



Food and Agricultural  
Research and Extension  
Institute

**Annual Report  
2017/2018**

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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.....	L'organisme français de recherche agronomique et de coopération internationale pour le développement durable des régions tropicales et méditerranéennes
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

CRS.....Crop Research Station

MF.....Model Farm

BDU.....Business Development Unit

APMIS.....Agricultural Production and Management Information System

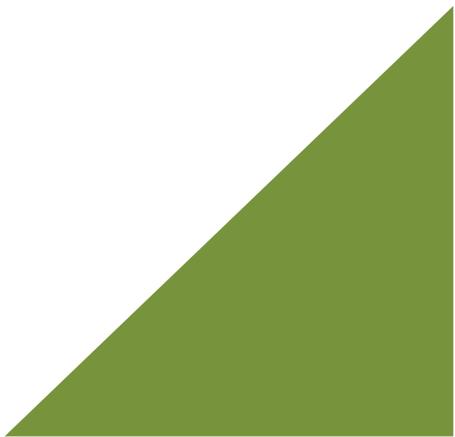
QDS.....Quality Declared Seeds

EM.....Effective Microorganisms

IPSAS.....International Public Sector Accounting Standards

AEC.....Agricultural Entrepreneur Club

APC.....Agro-Processing Centre



## 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 2018 were marked by unprecedented persistent heavy rains which impacted negatively on crop production. The FAREI provided all necessary support to growers to recover from the losses incurred and assisted the Ministry of Agro Industry and Food Security in the implementation of various accompanying measures.

In order to further diversify the agricultural base of the country, several new avenues of research are being exploited. These include development of macadamia, cocoa, coffee, vanilla and pulse crops.

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 2017 to 30 June 2018.

In line with objectives set in the Strategic Plan (2016-2020) for the Food Crop, Livestock and Forestry Sectors, research activities were geared towards increasing agricultural productivity to attain self-sufficiency in certain crops and reduce importation.

Increasing crop productivity can be achieved through introduction of new germplasm and through breeding. Two hundred and twenty-six new crop varieties were evaluated on-station and/ or in farmers' fields in different agro-climatic zones. Of these, 146 were found promising in terms of yield, quality and adaptability. They were retained for further trials. Seventeen new varieties including three onion, one chilli, six tomato, one watermelon, three gherkin, two zucchini and one squash were released. For hydroponic production seven sweet pepper and five salad tomato varieties have been recommended. For the fruit sector, 37 new varieties of banana (11), litchi (3), longan (3), avocado (17) and atemoya (3) were evaluated and of these, four banana, one litchi and seven avocado varieties were found promising.

Conventional breeding of potato, onion, tomato, pea and bean is ongoing and one potato and two bean varieties have given very good results and will be released. A maintenance breeding programme is being implemented for onion (var. Local Red), bean (var. Long Tom), local cauliflower and local cucumber. Long Tom bean variety has been improved in terms of yield, pod characteristics and physical purity.

The ornamental industry is gaining in importance in Mauritius. New varieties of anthurium have been introduced and are being evaluated. In addition, crosses between selected parent lines were pursued. Two potted lines were found to be promising and will be released.

Organic packages have been developed for sweet potato, ginger, turmeric, cabbage, French bean, okra, carrot, beetroot, bottle gourd, coriander and cucumber. Several biological pest control products have been tested for the control of the main pests and diseases. One bio-pesticide (Biocure) was found effective for the control of the Diamond Back Moth which is an important pest of crucifers. The bio-fungicide FungKill provided effective control of powdery mildew in cucurbits and of late blight in tomato. Production of seeds of lettuce, bean, radish, onion, bitter gourd, and Pak choy under organic method was successfully undertaken.

*In-vitro* propagation of the local promising potato clone (14-2) was pursued and more than 1760 hardened plantlets were potted for the production of mini-tubers. These will be used for the production of mother seeds.

Trials were also undertaken for the multiplication of tea plantlets *in-vitro*. Three multiplication media were tested.

A pilot macadamia orchard has been set on the Réduit Crop Research Station and will be used for training of farmers. More than 5000 seedlings have been potted and will be transplanted in the fields after grafting. Phenological studies are being carried out on existing macadamia plants in several areas.

Further research on use of irrigation and fertilization was undertaken. Optimum gravity-fed drip fertigation regimes were developed for taro, French bean and red cabbage.

Conservation of beneficial organisms is an important factor for the sustainability of agriculture and the environment. Studies are being undertaken on the floral diversity within crop production areas in view of enhancing natural enemy and pollinator populations.

For the livestock sector nutritional studies are being carried with compounded concentrate. Digestibility studies on the use of browse species to partially replace commercial concentrates in the diet of ruminants are being carried out.

In view of consolidating the fodder germplasm collection, thirty-one locally available graminaceous and leguminous fodder species have been established. A project has been initiated on hydroponic fodder production.

In collaboration with the private sector, a programme for the 'creole' cattle has been initiated with the objective of setting up a sub-nucleus and creation of awareness in conservation of this breed. The use of effective microorganisms on dairy, goat, and pig farms as a means to alleviate odours and flies on farms is being studied.

Research is also aimed at reducing food loss and food waste. Several protocols have been developed for processing of agricultural products so as to increase shelf life.

Results of research findings are disseminated to 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). Several training programmes for entrepreneurs in agro-processing and agricultural youth clubs have been carried. Training of farmers in MauriGap standards has been conducted. A sheltered farming park was launched at Plaine Magnien and nine young unemployed graduates, after having undergone training, have been allocated 0.2ha each for the production of vegetables.

The Ministry of Agro Industry and Food Security provides support to farmers and the FAREI is implementing agency for several of these schemes. For the year under review 224 applications have been processed and 134 approved.

This year was also marked with the relocation of FAREI Head Office at Réduit and the closure of the rented office space at Quatre Bornes. A new Extension Office is now operational at Vacoas.



Seelavarn Ganeshan  
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
- 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 management 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 systems in food crop production so as to minimise the use of pesticides and ensure safe food.

## Livestock Research

Our Research thrusts aim to respond to farmers' 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 client focus and participatory approach. The Department has a comprehensive network of sub offices, model farms and the Farmer Training School to meet the objectives.

With the growing challenges in agriculture, the thrust is towards professionalization of farm activities; 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, to develop appropriate technologies in – irrigation, farm mechanisation, protected cultures and agro-processing and to support the provision of agricultural information.

- **Biometry and Statistics Division**

The Biometry and Statistics Division provides support to the Crop and Livestock Departments mainly for its research activities. The Division assists in development of research protocols for the design and layout of experiments and field trials as per the research programmes. Researchers are provided with analytical capacity for complex data analysis, generating statistical results and comparisons from experimental data. Research departments are also provided assistance in interpretation of statistical results and review of reports and research papers.

The Division is responsible for foodcrop production statistics and market price. Regular field surveys are conducted by Extension Assistants for collection of production data and area under crop. Some 30 major crops are monitored and data collected 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 and the Mauritius Chamber of Agriculture.

Development of ICT is catered by the Division in development of APMIS and its maintenance. The FAREI website is maintained and updated by the Division.

- **Economics Unit**

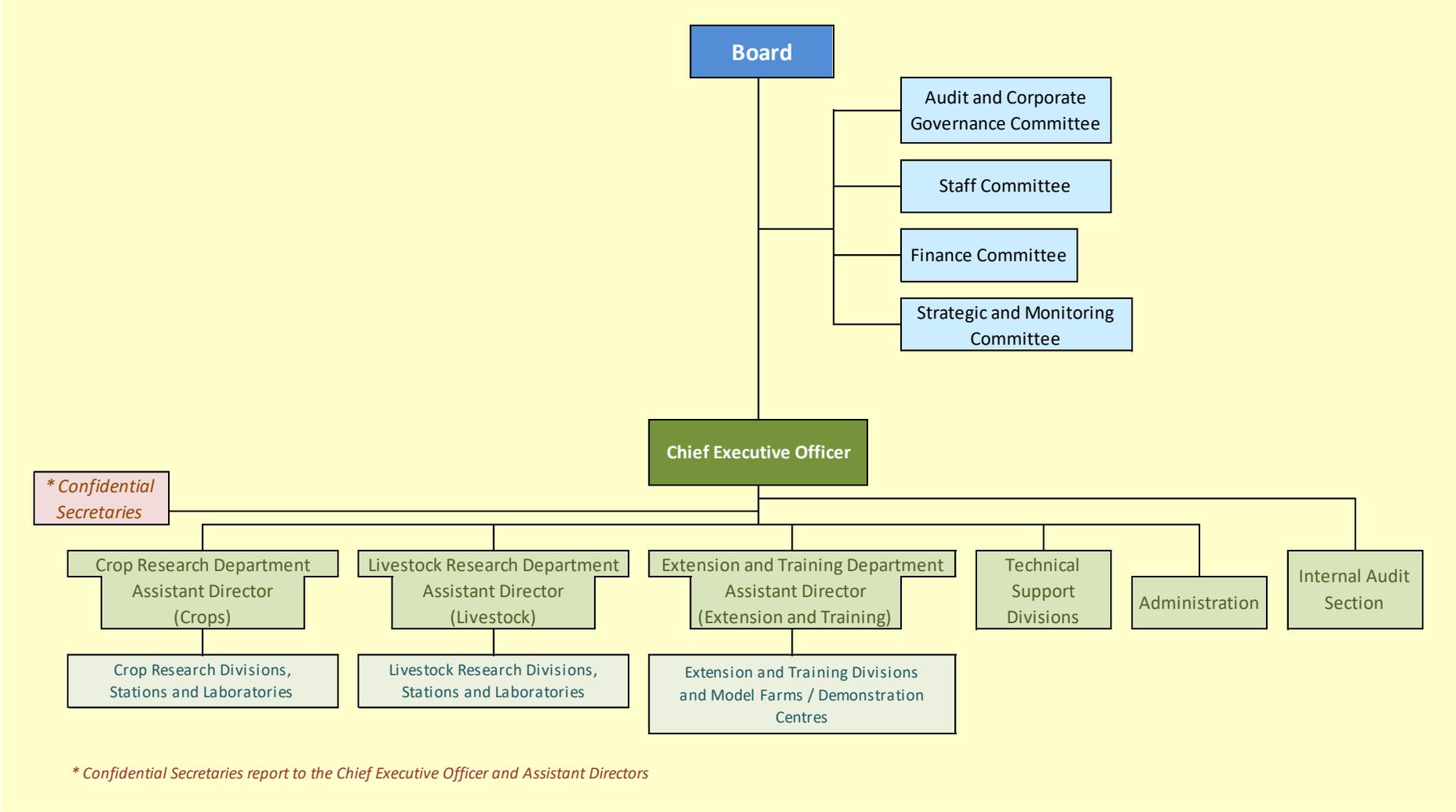
Studies have been carried out to evaluate farmer needs and problems and agri-business enterprise cost of production. Project evaluation and counselling of agri-entrepreneurs and policy formulation in the national development of the agricultural sector have also been undertaken. Forty eight bio-farming project proposals were evaluated, 36 agri-business proposals were drafted and about 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.

- **The Administration Section**

The administration section assists management to achieve government goals and support research and development activities so as to ensure effective management of overall activities and ensure good Corporate Governance.

The main office of business of the FAREI is at Réduit. However, research and development activities as well as services to the agricultural community also 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, Pamplémousses Organic Research Station and Belle Mare Centre.

Organigram



\* Confidential Secretaries report to the Chief Executive Officer and Assistant Directors

## Section 3: Technical Highlights

### Crop Research and Development

#### Introduction

From July 2017 to June 2018, activities at the Food and Agricultural Research and Extension Institute focused on the development of new crop varieties through breeding programme, the introduction and evaluation of new improved germplasm, crop productivity and quality improvement, crop protection and the development of eco-friendly packages for crop production.

#### Potato

The agronomic performance of five introduced potato varieties was assessed in different agro-climatic regions in the first and second seasons. Variety *Everest* was found to be promising. Its yields are equivalent or higher than variety *Spunta*. In terms of tuber characteristics, it is oval long shape, with a pale-yellow flesh colour and a rather large tuber size. Its canopy development is vigorous and has a uniform plant stand. It is suitable for both seasons and can be used as table potato and for processing purposes.

Breeding and selection of local potato clones for ware production, processing and resistance to biotic and abiotic stresses was pursued. Clone 14-2 gave excellent results and will be released. Approximately 50 crosses between 10 commercial potato varieties and three selected parents (*Spunta*, *Safari* and *Delaware*) with proven agronomic and quality characteristics were carried out. However, due to absence of berries no successful cross was obtained.

First generation tubers from true potato seeds of a cross between varieties *Safari* and *Delaware* were produced. Morphological characterization and agronomic screening of 46 clones, of the 2013 and 2014 breeding series was carried out over the two seasons for yield, tuber number, days to flowering and crop cycle. Nine clones were found promising, with yields higher than the recommended varieties *Spunta* and *Safari*.

Storability of the newly recommended variety *Safari* compared to *Delaware* under ambient conditions after prolonged cold storage was carried out. *Safari* showed better storability than *Delaware* at three months of storage.

#### Onion

Evaluation of onion varieties (hybrids and open pollinated) for increased yield, better storability and good quality was continued. Of the 12 onion varieties evaluated, two namely *10243* and *AVON 1067* were found promising. Hybrid variety *10243*, is an early variety and can contribute to extend the onion cropping season. It is yellow with bulbs of 150-200 g. Open pollinated variety *AVON 1067* was found to be tolerant to *Stemphylium* leaf blight, which resulted in higher yields. It is red with bulbs of 100-200 g. Storage trials are ongoing with the collaboration of the Agricultural Marketing Board.

Evaluation for bulb production from sets was carried out with 17 onion varieties. Very good yield of bulbs was obtained with two hybrid varieties *Russet* (41 t/ha) and *Irati* (40 t/ha).

Trials with the red open pollinated variety *Roxa* and with the white open pollinated variety *White Angel* were pursued and results indicate that *Roxa* is well appreciated by growers due to its tolerance to *Stemphylium* leaf blight.

In order to increase local production of onion seeds, on farm seed production of varieties *Bellarose* and *Francia* for the farming community under contract growing using QDS was implemented.

### Taro

Introduced germplasm of taro were evaluated. Three on-station trials were completed in March 2018 with seven varieties. One variety (*MAL 11*) did not produce any corm and was eliminated, while three varieties (*MAL 08*, *SM 152*, *PNG 13*) were found promising in terms of yield and tolerance to Taro Leaf Blight disease. Maintenance and rapid multiplication of these promising varieties *in-vitro* is on-going as well as multiplication of suckers on two stations. Variety *PNG13* has been adopted by two growers who have undertaken its cultivation on about 0.2 ha. This variety is also well appreciated by consumers. Six hundred suckers of varieties *MAL 08*, *SM 152*, *PNG 13* were provided to planters for on-farm trials.

A project funded by the IAEA for *in-vitro* mutagenesis of taro is being undertaken. The aim is to identify lines tolerant or resistant to the Taro Leaf Blight disease. Out of 30 lines only 3 survived during field evaluation and are being maintained *in-vitro*. None of the three lines showed resistance/ tolerance to the disease

### Pulse crops

Five bean varieties were found promising in terms of yield, seed quality and maturity and 29 kg seeds were produced on-station and were provided to growers for on-farm trials. One biofortified variety *NUA 45* (with higher Iron and Zinc) was promoted on-farm for production of fresh mature pods. The yield was 8 - 12 tonnes/ha and was appreciated by growers. Growers have retained seeds for next plantations. Seed multiplication of this variety, of three bush lima bean varieties (*Dixie Butter Pea*, *Henderson Bush*, *Baby Ford Hook*) and of one pole lima bean variety *White Ventura* is on-going on our stations.

Evaluation of eight promising pea lines and production of F10 seeds for the cross between the local variety and variety *Star 6007* is being carried on stations and on-farm. Six lines were found promising with good yields (7-8 t/ha) and suitable pod characteristics (8-9 cm long and 7-8 seeded). Growers and consumers had a positive feed-back on these in terms of yield and quality.

For the cross Arcadia and Local, 22 lines were evaluated and 17 were selected for further evaluation.

In view of promoting and maintaining neglected leguminous/ pulse crops several trials have been initiated with local broad bean, pigeon pea, and Jack bean.

### Garlic

Local garlic is not well appreciated by consumers because of its small clove size. In endeavours to improve acceptability, selection for large cloves, high pungency and good storability was carried from 30 local accessions. Twelve accessions from planters and AMB were identified as promising.

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

### Cardamom

Studies of phenotypic characteristics of cardamom are being undertaken.

### Cassava

A maintenance programme for the two recommended IITA cassava varieties *Orniita* and *Blanchiita* is on-going.

### Tomato

Among the twenty-six varieties tested during winter season, eight namely *Jarrah RZ*, *NS 626*, *NS 5115*, *Hero*, *Anabella*, *Abhimanyu*, *Profit Early* and *Tachian*, gave yields ranging from 25 to 40 t/ha.

### Chilli

Trials are being carried out with twelve chilli varieties and three were found to be promising in terms of yield and pungency. Variety *Star 6603* showed good adaptability and high yields. Three varieties received from AVRDC are currently being evaluated.

### Crucifers

Several cauliflower, cabbage and broccoli varieties are under evaluation. Cauliflower variety *Kalina* with a yield potential of 15t/ha was recommended. Other varieties namely *NS 1448*, *TSX C35* and *TSX C22* were found promising. Cabbage varieties *Tacoma* and *Emblem* with average head weight of 2 kg were recommended. These varieties can be grown all year round and are adapted to the sub-humid, humid and super-humid areas. Varieties *New Wind* and *Summer Times* were found promising. Two broccoli varieties *TSX* and *NS 1253* with curd weight ranging from 0.3-0.6 kg and good adaptability for summer production were found to be promising and are being further evaluated. Improvement of landraces of cabbage and cauliflower through use of nuclear techniques for mutation breeding and biotechnology has been initiated.

### Salad crops

Several carrot varieties were evaluated. Varieties *Verano*, *Amazonia*, *Pamela* and *Summer Fresh* were found to be promising with yields ranging from 20 to 35 t/ha.

For lettuce butterhead type varieties *MLT 02*, *NLT 02*, *MLT 06* and *MLT 08* and Iceberg type varieties *LT05*, *NLT 05* with head weight of 0.5-1.2 kg were found promising.

Five new beetroot varieties were evaluated and good performance was obtained with varieties *Crimson Globe*, *Early Wonder* and *Tall Top*.

### Cucurbits

Ten cucumber varieties are being evaluated and five have given promising results with an average yield of 5 fruits/ plant. Seven zucchini varieties were evaluated. All were promising yielding 3 to 4 fruits/plant. Varieties *Golden Yellow* and *Gela* have been recommended. Squash variety *Patisson Orange* with yields comparable to the main cultivated variety *Golden Custard* was recommended.

### Mushroom

Three new strains of *Pleurotus* were introduced for evaluation. Good mycelium development and fruit formation was noted. King oyster was found to be more adapted to winter conditions. Evaluation of four new shiitake strains in production trials was carried out and strains 63 and 64 were found to be very susceptible to contamination.

### Crop production under protected structures

Ten tomato varieties were evaluated for production under protected structure. Five varieties namely *Natyssa*, *Sartylina*, *Cantyca*, *Byzance* and *Vatouro* gave very good result and were recommended.

Five new melon varieties evaluated from March to May, produced an average of 2 fruits/ plant. This indicates that there is a potential to produce melon under protected cultivation during the off-season.

Five eggplant varieties *Brigitte*, *Angela*, *Sharapova*, *Black Pearl* and *Scarlaty* gave very good results in hydroponic production and were recommended.

Fertilizer regimes for different cultures in hydroponic production were studied. Plants fertilized with new formulations with lower nitrogen level performed well with no difference in yield compared to recommended fertilizers. Lower incidence of powdery mildew was also observed.

Out of seven new sweet pepper varieties under evaluation, three namely *AX-PSL 6116*, *AX-PB-OF-5021* and *AX-PB-OF-502* were promising in terms of their characteristics

Two butternut varieties namely *Waltham* and *Muscad* are under evaluation. Variety *Waltham* appears more promising with 2 to 3 fruits/ plant and a mean weight of 1 kg/fruit.

### Breeding

Maintenance breeding programme is being implemented for onion Local Red, bean Long Tom, local cauliflower and local cucumber. Bean variety Long Tom has been considerably improved in terms of yield, pod characteristics and physical purity. For the remaining crops, the programme is on-going.

### Sustainable and safer food

In line with Government vision for sustainable agricultural production, the MauriGAP horticultural quality standard is being encouraged among growers. To-date, 156 applications for certification have been received and 59 growers certified.

A sheltered farming park of 2.1 ha has been set up in February 2018 at Plaine Magnien where sustainable production practices are being adopted by a generation of young graduate entrepreneurs. Since March 2018, there has been a monthly production of around 14 tonnes of vegetables.

### Bio-farming Unit

A Bio-farming Unit was set up in January 2018 with the main objective to support Government's policy for organic agriculture and to promote sustainable production systems.

The unit has been actively involved in field advisory visits, carrying out various extension activities to improve farmers' production and the training of farmers to impart new technologies. Talks have also been held to sensitise the general public about the various benefits associated with organic farming. Some 204 farmers are now growing fruits and vegetables as per organic principles on a total area of 91.2 ha. Organic seed production protocols for pakchoy, bean, garlic, radish and white radish have been developed.

### Biotechnology

- Potato

*In-vitro* potato plantlets were propagated by single nodal cuttings. 1,760 hardened plantlets were potted and 52kg mini-tubers of the promising clone 14-2 were produced.

- Anthurium

Mature zygotes from eight different crosses were collected. Multiplication of each germinated zygote was undertaken. Rooted plantlets were hardened and a total of 687 hardened tissue culture plantlets were supplied for research purposes.

- Tea

Seeds were initiated on ½ MS medium. Trials were undertaken for multiplication of germinated plantlets. Three different multiplication media were tested.

- Supply of plants

A total of 21,917 plants were sold to growers and 1202 supplied to institutions and research divisions.

### Ornamentals

Crossing between selected anthurium parent lines and monitoring of crosses were pursued. Seeds were collected for embryo culture and conventional breeding and field evaluation of developed lines from previous crosses carried out. Out of the eighty promising lines under observation, two potted lines were found promising and will be released.

In view of reviving the anthurium industry, twenty new varieties were introduced from Netherlands. After nine months in quarantine, no disease was detected. These varieties will be further evaluated on station.

#### Fruits

- **Banana**

Freckle and Fusarium wilt are very important diseases affecting banana production. Tolerant varieties namely *FHIA 01*, *FHIA25*, *Banane carré* and *FHIA17* have been identified. A mutation breeding programme for improvement of banana variety *Gingeli* to induce tolerance to fusarium wilt (race 1) and improve yield has been initiated.

- **Avocado**

Characterisation and assessment of five introduced avocado varieties and three promising local accessions are being evaluated for flowering/ fruiting period, harvest period, fruit quality and postharvest quality.

- **Litchi**

The newly introduced Litchi variety *Kiamana* was planted at Réduit and at Pamplémousses Organic Research Station (PORS) for evaluation. Phenological study of variety *Yook Ho Pow* and other late varieties are ongoing.

- **Longan**

Three new longan varieties namely *Biew Kiew*, *Chompoo* and *Kohala* were introduced and planted at Réduit and PORS for evaluation. Local accessions are also being assessed and propagated.

- **Breadfruit**

Data are being gathered on the performance of different accessions and trees of breadfruit produced by three different propagation methods. Tree management techniques including pruning tipping and skirting were demonstrated to growers.

- **Pitaya**

Phenological studies are being carried out on 14 new pitaya accessions. More than 10,000 pitaya segments have been distributed to small scale growers. Model plots have been established at Pamplémousses, Réduit, Flacq and Mapou.

- **Watermelon**

Two watermelon varieties namely *Yellow Baby* and *Champion* with yields comparable to the commonly grown *Sugar Baby* have been recommended.

- **Strawberry**

Three strawberry varieties were found to be tolerant to *Pestalotiopsis* and variety *Agathe* were evaluated under protected and open field. Variety *Charlotte* was identified as highly tolerant and early bearing. Around 2,000 potted plants have been produced.

- **Guava**

Identification and multiplication of four promising local guava accessions have been undertaken. Evaluations are being carried out at Pamplémousses and Réduit.

- **Mango**

Conservation and maintenance of introduced mango germplasm at Richelieu for production of scion for propagation is ongoing.

- **Passion fruit**

Passion fruit varieties *AUS* (canari yellow) and *PMDMT* (purple) were established for production of planting material and evaluation of low-cost trellising.

- **Underutilised species of Anonaceae**

A wide range of underutilised species are being conserved. Phenological data are being compiled and seed collected for propagation. Conservation and evaluation of different species of Anonaceae (*Atte*, *Coeur de boeuf*, *Coronsol*) are being undertaken.

- **Coffee**

Phenological studies of existing local coffee germplasm are being undertaken. Three varieties have been identified based on morphology.

- **Cocoa**

Local cocoa germplasm is being assessed and new germplasm will be introduced.

- **Macadamia**

Macadamia is being promoted as an alternative crop for diversification and for cultivation on abandoned cane lands. A model macadamia plot has been established at Réduit. Studies are being undertaken with the few existing trees in Mauritius. Two species namely *Macadamia integrifolia* and *M. tetraphylla* have been identified. Rootstocks have been introduced and are being grown in FAREI nurseries for grafting before field planting.

#### **Extending shelf life of whole fresh produce**

Processing is a means to extend shelf life of vegetables and fruits. Studies have been carried on several species and protocols have been developed for cabbage, carrots, starfruit, fresh cut ripe jackfruit, breadfruit, green and ripe banana, avocado, lemon, pitaya, coffee, turmeric, ginger, sweet potato, soya bean milk, soursop, bilwa, pandanus fruits, gherkins, tomato, etc.

Use of moringa powder as a nutrient supplement in processed products is being studied and it has been found that addition of 0.5-1.5% w/w of moringa powder to processed products was as acceptable as nutritional supplement.

Research is being undertaken on the production and improvement of the quality of gluten free flour from local starchy produce such as breadfruit, cassava, sweet potato and soya.

### Soil and Water Management

The performance of zucchini and broccoli using soluble fertilizers under open-field conditions was carried out and it was observed that foliar application gave higher yields (58.4 % in zucchini and 31.8 % in broccoli) than conventional fertilizer application methods.

In addition, yields were further enhanced (68.4 % in zucchini and 47.6 % in broccoli) when 50 % of recommended granular fertilizer rates and foliar applications of soluble fertilisers were used.

To improve income generation and livelihood of farmers through the enhanced production of vegetable crops under sheltered farming conditions drip fertigation was studied. In French bean a 28.7 % increase in yield was observed compared to drip irrigation with conventional fertilizer application and in cauliflower, 50 % higher mean curd weight was obtained.

A project titled 'Enhancing crop nutrition and soil and water management and technology transfer in irrigated systems for increased food production and income generation' funded by the IAEA has been initiated. This project consists of supplying gravity-fed drip fertigation kits and training to resource poor farmers to improve income through the enhanced production of high-value crops. Higher fertilizer use efficiency was obtained under gravity-fed drip fertigation compared to conventional fertiliser practice in French Bean (69.2 % v/s 57.6 %) and potato (43.5 % v/s 22.3 %).

Sustainable manual fertigation management packages in terms of rates and frequency of application for vegetable crops grown under rainfed conditions were studied. Manual fertigation increased yield of cauliflower, pakchoy and Chinese cabbage by 36 %, 29 % and 28 % respectively compared to standard recommended granular fertilizers applications.

Organic fertiliser packages have been developed for carrot, lettuce, groundnut, maize, cassava, yam bean, cowpea, cauliflower and red cabbage. This package comprises of a combination of: crop rotation/mixed cropping, incorporation of manure and compost, organic fertilisers and biofertilisers.

Studies are being carried out on an Integrated Plant Nutrient System. Incorporation of a legume crop e.g bean-tomato-groundnut-cabbage crop sequence and reducing fertilizer by 50% did not have significant impacts on yield.

With the increased interest in tea production, soil fertility assessments are being carried out. The optimal fertiliser rate based on crop nutrient requirement and soil nutrient status is being worked out.

### Crop Protection

- Disease management

The Tomato Yellow Leaf Curl Virus is a major disease affecting tomato production. Several varieties are being evaluated and varieties *NS 1068*, *NS 626*, *NS 1372*, *Super rose*, *Amigo*, *NS 1072* and *NS 4012* showed tolerance to the disease.

Trials indicated that banana varieties *FHIA 17*, *Mamoul*, *Pisang Awak* and *Silk* did not present symptoms of the freckle disease while varieties *FHIA 01*, *Lady Finger*, *Novaria*, *Valerie*, *FHIA 18*, *FHIA 25* and *Formasana* showed disease symptoms on leaves. Trials are on-going.

Disease screening was carried out with Colocasia varieties and mutant lines (*AL1*, *AL2*, *AL3*, *A/Violette* and *Grondin*) were susceptible to *Phytophthora* leaf blight.

The efficacy of organic fungicides *Bacillus amyoliquefaciens* and *Gliocladium calenulatum* against late blight on tomato was tested and promising results were obtained.

- Insect pest management

Evaluation of African Bollworm (ABW) lure for the mass trapping *Helicoverpa armigera* males in a tomato field was carried out and damage was significantly lower in ABW lure plots than control plots.

In order to develop a habitat management approach to reduce the impact of pests on crops in organic plots and increasing the vegetative biodiversity, the abundance of natural enemies associated with 11 flowering plant species was studied. Cataloguing of pests and natural enemies on 21 common weeds was carried out.

Several insecticidal products for use in organic agriculture are being evaluated. Flonicamid was found to be effective against mealybugs on tomato and the iron based product 'Protect Us' was effective against snails.

Sixteen tomato varieties were assessed for the susceptibility/ resistance to main pests. Highest number of thrips was recorded in varieties *Swaraksha* and *Jarrah* and lowest in *AXPM 235* and *Target 983*. Incidence of mites was lowest in varieties *Mission 102* and *Victoria*. Varieties *Nirvana* and *1203* were susceptible to the tomato fruitworm.

Syrphids are important predators of aphids. The syrphid diversity on litchi, longan, lettuce, carrot, mustard, tulsii, palm and nine weed species (brède Malabar, brède martin, lastron, herbe carrot, luzerne sauvage, herbe pistache, herbe villebague, elephant grass, herbe bouc) were studied, in attempts to develop a package for the management of the Yellow Sugarcane Aphid *Sipha flava* which is a major pest in deer ranches.

The coccinellid beetle *Cheilomenes sulphurea*, which is an effective predator of this aphid species, was reared in the laboratory. More than 180 larvae were released in an area of 3165 m<sup>2</sup> with high infestation of *S. flava* on herbe d'argent. One month after release the number of aphids dropped from 1,710 to 223.

#### Integrated pest management

- **Pest and disease surveillance**

A pest and disease surveillance system has been maintained on major crops around the island. Disease diagnosis was carried out on 1334 samples of plants and appropriate control measures were recommended

SMS alerts were issued to inform farmers on the following pest and disease outbreaks:

- The sugarcane yellow aphid;
- The chilli thrips;
- The banana freckle disease;
- Anthracnose on chilli; and
- Late blight on potato / tomato.

- **New pests detected**

Four new pests were detected namely,

- The chilli thrips *Scirtothrips dorsalis* on rose;
- *Erichnothrips sp* on bean;
- *Thrips bourbonensis* on eggplant; and
- *Thrips parvisipinus* on sweet pepper.

## 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.

Major development works was carried out to upgrade the Curepipe Livestock Research Station (CLRS) and improve research facilities. A development plan was also prepared for implementation at Belle Mare Station.

Technical support was given to the MAIFS and comprised, *inter alia*, the setting up of a heifer farm and Livestock Zone for dairy farming at Melrose and a sheep reproduction farm at Salazie.

The 4<sup>th</sup> General Assembly and Steering Committee on Animal Genetic Resources in SADC region was held in Mauritius and coordinated by the Livestock Department.

### Research and Development

- **Animal Nutrition**

Nutritional studies involved assessment of compounded concentrate and formulation of a total mixed ration based on sugar cane trash on the performance of weaner cattle.

Digestibility studies and *in vitro* analysis showed that, browse species can partially replace commercial concentrates up to 50%, in the diet of ruminants. Feed additives, Protamin® and TRU-EM®, improved the efficiency of digestibility of poor quality fodder.

- **Fodder Research**

Consolidation of the new fodder germplasm collection at CLRS was continued with the establishment of 31 locally available graminaceous and leguminous species.

Calliandra (*Calliandra calothyrsus*) propagated by tissue-culture was established in full stand at CLRS for persistency, cutting height and biomass production assessments. Calliandra was also found to withstand regular harvests even after 55 months of establishment. Higher cumulative fresh matter yield was obtained at a cutting height of 50 cm compared to 30 and 100 cm.

Consolidation of the fodder and feed database was on-going. A total of 744 samples of fodder and feeds were characterized out of which 75 were used for formulation of ration for ruminants using the FAO feed formulation software.

Under the Australian Awards in Africa (AAA) Small Grants Scheme, a grant of AUD 10 000 was obtained to assess the use of hydroponic fodder as alternative to conventional fodder production. The project was initiated in February 2018 and different types of grains are being screened at laboratory scale for suitability of use for the project.

- **Conservation and Utilisation of Farm Animal Genetic Resources**

*Ex situ* monitoring of the productive and reproductive parameters of the creole cattle nucleus, which comprised 52 heads at Curepipe Livestock Research Station, was on-going.

The collaboration of private partners in the conservation programme was materialised through the signing of a Memorandum of Understanding between FAREI and Casela World Adventures.

One adult bull and one adult heifer were transferred from CLRS to Casela World Adventures Ltd with the objective of setting up a sub nucleus and creating awareness on the importance of conserving the creole cattle.

Following approval for procurement activities under the AU-IBAR funded project on "Conservation and utilisation of critically endangered Creole Cattle in Mauritius", four farms were selected for setting up *in situ* conservation nuclei. A MoU to be signed between FAREI and the beneficiaries has been prepared and is being finalised.

Mauritius hosted the 4<sup>th</sup> General Assembly and Steering Committee on Animal Genetic Resources in the SADC region from 9-12 October 2017, at Palms Hotel, Quatre-Bornes. The meeting was held within the framework of the implementation of the AU-IBAR project on "Strengthening the capacity of the Member States and the Regional Economic Communities (REC) to conservation and sustainable utilization of African AnGR". FAREI, as the Focal Institution was responsible for coordinating the event.

- **Livestock waste management**

The efficacy of TRU-EM<sup>®</sup> which is a solution of effective microorganisms (EM) was tested on dairy, goat and pig farms and FAREI livestock stations. Survey carried out on the use of the product showed that 80% of pig farmers would reuse the product and expressed their satisfaction with respect to odour alleviation and flies reduction.

- **Promoting small livestock rearing**

A survey was conducted among quail farmers to identify the potential of quail farming and opportunities for egg and meat production. Technical parameters on quail farming were also collected on-farm. Promotion of quail farming was also carried through the TV programme "*Mati ke Mol*".

Three farmers were trained in the use of electric incubators to improve hatchability in turkey, duck and local hen egg.

- **Promoting food safety**

Under the IAEA Technical Cooperation Project "*Building Capacity to Analyse Veterinary Drug Residues and Related Chemical Contaminants in Animal Products (MAR/5024)*", one High Precision Liquid Chromatography (HPLC) equipment was commissioned and is functional in one room at the Food Technology Laboratory of the Agricultural Services. Egg and venison samples collected from sale points were screened using the CHARM II apparatus. Results were negative for six antibiotics residues namely: Chloramphenicol, Betalactam, Macrolide, Neomycin, Sulfonamide and Tetracycline.

Research findings were presented in a poster titled "*A study on antibiotic residues and aflatoxin in dairy farm milk in Mauritius*" in the African Food Safety Workshop, in South Africa.

- Milk quality

The chemical composition of milk produced at CLRS from five different types of dairy cows (Creole, Local Friesian, Imported Friesian, Jersey and Crosses) was assessed. It was found that Jersey breed has high fat and solid non-fat content. No difference was noted for other parameters.

In the quest to adopt good animal husbandry practices and produce quality milk, using a 0.5 % active iodine solution as post milking teat dip showed a reduction in the incidence of subclinical mastitis in dairy cows.

## 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, increase farmers productivity and income.

### Crop Extension Activities

A total of 20,390 advisory visits were effected and 14,776 office calls from farmers have been attended. Moreover, 359 extension activities were organized and attended by 5,867 planters. Extension activities were disrupted due to the impact assessment carried out after persistent heavy rains. The Department was also involved in the implementation of relief assistance. The department organized 178 group meetings based on 30 themes, 73 field demonstrations on 17 themes and 58 conducted tours on 10 themes. A total of 73 MQA approved training courses was completed and was attended by 1,794 trainees. The total foodcrop area harvested for the period was 9,250 ha with a production of 112,346 tons.

- **Surveys**

Some 43,021 routine food crop surveys were conducted. In addition, 2,100 surveys were carried out and related to (i) State Land occupancy, (ii) pests and diseases, (iii) market price and (iv) impact of adverse climatic conditions. The period witnessed adverse climatic conditions among which continuous heavy rains and cyclone 'Berguitta'. Following these events, vegetable production was adversely affected.

- **Strategic crops**

For the potato season 2017, there were 155.15 ha planted by small growers during the 1st season and 87.88 ha were planted during the 2nd season making a total of 243.03 ha with a total production of 2,848 t. The national production for 2017 was 14,124 T. Leaf miner and aphids were two major pests observed for season 2017 especially towards the end of the potato crop cycle. Extent of damage was around 10-20%.

Soft rot and late blight remain the two major predominant diseases in potato plantation that are somehow difficult to control. Late blight was more prevalent compared to soft rot. Late blight coupled with unstable climatic conditions especially during 1st season had a significant impact on potato production.

During the 2nd season – soft rot incidence was noted in potato plantation (var. *Delaware*).

For first potato season crop for 2018 the area planted was 117.57 ha.

Total area planted under onion for 2017 was 247 ha with a production of 4,095 tons. The area planted for 2018 was 49.64 ha with 39.91 ha as seedlings and 9.73 ha as sets. Due to adverse climatic conditions, damping off and *Stemphyllium* disease occurred in onion seedlings in the regions of Belle Mare, Palmar and Trou D'Eau Douce. For both crops, 4,234 advisory visits were carried out along with 11 demonstrations and 10 conducted tours. A total of 33 extension activities were carried out.

- **Planters' Liaison Meeting**

Nine Planters' Liaison meetings were held in each of the four extension regions. 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**

Nine hundred and nine planters effected visits on the four regional Model Farms. 27 demonstrations and 18 conducted tours were carried out.

- **Other services to planters**

Extension staff collected 74 soil samples and appropriate recommendations were provided after laboratory analysis. 584 seed vouchers were given to planters for seed to be purchased at the Agricultural Services. Extension Officers carried out 74 field assessments for crop damage due to herbicide drift. 195 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, 320 hot water treatments of seeds were effected on model farms.

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

#### **Livestock Extension**

As at December 2017, the livestock population and corresponding small farmers comprised 3,815 cattle (596 farmers), 25,618 goats (2,413 farmers), 2,934 sheep (242 farmers), 21,445 pigs (464 farmers), 6,129 ducks (280 farmers), 375,906 broilers (236 farmers with up to 5,000 birds), 133,203 layers (180 farmers with up to 5,000 birds) and approximately 1,400 rabbits (109 farmers).

Twenty-five training courses were held with an attendance of 362 breeders. In addition, 141 group trainings, 128 demonstrations and 22 conducted tours were held on livestock technical issues and attended by 1,655 farmers. 8,614 advisory farm visits were carried out and 2,216 office calls for advisory service were entertained.

Support was maintained to the livestock farmers through processing of 129 applications for feed, 59 for molasses, 26 for bagasse, 15 in connection with DBM loans. Thirty-four goat mating services were provided. Fifty-six samples of milk and 9 samples of feed were taken for quality analysis.

#### **Information and Training**

- **Publications**

Sixteen new publications were produced and released on various topics to meet the information needs of agro-entrepreneurs and farmers.

- A short day onion hybrid variety: Rosada
- A short day onion hybrid variety: Irati
- Locally grown promising garlic
- Oyster mushroom cultivation
- Production of banana puree
- Fiche d'information: Culture et entretien du Moringa
- Plantasion ek antretien Mouroum
- Pest alert: Chilli thrips *Scirtothrips dorsalis*

- Rose propagation
- Value addition in ornamentals\*
- Farming news Vol 46
- Guide pratique pour la production de la pomme de terre
- Macadamia : A potential crop for diversification\*
- MALBEC: A short day hybrid onion variety\*
- CHELSEA: A short day hybrid onion variety\*
- RUBEX: A short day hybrid onion variety\*

\* In-house publications

8,140 publications were issued to farmers and other stakeholders.

- **Agricultural radio and TV programme / public lectures**

Thirty-two radio talks on agricultural production were broadcasted weekly for farmers. This service provides timely information to farmers on crop and livestock production.

Forty-nine 'Spot Agricole' on various agricultural topics were also broadcasted on the radio.

- **SMS alerts**

SMS alerts on potential pest and diseases were sent to 689 farmers and as at to-date, 413 planters and 377 breeders are registered to the service.

- **Empowerment of Women and Youth**

Thirty-three Agricultural Youth Clubs with 1,012 members and 24 Agricultural Women Clubs with 720 members were registered with FAREI for services.

Eleven Agricultural Entrepreneur Clubs (AEC) with 187 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 members of the Agricultural Youth Clubs.

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

Five training sessions on agro-processing techniques were held during the period and attended by 156 potential agro entrepreneurs. Thirty-six agro-entrepreneurs used the facilities of the Agro-Processing Resource Centre at Wooton to test their processing techniques and evaluate their finished products. Twenty conducted tours to the Wooton Agro-Processing Centre were organised with 450 participants. Seventy-nine agri-business enterprises were advised on product improvement.

### **Business Development Unit**

The Business Development Unit (BDU) of FAREI 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 450 beneficiaries of the above mentioned schemes since their inception in the year 2015. For the financial year (July 2017 to June 2018) Rs 21,695,851.00 have been disbursed to 171 beneficiaries.

## Section 4: 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 2017 to 30 June 2018 was as follows:

	Remarks
<b>Chairperson</b>	
Mr Hemraj Woodun	
<b>Members</b>	
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
Prof (Mrs) S Facknath	Representative of University of Mauritius
Mr S Naidu	Appointed by Minister
Mr M Rughoo	Appointed by Minister
Mr Gérard Cadet de Fontenay	Appointed by Minister
Mr K Seechurn	Appointed by Minister
<b>In Attendance</b>	
Mr R Rajcumar	Acting Chief Executive Officer, FAREI
Dr S Ganeshan	Chief Executive Officer, FAREI as from 04 September 2017

### Sub-Committees

Five 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 for approval. The sub-committees of the FAREI Board for the period 01 July 2017 to 30 June 2018 were as follows:

1. Finance Committee (FC);
2. Staff Committee (SC);
3. Strategic and Monitoring Committee (SMC);
4. Audit and Corporate Governance Committee (ACGC); and
5. Training, Research and Development Committee (TRDC).

#### Finance Committee (FC)

##### Composition of the FC and its functions

The composition of the Finance Committee was as follows:

Mrs I Rugjee	<b>Chairperson</b>
Mr G Cadet de Fontenay	Member
Mr S Naidu	Member
Mr M Rughoo	Member

##### In Attendance

Dr S Ganeshan	Chief Executive Officer
Mrs B Radha	Manager Finance

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.

Three meetings of the Finance Committee were held during the period July 2017 to June 2018.

#### Staff Committee (SC)

##### Composition of the SC and its functions:

Mrs I Rugjee	<b>Chairperson</b>
Mr S Naidu	Member
Mr M Rughoo	Member
Prof (Mrs) S Facknath	Member

##### In Attendance

Dr S Ganeshan	Chief Executive Officer
Mrs J B Ramma Mohabeer /	Human Resource Manager
Mrs L Lekha-Dussoyea	

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 nine meetings of the Staff Committee during the period July 2017 to June 2018.

#### Strategic and Monitoring Committee (SMC)

##### The composition of the SMC was as follows:

Mr M Rughoo	<b>Chairperson</b>
Prof (Mrs) S Facknath	Member
Mr S Naidu	Member
Mr R Kissoonah	Member

##### In Attendance

Dr S Ganeshan	Chief Executive Officer
Mr R Rajcumar	Acting Chief Executive Officer
Mr D Abeeluck	Assistant Director (Crop)

Mrs M Seenevassen Pillay Assistant Director (Livestock)

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 nine meetings of the Strategic and Monitoring Committee (SMC) during the period July 2017 to June 2018.

Audit and Corporate Governance Committee (ACGC)

Composition of the ACGC

Mr S Naidu	<b>Chairperson</b>
Prof (Mrs) S Facknath	Member
Mr K Seechurn	Member
Mr R Kissoonah	Member

In Attendance

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 2017 to June 2018.

Training, Research and Development Committee (TRDC)

The composition of the TRDC was as follows:

Prof (Mrs) S Facknath	<b>Chairperson</b>
Mr S Naidu	Member
Mr G Cadet de Fontenay	Member
Mr M Rughoo	Member
Mr R Kissoonah	Member

In Attendance

Dr S Ganeshan	Chief Executive Officer
Mr R Rajcumar	Acting Chief Executive Officer, FAREI
Mr D Abeeluck	Assistant Director (Crop)
Mrs M Seenevassen Pillay	Assistant Director (Livestock)

Terms of Reference of the TRDC

The TRDC focuses on the following:

- Advising on training policy, in line with the strategic policy to improve the effectiveness of the system;
- Reviewing the training policies, communication and making recommendations to the Board;
- Reviewing the communications policy and making recommendations to the Board and its stakeholders;
- Communication with stakeholders to further research and development (with CIRAD, MRC, CIAT, IAEA, AVRDC, etc...);
- Following up on the implementation, with measures of FAREI's projects and;
- Budget allocation for training.

There were two meetings of the TRDC during the period July 2017 to June 2018.

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. Total number of Board meetings held from 01 July 2017 to 30 June 2018 was 18.

	Board meetings attended
Mr H Woodun	18/18
Mrs I Rugjee	16/18
Mrs K Jugroo*	2/18
Mrs Jacqueline Sauzier	10/18
Mr R Kissoonah	18/18
Prof (Mrs) S Facknath	14/18
Mr S Naidu	18/18
Mr M Rughoo	15/18
Mr Gerard de Fontenay	12/18
Mr K Seechurn	13/18

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

Chairperson	Amount (Rs)	Board Members	Amount (Rs)
Mr H Woodun	369,450	Mrs I Rugjee Mrs K Jugroo Prof (Mrs) S Facknath Mr S Naidu Mrs J Sauzier Mr K Seechurn Mr G Cadet de Fontenay Mr M Rughoo Mr R Kissonah	Totalling 232,320

Name	Fees (Rs)							
	FAREI Board	FC	SC	SMC	ACGC	TRDC	Travelling	Total
<b>Chairpersons</b>								
Mr H Woodun	<b>359,100</b>						10,350	<b>369,450</b>
<b>Members</b>								
Mrs I Rugjee	16,020	4,480	8,960				5,980	<b>35,440</b>
Mrs K Jugroo	1,780		1,120				690	<b>3,590</b>
Mr S Naidu	18,690	2,445	7,335	7,335	1,120	1,630	10,350	<b>48,905</b>
Mr S Facknath	12,460		3,260	5,705		2,240	6,210	<b>29,875</b>
Mr M Rughoo	13,350	2,445	7,335	10,080		815	8,510	<b>42,535</b>
Mr G de Fontenay	10,680	1,630				815	3,450	<b>16,575</b>
Mrs J Sauzier	8,900						2,300	<b>11,200</b>
Mr K Seechurn	11,570				815		3,220	<b>15,605</b>
Mr R Kissonah	16,910			4,075	815	815	5,980	<b>28,595</b>
<b>Total</b>	<b>469,460</b>	<b>11,000</b>	<b>28,010</b>	<b>27,195</b>	<b>2,750</b>	<b>6,315</b>	<b>57,040</b>	<b>601,770</b>

Note: Finance Committee: FC; Staff Committee: SC; Strategic and Monitoring Committee: SMC; Training, Research and Development Committee: TRDC; Audit and Corporate Governance Committee: ACGC.

### 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

As a caring and responsible employer, the FAREI is committed to providing and maintaining a healthy, safe and secure working environment for its employees. It believes in raising awareness on health issues that are imperative in the prevention of accidents and improving the well-being of its staff.

In furtherance of this commitment, the FAREI aims at:

- Ensuring that it is complying with current Safety and Health Legislation (Occupational Safety and Health Act 2005) and any other relevant legislation;
- Assessing the workplace through risk assessment which is crucial in ensuring that these standards are maintained;
- Providing suitable training, information, instruction and supervision to maintain these standards;
- Maintaining a healthy work life style through Medical Health Surveillance programs to those exposed to substances and conditions hazardous to their health; and
- Encouraging staff to report any pertaining safety and health issue and support them in promoting a safe and healthy working environment.

### 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 report 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.

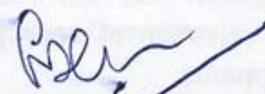
### Risk Management

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



S Soborun (Mrs)  
Board Member

11/02/2021  
Date

## 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.

### Professor (Dr.) Sunita Facknath

Professor (Dr.) Sunita Facknath is a Professor in Sustainable Agriculture in the Faculty of Agriculture, University of Mauritius, and a twice-over doctorate (she holds two PhDs, one from UK and another from Mauritius). In addition to her teaching, she is very active as a researcher and consultant.

### 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).

### 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.

### 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	1
Technical Staff	100	70
Administrative	11	49
Support Staff	254	14
Sub total	367	134
<b>Total</b>	<b>501</b>	

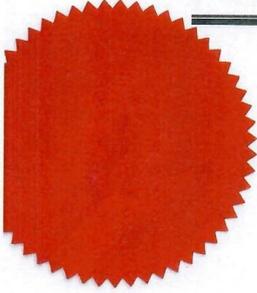
**Section 5:  
Report of the Director of Audit and Financial  
Statements for the period ended 30 June 2018**

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**REPORT OF THE  
DIRECTOR OF AUDIT**

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**On the Financial Statements  
of the Food and Agricultural Research and Extension Institute  
for the year ended 30 June 2018**

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**NATIONAL AUDIT OFFICE**

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# 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 2018 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 2018, 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 60,362,160.** The completeness, existence and valuation of the assets could not be ascertained as:

- The assets of the ex- Food an Agricultural Research Council vested in Food and Agricultural Research and Extension Institute on 14 February 2014 had not yet been surveyed.
- The cost of property, plant and equipment totalled Rs 197 million out of which the cost of fully depreciated assets amounted to Rs 99 million. Review of useful life of these assets was not carried out as required under IPSAS 17, Property, Plant and Equipment.

**Employee Benefits-Rs 70,420,483.** The employee benefits under non-current liabilities had been understated as no provision for vacation leave was made.

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.

### **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.

### **Emphasis of Matter**

I draw attention to the negative total net assets/equity of Rs 139,083,127 for financial year ended 30 June 2018 as compared to Rs 132,921,039 for 18-month period ended 30 June 2017. My opinion is not modified in respect of this matter.

### **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 year ended 30 June 2018, was submitted on 28 February 2019, that is, some four months after the statutory deadline.

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

12 November 2021

**STATEMENT OF FINANCIAL POSITION AS AT 30 JUNE 2018**

	Notes	Year Ended June 2018 Rs	18 Months Period Ended June 2017 Restated Rs
<b>ASSETS</b>			
<b>Current Assets</b>			
Cash and cash equivalents	6	51,465,618	42,844,836
Receivables	7	8,595,238	7,390,062
Work in progress	8	137,290	-
Prepayments	9	16,250	16,250
		<u>60,214,396</u>	<u>50,251,148</u>
<b>Non-Current Assets</b>			
Receivables	10	28,059,667	17,419,906
Property, plant and equipment	11	60,362,160	45,321,199
Intangible Assets	12	195,728	294,503
		<u>88,617,555</u>	<u>63,035,608</u>
<b>Total Assets</b>		<b><u>148,831,951</u></b>	<b><u>113,286,756</u></b>
<b>LIABILITIES</b>			
<b>Current Liabilities</b>			
Payables	13	5,447,222	2,938,677
Current portion of long term borrowings	14	7,082,515	6,281,976
Employee benefit	15	16,175,789	17,268,712
Liabilities recognized under transfer arrangements	19	61,766,670	41,779,768
		<u>90,472,196</u>	<u>68,269,133</u>
<b>Non-Current Liabilities</b>			
Employee benefit	16	70,420,483	68,032,030
Long term borrowing	17	19,575,619	15,194,623
Defined Pension Benefit	18	93,604,830	76,580,634
Liabilities recognized under transfer arrangements	19	13,841,950	18,131,375
		<u>197,442,882</u>	<u>177,938,662</u>
<b>Total Liabilities</b>		<b><u>287,915,078</u></b>	<b><u>246,207,795</u></b>
<b>Net Liabilities</b>		<b><u>(139,083,127)</u></b>	<b><u>(132,921,039)</u></b>
<b>NET ASSETS / EQUITY</b>			
Capital and reserves			
General fund		<u>(139,083,127)</u>	<u>(132,921,039)</u>
<b>Total Net Asset / Equity</b>		<b><u>(139,083,127)</u></b>	<b><u>(132,921,039)</u></b>

The accompanying notes form an integral part of the financial statements.

  
**H Woodun**  
Chairman FAREI Board

  
**S Soborun (Mrs)**  
Board Member

Approved by the Board on 11 February 2021

**STATEMENT OF FINANCIAL PERFORMANCE FOR THE YEAR ENDED 30 JUNE 2018**

	Notes	Year Ended June 2018 Rs	18 Months Period Ended June 2017 Restated Rs
<b>Revenue</b>			
<b>Revenue from non-exchange transactions</b>			
Transfers from government	20	360,256,863	478,109,750
Transfers from other entities	21	701,072	390,180
<b>Revenue from exchange transactions</b>			
Other revenue	22	9,241,205	15,810,179
<b>Total Revenue</b>		<u>370,199,140</u>	<u>494,310,109</u>
<b>Expenses</b>			
Salaries and employee benefits	23	283,213,250	408,469,699
Supplies and consumables used	24	33,025,615	47,318,530
Depreciation and amortisation expense	25	8,691,581	10,967,001
Other Expenses	26	51,430,782	65,439,705
<b>Total Expenses</b>		<u>376,361,228</u>	<u>532,194,935</u>
<b>Deficit for the year</b>		<u><b>(6,162,088)</b></u>	<u><b>(37,884,826)</b></u>

**CASH FLOW STATEMENT FOR THE YEAR ENDED 30 JUNE 2018**

	<b>Year Ended June 2018 Rs</b>	<b>18 Months Period Ended June 2017 Restated Rs</b>
<b>CASH FLOW FROM OPERATING ACTIVITIES</b>		
Deficit for the year/period	(6,162,088)	(37,884,826)
Interest received	(20,217)	(30,325)
<b>Non-cash movements</b>		
Depreciation for the year	8,537,060	10,715,709
Amortisation of intangible asset	154,521	251,292
Gain on disposal of fixed assets	(23,663)	-
Increase in defined pension benefit	17,024,196	12,978,850
(Increase) / Decrease in receivables	(11,844,938)	(2,293,395)
Increase in payables	24,683,087	31,095,884
Increase in employee benefit	-	4,138,632
<b>Net cash flows from operating activities</b>	<b>32,347,958</b>	<b>18,971,821</b>
<b>CASH FLOW FROM INVESTING ACTIVITIES</b>		
Purchase of property, plant and equipment	(23,590,357)	(11,089,533)
Purchase of intangible assets	(55,746)	(29,808)
Increase in work in progress	(137,290)	-
Proceeds from disposal of fixed assets	36,000	-
Interest received	20,217	30,325
<b>Net cash flows from investing activities</b>	<b>(23,727,176)</b>	<b>(11,089,016)</b>
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>		
Loan received from Ministry	12,873,660	11,274,925
Loan repaid to Ministry	(7,748,376)	(10,284,534)
Loan release to staff	(12,873,660)	(11,274,925)
Loan refunded by staff	7,748,376	10,284,534
<b>Net cash flow from financing activities</b>	<b>-</b>	<b>-</b>
<b>Net (decrease) / increase in cash and cash equivalents</b>	<b>8,620,782</b>	<b>7,882,806</b>
<b>Cash and cash equivalents at the beginning of the year</b>	<b>42,844,836</b>	<b>34,962,030</b>
<b>Cash and cash equivalents at end of the year</b>	<b>51,465,618</b>	<b>42,844,836</b>

**STATEMENT OF CHANGES IN NET ASSETS / EQUITY FOR THE YEAR ENDED 30 JUNE 2018**

	Rs
<b>General Fund</b>	
Balance as at 01 July 2017	(132,921,039)
Deficit for the period	<u>(6,162,088)</u>
Closing balance at 30 June 2018	<u><u>(139,083,127)</u></u>
Balance as at 01 January 2016	(95,036,213)
Deficit for the period	<u>(37,884,826)</u>
Closing balance at 30 June 2017 (Restated)	<u><u>(132,921,039)</u></u>

**STATEMENT OF OUTTURN FOR THE YEAR ENDED 30 JUNE 2018**

	Revised Budget Rs	Financial Statement Rs	Comments
<b>Expenditure</b>			
Salaries and other related costs	217,667,662	202,463,519	Vacant posts were not filled
Pension cost (SICOM)	30,256,190	45,946,787	Includes Rs17 M as provision for pension benefit
Passage benefits	9,000,000	7,570,036	Decrease in provision for passage benefit due to cashing during the year
Travelling and transport	27,536,400	27,232,909	
Office expenses	2,700,000	3,006,781	Includes provision of Rs0.28 M
Utilities	5,600,000	5,870,423	
Rent	2,699,784	1,419,498	Rented offices at Quatre Bornes were released in October 2017
Maintenance and running cost of vehicles	3,900,000	3,640,348	
Maintenance of building and equipment	3,000,000	5,759,189	Urgent infrastructure works had to be carried out in office buildings and on stations
Training	1,400,000	124,000	
Information technology facilities	500,000	205,486	
Uniform and protective clothing	2,000,000	1,915,125	
Nursery and laboratory consumables	1,000,000	1,004,294	
Security services	7,000,000	7,018,252	
Other operating expenses (animal feed, fertiliser, seeds, etc)	16,200,000	13,827,971	
Income support		39,405,976	Budgeted by the Ministry and implemented by FAREI
Insurance non-motor	500,000	438,204	Budget was overestimated
Legal and professional fee	450,000	216,745	
Chairman and board members fee	450,000	604,105	Increase in the number of meetings and sub-committees
<b>Total expenditure</b>	<b><u>331,860,036</u></b>	<b><u>367,669,647</u></b>	

**STATEMENT OF COMPARISON OF ACTUAL AND BUDGET AMOUNTS  
FOR THE YEAR ENDED 30 JUNE 2018**

	Approved Budget Rs	Revised Budget Rs	Actual Received / Paid Rs	Financial Statement Rs
<b>Revenue</b>				
Government grant (capital and recurrent)	300,000,000	325,000,000	343,434,950	360,957,935
Other Income	10,000,000	10,000,000	9,241,205	9,241,205
	<u>310,000,000</u>	<u>335,000,000</u>	<u>352,676,155</u>	<u>370,199,140</u>
<b>Expenditure</b>				
Salaries and other related costs	217,667,662	217,667,662	192,104,764	202,463,519
Employer's contribution:				
Pension/FPS/NPF	30,256,190	30,256,190	28,922,589	45,946,787
Passage benefits	9,000,000	9,000,000	7,465,609	7,570,036
Travelling and transport	27,536,400	27,536,400	26,402,993	27,232,909
Office expenses	2,200,000	2,700,000	2,981,435	3,006,781
Utilities	5,600,000	5,600,000	5,870,423	5,870,423
Rent	2,699,784	2,699,784	1,416,498	1,419,498
Maintenance and running cost vehicles	10	3,900,000	3,594,023	3,640,348
Maintenance of building and equipment	10	3,000,000	5,711,759	5,759,189
Training	10	1,400,000	124,000	124,000
Information technology facilities	10	500,000	205,486	205,486
Uniform and protective clothing	10	2,000,000	1,915,125	1,915,125
Nursery and laboratory consumables	10	1,000,000	971,659	1,004,294
Security services	10	7,000,000	7,018,252	7,018,252
Other operating expenses (animal feed, fertilizer, seeds, etc)	4,614,864	16,200,000	13,640,516	13,827,971
Income support	10		39,405,976	39,405,976
Insurance non-motor	10	500,000	438,204	438,204
Legal and professional fee Chairman and Board	10	450,000	216,745	216,745
Members fee	425,000	450,000	604,105	604,105
<b>Total Expenditure</b>	<u>300,000,000</u>	<u>331,860,036</u>	<u>339,010,161</u>	<u>367,669,647</u>

## NOTES TO THE ACCOUNT FOR THE YEAR ENDED 30 JUNE 2018

### 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 changes in net assets and equity
- Cash Flow Statement
- 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 2017 to 30 June 2018. However, the comparative figures covers eighteen months period from 01 January 2016 to 30 June 2017, following amendments brought to the Finance and Audit Act, which provided for a change in Government financial year from 31 December to 30 June. Consequential changes to the Statutory Bodies (Accounts and Audit) Act were also brought. Effective from 01 January 2016, statutory bodies were required to align their financial year with that of the Government.

#### 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 39 – Employee Benefit replaces IPSAS 25 as of 1 January 2018 – The main changes from IPSAS 25 are: the removal of an option that allows an entity to defer the recognition of changes in the net defined benefit liability ( the “corridor approach”); introduction of the net interest approach for defined benefit plans; amendments regarding certain disclosure requirements for defined benefit plans and multi-employer plans; simplification of the requirements for contributions from employees or third parties to a defined benefit plan when those contributions are applied to a simple contributory plan that is linked to service and removal of the requirements for composite social security programmes.

IPSAS 40 – Public Sector Combinations – Effective for annual periods beginning on or after 1 January 2019 - date of issue: January 2017.

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

**g. Presentation currency**

The Financial Statements are presented in Mauritian Rupee.

**2 ACCOUNTING POLICIES**

**a. Revenue Recognition**

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

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.

As from 01 July 2017, a new class of assets has been identified as Infrastructure Assets. The comparative figures have been restated. Assets pertaining to that category in previous years were recognised as field equipment. These items have been reclassified as infrastructure assets as from 01 July 2017.

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.

**g. 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 Pension 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 recognized 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 accumulated 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 2018. The balance of banked sick leave is valued at the end of the financial year and is recognized 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.

**h. 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:	
18 months ended 30 June 2017	Rs7,541,454
Year ended 30 June 2018	Rs6,974,820

**i. 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.

**j. 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 year ended 30 June 2018.

**4 PENDING LITIGATIONS**

As at 30 June 2018 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.

	<b>Year Ended June 2018 Rs</b>	<b>18 Months Period Ended June 2017 Restated Rs</b>
<b>6 CASH AND CASH EQUIVALENTS</b>		
This is made up of bank balances and cash in hand		
Current Accounts	51,458,289	42,821,701
Cash in hand	7,329	23,135
	<b>51,465,618</b>	<b>42,844,836</b>
<b>7 RECEIVABLES – CURRENT ASSETS</b>		
Debtors car loan	7,225,375	6,281,976
Sundry debtors	261,871	171,354
Debtors chargeable services	1,107,992	936,732
	<b>8,595,238</b>	<b>7,390,062</b>
<b>8 WORK IN PROGRESS</b>	<b>137,290</b>	-
<b>9 PREPAYMENT</b>	<b>16,250</b>	<b>16,250</b>
<b>10 RECEIVABLES – NON-CURRENT ASSETS</b>		
Grant receivable from MAIFS	8,400,736	1,800,000
Debtors car loan falling due more than one year	19,658,931	15,619,906
	<b>28,059,667</b>	<b>17,419,906</b>

**11. PROPERTY, PLANT AND EQUIPMENT**

	Buildings Rs	Furniture and Fittings Rs	Office Equipment Rs	Computer Hardware Rs	Infrastructure Assets Rs	Motor Vehicle and Heavy Duty Field Equipment Rs	Laboratory Furniture, Fittings and Equipment Rs	Post- Harvest and Plant Pathology Lab. Rs	Fog Unit and Polycarbonate and Hydroponic Greenhouse Rs	Food Processing and PCR Lab. Rs	Light Field Equipment Rs	Total Rs
<b>Cost and Valuation</b>												
At cost as at 01 July 2017	35,975,510	14,910,145	12,972,945	10,892,486	-	28,404,695	25,698,202	3,018,455	19,730,749	5,906,058	16,803,864	174,313,109
Adjust opening balance transfer to infrastructure assets	-	-	-	-	439,805	-	-	-	-	-	(439,805)	-
Additions	-	360,729	536,773	1,486,341	4,338,699	9,121,770	1,564,102	-	2,669,195	1,290,006	2,222,744	23,590,357
Disposal	-	-	-	(37,012)	-	-	-	-	-	-	-	(37,012)
<b>At cost as at 30 June 2018</b>	<b>35,975,510</b>	<b>15,270,874</b>	<b>13,509,718</b>	<b>12,341,815</b>	<b>4,778,504</b>	<b>37,526,465</b>	<b>27,262,304</b>	<b>3,018,455</b>	<b>22,399,944</b>	<b>7,196,064</b>	<b>18,586,802</b>	<b>197,866,455</b>
<b>Depreciation</b>												
Depreciation as at 01 July 2017	9,022,858	11,728,312	11,220,111	9,867,879	-	22,880,612	23,043,421	3,018,455	16,791,620	5,768,088	15,650,556	128,991,911
Adjust opening balance transfer to infrastructure assets	-	-	-	-	275,463	-	-	-	-	-	(275,463)	-
Charge for the year	719,510	339,662	637,414	557,643	175,062	2,582,780	1,699,084	-	1,057,384	167,385	601,137	8,537,059
Eliminated on disposal	-	-	-	(24,674)	-	-	-	-	-	-	-	(24,674)
<b>Depreciation as at 30 June 2018</b>	<b>9,742,368</b>	<b>12,067,974</b>	<b>11,857,525</b>	<b>10,400,847</b>	<b>450,526</b>	<b>25,463,392</b>	<b>24,742,505</b>	<b>3,018,455</b>	<b>17,849,004</b>	<b>5,935,473</b>	<b>15,976,229</b>	<b>137,504,295</b>
<b>Carrying Amount</b>												
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
As at 30 June 2017	26,952,652	3,181,833	1,752,835	1,024,607	-	5,524,083	2,654,781	-	2,939,129	137,970	1,153,308	45,321,198

	Year Ended June 2018 Rs	18 Months Period Ended June 2017 Restated Rs
<b>12 INTANGIBLE ASSETS – SOFTWARE COSTS</b>		
Software costs are capitalized in accordance with the provisions of IPSAS 31		
At cost as at 01 July 2017	2,530,306	2,500,498
Additions	55,746	29,808
At cost as at 30 June 2018	<u>2,586,052</u>	<u>2,530,306</u>
Amortisation as at 01 July 2017	2,235,803	1,984,511
Amortisation for the year	154,521	251,292
Amortisation as at 30 June 2018	<u>2,390,324</u>	<u>2,235,803</u>
<b>Written down value as at 30 June 2018</b>	<b><u>195,728</u></b>	<b><u>294,503</u></b>
<b>13 PAYABLES</b>		
Creditors falling due within one year	1,377,693	1,241,829
Accruals	4,069,529	1,696,848
	<u>5,447,222</u>	<u>2,938,677</u>
<b>14 CURRENT PORTION OF LONG TERM BORROWING</b>		
Car loan falling due within one year	<u>7,082,515</u>	<u>6,281,976</u>
<b>15 EMPLOYEE BENEFIT</b>		
Sick leave	16(a) 8,560,735	9,706,047
Passage Benefits	16(b) 7,615,054	7,562,665
	<u>16,175,789</u>	<u>17,268,712</u>
<b>16 LONG TERM PROVISIONS</b>		
Provision for sick leave	16(a) 56,278,240	53,987,080
Provision for passage benefits	16(b) 14,142,243	14,044,950
	<u>70,420,483</u>	<u>68,032,030</u>
16(a) <b>Provision for sick leave</b>		
Opening balance	63,693,127	58,077,673
Less Payment during the year	(8,711,136)	(16,576,167)
Add Provisions for the year	9,856,984	22,191,621
Closing balance	64,838,975	63,693,127
Less Amount falling due within one year	8,560,735	9,706,047
Less Amount falling due more than one year	56,278,240	53,987,080
16(b) <b>Provision passage benefits</b>		
Opening balance	21,607,615	19,387,909
Less Payment during the year	(7,470,233)	(9,112,451)
Add Provisions for the year	7,619,915	11,332,156
Closing balance	21,757,297	21,607,615
Less Amount falling due within one year*	7,615,054	7,562,665
Less Amount falling due more than one year	14,142,243	14,044,950

\* It is assumed 35% of the provision shall be payable within one year

	Year Ended June 2018 Rs	18 Months Period Ended June 2017 Restated Rs
<b>17 LONG TERM BORROWING</b>		
Car loan amount falling due more than one year	<u>19,575,619</u>	<u>15,194,623</u>
<b>18 DEFINED PENSION BENEFIT</b>		
The assets of the fund are held independently and administered by SICOM Ltd. Disclosures regarding movement in the scheme are as follows:		
Employee benefit	<u>93,604,830</u>	<u>76,580,634</u>
<b>Employee Benefit statement as per IPSAS 25</b>		
<b>Amounts recognised in statement of financial position at end of year</b>		
Present value of funded obligation	625,020,991	606,595,497
(Fair value of plan assets)	<u>(362,858,387)</u>	<u>(320,949,887)</u>
	262,162,604	285,645,610
Present value of unfunded obligation		
Unrecognised actuarial gain / (loss)	<u>(168,557,774)</u>	<u>(209,064,976)</u>
<b>Liability recognised in statement of financial position at end of year</b>	<u>93,604,830</u>	<u>76,580,634</u>
<b>Amounts recognised in statement of financial performance:</b>		
Current service cost	20,106,774	31,648,495
(Employee contributions)	(9,510,005)	(14,418,117)
Fund expenses	795,397	789,779
Interest cost	40,945,196	51,266,064
(Expected return on plan assets)	(21,757,935)	(29,245,337)
Actuarial loss / (gain) recognised	8,729,731	6,335,555
<b>Total included in staff costs</b>	<u>39,309,158</u>	<u>46,376,439</u>
<b>Movements in liability recognised in financial position:</b>		
At start of year	76,580,634	63,601,784
Total staff cost as above	39,309,158	46,376,439
(Contributions paid by employer)	(22,030,233)	(33,388,212)
(Actuarial Reserves Transferred in)	(254,729)	(9,377)
At end of year	<u>93,604,830</u>	<u>76,580,634</u>
<b>Main actuarial assumptions at end of year:</b>		
Discount rate	6.75%	6.5%
Expected rate of return of plan assets	6.75%	6.5%
Future salary increases	4.00%	4.0%
Future pension increases	3.00%	3.0%

The assets of the plan are invested in funds managed by State Insurance Company of Mauritius Ltd.

The discount rate is determined by reference to market yields on bonds.

	<b>Year Ended June 2018 Rs</b>	<b>18 Months Period Ended June 2017 Restated Rs</b>
<i>Reconciliation of the present value of defined benefit obligation</i>		
Present value of obligation at start of period	606,595,497	525,805,786
Current service cost	20,106,774	31,648,495
Interest cost	40,945,196	51,266,064
(Benefits paid)	(28,219,789)	(38,288,438)
Liability (gain) / loss	(14,406,687)	36,163,590
Present value of obligation at end of period	625,020,991	606,595,497
<b>Reconciliation of fair value of plan assets</b>		
Fair value of plan assets at start of period	320,949,887	295,583,425
Expected return on plan assets	21,757,935	29,245,337
Employer contributions	22,030,233	33,388,212
Employee contributions	9,510,005	14,418,117
Actuarial Reserves Transferred in	254,729	9,377
(Benefits paid + other outgo)	(29,015,186)	(39,078,217)
Asset gain / (loss)	17,370,784	(12,616,364)
Fair value of plan assets at end of period	362,858,387	320,949,887
<b>Distribution of plan assets at end of period</b>		
	%	%
<i>Percentage of assets at end of year</i>		
Government securities and cash	59.5%	56.6%
Loans	3.7%	4.4%
Local equities	14.6%	15.8%
Overseas bonds and equities	21.6%	22.6%
Property	0.6%	0.7%
Total	100%	100%
<b>Additional disclosure on assets issued or used by the reporting entity</b>		
	%	%
<i>Percentage of assets at end of year</i>		
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
<b>History of obligations, assets and experience adjustments</b>		
<i>Currency</i>	<b>2017/18 Rs</b>	<b>2016/17 Rs</b>
Fair value of plan assets	362,858,387	320,949,887
(Present value of defined benefit obligation)	(625,020,991)	(606,595,497)
Surplus / (deficit)	(262,162,604)	(285,645,610)
Asset experience gain / (loss) during the period	17,370,784	(12,616,364)
Liability experience gain / (loss) during the period	14,406,687	(36,163,590)
	<b>2018/19 Rs</b>	<b>2017/18 Rs</b>
Expected employer contributions	22,578,317	23,028,333
(estimate to be reviewed by the Food and Agricultural Research and Extension Institute)		

	Year Ended June 2018 Rs	18 Months Period Ended June 2017 Restated Rs
<b>19 LIABILITIES RECOGNISED IN RESPECT OF TRANSFERS</b>		
FAREI received advances from the Government and other institutions for the implementation of projects and payment of schemes to beneficiaries. As at 30 June 2018, there were ongoing projects and outstanding claims due to beneficiaries.		
Opening Balance	59,911,143	33,535,054
Receipts	57,477,245	48,472,627
	117,388,387	82,007,681
Expenses	(41,779,767)	(22,096,538)
Closing Balance	<b>75,608,620</b>	<b>59,911,143</b>
Current Liabilities	61,766,670	41,779,767
Non-Current Liabilities	13,841,950	18,131,375
	<b>75,608,620</b>	<b>59,911,143</b>
<b>20 REVENUE FROM NON-EXCHANGE TRANSACTIONS</b>		
<b>TRANSFERS FROM GOVERNMENT</b>		
Recurrent Grant	294,638,183	418,467,556
Capital Grant	65,618,680	59,642,194
	<b>360,256,863</b>	<b>478,109,750</b>
<b>21 REVENUE FROM NON-EXCHANGE TRANSACTIONS</b>		
<b>TRANSFERS FROM OTHER ENTITIES</b>		
MRC	2,800	2,875
UNDP	125,000	238,894
Small Grant Scheme Australia	61,699	-
CIAT	511,573	148,411
	<b>701,072</b>	<b>390,180</b>
<b>22 REVENUE FROM EXCHANGE TRANSACTIONS</b>		
<b>OTHER REVENUE</b>		
Sales of guide agricole	88,927	168,426
Sales of animals	1,178,889	1,869,976
Sales of vegetables and produce	3,485,761	5,031,378
Sales of milk and manure	2,824,708	4,425,801
Revenue from testing and diagnosis	85,875	921,896
Training and registration fee	440,228	572,855
Sundry Income	1,092,937	2,779,123
Gain on disposal of fixed assets	23,663	-
Exchange gain	-	10,399
Interest received	20,217	30,325
	<b>9,241,205</b>	<b>15,810,179</b>

	Year Ended June 2018 Rs	18 Months Period Ended June 2017 Restated Rs
<b>23 WAGES, SALARIES AND EMPLOYEE BENEFITS</b>		
Salaries and employee benefits	210,033,555	311,214,912
Employer's Contribution		
Defined Pension contribution (DPC)	22,265,763	33,388,212
Adjustments DPC	157,615	-
Defined Contribution Scheme	736,671	1,147,182
Civil Service Family Protection Scheme	730,667	1,234,750
SICOM Family Protection Scheme	2,422,191	3,526,887
NPF/EWF/Levy	2,609,684	3,607,823
Provision for Pension- Employees Benefit (DPC)	17,024,196	12,978,850
Travelling and Transport	27,232,909	41,371,083
	<b>283,213,250</b>	<b>408,469,699</b>
<b>24 SUPPLIES AND CONSUMABLES USED</b>		
Office expenses	2,931,080	3,205,077
Electricity, water and telephone	5,870,423	8,297,295
Maintenance and running of vehicles	3,640,348	3,521,438
Repairs and maintenance	5,759,189	77,258,739
Uniforms and protective clothing	1,915,125	3,694,977
Apparatus and supplies of laboratory	1,004,294	1,841,104
On farm trial	228,028	977,126
Other operating expenses	1,484,755	2,333,915
Seeds and plantlets	973,091	1,867,396
Cowfeed, drug and fodder	6,863,529	11,315,727
Fertilisers and pesticides	1,555,231	1,686,020
Small tools and equipment	800,523	1,319,715
	<b>33,025,615</b>	<b>117,318,531</b>
<b>25 DEPRECIATION AND AMORTISATION EXPENSE</b>		
Depreciation (Note 11)	8,537,060	10,715,709
Amortisation (Note12)	154,521	251,292
Depreciation	<b>8,691,581</b>	<b>10,967,001</b>

	Year Ended June 2018 Rs	18 Months Period Ended June 2017 Restated Rs
<b>26 OTHER EXPENSES</b>		
Office expenses and incidental	281,187	686,883
Rent (Note 27)	1,419,498	3,806,677
Training of staff	124,000	260,819
Training of farmers	388,659	781,840
Security services	7,018,252	10,105,865
Miscellaneous expenses	103,284	218,965
Legal and professional fees	216,745	388,425
Board Members fee	604,105	781,299
Contribution to local organisation	100,400	105,300
Open Day and other celebrations	1,295,258	473,719
Insurance	438,204	441,618
Books and publications	4,032	28,805
Income support	39,405,976	46,952,062
IAEA expenses	28,382	407,429
MRC expenses	2,800	-
	<b><u>51,430,782</u></b>	<b><u>65,439,705</u></b>

**27 OPERATING LEASE**

Rent is paid for rental of office space as follows:

- a. Extension head office at St Pierre: 500 m<sup>2</sup>
- b. Goodlands sub-office: 27.2 m<sup>2</sup>
- c. Petite Rivière sub-office: 150 ft<sup>2</sup>
- d. Vacoas sub-office: 53.75 m<sup>2</sup>

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

Up to one year	174,675	-
After one year and before five years	325,900	-
	<b><u>500,575</u></b>	<b><u>-</u></b>

**28. CONTINGENT LIABILITIES**

Bank Guarantee

As at 30 June 2018, the FAREI provided a guarantee of Rs10,000 in favour of the Mauritius Revenue Authority for the issue of a license to operate a still at the Plant Pathology Laboratory.

## Section 6: Senior Staff List from 30 June 2017 to 31 July 2018

### CHIEF EXECUTIVE OFFICER

Seelavarn GANESHAN, BSc, MSc, PhD  
(Assumed duty on 04 September 2017)

### ASSISTANT DIRECTORS Extension and Training

Shri Swami A M GOOLAUB, BSc, MSc  
(Actingship with effect from 30 April 2018 and  
Appointed on 28 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  
(Upto 20 October 2018)

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

- **Fruit Division**  
Principal Research Scientist

Indoomatee RAMMA, BSc, MSc

- **Vegetables & Ornamentals Division**  
Principal Research Scientist

Rita D NOWBUTH BSc, MSc

- **Resource Management Division**  
Principal Research Scientist

Alfaz ATAWOO, BSc, MSc

(Actingship with effect from 01 September 2017  
and appointed on 08 January 2018)

- **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. & 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.

- **Livestock Extension**  
Principal Extension Officer

Chia Shim Chong TSE SIK SUN Dip. Agric. (Retired  
on 16 February 2018)

Bhanoochun DYALL Dip. Agric., MBA (Appointed  
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 upto 30 April 19)
  
- **Research Scientist/  
Snr Research Scientist** Mahendre NATHOO DMS, BSc, MSc

## ADMINISTRATION

- **Finance Section**  
Manager, Finance Bhindoomatee RADHA ACMA
  
- **Procurement & Supply Section**  
Stores Superintendent Veena Kumari HARDOWAR BSc
  
- **Human Resource Section**  
Human Resource Manager Laxmee LEKHA-DUSOYEA  
(Upto 31 August 2018)  
Bindeshwaree VEERAPEN, DMS, BSc (Actingship with effect 11 November 2018)
  
- **Human Resource Officer  
(Personal)** Bindeshwaree VEERAPEN, DMS, BSc
  
- **Administrative Section**  
Administrative Managers Arti DUNPUTH, ACIS  
Suzy Dominique AUGUSTE, ACIS