40,200	88,927
	Sales of animals	2,218,087	1,178,889
	Sales of vegetables and produce	3,782,560	3,485,761
	Sales of milk and manure	3,400,790	2,824,708
	Revenue from testing and diagnosis	718,743	85,875
	Training and registration fee	861,405	440,228
	Sundry Income	722,347	1,092,937
	Gain on disposal of fixed assets	-	23,663
	Interest received	20,217	20,217
		11,764,349	**9,241,205**

		Year Ended June 2019 MUR	Year Ended June 2018 MUR
23	**SALARIES AND EMPLOYEE BENEFITS**		
	Salaries and employee benefits	214,865,343	210,033,555
	Employer's Contribution		
	- Defined Pension Contribution (DPC)	22,094,467	22,265,762
	- Pension Contribution Ex.MCIA	267,318	157,615
	- Defined Contribution Scheme	1,014,333	736,671
	- Civil Service Family Protection Scheme	658,474	730,667
	- SICOM Family Protection Scheme	2,536,180	2,422,191
	- NPF/EWF/Levy	2,958,276	2,609,684
	Provision for Pension-Employees Benefit (DPC)	3,256,021	8,294,465
	Travelling and Transport	27,799,997	27,232,909
		275,450,409	**274,483,519**
24	**SUPPLIES AND CONSUMABLES USED**		
	Office expenses	3,141,821	2,931,080
	Electricity, water and telephone	6,430,152	5,870,423
	Maintenance and running of vehicles	3,856,055	3,640,348
	Repairs and maintenance	5,809,204	5,759,189
	Uniforms and protective clothing	2,264,075	1,915,125
	Apparatus and supplies of laboratory	523,140	1,004,294
	On farm trial and demonstration	116,624	228,028
	Other operating expenses	1,783,260	1,484,755
	Seeds and plantlets	1,716,075	973,091
	Cowfeed, drug and fodder	7,053,153	6,863,529
	Fertilisers and pesticides	1,499,299	1,555,231
	Small tools and equipment	704,590	800,523
		34,897,449	**33,025,616**
25	**DEPRECIATION AND AMORTISATION EXPENSE**		
	Depreciation (Note 11)	11,029,607	8,537,060
	Amortisation (Note12)	119,154	154,521
	Depreciation	**11,148,761**	**8,691,581**

		Year Ended June 2019 MUR	Year Ended June 2018 MUR
26	**OTHER EXPENSES**		
	Office expenses and incidental	617,406	281,187
	Rent	904,815	1,419,498
	Training of staff	126,780	124,000
	Training of farmers	448,781	388,659
	Security services	7,213,186	7,018,252
	Miscellaneous expenses	455,392	103,284
	Legal and professional fees	1,208,478	216,745
	Board Members fee	538,307	604,105
	Contribution to local organisation (AYC)	6,075	100,400
	Open Day and other celebrations	984,247	1,295,258
	Insurance	814,622	438,204
	Books and publications	200	4,032
	Loss on disposal of fixed assets	20,003	-
	Schemes	64,112,506	39,405,976
	IAEA expenses	323,503	28,382
	MRC expenses	-	2,800
		77,774,301	**51,430,782**

27. OPERATING LEASE

Rent is paid for rental of office space as follows:

a. Extension head office at St Pierre: 500m^2
b. Goodlands sub-office: 27.2m^2
c. Petite Rivière sub-office: 150ft^2
d. Vacoas sub-office: 53.75m^2
e. Long Mountain sub-office: 375ft^2

The future minimum lease payments under non-cancellable operating leases are as follows:

	2018/2019	2017/2018
Up to one year	291,675	174,675
After one year and before five years	399,385	325,900
	691,060	500,575

28. CONTINGENT LIABILITIES

Bank Guarantee

As at 30 June 2019, the FAREI provided a guarantee of MUR10,000 in favour of the Mauritius Revenue Authority for the issue of a license to operate a still at the Plant Pathology Laboratory.

Section 6: Publications

- Presentation

1. Huzar Futty Beejan P. **(2018).** Integrating induced mutagenesis in carrot breeding programs: harnessing the advantages of radiation breeding**. International Carrot Conference, University of Wisconsin** USA , 21 - 24 August 2018
2. Huzar Futty Beejan P. and Nowbuth R. D. (2018). Proposing alternative substrates to sugarcane bagasse to the Oyster Mushroom (*Pleurotus)* cultivation sector in Mauritius. **QualiREG** 7ème rencontres de l'agroalimentaire en Ocean Indien, 16 - 21 November 2018.
3. Saraye B, Jankowicz-Cieslak J B, Peerboccus S and Nowbuth R D. (2018). Induced genetic variability for yield and heat tolerance in tomato (*Solanum lycopersicum*). **FAO/IAEA International Symposium on Plant Mutation Breeding and Biotechnology,** 27 - 31 August 2018.
4. Huzar Futty Beejan P., Nowbuth R. D. , N. Cahoolessur, F. Sarsu (2018). Study to determine the growth reduction dose 50 (GR50) for gamma rays induced mutagenesis in carrot (*Daucus carota* L.). **FAO/IAEA International Symposium on Plant Mutation Breeding and Biotechnology,** 27 - 31 August 2018.
5. Seewoogoolam R, Nowbuth R. D., Cahoolessur N. and Sarsu F. (2018). Determination of growth reduction dose (GR50) for local landraces of cauliflower *(Brassica oleracea var. botrytis)* and cabbage *(Brassica oleracea var. capitata)* in Mauritius. **FAO/IAEA International Symposium on Plant Mutation Breeding and Biotechnology,** 27 - 31 August 2018.
6. Nowbuth R. D., Seewoogoolam R, Huzar Futty Beejan P. and Cahoolessur N (2018). Current Status of Safe Application of Nuclear Energy for the Improvement of Cauliflower, Cabbage and Carrot in Mauritius. **FAO/IAEA International Symposium on Plant Mutation Breeding and Biotechnology,** 27 - 31 August 2018.
7. Subramaniam S, et al (2017). Banana puree, **Qualireg** 2017
8. Jhurree-Dussoruth B, Vally V, Kallydin H, Burthia D and Pecheur B.M (2018). Improvement of local dessert-type banana for disease tolerance and agronomic traits through nuclear application. **FAO/IAEA International Symposium on Plant Mutation Breeding and Biotechnology**, August 2018.
9. Dussoruth B, Jankowicz-Cieslak J, Kallydin H and Burthia D (2018). Irradiation as means for increasing genetic diversity in banana: The Need to carry out radiosensitivity tests on in-vitro cultures at appropriate stage of growth. **FAO/IAEA International Symposium on Plant Mutation Breeding and Biotechnology**, August 2018.
10. Luchoomun Y D and Ramburn N.D (2018). Evaluation of new litchi cultivars in Mauritius- "Yook Ho Pow" found promising. **Acta Horticilturae No. 1 211(1211):79-86**, September 2018
11. Beedassy S.K, Ramtohul J and Jugnarain M (2018). A study on Antibiotic Residues and Aflatoxin in dairy fresh milk in Mauritius. **The Africa Food Safety Workshop**, June 2018. South Africa.

- Technical Publication
  1. Information sheet on 2 potted anthurium varieties Twilight and Starlight
  2. Recommendation sheet on chilli, red cabbage and eggplant for hydroponics
  3. Quail Farming in Mauritius
  4. Cost of establishment of 1 ha of Guatemala or elephant grass for fodder cultivation
  5. Sheep rearing

- Technical Article Publication
  1. Jhurree-Dussoruth B (2018). La mise en place de collections de bananiers *in-situ* et *ex-situ* aux Comores', **CIRAD /Germination I**

- Factsheet
  1. Alternative substrate for oyster mushroom production
  2. Maize production for silage

- Book Chapter
  1. Subramaniam S., Ramburn N; Chacoory R. Breadnut: Innovative Products for the Agro – Food Sector**. In. Kovac, eds Sustainable Horticulture Volume 2: Food, Health & Nutrition Apple Academic Press, CRC Press (USA)**, June 2018, pp 55-68.

- Recommendation Sheet

Thirty new publications were produced on the following topics and released to meet information needs of agro-entrepreneurs and farmers:

1. Onion: Malbec a short-day hybrid variety
2. Onion: Chelsea a short-day hybrid variety
3. Onion: Rubex a short-day hybrid variety
4. Zucchini varieties Golden Yellow & Gela
5. Watermelon Varieties: Yellow Baby & Champion
6. Chilli Variety Star 6603
7. Cauliflower Variety Kalinca F1
8. Cabbage varieties Tacoma and Emblem
9. Squash Variety 'Patisson Orange'
10. Tomato Varieties for Hydroponics
11. FBS 1 A locally developed Snap Bean Variety
12. FBS2 A locally developed Springless Snap Bean Variety
13. New Eggplant varieties for Production in Hydroponics Greenhouse
14. VIGORA A New Potato Variety Developed in Mauritius
15. TWILIGHT A New Anthurium Variety Developed in Mauritius
16. Starlight: A new anthurium variety developed in Mauritius
17. Alternative substrate for oyster mushroom production

18. Five salad tomato varieties for hydroponics: Natyssa, Starlylia, Cantyca, Byzance and Valouro
19. Five eggplant varieties: Brigitte, Angela Sharapova, Black Pearl and Scarlaty
20. Three tomato varieties: Summer King, Summer Star and Rising Star
21. Recommended Hot Water Treatment (HWT) for disease control in seeds of selected crops
22. Commercially available Biological Products in Plant Disease Control
23. La Production Maraîchère sous Abris (tunnel de Culture)
24. Calendrier de Plantation Pour Certaines Cultures sous Abri
25. Macadamia, Basic considerations for setting up commercial orchards
26. Opportunities in Onion Processing
27. Management of pests in ornamentals
28. Pest management in organic combava production
29. Improvement of local dessert-type banana for disease tolerance and agronomic traits through nuclear application.
30. Irradiation as means for increasing genetic diversity in banana: The need to carry out radiosensitivity tests on in-vitro cultures at appropriate stage of growth.

9,843 publications were issued to farmers and stakeholder institutions

- Leaflet
  1. Biological control of aphids with the ladybeetle *Cheilomenes sulphurea*
  2. Fall armyworm, *Spodoptera frugiperda*, a threat for Mauritius
  3. Noni juice

- Farming News
  1. Vol. 47 no.2/ 2018
  2. Vol. 48 no.1/ 2019

- Poster

1. *Tuta absoluta* – A potential threat to tomato production

- Video
  1. Banana Puree – A new agri-business opportunity from ripe and overripe fruits

- CD
  1. Litchi au sirop, tomato processing, oyster mushroom cultivation

Section 7:
Senior Staff List from 30 June 2018 to 31 July 2019

CHIEF EXECUTIVE OFFICER — Seelavarn GANESHAN, BSc, MSc, PhD

ASSISTANT DIRECTORS

Extension and Training — Shri Swami A M GOOLAUB, BSc, MSc
(Actingship with effect from 30 April 2018 and Appointed on 24 December 2018)

Crops Research — Deovruth ABEELUCK BSc, MSc
(Retired with effect from 21 October 2018)

Mala GUNGADURDOSS Lic & Maitrise
(Actingship with effect from 21 October 2018 and Appointed on 29 March 2019)

Livestock Research — Micheline SEENEVASSEN PILLAY, BSc

CROP RESEARCH DEPARTMENT

- **Agronomy Division**
  Principal Research Scientist — Mala GUNGADURDOSS Lic. & Maitrise
  (Up to 20 October 2018)

  Satyabhama LUTCHOOMUN BSc (Actingship with effect from 21 October 2018)

- **Fruit Division**
  Principal Research Scientist — Indoomatee RAMMA, BSc, MSc

- **Vegetables and Ornamentals Division**
  Principal Research Scientist — Rita D NOWBUTH BSc, MSc

- **Resource Management Division**
  Principal Research Scientist — Alfaz ATAWOO, BSc, MSc

- **Plant Pathology Division**
  Principal Research Scientist — Fazal MAUDARBACCUS, BSc

- **Entomology Division**
  Principal Research Scientist — Lalini UNMOLE, DMS, BSc, PhD

- **Tissue Culture Laboratory**
  Laboratory & Nursery Manager — Kumari Indira D BOODHRAM BSc (H), Adv. Cert. MSc

  Agricultural Coordinators — Maryse L WEBB Dip. Agric. and Sugar Tech

  Soleman M Daldine JAUNBOCUS BSc, MSc

LIVESTOCK DEPARTMENT

- **Livestock Research Division**
  Principal Research Scientist — Parmessur TOOLSEE PG Dip, BSc, MBA

EXTENSION AND TRAINING DEPARTMENT

- **Crop Extension**
  Principal Extension Officer — Shri Swami A M GOOLAUB BSc, MSc
  (Up to 27 December 2018)

  Mahmad Iqbal DAMOO, Dip. Agric.
  (Actingship with effect from 30 April 2018)

- **Training Division**
  Principal Extension Officer — Siow Voong CHUNG TING WAN Dip. Agric.
  (Up to 30 April 2019)

  Bhanoochun DYALL Dip. Agric., MBA (Appointed with effect from 01 May 2019)

- **Livestock Extension**
  Principal Extension Officer — Siow Voong CHUNG TING WAN Dip. Agric. (with effect from 01 May 2019)

TECHNICAL SUPPORT SERVICES

- **Biometry Section**

Principal Biometrician	Rajendr K RAMNAUTH BSc, MSc

- **Engineering Section**

Principal Agricultural Engineer	Shashikant PANDOO BSc, MSc (Demised on 14 June 2019)

- **Business Development Section**

Senior Extension Officer	Bhanoochun DYALL Dip. Agric., MBA (Secondment to MAIFS with effect from 01 November 2012 up to 30 April 2019)
Research Scientist/ Senior Research Scientist	Mahendre NATHOO DMS, BSc, MSc

ADMINISTRATION

- **Finance Section**

Manager, Finance	Bhindoomatee RADHA, ACMA

- **Procurement and Supply Section**

Stores Superintendent	Veena Kumari HARDOWAR BSc

- **Human Resource Section**

Human Resource Manager	Laxmee LEKHA-DUSOYEA (Up to 31 August 2018) Bindeshwaree VEERAPEN, DMS, BSc (Actingship with effect from 11 November 2018)
Human Resource Officer (Personal)	Bindeshwaree VEERAPEN, DMS, BSc

- **Administrative Section**

Administrative Managers	Arti DUNPUTH, ACIS Suzy Dominique AUGUSTE, ACIS

Section 8:
Staff Missions and Training Overseas

Devanand Bhurtun
- Australia Awards Africa - Course on Irrigation and Water Resources Management for Agriculture, Australia; 06 August to 07 September 2018
- Training on Irrigation and Water Resources Management for Agriculture; Kenya; 14 October to 03 November 2018

Vickram Bussunth
- Training on "Practical Technology of Small Agricultural Machinery for Developing Countries", China, 25 September to 08 November 2018

Yusuf Cadersa
- Visit to WesGrow Potatoes Limited, South Africa, 11 to 13 February 2019

Nema Devi Cahoolessur
- Sustainable Agricultural Strategies for Rural Development, India, 21 January to 17 February 2019

Nalini Chuckowry
- Seminar on Water Resources Management for the Belt and Road Countries, China; 21 June to 11 July 2018

Babita Dussoruth
- Third IAEA Research Coordination Meeting on Efficient Screening techniques to identify mutants with disease resistance for coffee and banana, China, 26 to 30 November 2018

Dev Pravin Erigadoo
- Formation sur la Gestion du Sol et Visite des Exploitations, Reunion Is., 29 to 30 April 2019

Seelavarn Ganeshan
- Conference/Debate on Food Security, Reunion Is., 16 May 2019

Akhilalandjee Goolaub
- Climate Finance Readiness and Proposal Writing workshop, Botswana, 03 to 07 December 2018
- 3rd Meeting of the Steering Committee, Reunion Is., 15 May 2019
- SADC Regional Champions for sharing Agricultural Information and Knowledge, Johannesburg, 11 to 12 October 2018

Mala Gungadurdoss
- Steering Committee and Scientific Council of the Project Germination II, Comoros, 23 to 25 October 2018

Priya Huzar Futty

- 39th International Conference on Carrot, USA, 21 to 24 August 2018
- FAO/IAEA International Symposium on Plant Mutation Breeding and Biotechnology - Vienna, Austria, 27 to 31 August 2018
- Proposition de communications orales et/ou de posters pour les rencontres de l'Agroalimentaire 2018, Comoros, 16 to 21 November 2018
- IAEA Fellowship - MAR/17004, USA, 14 May 18 to 13 August 18

Regis Kwet Min Lam Sheung Yuen

- 5th General Assembly for Animal Genetic Resources (AnGR) for Southern Africa, Botswana, 26 to 29 November 2018
- Training to Trainers workshop on the harmonized Animal Genetic Resources Characterization, Inventory and Monitoring (AnGR-CIM) tool for Africa, Kenya, 11 to 14 March 2019
- Training of trainers' workshop for the African Animal Genetic Resources Information System, Kenya, 17 to 19 June 2019

Fazal Maudarbaccus

- IAEA Scientific Visit under the IAEA Funded Project MAR/5/023 "Improving landraces of crucifers and carrot through the use of nuclear techniques for mutation breeding and biotechnology", Bulgaria, 02 to 13 July 2018

Vanishta Maunkee Cantiah

- SABRN Annual Steering Committee Meeting, South Africa, 05 to 09 November 2018
- Promoting Livelihood and Food Security through Diversified Farming Practices using Integrated System and Participatory Approaches, Thailand, 16 July to 04 August 2018

Harris Mohun

- Promoting Livelihood and Food Security through Diversified Farming Practices using Integrated System and Participatory Approaches, Thailand, 16 July to 04 August 2018

Ganessen Moorghen

- Moving local Agricultural Products from Self-Sufficiency Production and Household Consumption to Market by sufficiency Economy Approach, Thailand, 08 October to 02 November 2018

Rita Devi Nowbuth

- FAO/IAEA International Symposium on Plant Mutation Breeding and Biotechnology - Vienna, Austria, 27 - 31 August 2018
- IAEA Scientific Visit MAR5023 – 1801978, Bulgaria, 06 to 17 May 2019

Bernard Pecheur

- Diagnostics of *Fusarium oxysporum* f.s.p. *cubense* (Foc). Causal agent of Fusarium wilt of banana, South Africa, 11 to 22 February 2019

Indoomatee Ramma
- IAEA Technical Meeting - IAEA's Climate, Land, energy and Water Framework, Austria, 13 to 16 November 2018
- Policy Dialogue on the Role of Governments in Developing Agriculture Value Chain, Ethiopia, 26 to 27 March 2019

Rajendr Kumar Ramnauth
- Capacity Building Technical Workshop on Crop Production and Rangeland Monitoring, South Africa, 25 to 29 March 2019

Krishtee Devi Samputh
- RAF5076 Regional AFRA Training course on Mutation Induction and Molecular Marker Applications for Crop Improvement, Tanzania, 22 to 26 October 2018

Geerjanand Saraye
- IAEA Fellowship under TC Project MAR/5/025, USA 15 June to 15 August 2018

Banumaty Saraye
- FAO/IAEA International Symposium on Plant Mutation Breeding and Biotechnology - Vienna, Austria, 27 to 31 August 2018

Marie Micheline Seenevassen Pillay
- Official Launch of the State of the Farm Animal Genetic Resources in Africa, Kenya, 12 to 13 June 2019

Ravi Seewoogoolam
- FAO/IAEA International Symposium on Plant Mutation Breeding and Biotechnology - Vienna, Austria, 27 to 31 August 2018

Saraspadee Subramaniam
- Post-Harvest Technology of fruit and vegetable crops for developing countries, Thailand, 14 to 27 May 2019

Parmessur Toolsee
- 2nd Meeting of the Monitoring Cttee, Madagascar, 12 December 2018
- Training to Trainers workshop on the harmonized Animal Genetic Resources Characterization, Inventory and Monitoring (AnGR-CIM) tool for Africa, Kenya, 11 to 14 March 2019

Ram Vencatasamy
- 1st Coordination Meeting – IAEA/RAF5079 Enhancing Crop Nutrition and soil and water Management and Technology in Irrigated Systems for increased Food Production and Income Generation, Austria, 08 to 12 October 2018

Section 9: Statistics

Crop Production

Foodcrops are classified as major and minor crops based on their economic importance and their utilisation in local context. Major crops make reference to those crops that are cultivated on large areas and have a high turnover value. This classification has been maintained for comparison over time by Statistics Mauritius. Minor crops are referred to crops produced in low volumes and are less utilised. Low production or absence of minor crops creates insignificant market effect while this is not the case for major crops.

Legend:
A – Andive
C – Carri
L – Long
S – Small
V - Violette

Livestock Production

Small scale breeders are classified as follows:

Species	Number of heads
Cattle	< 40
Goat/Sheep	< 100
Pig – Fattening pig Sows	< 100 < 20
Poultry	25-5000
Rabbit	< 300

Stations and Prisons comprise Curepipe Livestock Research Station, Belle Mare Research Station and Richelieu Open Prison Farms.

Large commercial farm comprises all farms not falling under the two above categories.

Table 1. Area harvested of Food Crops (Whole Island) by Month - 2018

Food Crops	Harvested Area (hectares)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total (ha)
Banana	40.10	39.93	39.68	38.75	37.93	37.90	37.97	37.96	37.68	37.33	37.74	36.91	459.89
Bean	12.45	12.50	10.58	18.09	20.50	22.41	24.65	24.23	31.72	37.39	25.06	20.09	259.64
Beet	2.80	1.93	1.72	1.58	2.37	6.38	2.55	2.99	4.13	4.26	4.95	3.32	38.98
Bittergourd	23.51	17.06	11.01	10.90	11.05	14.35	17.20	20.20	22.14	22.28	21.09	20.23	211.00
Brinjal (A)	3.10	2.62	2.57	2.43	2.57	2.30	2.45	3.14	3.26	3.62	3.72	4.06	35.84
Brinjal (C)	21.47	19.26	16.45	13.99	13.27	12.63	14.71	16.90	19.37	22.70	23.90	24.38	219.01
Broccoli	0.56	0.34	0.45	0.49	0.49	0.47	0.88	1.46	1.56	0.93	0.95	1.48	10.06
Cabbage	14.26	10.57	19.45	14.48	21.62	21.67	29.72	24.73	19.80	23.78	17.83	16.95	234.85
Calabash	33.78	27.21	20.13	20.91	30.93	35.73	37.43	35.37	34.19	36.93	37.95	34.72	385.27
Carrot	21.30	23.25	36.61	39.51	32.30	23.83	34.17	30.68	29.72	30.29	30.13	25.24	357.02
Cauliflower	2.86	0.83	1.89	0.81	1.83	11.72	11.20	17.04	15.26	16.06	8.08	2.84	90.41
Chillies (C)	2.08	1.97	2.39	2.13	1.62	1.79	2.20	2.76	3.09	3.17	3.55	4.13	30.87
Chillies (L)	16.81	15.62	13.70	11.96	12.45	12.63	15.81	17.41	20.75	22.86	23.51	22.67	206.18
Chillies (S)	2.64	2.56	2.48	2.22	2.23	2.15	2.22	2.22	2.27	2.13	1.84	1.93	26.89
Chouchou	20.77	20.92	20.93	20.09	19.98	20.12	20.06	18.00	18.35	19.49	19.90	20.48	239.10
Courgette	1.89	1.33	2.23	0.83	1.33	4.39	3.17	3.08	2.88	2.26	2.72	1.45	27.54
Cucumber	36.78	34.64	25.78	21.01	23.37	31.54	34.67	33.16	31.01	42.36	44.75	49.78	408.84
Echalote	8.30	8.02	7.37	9.52	12.61	14.85	13.57	12.34	12.76	12.78	11.40	11.09	134.61
Eddoes (C)	2.13	1.10	1.44	2.98	3.48	2.86	2.52	2.26	2.74	3.75	4.03	2.85	32.14
Eddoes (V)	1.21	2.01	2.54	0.87	1.52	1.30	1.87	1.24	2.16	2.06	7.09	3.54	27.40
Garlic	-	-	-	-	-	-	-	0.06	4.01	5.06	1.24	-	10.37
Ginger	2.74	0.74	-	-	1.05	1.47	1.19	4.16	13.98	6.45	6.03	2.43	40.24
Green Peas	-	-	0.17	-	-	-	-	-	0.06	0.09	0.21	-	0.53
Greens	16.41	10.28	11.07	11.95	18.72	16.63	28.83	24.55	27.01	27.27	28.32	23.28	244.30
Groundnut	8.31	3.22	8.01	3.25	8.20	2.71	1.67	2.88	4.35	10.89	14.32	19.06	86.87

Food Crops	Harvested Area (hectares)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total (ha)
Ladies Finger	17.49	14.75	15.74	14.92	15.96	15.82	16.67	17.16	16.45	17.57	10.80	11.61	184.93
Leek	0.78	0.61	0.78	0.44	0.20	0.68	1.01	1.05	0.86	0.92	0.73	0.90	8.96
Lettuce	7.21	6.81	7.16	6.96	7.27	7.48	10.64	11.21	10.35	10.40	10.59	15.55	111.62
Maize	4.43	3.85	4.56	3.41	3.98	4.70	7.28	5.65	5.15	7.32	9.40	4.76	64.48
Manioc	1.87	3.00	3.38	3.56	3.94	3.90	3.32	3.28	2.49	3.14	6.51	2.49	40.88
Onion	-	-	-	-	-	0.31	0.26	0.74	8.77	57.17	7.81	-	75.06
Onion (Hybrid)	3.06	0.05	-	-	-	-	-	4.60	11.48	48.95	96.34	35.66	200.14
Total Onion	*3.06*	*0.05*	*-*	*-*	*-*	*0.31*	*0.26*	*5.34*	*20.25*	*106.12*	*104.15*	*35.66*	*275.20*
Patole	15.68	10.14	6.14	8.11	11.49	13.38	14.66	13.54	10.85	13.64	11.39	11.10	140.12
Petsai	2.24	1.87	2.08	1.88	2.28	2.56	2.81	2.84	5.84	3.62	6.51	6.12	40.64
Pineapple	43.84	45.93	46.22	41.95	40.68	37.03	39.76	36.22	38.72	37.50	45.14	48.60	501.59
Pipengaille	16.92	16.71	10.43	9.58	13.77	15.79	15.99	16.35	17.57	18.64	14.80	14.75	181.29
Potato	-	-	-	-	-	3.78	13.07	77.28	99.14	172.50	195.86	157.56	719.19
Pumpkin	40.26	44.82	77.00	44.51	34.73	45.56	41.22	40.58	28.00	35.97	49.45	61.16	543.25
Squash	4.61	2.41	4.19	1.08	5.64	7.78	5.41	8.41	3.98	7.61	7.10	2.33	60.51
Sweet Pepper	0.37	0.11	0.22	0.03	-	-	0.14	-	0.09	0.09	-	-	1.04
Sweet Potato	0.95	4.35	1.91	1.16	1.20	2.97	2.21	3.18	7.95	7.03	10.21	2.81	45.93
Tomato	0.18	0.18	-	0.21	-	-	-	-	-	-	-	-	0.57
Tomato (Hybrid)	51.38	45.22	37.21	31.84	47.16	64.82	67.63	67.15	62.90	68.38	71.03	68.09	682.81
Total Tomato	*51.56*	*45.40*	*37.21*	*32.05*	*47.16*	*64.82*	*67.63*	*67.15*	*62.90*	*68.38*	*71.03*	*68.09*	*683.38*
Voëhm	16.38	13.82	9.99	8.42	13.99	14.41	13.00	11.95	8.47	9.87	11.71	13.21	145.22
Grand Total	**523.87**	**472.51**	**485.66**	**426.77**	**483.70**	**542.77**	**595.77**	**659.99**	**703.29**	**916.48**	**945.66**	**809.60**	**7,566.07**

	Table 2. Minor Crops - Harvested Area (ha)												Total (ha)
Row Labels	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Asparagus	0.55	0.55	0.55	0.67	0.67	0.67	0.68	0.68	0.68	0.68	0.68	0.68	7.74
Bokla	0.21		0.11	0.36	0.21								0.89
Brède Songe	0.01							0.02	0.02	0.01	0.16		0.21
Butternut	0.10	0.22							0.17				0.49
Celery	0.17	0.15	0.57	0.15	0.33	0.08		0.08	0.38	0.35	0.34	0.36	2.96
Chinese Peas		0.05	0.09		0.15			0.11	0.08	0.11			0.59
Coriander	8.26	7.48	10.14	9.16	11.08	12.82	16.82	17.84	16.81	16.83	12.46	15.37	155.06
Melon	3.91	4.36			0.20	0.20				0.50	0.30	0.50	9.97
Parsley	0.47	0.40	0.56	0.43	0.38	0.55	0.54	0.81	0.77	1.17	1.09	1.18	8.35
Patate Chinois	0.63	2.00	0.95	0.84	0.74	1.79	1.69	1.26	1.06	0.74	1.16	1.37	14.23
Pawpaw	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	1.58
Radish	0.07	0.18	0.07	0.05	0.02	0.15	0.14	0.04	0.12	0.19	0.04	0.25	1.32
Rave	0.77	0.55	0.75	0.53	1.19	0.76	1.48	0.80	1.55	2.02	1.37	0.96	12.72
Rice			9.46										9.46
Thyme	1.70	1.72	1.87	1.77	1.60	1.54	1.51	1.44	1.42	1.33	1.12	0.93	17.95
Watercress	0.66	0.42	0.72	0.94	1.11	1.22	1.25	1.20	1.07	0.84	0.78	0.79	11.03
Watermelon	21.68	6.74	8.21	0.63	2.73				8.40	21.53	13.27	27.98	111.15

Table 3. Production of Food Crops (Whole Island) by Month - 2018

Food Crops	Production (tonnes)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total (t)
Banana	529.46	539.24	557.71	531.65	551.31	579.34	610.58	591.81	603.18	653.80	597.51	591.97	6,937.55
Bean	36.84	38.23	41.56	67.96	79.28	107.43	129.16	255.41	176.25	227.19	157.09	125.64	1,442.05
Beet	36.98	22.74	18.24	17.98	27.77	79.75	33.15	43.52	54.80	56.03	65.36	40.59	496.93
Bittergourd	127.92	100.78	78.39	85.93	95.97	143.92	131.48	215.89	219.90	216.69	205.87	203.67	1,826.41
Brinjal (A)	18.33	17.77	19.90	18.22	21.91	17.76	18.14	22.47	21.97	23.71	22.12	26.59	248.88
Brinjal (C)	136.84	135.70	155.29	129.14	124.48	136.74	164.09	204.23	217.96	251.79	279.23	310.64	2,246.13
Broccoli	8.85	4.26	6.79	9.59	7.15	6.37	10.26	15.58	14.50	7.35	7.62	7.27	105.60
Cabbage	170.13	119.29	209.04	183.30	293.61	357.70	513.28	446.97	340.17	408.29	317.01	282.73	3,641.51
Calabash	266.79	185.28	203.01	234.76	373.68	465.32	501.66	479.04	425.55	488.94	496.62	506.92	4,627.57
Carrot	251.04	209.70	314.12	371.15	462.65	343.78	583.62	526.07	479.30	484.01	447.56	390.33	4,863.34
Cauliflower	39.51	11.22	26.78	11.83	26.90	172.63	185.34	313.34	246.55	222.38	92.67	32.66	1,381.82
Chillies (C)	10.32	9.15	11.38	9.97	8.14	9.38	14.59	19.09	20.39	24.41	28.52	33.81	199.13
Chillies (L)	69.18	41.28	44.85	46.71	52.78	63.58	82.72	107.13	123.24	149.54	164.92	170.24	1,116.17
Chillies (S)	6.29	5.06	5.78	5.10	5.59	6.34	7.04	6.69	6.32	5.94	5.89	7.36	73.40
Chouchou	210.90	195.98	251.70	330.54	388.97	392.30	390.38	348.06	351.21	268.13	270.39	276.23	3,674.79
Courgette	9.66	4.88	6.03	4.42	8.36	31.10	26.66	25.39	24.20	20.00	23.78	12.13	196.59
Cucumber	279.41	269.42	270.99	234.42	261.54	379.38	411.73	359.89	274.82	440.95	452.80	530.00	4,165.34
Echalote	47.97	48.82	48.74	74.88	94.66	136.07	120.32	98.96	105.50	108.65	96.93	89.18	1,070.68
Eddoes (C)	14.59	7.17	11.52	26.22	29.80	25.24	22.38	19.93	21.26	29.44	31.65	22.80	261.99
Eddoes (V)	10.64	16.83	24.82	8.28	15.96	13.75	19.67	12.76	21.36	20.43	72.31	36.30	273.11
Garlic	-	-	-	-	-	-	-	0.33	27.88	33.37	9.09	-	70.67
Ginger	27.40	8.14	-	-	5.25	6.09	11.10	32.66	128.17	68.59	58.43	22.20	368.03
Green Peas	-	-	0.26	-	-	-	-	-	0.12	0.12	0.29	-	0.79
Greens	96.26	54.41	83.84	96.39	156.36	139.07	256.36	222.21	251.60	256.59	272.25	199.69	2,085.04
Groundnut	11.74	7.27	18.40	7.58	15.02	7.62	4.11	7.77	14.87	29.46	39.11	50.70	213.64
Ladies Finger	76.73	71.02	89.40	98.76	126.82	117.18	103.79	103.68	66.50	55.16	33.12	52.56	994.72
Leek	6.27	3.76	5.06	3.56	1.78	4.06	7.52	10.93	7.87	7.72	5.20	7.45	71.17

Food Crops	Production (tonnes)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total (t)
Lettuce	54.46	48.35	73.12	68.80	69.07	67.31	107.50	130.52	109.61	99.25	100.34	148.77	1,077.09
Maize	20.03	16.78	27.42	25.10	19.42	30.05	48.78	37.26	32.07	44.43	51.56	34.00	386.91
Manioc	23.29	37.65	51.57	50.29	59.02	63.00	57.85	59.61	46.02	47.68	90.96	42.12	629.06
Onion	-	-	-	-	-	2.79	2.34	10.36	105.24	683.66	124.71	-	929.10
Onion (Hybrid)	60.83	1.80	-	-	-	-	-	47.30	136.90	552.19	1,374.31	337.40	2,510.72
Total Onion	*60.83*	*1.80*	-	-	-	*2.79*	*2.34*	*57.66*	*242.14*	*1,235.86*	*1,499.02*	*337.40*	*3,439.83*
Patole	68.38	36.21	32.01	45.65	64.77	97.83	105.59	96.06	70.90	84.11	72.46	71.51	845.47
Petsai	22.69	19.27	23.94	17.77	28.43	30.08	36.15	45.77	72.30	47.03	72.44	66.33	482.21
Pineapple	841.05	923.56	950.46	843.07	823.29	753.43	797.43	701.26	768.08	734.04	905.51	1,001.43	10,042.60
Pipengaille	105.66	91.67	87.79	94.43	150.69	183.58	182.49	184.96	182.48	202.73	154.99	163.07	1,784.55
Potato	-	-	-	-	-	59.23	359.45	1,684.32	2,458.63	4,027.93	5,393.69	3,049.59	17,032.84
Pumpkin	579.61	294.67	532.00	593.25	411.06	571.49	628.90	650.93	444.74	482.58	657.63	958.06	6,804.92
Squash	31.05	7.29	9.57	4.20	35.88	59.01	43.74	75.13	32.82	68.82	60.59	19.23	447.33
Sweet Pepper	1.18	1.55	1.60	0.49	-	-	0.83	-	0.26	0.26	-	-	6.16
Sweet Potato	9.50	43.29	20.86	11.60	12.40	34.56	25.30	35.20	122.45	79.44	123.44	34.10	552.14
Tomato	1.08	1.26	-	1.37	-	-	-	-	-	-	-	-	3.71
Tomato (Hybrid)	422.16	246.12	246.65	231.83	503.85	874.88	1,048.55	1,148.83	1,071.24	1,084.63	1,187.18	1,120.17	9,186.08
Total Tomato	*423.24*	*247.38*	*246.65*	*233.20*	*503.85*	*874.88*	*1,048.55*	*1,148.83*	*1,071.24*	*1,084.63*	*1,187.18*	*1,120.17*	*9,189.79*
Voëhm	74.67	63.00	67.07	63.98	96.92	95.48	73.64	60.73	39.27	65.39	80.42	99.02	879.59
Grand Total	**4,815.68**	**3,959.82**	**4,627.65**	**4,660.18**	**5,510.57**	**6,664.61**	**7,877.70**	**9,458.05**	**9,938.43**	**12,862.83**	**14,703.55**	**11,174.45**	**96,253.51**

	Table 4. Minor Crops - Production (t)												
Row Labels	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total (t)
Asparagus	0.20	0.12	0.14	0.10	0.12	0.14	0.16	0.24	0.21	0.15	0.30	0.52	2.40
Bokla	0.42		0.28	0.90	0.55								2.14
Brède Songe	0.05							0.18	0.18	0.08	1.28		1.77
Butternut	1.00	0.66							0.42				2.08
Celery	1.47	1.18	3.76	1.28	1.95	0.46		0.57	2.20	1.96	1.61	1.73	18.15
Chinese Peas		0.15	0.27		0.44			0.55	0.24	0.33			1.98
Coriander	43.35	38.93	41.22	47.53	61.69	91.80	138.35	152.64	135.06	126.92	103.47	98.14	1079.09
Melon	23.12	7.50			0.50	1.00				3.00	1.00	10.00	46.12
Parsley	1.82	1.87	3.51	2.60	0.54	1.88	2.56	3.51	3.65	5.80	5.17	5.59	38.50
Patate Chinois	6.93	20.00	11.40	10.08	8.88	21.48	20.28	15.12	12.72	8.88	13.92	16.44	166.13
Pawpaw	0.79	0.79	1.05	1.19	1.19	1.32	1.32	1.32	1.32	1.32	1.32	1.38	14.29
Radish	0.37	0.77	0.56	0.30	0.05	0.50	0.42	0.14	0.39	0.59	0.14	0.77	5.00
Rave	8.91	4.78	6.50	5.83	11.34	7.27	14.36	8.18	10.71	13.89	10.12	4.27	106.17
Rice			16.12										16.12
Thyme	3.47	4.93	5.45	4.94	5.49	6.54	6.71	6.33	6.23	5.62	5.04	4.19	64.94
Watercress	3.24	1.94	5.56	7.34	10.61	12.35	13.20	12.89	10.91	7.52	6.33	6.54	98.44
Watermelon	249.49	16.40	68.40	9.45	40.95				184.80	497.37	253.67	406.82	1727.35

Area harvested of Food Crops (Whole Island) by Month - 2018

Food Crops	Harvested Area (hectares)												Total (ha)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Banana	40.10	39.93	39.68	38.75	37.93	37.90	37.97	37.96	37.68	37.33	37.74	36.91	459.89
Bean	12.45	12.50	10.58	18.09	20.50	22.41	24.65	24.23	31.72	37.39	25.06	20.09	259.64
Beet	2.80	1.93	1.72	1.58	2.37	6.38	2.55	2.99	4.13	4.26	4.95	3.32	38.98
Bittergourd	23.51	17.06	11.01	10.90	11.05	14.35	17.20	20.20	22.14	22.28	21.09	20.23	211.00
Brinjal (A)	3.10	2.62	2.57	2.43	2.57	2.30	2.45	3.14	3.26	3.62	3.72	4.06	35.84
Brinjal (C)	21.47	19.26	16.45	13.99	13.27	12.63	14.71	16.90	19.37	22.70	23.90	24.38	219.01
Broccoli	0.56	0.34	0.45	0.49	0.49	0.47	0.88	1.46	1.56	0.93	0.95	1.48	10.06
Cabbage	14.26	10.57	19.45	14.48	21.62	21.67	29.72	24.73	19.80	23.78	17.83	16.95	234.85
Calabash	33.78	27.21	20.13	20.91	30.93	35.73	37.43	35.37	34.19	36.93	37.95	34.72	385.27
Carrot	21.30	23.25	36.61	39.51	32.30	23.83	34.17	30.68	29.72	30.29	30.13	25.24	357.02
Cauliflower	2.86	0.83	1.89	0.81	1.83	11.72	11.20	17.04	15.26	16.06	8.08	2.84	90.41
Chillies (C)	2.08	1.97	2.39	2.13	1.62	1.79	2.20	2.76	3.09	3.17	3.55	4.13	30.87
Chillies (L)	16.81	15.62	13.70	11.96	12.45	12.63	15.81	17.41	20.75	22.86	23.51	22.67	206.18
Chillies (S)	2.64	2.56	2.48	2.22	2.23	2.15	2.22	2.22	2.27	2.13	1.84	1.93	26.89
Chouchou	20.77	20.92	20.93	20.09	19.98	20.12	20.06	18.00	18.35	19.49	19.90	20.48	239.10
Courgette	1.89	1.33	2.23	0.83	1.33	4.39	3.17	3.08	2.88	2.26	2.72	1.45	27.54
Cucumber	36.78	34.64	25.78	21.01	23.37	31.54	34.67	33.16	31.01	42.36	44.75	49.78	408.84
Echalote	8.30	8.02	7.37	9.52	12.61	14.85	13.57	12.34	12.76	12.78	11.40	11.09	134.61
Eddoes (C)	2.13	1.10	1.44	2.98	3.48	2.86	2.52	2.26	2.74	3.75	4.03	2.85	32.14
Eddoes (V)	1.21	2.01	2.54	0.87	1.52	1.30	1.87	1.24	2.16	2.06	7.09	3.54	27.40
Garlic	-	-	-	-	-	-	-	0.06	4.01	5.06	1.24	-	10.37
Ginger	2.74	0.74	-	-	1.05	1.47	1.19	4.16	13.98	6.45	6.03	2.43	40.24
Green Peas	-	-	0.17	-	-	-	-	-	0.06	0.09	0.21	-	0.53
Greens	16.41	10.28	11.07	11.95	18.72	16.63	28.83	24.55	27.01	27.27	28.32	23.28	244.30
Groundnut	8.31	3.22	8.01	3.25	8.20	2.71	1.67	2.88	4.35	10.89	14.32	19.06	86.87
Ladies Finger	17.49	14.75	15.74	14.92	15.96	15.82	16.67	17.16	16.45	17.57	10.80	11.61	184.93

Food Crops	Harvested Area (hectares)												Total (ha)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Leek	0.78	0.61	0.78	0.44	0.20	0.68	1.01	1.05	0.86	0.92	0.73	0.90	8.96
Lettuce	7.21	6.81	7.16	6.96	7.27	7.48	10.64	11.21	10.35	10.40	10.59	15.55	111.62
Maize	4.43	3.85	4.56	3.41	3.98	4.70	7.28	5.65	5.15	7.32	9.40	4.76	64.48
Manioc	1.87	3.00	3.38	3.56	3.94	3.90	3.32	3.28	2.49	3.14	6.51	2.49	40.88
Onion	-	-	-	-	-	0.31	0.26	0.74	8.77	57.17	7.81	-	75.06
Onion (Hybrid)	3.06	0.05	-	-	-	-	-	4.60	11.48	48.95	96.34	35.66	200.14
Total Onion	*3.06*	*0.05*	-	-	-	*0.31*	*0.26*	*5.34*	*20.25*	*106.12*	*104.15*	*35.66*	*275.20*
Patole	15.68	10.14	6.14	8.11	11.49	13.38	14.66	13.54	10.85	13.64	11.39	11.10	140.12
Petsai	2.24	1.87	2.08	1.88	2.28	2.56	2.81	2.84	5.84	3.62	6.51	6.12	40.64
Pineapple	43.84	45.93	46.22	41.95	40.68	37.03	39.76	36.22	38.72	37.50	45.14	48.60	501.59
Pipengaille	16.92	16.71	10.43	9.58	13.77	15.79	15.99	16.35	7.57	18.64	14.80	14.75	181.29
Potato	-	-	-	-	-	3.78	13.07	77.28	99.14	172.50	195.86	157.56	719.19
Pumpkin	40.26	44.82	77.00	44.51	34.73	45.56	41.22	40.58	28.00	35.97	49.45	61.16	543.25
Squash	4.61	2.41	4.19	1.08	5.64	7.78	5.41	8.41	3.98	7.61	7.10	2.33	60.51
Sweet Pepper	0.37	0.11	0.22	0.03	-	-	0.14	-	0.09	0.09	-	-	1.04
Sweet Potato	0.95	4.35	1.91	1.16	1.20	2.97	2.21	3.18	7.95	7.03	10.21	2.81	45.93
Tomato	0.18	0.18	-	0.21	-	-	-	-	-	-	-	-	0.57
Tomato (Hybrid)	51.38	45.22	37.21	31.84	47.16	64.82	67.63	67.15	62.90	68.38	71.03	68.09	682.81
Total Tomato	*51.56*	*45.40*	*37.21*	*32.05*	*47.16*	*64.82*	*67.63*	*67.15*	*62.90*	*68.38*	*71.03*	*68.09*	*683.38*
Voëhm	16.38	13.82	9.99	8.42	13.99	14.41	13.00	11.95	8.47	9.87	11.71	13.21	145.22
Grand Total	**523.87**	**472.51**	**485.66**	**426.77**	**483.70**	**542.77**	**595.77**	**659.99**	**703.29**	**916.48**	**945.66**	**809.60**	**7,566.07**

N.B. - (1) Figures refer to open field production only (2) Production data include both small planters and the corporate sector

Production of Food Crops (Whole Island) by Month - 2018

Food Crops	Production (tonnes)												Total (t)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Banana	529.46	539.24	557.71	531.65	551.31	579.34	610.58	591.81	603.18	653.80	597.51	591.97	6,937.55
Bean	36.84	38.23	41.56	67.96	79.28	107.43	129.16	255.41	176.25	227.19	157.09	125.64	1,442.05
Beet	36.98	22.74	18.24	17.98	27.77	79.75	33.15	43.52	54.80	56.03	65.36	40.59	496.93
Bittergourd	127.92	100.78	78.39	85.93	95.97	143.92	131.48	215.89	219.90	216.69	205.87	203.67	1,826.41
Brinjal (A)	18.33	17.77	19.90	18.22	21.91	17.76	18.14	22.47	21.97	23.71	22.12	26.59	248.88
Brinjal (C)	136.84	135.70	155.29	129.14	124.48	136.74	164.09	204.23	217.96	251.79	279.23	310.64	2,246.13
Broccoli	8.85	4.26	6.79	9.59	7.15	6.37	10.26	15.58	14.50	7.35	7.62	7.27	105.60
Cabbage	170.13	119.29	209.04	183.30	293.61	357.70	513.28	446.97	340.17	408.29	317.01	282.73	3,641.51
Calabash	266.79	185.28	203.01	234.76	373.68	465.32	501.66	479.04	425.55	488.94	496.62	506.92	4,627.57
Carrot	251.04	209.70	314.12	371.15	462.65	343.78	583.62	526.07	479.30	484.01	447.56	390.33	4,863.34
Cauliflower	39.51	11.22	26.78	11.83	26.90	172.63	185.34	313.34	246.55	222.38	92.67	32.66	1,381.82
Chillies (C)	10.32	9.15	11.38	9.97	8.14	9.38	14.59	19.09	20.39	24.41	28.52	33.81	199.13
Chillies (L)	69.18	41.28	44.85	46.71	52.78	63.58	82.72	107.13	123.24	149.54	164.92	170.24	1,116.17
Chillies (S)	6.29	5.06	5.78	5.10	5.59	6.34	7.04	6.69	6.32	5.94	5.89	7.36	73.40
Chouchou	210.90	195.98	251.70	330.54	388.97	392.30	390.38	348.06	351.21	268.13	270.39	276.23	3,674.79
Courgette	9.66	4.88	6.03	4.42	8.36	31.10	26.66	25.39	24.20	20.00	23.78	12.13	196.59
Cucumber	279.41	269.42	270.99	234.42	261.54	379.38	411.73	359.89	274.82	440.95	452.80	530.00	4,165.34
Echalote	47.97	48.82	48.74	74.88	94.66	136.07	120.32	98.96	105.50	108.65	96.93	89.18	1,070.68
Eddoes (C)	14.59	7.17	11.52	26.22	29.80	25.24	22.38	19.93	21.26	29.44	31.65	22.80	261.99
Eddoes (V)	10.64	16.83	24.82	8.28	15.96	13.75	19.67	12.76	21.36	20.43	72.31	36.30	273.11
Garlic	-	-	-	-	-	-	-	0.33	27.88	33.37	9.09	-	70.67
Ginger	27.40	8.14	-	-	5.25	6.09	11.10	32.66	128.17	68.59	58.43	22.20	368.03
Green Peas	-	-	0.26	-	-	-	-	-	0.12	0.12	0.29	-	0.79
Greens	96.26	54.41	83.84	96.39	156.36	139.07	256.36	222.21	251.60	256.59	272.25	199.69	2,085.04
Groundnut	11.74	7.27	18.40	7.58	15.02	7.62	4.11	7.77	14.87	29.46	39.11	50.70	213.64
Ladies Finger	76.73	71.02	89.40	98.76	126.82	117.18	103.79	103.68	66.50	55.16	33.12	52.56	994.72
Leek	6.27	3.76	5.06	3.56	1.78	4.06	7.52	10.93	7.87	7.72	5.20	7.45	71.17
Lettuce	54.46	48.35	73.12	68.80	69.07	67.31	107.50	130.52	109.61	99.25	100.34	148.77	1,077.09

Food Crops	Production (tonnes)												Total (t)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Maize	20.03	16.78	27.42	25.10	19.42	30.05	48.78	37.26	32.07	44.43	51.56	34.00	386.91
Manioc	23.29	37.65	51.57	50.29	59.02	63.00	57.85	59.61	46.02	47.68	90.96	42.12	629.06
Onion	-	-	-	-	-	2.79	2.34	10.36	105.24	683.66	124.7	-	929.10
Onion (Hybrid)	60.83	1.80	-	-	-	-	-	47.30	136.90	552.19	1,374.31	337.40	2,510.72
Total Onion	*60.83*	*1.80*	-	-	-	*2.79*	*2.34*	*57.66*	*242.14*	*1,235.8*	*1,499.02*	*337.40*	*3,439.83*
Patole	68.38	36.21	32.01	45.65	64.77	97.83	105.59	96.06	70.90	84.11	72.46	71.51	845.47
Petsai	22.69	19.27	23.94	17.77	28.43	30.08	36.15	45.77	72.30	47.03	72.44	66.33	482.21
Pineapple	841.05	923.56	950.46	843.07	823.29	753.43	797.43	701.26	768.08	734.04	905.51	1,001.43	10,042.60
Pipengaille	105.66	91.67	87.79	94.43	150.69	183.58	182.49	184.96	182.48	202.73	154.99	163.07	1,784.55
Potato	-	-	-	-	-	59.23	359.45	1,684.32	2,458.63	4,027.93	5,393.69	3,049.59	17,032.84
Pumpkin	579.61	294.67	532.00	593.25	411.06	571.49	628.90	650.93	444.74	482.58	657.63	958.06	6,804.92
Squash	31.05	7.29	9.57	4.20	35.88	59.01	43.74	75.13	32.82	68.82	60.59	19.23	447.33
Sweet Pepper	1.18	1.55	1.60	0.49	-	-	0.83	-	0.26	0.26	-	-	6.16
Sweet Potato	9.50	43.29	20.86	11.60	12.40	34.56	25.30	35.20	122.45	79.44	123.44	34.10	552.14
Tomato	1.08	1.26	-	1.37	-	-	-	-	-	-	-	-	3.71
Tomato (Hybrid)	422.16	246.12	246.65	231.83	503.85	874.88	1,048.55	1,148.83	1,071.24	1,084.63	1,187.18	1,120.17	9,186.08
Total Tomato	*423.24*	*247.38*	*246.65*	*233.20*	*503.85*	*874.88*	*1,048.55*	*1,148.83*	*1,071.24*	*1,084.6*	*1,187.18*	*1,120.17*	*9,189.79*
Voëhm	74.67	63.00	67.07	63.98	96.92	95.48	73.64	60.73	39.27	65.39	80.42	99.02	879.59
Grand Total	**4,815.68**	**3,959.82**	**4,627.65**	**4,660.18**	**5,510.57**	**6,664.61**	**7,877.70**	**9,458.05**	**9,938.43**	**12,862.83**	**14,703.55**	**11,174.45**	**96,253.51**

N.B. - (1) Figures refer to open field production only (2) Production data include both small planters and the corporate sector

Area harvested of minor Food Crops (Whole Island) by Month - 2018

Minor Food Crops	Harvested Area (hectares)												Total (ha)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Asparagus	0.55	0.55	0.55	0.67	0.67	0.67	0.68	0.68	0.68	0.68	0.68	0.68	7.74
Bokla	0.21		0.11	0.36	0.21								0.89
Brède Songe	0.01							0.02	0.02	0.01	0.16		0.21
Butternut	0.10	0.22							0.17				0.49
Celery	0.17	0.15	0.57	0.15	0.33	0.08		0.08	0.38	0.35	0.34	0.36	2.96
Chinese Peas		0.05	0.09		0.15			0.11	0.08	0.11			0.59
Coriander	8.26	7.48	10.14	9.16	11.08	12.82	16.82	17.84	16.81	16.83	12.46	15.37	155.06
Melon	3.91	4.36			0.20	0.20				0.50	0.30	0.50	9.97
Parsley	0.47	0.40	0.56	0.43	0.38	0.55	0.54	0.81	0.77	1.17	1.09	1.18	8.35
Patate Chinois	0.63	2.00	0.95	0.84	0.74	1.79	1.69	1.26	1.06	0.74	1.16	1.37	14.23
Pawpaw	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	1.58
Radish	0.07	0.18	0.07	0.05	0.02	0.15	0.14	0.04	0.12	0.19	0.04	0.25	1.32
Rave	0.77	0.55	0.75	0.53	1.19	0.76	1.48	0.80	1.55	2.02	1.37	0.96	12.72
Rice			9.46										9.46
Thyme	1.70	1.72	1.87	1.77	1.60	1.54	1.51	1.44	1.42	1.33	1.12	0.93	17.95
Watercress	0.66	0.42	0.72	0.94	1.11	1.22	1.25	1.20	1.07	0.84	0.78	0.79	11.03
Watermelon	21.68	6.74	8.21	0.63	2.73				8.40	21.53	13.27	27.98	111.15
Grand Total	**39.32**	**24.95**	**34.18**	**15.65**	**20.54**	**19.91**	**24.24**	**24.42**	**32.66**	**46.42**	**32.89**	**50.50**	**365.68**

N.B. - (1) Figures refer to open field production only (2) Production data include both small planters and the corporate sector

Production of minor Food Crops (Whole Island) by Month - 2018

Minor Food Crops	Production (tonnes)												Total (t)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Asparagus	0.20	0.12	0.14	0.10	0.12	0.14	0.16	0.24	0.21	0.15	0.30	0.52	2.40
Bokla	0.42		0.28	0.90	0.55								2.14
Brède Songe	0.05							0.18	0.18	0.08	1.28		1.77
Butternut	1.00	0.66							0.42				2.08
Celery	1.47	1.18	3.76	1.28	1.95	0.46		0.57	2.20	1.96	1.61	1.73	18.15
Chinese Peas		0.15	0.27		0.44			0.55	0.24	0.33			1.98
Coriander	43.35	38.93	41.22	47.53	61.69	91.80	138.35	152.64	135.06	126.92	103.47	98.14	1,079.09
Melon	23.12	7.50			0.50	1.00				3.00	1.00	10.00	46.12
Parsley	1.82	1.87	3.51	2.60	0.54	1.88	2.56	3.51	3.65	5.80	5.17	5.59	38.50
Patate Chinois	6.93	20.00	11.40	10.08	8.88	21.48	20.28	15.12	12.72	8.88	13.92	16.44	166.13
Pawpaw	0.79	0.79	1.05	1.19	1.19	1.32	1.32	1.32	1.32	1.32	1.32	1.38	14.29
Radish	0.37	0.77	0.56	0.30	0.05	0.50	0.42	0.14	0.39	0.59	0.14	0.77	5.00
Rave	8.91	4.78	6.50	5.83	11.34	7.27	14.36	8.18	10.71	13.89	10.12	4.27	106.17
Rice			16.12										16.12
Thyme	3.47	4.93	5.45	4.94	5.49	6.54	6.71	6.33	6.23	5.62	5.04	4.19	64.94
Watercress	3.24	1.94	5.56	7.34	10.61	12.35	13.20	12.89	10.91	7.52	6.33	6.54	98.44
Watermelon	249.49	16.40	68.40	9.45	40.95				184.80	497.37	253.67	406.82	1,727.35
Grand Total	**344.63**	**100.01**	**164.21**	**91.52**	**144.29**	**144.76**	**197.36**	**201.67**	**369.02**	**673.42**	**403.37**	**556.40**	**3,390.66**

N.B. - (1) Figures refer to open field production only (2) Production data include both small planters and the corporate sector

Area harvested of Foodcrops grown in Protected Cultures (Whole Island) - 2018

Food Crops - Protected Cultures	Harvested Area (hectares)												Total (ha)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Hydroponics:													
Bean										0.290			0.290
Bittergourd												0.014	0.014
Brinjal (C)			0.011	0.011	0.011	0.011							0.045
Cauliflower							0.060	0.100					0.160
Cucumber	0.247	0.339	0.224	0.242	0.189	0.212	0.272	0.294	0.261	0.275	0.249	0.344	3.145
Greens	0.025	0.025	0.028	0.025									0.103
Lettuce	0.340	0.198	0.293	0.230	0.175	0.185	0.285	0.275	0.155	0.270	0.223	0.245	2.873
Melon			0.005	0.005					0.137	0.023	0.023		0.192
Parsley	0.005												0.005
Squash		0.025											0.025
Strawberry							0.002	0.003	0.003	0.003			0.011
Sweet Pepper	0.230	0.163	0.203	0.193	0.178	0.346	0.339	0.327	0.421	0.301	0.296	0.401	3.398
Tomato	0.826	0.873	1.114	1.139	0.997	1.194	1.137	1.083	0.975	0.978	0.945	1.278	12.538
Voëhm											0.013	0.020	0.033
Total	**1.673**	**1.622**	**1.877**	**1.845**	**1.550**	**1.948**	**2.095**	**2.082**	**1.952**	**2.139**	**1.747**	**2.302**	**22.831**

Food Crops - Protected Cultures	Harvested Area (hectares)												Total (ha)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Soil Culture: Bean										0.010			0.010
Brinjal (C)	0.002	0.002	0.002	0.002									0.007
Cabbage									0.010			0.070	0.080
Cauliflower										0.010			0.010
Cucumber	0.036	0.025	-	0.013	0.025	0.028	0.015	0.013	0.013	0.011	0.011	0.030	0.221
Greens							0.009	0.009	0.009			0.009	0.036
Lettuce		0.010	0.028	0.010	0.050	0.010	0.019	0.019	0.019	0.040		0.009	0.214
Squash												0.009	0.009
Sweet Pepper	0.018	0.034	0.018	0.016	0.003	0.003	0.003			0.005			0.099
Tomato	0.040	0.047	0.047	0.032	0.057	0.100	0.080	0.085	0.060	0.008	0.077	0.121	0.754
Voëhm						0.003	0.003						0.006
Total	**0.096**	**0.118**	**0.094**	**0.073**	**0.135**	**0.144**	**0.129**	**0.126**	**0.111**	**0.083**	**0.087**	**0.248**	**1.445**
Grand Total	**1.770**	**1.740**	**1.971**	**1.918**	**1.684**	**2.092**	**2.224**	**2.208**	**2.063**	**2.222**	**1.834**	**2.550**	**24.277**

N.B. - Figures in table above refer only to owner planters and exclude the corporate sector

Production of Foodcrops grown in Protected Cultures (Whole Island) - 2018

Food Crops - Protected Cultures	Production (tonnes)												Total (t)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Hydroponics: Bean										4.35			4.35
Bittergourd												0.43	0.43
Brinjal (C)			0.62	0.62	0.62	0.62							2.48
Cauliflower							0.60	2.00					2.60
Cucumber	34.12	51.57	32.13	27.75	30.70	34.78	36.39	42.31	36.30	36.97	36.17	50.00	449.19
Greens	0.50	0.50	0.55	0.50									2.05
Lettuce	10.70	7.10	12.93	5.90	4.34	4.87	5.50	6.98	3.48	6.03	5.25	5.88	78.93
Melon			0.48	0.40					10.96	1.58	1.58		14.99
Parsley	0.03												0.03
Squash		0.75											0.75
Strawberry							0.01	0.02	0.02	0.02			0.08
Sweet Pepper	13.33	9.41	11.15	13.04	10.99	17.89	23.72	19.05	30.77	20.10	15.98	23.94	209.37
Tomato	91.87	98.81	119.66	133.42	125.84	131.31	145.49	146.92	120.62	113.70	101.17	149.80	1,478.60
Voëhm											0.43	0.58	1.00
Total	**150.55**	**168.15**	**177.52**	**181.61**	**172.49**	**189.46**	**211.71**	**217.27**	**202.15**	**182.75**	**160.57**	**230.63**	**2,244.85**

Food Crops - Protected Cultures	Production (tonnes)												Total (t)
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Soil Culture:													
Bean										0.10			0.10
Brinjal (C)	0.06	0.05	0.06	0.05									0.22
Cabbage									0.40			4.90	5.30
Cauliflower										0.35			0.35
Cucumber	0.61	0.75	-	0.40	0.75	0.72	0.45	0.27	0.20	0.33	0.32	0.80	5.59
Greens							0.14	0.11	0.11			0.14	0.49
Lettuce		0.15	0.47	0.15	1.00	0.19	0.32	0.26	0.31	0.30		0.14	3.27
Squash												0.09	0.09
Sweet Pepper	0.45	0.76	0.39	0.20	0.07	0.07	0.07			0.12			2.13
Tomato	1.47	1.89	1.57	0.75	1.86	3.73	3.21	3.11	1.92	0.18	1.92	3.07	24.67
Voëhm						0.04	0.05						0.08
Total	**2.59**	**3.60**	**2.49**	**1.55**	**3.68**	**4.74**	**4.22**	**3.74**	**2.94**	**1.37**	**2.24**	**9.13**	**42.29**
Grand Total	**153.14**	**171.75**	**180.00**	**183.16**	**176.17**	**194.20**	**215.94**	**221.01**	**205.09**	**184.12**	**162.81**	**239.76**	**2,287.14**

N.B. - Figures in table above refer only to owner planters and exclude the corporate sector

Area harvested of Food Crops (Whole Island) by District - 2018

Food Crops	Harvested Area (hectares)								Total (ha)
	Black River	Flacq	Grand Port	Moka	Pamplemousses	Plaine Wilhems	Riv. Du Rempart	Savanne	
Banana	17.25	168.24	36.34	31.79	25.19	7.37	7.77	165.94	459.89
Bean	6.51	68.13	26.86	31.66	48.74	16.23	50.23	11.28	259.64
Beet	5.24	0.99	5.22	2.77	1.64	19.96	2.75	0.41	38.98
Bittergourd	0.43	53.41	35.33	2.92	41.32	4.44	69.89	3.27	211.00
Brinjal (A)	0.33	25.25	1.63	3.16	0.66	1.68	1.37	1.76	35.84
Brinjal (C)	1.91	87.39	14.69	2.21	32.80	5.42	69.01	5.58	219.01
Broccoli			0.10	2.68		7.28			10.06
Cabbage	4.59	37.27	18.68	39.43	18.76	93.27	13.26	9.60	234.85
Calabash	3.25	79.31	50.23	21.61	83.99	23.99	95.30	27.60	385.27
Carrot	47.08	0.19	35.39	24.58	35.04	187.50		27.24	357.02
Cauliflower	11.17	10.61	4.84	9.65	8.15	32.89	10.23	2.87	90.41
Chillies (C)	0.56	14.75	0.93	5.08	0.77	8.50	0.22	0.07	30.87
Chillies (L)	1.60	69.51	6.79	3.33	50.25	4.99	68.13	1.58	206.18
Chillies (S)	0.15	2.44	6.19	2.54	8.20	0.55	5.73	1.10	26.89
Chouchou	0.26	0.22	2.10	64.32	0.44	168.29		3.47	239.10
Courgette	0.32	6.45	1.22	4.39	2.74	11.47	0.21	0.74	27.54
Cucumber	1.43	65.66	68.37	27.66	78.36	35.74	82.49	49.14	408.84
Echalote	17.02	13.97	16.33	1.56	53.72	20.03	6.40	5.58	134.61
Eddoes (C)		2.43	1.18	0.12	28.40	0.01			32.14
Eddoes (V)	5.17	8.98	0.28	0.26	11.23	0.23	1.25		27.40

Food Crops	Harvested Area (hectares)								Total (ha)
	Black River	Flacq	Grand Port	Moka	Pamplemousses	Plaine Wilhems	Riv. Du Rempart	Savanne	
Garlic	0.12	0.65	1.11	0.05	4.82	3.62			10.37
Ginger		1.33	0.27	0.95	37.22	0.38		0.09	40.24
Green Peas				0.36		0.17			0.53
Greens	17.07	18.98	42.93	24.36	48.62	34.78	21.04	36.52	244.30
Groundnut	2.03	26.66	3.14	1.67	15.90	1.43	13.90	22.14	86.87
Ladies Finger	2.11	45.60	20.75	3.06	51.10	1.81	47.94	12.57	184.93
Leek	1.07			1.62		6.21		0.06	8.96
Lettuce	14.97	9.50	9.22	5.91	20.14	43.21	5.69	2.98	111.62
Maize	0.31	21.35	10.29	10.35	11.71	1.63	5.58	3.26	64.48
Manioc		1.14	22.42	0.23	16.64			0.45	40.88
Onion		70.22	0.34	0.42				4.08	75.06
Onion (Hybrid)	44.68	0.22	1.25		24.86	47.33	63.92	17.88	200.14
Total Onion	*44.68*	*70.44*	*1.59*	*0.42*	*24.86*	*47.33*	*63.92*	*21.96*	*275.20*
Patole	0.31	32.29	5.92	0.69	29.96	4.35	65.45	1.16	140.12
Petsai	4.41	7.01	3.71	5.60	0.13	19.57		0.21	40.64
Pineapple		384.52	1.51	5.79	99.83		3.15	6.78	501.59
Pipengaille	1.46	26.81	11.27	5.91	48.49	3.01	84.05	0.30	181.29
Potato	50.45	17.99	69.89	48.27	109.40	72.74	124.61	225.84	719.19
Pumpkin	37.64	59.19	32.46	47.79	61.32	27.21	230.05	47.61	543.25
Squash	0.63	7.06	3.20	8.20	3.46	21.57	8.64	7.75	60.51

Food Crops	Harvested Area (hectares)								Total (ha)
	Black River	Flacq	Grand Port	Moka	Pamplemousses	Plaine Wilhems	Riv. Du Rempart	Savanne	
Sweet Pepper		0.06				0.87	0.11		1.04
Sweet Potato		0.73	2.38	2.80	40.02				45.93
Tomato						0.21		0.36	0.57
Tomato (Hybrid)	36.41	113.17	105.69	70.55	112.45	37.97	143.20	63.40	682.81
Total Tomato	*36.41*	*113.17*	*105.69*	*70.55*	*112.45*	*38.18*	*143.20*	*63.76*	*683.38*
Voëhm	0.57	55.13	9.79	1.59	34.23	2.33	40.50	1.09	145.22
Grand Total	**338.50**	**1,614.79**	**690.22**	**527.86**	**1,300.67**	**980.22**	**1,342.07**	**771.75**	**7,566.07**

N.B. - (1) Figures refer to open field production only (2) Production data include both small planters and the corporate sector

Production of Food Crops (Whole Island) by District - 2018

Food Crops	Production (tonnes)								Total (t)
	Black River	Flacq	Grand Port	Moka	Pamplemousses	Plaine Wilhems	Riv. Du Rempart	Savanne	
Banana	263.55	2,576.69	526.14	493.57	353.33	109.13	113.06	2,502.09	6,937.55
Bean	35.14	286.95	182.11	275.61	264.37	94.00	251.39	52.48	1,442.05
Beet	65.75	11.64	75.92	38.22	15.96	251.61	30.91	6.92	496.93
Bittergourd	3.69	402.67	177.40	13.50	455.37	26.87	732.68	14.23	1,826.41
Brinjal (A)	2.77	177.61	10.68	16.39	3.73	12.68	8.02	17.00	248.88
Brinjal (C)	22.53	875.35	119.35	15.14	359.83	62.63	750.15	41.15	2,246.13
Broccoli			2.00	21.28		82.32			105.60
Cabbage	64.95	612.50	278.94	685.57	202.75	1,470.17	156.75	169.89	3,641.51
Calabash	44.40	840.87	583.75	319.48	1,006.33	315.25	1,105.11	412.40	4,627.57
Carrot	618.39	2.52	470.04	376.89	359.25	2,568.75		467.50	4,863.34
Cauliflower	139.45	126.39	121.00	157.68	110.62	549.94	141.65	35.08	1,381.82
Chillies (C)	5.04	97.84	2.74	20.39	1.81	69.97	0.97	0.37	199.13
Chillies (L)	12.06	315.90	19.35	15.44	289.67	51.48	405.77	6.50	1,116.17
Chillies (S)	0.46	6.01	20.31	8.50	17.88	1.95	13.36	4.94	73.40
Chouchou	2.69	2.82	24.96	1,184.61	1.80	2,408.24		49.66	3,674.79
Courgette	2.84	50.25	12.04	41.79	7.27	74.66	1.58	6.16	196.59
Cucumber	16.48	564.14	738.72	333.32	719.82	396.78	712.04	684.04	4,165.34
Echalote	146.28	178.72	183.08	15.67	276.76	176.55	34.69	58.93	1,070.68

Food Crops	Production (tonnes)								Total (t)
	Black River	Flacq	Grand Port	Moka	Pamplemousses	Plaine Wilhems	Riv. Du Rempart	Savanne	
Eddoes (C)		19.44	4.24	0.47	237.80	0.05			261.99
Eddoes (V)	47.84	95.07	2.64	1.99	111.48	3.00	11.09		273.11
Garlic	0.72	3.11	5.74	0.21	33.74	27.15			70.67
Ginger		21.72	4.42	18.56	317.28	3.80		2.25	368.03
Green Peas				0.53		0.26			0.79
Greens	195.99	144.55	403.78	330.01	207.27	384.86	89.11	329.47	2,085.04
Groundnut	6.34	55.17	6.39	4.01	46.57	5.76	43.02	46.39	213.64
Ladies Finger	11.64	213.83	79.46	15.02	329.97	11.00	306.55	27.26	994.72
Leek	6.48			22.48		41.97		0.24	71.17
Lettuce	175.13	82.52	82.53	84.43	83.31	524.62	26.37	18.18	1,077.09
Maize	2.18	97.70	77.89	33.32	102.65	12.17	43.07	17.93	386.91
Manioc		13.67	428.19	2.73	176.12			8.35	629.06
Onion		842.41	7.40	2.10				77.19	929.10
Onion (Hybrid)	624.15	2.20	8.40		194.48	755.82	542.80	382.87	2,510.72
Total Onion	*624.15*	*844.61*	*15.80*	*2.10*	*194.48*	*755.82*	*542.80*	*460.06*	*3,439.83*
Patole	1.43	169.26	69.01	3.94	173.69	28.42	390.29	9.43	845.47
Petsai	47.92	83.89	32.28	95.05	0.84	220.13		2.10	482.21
Pineapple		7,963.98	30.70	104.56	1,851.73		54.26	37.37	10,042.60
Pipengaille	18.20	198.27	130.70	76.09	504.97	37.12	816.59	2.63	1,784.55
Potato	1,340.67	386.69	1,936.74	864.28	2,501.91	1,840.99	2,870.32	5,291.24	17,032.84
Pumpkin	329.90	754.69	469.74	819.28	781.91	409.21	2,382.80	857.39	6,804.92
Squash	6.16	51.88	33.32	68.83	8.20	150.22	60.79	67.94	447.33

Food Crops	Production (tonnes)								Total (t)
	Black River	Flacq	Grand Port	Moka	Pamplemousses	Plaine Wilhems	Riv. Du Rempart	Savanne	
Sweet Pepper		0.18				5.65	0.33		6.16
Sweet Potato		8.11	47.16	53.50	443.37				552.14
Tomato						1.37		2.34	3.71
Tomato (Hybrid)	724.59	1,407.48	1,688.62	1,224.42	1,336.82	276.12	1,575.62	952.41	9,186.08
Total Tomato	*724.59*	*1,407.48*	*1,688.62*	*1,224.42*	*1,336.82*	*277.49*	*1,575.62*	*954.75*	*9,189.79*
Voëhm	2.10	421.70	61.71	8.14	170.58	19.23	186.55	9.59	879.59
Grand Total	**4,987.90**	**20,166.37**	**9,159.58**	**7,867.00**	**14,061.21**	**13,481.90**	**13,857.66**	**12,671.89**	**96,253.51**

N.B. - (1) Figures refer to open field production only (2) Production data include both small planters and the corporate sector

Area harvested of minor Food Crops (Whole Island) by District - 2018

Minor Food Crops	Harvested Area (hectares)								Total (ha)
	Black River	Flacq	Grand Port	Moka	Pamplemousses	Plaine Wilhems	Riv. Du Rempart	Savanne	
Asparagus								7.74	7.74
Bokla				0.89					0.89
Brède Songe			0.21						0.21
Butternut	0.10					0.22		0.17	0.49
Celery	0.20			1.21		1.55			2.96
Chinese Peas				0.48	0.11				0.59
Coriander	11.63	22.71	28.79	14.81	25.03	30.94	8.16	12.99	155.06
Melon					0.21		9.76		9.97
Parsley	0.84		0.21	0.65		6.54		0.11	8.35
Patate Chinois					14.23				14.23
Pawpaw		1.58							1.58
Radish				0.77		0.55			1.32
Rave	2.17	1.29	1.94	1.70	0.50	4.74		0.38	12.72
Rice								9.46	9.46
Thyme	1.01			0.18	1.21	1.48	0.03	14.04	17.95
Watercress	0.46	3.21	5.31	0.19	0.12	0.44	1.31		11.03
Watermelon		20.77	29.93		15.72	0.08	38.37	6.29	111.15
Total	**16.41**	**49.55**	**66.39**	**20.88**	**57.13**	**46.54**	**57.62**	**51.17**	**365.68**

N.B. - (1) Figures refer to open field production only (2) Production data include both small planters and the corporate sector

Production of minor Food Crops (Whole Island) by District - 2018

Minor Food Crops	Production (tonnes)								Total (t)
	Black River	Flacq	Grand Port	Moka	Pamplemousses	Plaine Wilhems	Riv. Du Rempart	Savanne	
Asparagus								2.40	2.40
Bokla				2.14					2.14
Brède Songe			1.77						1.77
Butternut	1.00					0.66		0.42	2.08
Celery	1.07			7.07		10.02			18.15
Chinese Peas				1.43	0.55				1.98
Coriander	74.11	183.03	199.35	88.00	137.89	197.95	49.72	149.04	1,079.09
Melon					0.42		45.70		46.12
Parsley	3.69		1.26	3.25		30.08		0.22	38.50
Patate Chinois					166.13				166.13
Pawpaw		14.29							14.29
Radish				2.36		2.65			5.00
Rave	14.68	10.71	25.66	6.50	5.22	40.28		3.12	106.17
Rice								16.12	16.12
Thyme	2.55			0.20	1.96	4.04	0.05	56.13	64.94
Watercress	2.89	21.37	65.09	1.29	0.37	2.77	4.66		98.44
Watermelon		387.76	690.59		84.96	1.60	491.39	71.06	1,727.35
Total	**99.98**	**617.16**	**983.71**	**112.23**	**397.50**	**290.05**	**591.52**	**298.51**	**3,390.66**

N.B. - (1) Figures refer to open field production only (2) Production data include both small planters and the corporate sector

Area harvested of Food Crops grown in Protected Cultures by District (Whole Island) - 2018

Food Crops - Protected Cultures	Harvested Area (hectares)								Total (ha)
	Black River	Flacq	Grand Port	Moka	Pamplemousses	Plaine Wilhems	Riv. Du Rempart	Savanne	
Hydroponics:									
Bean						0.29			0.29
Bittergourd							0.01		0.01
Brinjal (C)			0.05						0.05
Cauliflower		0.16							0.16
Cucumber		0.84	1.02	0.19	0.51	0.26	0.09	0.23	3.15
Greens						0.10			0.10
Lettuce		0.19	0.90	1.44	0.18	0.17			2.87
Melon			0.17		0.01			0.01	0.19
Parsley						0.01			0.01
Squash						0.03			0.03
Strawberry						0.01			0.01
Sweet Pepper		0.51	0.92	0.17	0.72	0.40	0.30	0.39	3.40
Tomato		1.78	3.13	1.14	2.98	1.72	0.60	1.20	12.54
Voëhm		0.03							0.03
Total		**3.51**	**6.18**	**2.93**	**4.41**	**2.97**	**1.01**	**1.82**	**22.83**

Food Crops - Protected Cultures	Harvested Area (hectares)								Total (ha)
	Black River	Flacq	Grand Port	Moka	Pamplemousses	Plaine Wilhems	Riv. Du Rempart	Savanne	
Soil Culture:									
Bean		0.01							0.01
Brinjal (C)					0.01				0.01
Cabbage		0.01	0.07						0.08
Cauliflower					0.01				0.01
Cucumber			0.03		0.10	0.04		0.07	0.22
Greens							0.04		0.04
Lettuce		0.04		0.08			0.04	0.06	0.21
Squash							0.01		0.01
Sweet Pepper		0.02	0.01					0.07	0.10
Tomato	0.15		0.04	0.10	0.30		0.03	0.13	0.75
Voëhm						0.01			0.01
Total	**0.15**	**0.08**	**0.15**	**0.18**	**0.41**	**0.04**	**0.12**	**0.32**	**1.45**
Grand Total	**0.15**	**3.59**	**6.33**	**3.11**	**4.82**	**3.01**	**1.12**	**2.14**	**24.28**

N.B. - Figures in table above refer only to owner planters and exclude the corporate sector

Production of Food Crops grown in Protected Cultures by District (Whole Island)- 2018

Food Crops - Protected Cultures	Production (tonnes)								Total (t)
	Black River	Flacq	Grand Port	Moka	Pamplemousses	Plaine Wilhems	Riv. Du Rempart	Savanne	
Hydroponics:									
Bean						4.35			4.35
Bittergourd							0.43		0.43
Brinjal (C)			2.48						2.48
Cauliflower		2.60							2.60
Cucumber		122.32	142.10	26.29	73.16	37.52	14.63	33.18	449.19
Greens						2.05			2.05
Lettuce		1.61	24.29	44.38	5.55	3.11			78.93
Melon			13.31		0.80			0.88	14.99
Parsley						0.03			0.03
Squash						0.75			0.75
Strawberry						0.08			0.08
Sweet Pepper		36.01	54.28	10.28	42.28	23.21	17.96	25.34	209.37
Tomato		220.38	367.87	133.75	356.44	182.07	71.34	146.76	1,478.60
Voëhm		1.00							1.00
Total		**383.91**	**604.32**	**214.70**	**478.23**	**253.16**	**104.37**	**206.16**	**2,244.85**

Food Crops - Protected Cultures	Production (tonnes)								Total (t)
	Black River	Flacq	Grand Port	Moka	Pamplemousses	Plaine Wilhems	Riv. Du Rempart	Savanne	
Soil Culture:									
Bean		0.10							0.10
Brinjal (C)					0.22				0.22
Cabbage		0.40	4.90						5.30
Cauliflower					0.35				0.35
Cucumber		-	0.75	-	2.37	0.97	-	1.51	5.59
Greens							0.49		0.49
Lettuce		0.30		1.37			0.49	1.12	3.27
Squash							0.09		0.09
Sweet Pepper		0.44	0.25					1.45	2.13
Tomato	3.83	-	2.00	3.78	8.76	-	1.23	5.07	24.67
Voëhm						0.08			0.08
Total	**3.83**	**1.24**	**7.90**	**5.15**	**11.70**	**1.05**	**2.29**	**9.14**	**42.29**
Grand Total	**3.83**	**385.14**	**612.22**	**219.84**	**489.93**	**254.21**	**106.66**	**215.30**	**2,287.14**

N.B. - Figures in table above refer only to owner planters and exclude the corporate sector

Area harvested and production of Food Crops grown in interline plantations - 2018

Food crops	Area (hectares)		Production (tonnes)
	Interline	Pure stand equivalent	
Groundnut	0.33	0.17	0.17
Maize	0.22	0.11	0.33

N.B. - The corporate sector have not submitted any data as regards to Interline production.

Number of cattle, goats, sheep and pigs by type of breeders as at December 2018
Island of Mauritius

Type of breeder	Cattle	Goats	Sheep	Pigs
Small breeders	3,508	25,540	3,005	19,662
Livestock breeding stations and prisons farm	144	249	52	0
Large commercial farms	333	237	806	0
Total	3,985	26,026	3,863	19,662

Number of small breeders and number of livestock by district as at December 2018
Island of Mauritius

District	Cattle		Goats		Sheep		Pigs		Broilers		Layers	
	No. of breeders	No. of heads	No. of breeders	No. of heads	No. of breeders	No. of heads	No. of breeders	No. of heads	No. of breeders	No. of birds	No. of breeders	No. of birds
Pamplemousses	65	323	348	3,612	45	415	36	1,106	18	26,420	22	23,850
Riviere du Rempart	153	950	458	4,993	41	561	29	482	80	252,353	20	45,833
Flacq	107	392	693	6,395	35	360	54	2,322	33	46,407	16	5,356
Grand Port	57	295	245	2,763	15	216	28	696	26	40,650	16	27,700
Savanne	46	442	212	2,824	47	631	14	318	28	43,800	12	9,600
Plaine Wilhems	59	495	49	681	11	151	13	407	16	18,425	14	7,115
Moka	38	298	44	440	6	52	7	235	34	67,545	15	19,425
Black River / Port Louis	50	313	281	3,832	43	619	275	14,096	30	41,450	37	19,230
Total	575	3,508	2,330	25,540	243	3,005	456	19,662	265	537,050	152	158,109