



MAURITIUS RESEARCH COUNCIL

ANNUAL REPORT

2009/2010



MRC

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## Our Vision:

**“Shaping up the Mauritius of tomorrow through research, technology and innovation”.**

## Our Mission:

**“Promoting and pioneering research for sustainable development to enhance the quality of life of the people of Mauritius”**

The Mauritius Research Council (MRC) was set up in May 1992 (Act no. 10 of 1992) as an apex body to promote and co-ordinate national investment in research. The objectives of MRC as enunciated in the Act are to:

- (a) Foster, promote and co-ordinate research and development in all spheres of scientific, technological, social and economic activities;
- (b) Advise the government on all matters concerning scientific and technological policies;
- (c) Lay guidelines for, and initiate the formulation of research and development policies on a national basis; and
- (d) Encourage commercial utilisation of research and development results in the national interest.

Letter from  
Chairperson



To: Dr The Honourable Rajeshwar Jeetah  
Minister of Tertiary Education, Science, Research  
and Technology  
4th Floor Cyber Tower 1 (Wing A)  
Cybercity  
Ebene

Honourable Minister,

As required by Act No. 10 of 1992, I have the honour to submit the Annual Report of the Mauritius Research Council for period 01 July 2009 to 30 December 2010.

Yours faithfully,

A handwritten signature in blue ink, which appears to read 'S. Jugessur'. The signature is written in a cursive style and is positioned above a horizontal line.

**Prof. S. Jugessur, C.S.K., G.O.S.K.**  
**Chairperson**



## Looking Ahead



With the newly and timely set up of a Ministry responsible for Tertiary Education, Science, Research and Technology, a new vision has been cast for the MRC. This is based on the consolidation on the past achievements of the MRC, its present expectations and its future requirements in order to enhance the contribution of Research and Development to meet the evolving aspirations of the Mauritian Society, thereby complying with the vision of the Government.

The past year has seen MRC, under the aegis of the Ministry of Tertiary Education, Science, Research and Technology, striving to bridge the gap between research and industry. A platform has been created for innovative projects to be presented to potential investors. The Council has continued its efforts in its search for projects that could potentially provide the basis for new industries.

The year 2011 will see MRC putting more resources towards the implementation of the Government Programme 2010-2015 while consolidating the existing activities being undertaken by the Council. The Council will also launch a series of new schemes with a view to promoting research and innovation, bridging the gap between research and industry, promoting knowledge sharing and recognizing the work of Mauritian Scientists.

During the year 2011, the Council will carry out a National Research Foresight exercise which will identify the priority areas in research at a national level. This exercise will lead to projects that could be undertaken by the Council, with the support of other relevant institutions, to help achieve its mission of "Promoting and pioneering research for sustainable development to enhance the quality of life of the people of Mauritius".

This task, requiring a truly multidisciplinary approach, can be achieved only through a solid networking ecosystem at institutional and inter-institutional level. One of the initiatives of the Council towards consolidating the R&D alliance for sustainable development and innovation will be the "Collaborative Mauritius" project. More interaction and exchange among institutions and individuals will allow enhanced understanding, teamwork and efficacy in the implementation of projects of national importance while also contributing towards the development of a national research culture.

To be a truly global island state, there is a need to be knowledgeable, visionary and innovative, and to constantly seek progress in all fields of scientific, economic and social activities. Through its activities, the Council will strive for Mauritius to achieve the status of a global island state.

A handwritten signature in blue ink, appearing to read 'A. Suddhoo', written in a cursive style.

**Dr. A. Suddhoo**  
Executive Director

## 1. The Board

The overall governance of the Council is entrusted to a Board, which is composed of representatives from the government, academia and private sector. The Board met nine times during the period July 2009 to December 2010.

### BOARD MEETINGS

Members	Attendance
Prof. S. Jugessur, Chairperson	9/9
Dr A. Suddhoo, Executive Director	9/9
<b>Representatives of Government</b>	
Mr G Ramrekha, Prime Minister's Office	1/2
Mrs C R Seewooruttun, Prime Minister's Office (as from 26 November 2009)	3/7
Mr V. Bassant, Ministry of Finance and Economic Development	2/3
Mrs S. Rama, Ministry of Finance and Economic Empowerment (as from 03 February 2010)	5/6
Mr S N Abdoula, Ministry of Education and Human Resources	1/1
Mr R. G. D. Auckbur, Ministry of Education and Human Resources	5/8
Mrs M. Nathoo, Ministry of Agro Industry and Fisheries	6/6
Mr R Bunjun, Ministry of Agro Industry and Food Security	1/1
Mr D. Kawol, Ministry of Agro Industry and Food Security (as from 24 November 2010)	2/2
Mr R. Moolye, Ministry of Industry, Science and Research	9/9
<b>Representatives of Academia and Private Sector</b>	
Prof. S. Rughooputh, University of Mauritius	1/3
Prof. K. Morgan, University of Mauritius (as from 03 February 2010)	1/6
Dr S. Reddi, Adviser, Ministry of Education and Human Resources	5/9
Dr R. Ng Kee Kwong, Mauritius Sugar Industry Research Institute	5/9
Mr C. Li Foo Wing	7/9
Mr S. Desai	2/3
Pof. R Lamusse	2/3
Mr K Ramful, Mauritius Standards Bureau (as from 03 February 2010)	4/6
Mr J Teeluck, Agricultural Research and Extension Unit (as from 03 February 2010)	5/6
Prof. R Mohee, University of Mauritius (as from 03 February 2010)	4/6
Mr J Ramjada, National Economic and Social Council (as from 03 February 2010)	4/6

**SUB COMMITTEES OF THE BOARD****Project Management Committee**

The Project Management Committee (PMC) was set up to consider and evaluate studies/research proposals. The PMC devises criteria for selection of proposals, examines the technical and financial feasibility of proposals and make such recommendations to the Board. The Committee may call upon such persons as in its opinion may assist it in the performance of its duties.

**Meetings of the Project Management Committee**

<b>Members</b>	<b>Attendance</b>
Prof. S. Jugessur, Chairperson	3/3
Dr A. Suddhoo, Executive Director	3/3
Prof. S. Rughooputh, University of Mauritius	1/1
Prof. K Morgan, University of Mauritius	2/2
Dr R. Ng Kee Kwong, Mauritius Sugar Industry Institute	3/3
Mr S. Desai, Consultant	1/1
Prof. R. Lamusse, Consultant	1/1
Mr R. G. D. Auckbur, Ministry of Education, Culture and Human Resources (As from 26.03.10)	2/2
Mr R. Moolye, Ministry of Industry, Science & Research (as from 26.03.10)	0/2

**Human Resources Committee**

The Human Resources Committee generally makes recommendations to the Board on appointments to the Council. It also reviews the organizational structure of the Council, recommend appointment and promotion, and deals with disciplinary matters whenever necessary.

**Meetings of the Human Resources Committee**

<b>Members</b>	<b>Attendance</b>
Prof. S. Jugessur, Chairperson	3/3
Dr A. Suddhoo, Executive Director	3/3
Mr S. Desai, Consultant	1/3
Mr C. Li Foo Wing, Private Sector	3/3
Mr R. Moolye, Ministry of Industry, Science & Research	2/3



## 2. Staff of the Council

The staff of the Council, as at 31 December 2010, consisted of thirty three members:

Executive Director	- Dr A Suddhoo
Corporate & Business Services Director (on leave without pay with effect from 19 January 2010)	- Mr P Tse Rai Wai
Research Coordinator	- Dr N K Gopaul
	- Mr D Gangapersad
	- Mrs P Veer-Ramjeawon
Research Officer	- Dr H Neeliah
	- Dr M Madhou
	- Dr G Gottoli
	- Dr V Bissonauth
	- Mr A S Peedoly
System Administrator	- Mrs H Mungun-Jhurry
Project Officer	- Ms K Bheenick
Accountant	- Mrs R Tooree-Veerapen
Administrative Officer	- Mrs P Doman
Research Assistant	- Mr K Tatoree
	- Ms R Kalutay
	- Ms A Ibrahim
	- Mr G White
Confidential Secretary	- Mrs K Prayagsing
	- Mrs B Padaruth
	- Mrs M Jean Julie
Executive Officer	- Mrs C. Rughoobur
Research Support Officer	- Mrs S A Patten-Ramen
Ag. Accounts/Purchasing Officer	- Mrs G Ramsurn
Clerical Officer	- Ms B Hurdoyal
Clerk/Word Processing Operator	- Ms P Gobin
Receptionist/Word Processing Operator	- Ms C Salomon
Driver	- Mr D Rajiah
	- Mr P Hungsraz
Office Attendant/ Driver	- Mr R Jhoollun
	- Mr A Soogund
	- Mr L Bhaya
Office Attendant	- Mr R Gunga

### 3. Key Performance Indicators

The Management of the Council has developed an internal set of Key Performance Indicators to assess its performance and impact, as per list below:

#### 1. Promotion of research and development

<b>Related Performance Indicators</b>	<b>July 2009- December 2010</b>	<b>July 2008- June 2009</b>
1.1 No. of new Research Projects in priority areas	34	30
1.2 No. of researchers (Principal Investigators, Co-Investigators and Research Assistants) directly involved in research projects	135	81

#### 2. Dissemination of research output

2.1 No. of seminars/workshops held during the year	31	13
2.2 No. of participants in seminars/workshops	6,201	526
2.3 No. of Scientific Articles/Publications/Reports produced	15	13
2.4 No. of hits on MRC website	8,501	5,165

#### 3. Commercial utilisation of research and development

3.1 No. of research projects with potential commercial utilization	20	17
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## 4. MRC Research Grant Schemes

The Council currently has seven different funding mechanisms, namely:

### 4.1 Solicited Research Grant Scheme (SRGS)

Under the Solicited Research Grant Scheme (SRGS) (the top-down approach), the Council defines and selects the areas of research that are of national priority. Researchers are then invited to bid, on a competitive basis, to undertake the research.

### 4.2 Unsolicited Research Grant Scheme (URGS)

The Unsolicited Research Grant Scheme (URGS) is essentially a bottom-up approach to the promotion of research and development, whereby researchers and research institutions can submit proposals in their own areas of interest. Funds are then made available to those proposals that satisfy the criteria set up by the Council.

### 4.3 Private Sector Collaborative Research Grant Scheme (PSCRGS)

Research & development works best in those settings where research institutions have tangible connections to industry. In this context, the Private Sector Collaborative Research Grant Scheme (PSCRGS) has been designed to expand research activities beyond the academic campus into the private sector. The scheme aims at encouraging the private sector, in collaboration with a local academic institution, to undertake research designed to develop new processes, techniques or products with a view to increasing productivity, competitiveness and efficiency. Special emphasis is placed on those research opportunities that have commercial potential.

### 4.4 Small Scale Research Grant Scheme (SSRGS)

The Small Scale Research Grant Scheme (SSRGS) is designed to give opportunities to individuals and groups to conduct research work in all areas relating to the understanding of social and economic change with specific emphasis on issues they are confronted with in their work or living environment. The SSRG Scheme is available to all those not covered by the existing Research Grant Schemes of the MRC namely the URGS and PSCRGS. Undergraduates, graduates, teachers, members of the police force, medical and paramedical staff, trade unions, non-governmental organisations and the public and private sectors, among others, can apply for grants under the SSRGS. Individual applicants are encouraged to submit proposals in partnership with recognized institutions, public or private, that can give impetus and direction to the proposed research.

### 4.5 Public Sector Collaborative Research Grant Scheme (PuSCRGS)

The PuSCRGS is essentially a top-down approach for the promotion of research, whereby the promoters invite researchers and research institutions in the public sector to submit proposals in pre-identified areas of interest. Proposals that are multi-disciplinary and involve inter-institutional or inter-departmental collaboration are encouraged. Proposals are selected for funding based on their potential research value, their strategic importance and the contribution they would make to improve the efficiency and effectiveness of the Public Sector.

The main areas of research identified, among others, are Flexitime, Performance Management, Leadership, Motivation, Quality Management and Human Resource Management and Development. The Promoters will also consider research proposals identified by Provider Institutions.

#### **4.6 MRC Post Graduate Research Award**

The MRC Postgraduate Award targets both unemployed and employed graduates to undertake research studies at a local tertiary education institution, leading to an MPhil or PhD. The MRC anticipates to award, on a competitive basis, up to twenty such awards. The areas for the research studies must be from the following sectors, which are current priorities of the Council:

1. Development of Ocean Technology and Marine Resources
2. Energy Efficiency and Renewable Energy
3. Waste Management and Waste Recycling
4. Biomedical and Biopharmaceutical Research based on Indigenous resources

#### **4.7 Business Angels Forum Support Scheme (BAFSS)**

The Council launched the Business Angels' Forum Support Scheme in 2010 to help Research and Tertiary Education institutions or any organization in Mauritius to organize a Business Angel Forum. The MRC will provide a grant of Rs 25,000 to any institution envisaging organizing a BAF and will provide technical advice on matters pertaining to organization/logistics of the forum.

The main objectives of this scheme are:

- (i) To bridge the gap between Research and Industry
- (ii) To give people the opportunity to present their innovative concepts/ideas to the business world
- (iii) To encourage innovative in-house business developments with the ultimate goal of promoting innovation in Mauritius.

## 5. Research Priorities

MRC will pursue initiatives launched in the priority areas of -

- Ocean Technology and Marine Resources
- Energy efficiency and renewable energy
- Waste management and waste recycling
- Biomedical and pharmaceutical research based on indigenous resources
- Science and Technology Education and
- Social/Economic

### 5.1 Ocean Technology and Marine Resources

Activities towards the LBOI Project will include capture of vital scientific and technical data that will provide information for the identification of potential market products and services. In line with its policy to capture information for potential applications, the Council will invest in the investigation of the values of the seaweed resources of our lagoon waters.

### 5.2 Energy Efficiency and Renewable Energy

The fluctuations, and high prices of oil, have led to more awareness of our dependency on fossil fuel. This has created a need to relook at the energy policy. The Council will assist in the development of a national policy and action plan on renewable energy. An assessment of sectoral energy intensities will provide inputs for energy efficiency programmes. Research on renewable energy will contribute towards developing solutions for various sectors.

### 5.3 Waste Management and Waste Recycling

Waste, domestic and industrial, is increasingly becoming a major national problem. Several projects will be undertaken with a view to capture vital information on waste cycles and types of waste, including e-wastes. Projects will also be designed to initiate pilot projects on recycling and reuse.

### 5.4 Biomedical and Pharmaceutical Research Based on Indigenous Resources

The Council will continue to support research programmes that address the sociological and scientific issues of diseases of national concern. Contribution will be made towards the development of a proper legal framework for biomedical research as well as promoting research in the area of traditional medicine.

### 5.5 Science and Technology Education

The value of science and technology education for economic and social development is recognized worldwide. The Council will continue to promote public understanding of S&T. The Council will assist in building a data bank of S&T indicators, including the quality of S&T education.

### 5.6 Social/Economic

The Council will pursue its efforts in supporting research projects on social and economic issues which are of national concern. Several projects with a socio-economic bearing and using high standards of academic rigour will be undertaken on topical social problems. Over and above the academic value of the data generated, such information can be used to inform the policy-making process for the overall improvement of social conditions locally.

## 6. The Year in Retrospect

### 6.1 Research Portfolio

During the period July 2009 to December 2010, the MRC processed forty two research applications. The Council undertook/funded thirty four new projects which can be classified under the following research themes:

RESEARCH THEMES	NO OF PROJECTS	PROJECT VALUES (Rs)
Ocean Technology & Marine Resources	6	1,664,973
Energy Efficiency & Renewable Energy	9	5,152,342
Waste Management & Waste Recycling	2	75,100
Biomedical & Biopharmaceutical	5	1,426,000
Science & Technology Education	1	135,000
Social / Economic	3	4,020,900
Information & Communication Technology	1	568,995
Water Resources	2	241,520
Others	5	1,208,160

By the end of the year 2010, MRC had accumulated 384 research projects with a total project value of Rs 146 million under the different MRC Research Grant Schemes.

A brief on some of the projects and activities undertaken by the Council during the period July 2009 to December 2010 are listed in Section 6.2 to 6.12.

## 6.2 Development of Ocean Technology and Marine Resources

### DEVELOPMENT OF A SEAWEED INDUSTRY IN MAURITIUS AND RODRIGUES

Given the high diversity of unexploited seaweeds in Mauritius and Rodrigues a multidisciplinary study involving collaboration of research organizations such as AFRC, AREU, MSIRI and UoM was initiated in 2006 to investigate the development of a seaweed industry in Mauritius and Rodrigues. Based on the feasibility study carried out in 2008 a number of pilot studies have been initiated to evaluate the commercial applications of local seaweeds in 2009/10.

#### 1. **Pilot study on seaweed cultivation in Mauritius and Rodrigues.**

In view of introducing seaweed farming on a **pilot-scale** basis for commercial evaluation, links were established with the Central Salt and Marine Chemicals Research Institute, India to conduct a joint MRC/CMSCRI study at this stage the proposal is being finalised.

#### 2. **Food Products derived from local seaweeds**

A project was initiated with the collaboration of the Agricultural Research and Extension Unit to study the feasibility of using two local seaweeds, *Ulva lactuca* and *Gracilaria salicornia* in the manufacture of food products. Five products (jams and pickles) have been developed from *Gracilaria* which are being evaluated for consumer acceptability and subjected to shelf life studies. Products from *Ulva* are being processed.



Picture 1: Seaweed Pickle

#### 3. **Evaluating the use of local seaweeds as nutritional supplements**

Links were established with the Institute of Cellular Pharmacology of Malta/Texinfine Ltd (France) where 12 local seaweed samples are being analysed for potential nutritional /pharmaceutical value.

In this line Dr Thierry Revol from Texinfine Laboratory conducted a half day workshop on bioprospecting of Natural Resources, including Seaweeds on the 3rd December 2010 at the Council. In this workshop the research activities conducted by Texinfine Laboratory were presented to the local stakeholders. The process leading to the commercialization of the research output of Texinfine was outlined.

#### 4. **Potential of local seaweeds as alternative feed ingredients in pig diets**

Given the challenges that the pig industry is facing this study assesses the development of a seaweed based pig feed industry supplying both the local and regional markets. This study has been initiated in December 2010 in collaboration with the University of Mauritius.

#### 5. **Seaweed-based Plant Growth Promoters**

Seaweed extracts have been reported to improve the agronomic performance of food crops. Given our heavy reliance on chemicals and fertilizers there is a need to explore the possibility of using environmentally friendly products to improve performance and productivity of local crops. It is in this regard, that the Council has commissioned the above project to the University of Mauritius (UoM) in November 2010.

### **Exploring the possibility of setting up a seaweed industry in Rodrigues**

A presentation was made to Hon. L J Von-Mally, Minister of Fisheries and Rodrigues and staff of the Ministry on 14th May 2010. The Ministry expressed interest in the study given its importance in Rodrigues. A delegation of the MRC conducted an exploratory tour in Rodrigues from 11th to 13th July 2010.

Following the workshop and working sessions with relevant stakeholders on the island it is clear that seaweed farming and value-adding activities represent high commercial potential to the island, with significant socio-economic dimensions for Rodrigues. Interest was also expressed by relevant stakeholders during the workshop for local seaweed to be used in the formulation of pig rations to alleviate the problem of increasing pig feed cost. With the setting up of a 'Cuisine Communautaire' on the island seaweeds also represent an innovative ingredient to be used in combination with locally available fruits and vegetables for food processing. Interest was also expressed by farmers for use of seaweeds as plant growth promoters.

Given the commercial potential of seaweeds in Rodrigues, a proposal to set up at least one seaweed farm in Rodrigues is being developed with the Central Salt and Marine Chemicals Research Institute of India.

### **6.3 Energy Efficiency and Renewable energy**

#### **Geothermal Energy Prospection in Mauritius**

It is widely accepted that most geothermal fields are localized in areas of recent tectonism and volcanism (earlier than Cenozoic, 65 million years before present) and primarily along active plate boundaries. Geothermal reservoirs are often associated with volcanoes and volcanic regions. Mauritius is a recent island in geological terms since volcanic activity is predicted to have stopped between 0.17 – 8 million years ago. Furthermore, Mauritius is found on the Mascarene plate, close to the Réunion Island Hotspot - one of the most active hotspots known in the Indian Ocean. Hence, there is much probability that there exists a fairly good geothermal reservoir in Mauritius.

In 2009, the MRC sponsored a preliminary study of the geothermal potential of Mauritius. A local Geomorphologist studied the surface geology and carried out gross geomorphological characterization of different types of volcanic rocks of the 23 volcanic fields of Mauritius. According to the report, four specific regions were identified as having a high potential for geothermal exploitation since these regions were the birthplace of most recent volcanic activities of Mauritius. It was recommended that thorough geological, geophysical and geochemical analyses and surveys should be carried out in these regions to confirm the presence of any geothermal reservoirs. Several sites for preliminary drillings for geothermal prospection were also delimited in the study taking into consideration aspects such as presence of potential underground hydrothermal activities and the accessibility of the site for an eventual implementation of a power plant. A thorough assessment of the geothermal resources of Mauritius has now to be carried out in order to decide whether this energy can be exploited for electricity production.

#### **Coconut Oil - Transportation in Agalega**

The Mauritius Research Council in collaboration with Outer Islands Development Corporation (OIDC) under the then chairmanship of Hon. L H Aimée, Minister of Local Government and Outer Islands had initiated the project on "Use of Coconut Oil and Waste Vegetable Oil as Substitutes to Diesel" which is in line with the vision of the government on Maurice Ile Durable, that is, to promote sustainable development in Agalega.

During Phase I, a feasibility study and pilot implementation was carried out by the MRC in collaboration with OIDC in Agalega and Mauritius on the use of Coconut Oil (CNO) and Waste Vegetable Oil (WVO) as substitutes to diesel for transportation. The results of which showed



that Coconut Oil and Waste Vegetable Oil are very good substitutes to diesel for transportation.

Thereafter, in Phase II a visit to Agalega was undertaken by the MRC in November 2009 to convert one tractor to run on Coconut Oil. The tractor has been reported to be running in satisfactory condition till date. Besides converting the tractor to run on CNO, several local personnel were trained to maintain the tractor for smooth functioning.

The findings of the project and way forward were disseminated through a half-day seminar on 16th February 2010 in the presence of Hon. D Gokhool and Hon H Aimee. Around 150 participants attended the seminar.



Picture 2: Tractor running on Coconut Oil in Agalega

### Electricity Generation from Coconut Oil and Waste Vegetable Oil

The project on “*Electricity Generation from Coconut Oil and Waste Vegetable Oil*” was carried out in collaboration with Outer Islands Development Corporation, Central Water Authority, Indian Oil (Mauritius) Ltd., Ministry of Public Infrastructure, NDU, Land and Shipping, Ministry of Health and Quality of Life, Ministry of Energy and Public Utilities, University of Mauritius, Mauritius Standards Bureau, Central Electricity Board and Mauritius Institute of Training and Development (Ex-ITVB).

The project was launched and a demonstration was held at the CWA pumping station at Ebene on Thursday, 2<sup>nd</sup> September 2010 to showcase the project to all the stakeholders and members of the Press. The implementation of the project entailed converting Central Water Authority’s 60 kVA generator situated at Ebene Pumping Station to run on coconut oil, waste vegetable oil and diesel.

The generator’s performance has been assessed for the following parameters

- Exhaust emissions (*Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Hydrocarbons (HC), Oxygen (O<sub>2</sub>) arising from diesel, Coconut Oil and Waste Vegetable Oil*)
- Comparing the Opacity, smoke density and temperature of exhaust gases from diesel, Coconut Oil and Waste Vegetable Oil
- Engine wear & tear through lube oil analysis (*wear metals contents – additives and contaminates, Oil viscosity, fuel dilution, insoluble contents, flash point, moisture content and Total Base Number (TBN)*)
- Fuel consumption of diesel, Coconut Oil and Waste Vegetable Oil



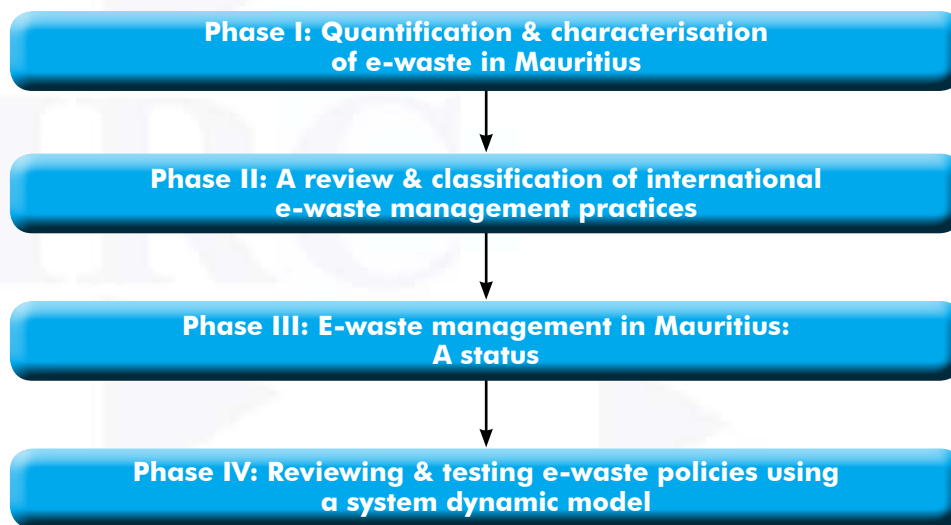
Picture 3: Generator running on Coconut Oil

The results of the feasibility study will be disseminated to all the stakeholders and members of the Press in early 2011.

### 6.4 Waste Management and Waste Recycling

#### The E-waste research programme

The Mauritius Research Council has initiated an E-waste Research Programme (ERP) in 2008. The figure below presents the various projects under the ERP.



The E-waste Research Programme is being implemented in collaboration with UTM. Phase I has been completed. Phases 2 and 4 are nearing completion and phase 3 has been initiated. The overall objective of the ERP is to provide systematic data to understand how much and what type of waste is generated and subsequently managed at various levels in the economy. The ultimate objective of the programme is to propose, in collaboration with relevant authorities an implementable e-waste management scheme.

#### **6.5 Biomedical and Biopharmaceutical Research Based on Indigenous Resources.**

Workshop on bioinformatics and setting up of a Bioinformatics Coordinating Cell

##### 1. Workshop on bioinformatics

The MRC, in collaboration with the University of Mauritius, organised a workshop on bioinformatics on 27 July 2009. The purpose of this workshop was to discuss various applications of bioinformatics, including opportunities for development in Mauritius. Presentations were made by five experts in bioinformatics, including:

- Prof Luke Mumba (Director of SANBio) and Mrs Chimwemwe Chamdimba (NEPAD office, South Africa),
- Prof Fourie Joubert and Oleg Reva from the University of Pretoria (South Africa),
- Dr Etienne de Villiers from the International Livestock Research Institute (Kenya),
- Dr Erik Bongcam-Rudloff, Chairman of European Molecular Biology Network (EMBNNet, Sweden), and
- Dr Eija Korpelainen, from CSC-IT Center for Science (Finland).

The Board of Investment (BOI) presented the blueprint on the development of bioinformatics in Mauritius.

A total of sixty-three participants representing a range of stakeholders attended the workshop. The Minister of Industry, Science and Research was the Chief Guest at the Opening Ceremony of this workshop.

## 2. Assistance of Dr Erik Bongcam-Rudloff

Dr Erik Bongcam-Rudloff, Chairman of the European Molecular Biology Network (EMBNNet), agreed to the request of the MRC to undertake a needs assessment of various research and training institutions, with a view to obtaining information regarding the current resources and utilisation of bioinformatics, and proposing areas where development can be envisaged.

## 3. Bioinformatics Position Paper

On the basis of the Bioinformatics Workshop, and following meetings of Dr Bongcam-Rudloff with various stakeholders, a Bioinformatics Position Paper was prepared by the MRC, which includes the following proposals on the way forward:

1. Capacity building through the SANBio Regional Node at University of Mauritius
2. Development of projects
3. Bioinformatics services and solutions
4. Bioinformatics Coordinating Cell
5. Infrastructure minimum requirements

The final draft of the position paper, which also contains a list of actions required, was submitted to the Ministry of Industry, Science and Research on 07 August 2009.

### **Investigation of potential commercial applications of toxic plants found in Mauritius**

This initiative of the Council, builds upon a joint project of the MRC, Mauritius Sugar Industry Research Institute (MSIRI) and Ministry of Agro Industry and Food Security carried out in 2008, as contribution towards the 'Awareness Campaign on Toxic Plants'.

The objective of this project is to undertake the detailed screening of a number of plants with established toxicity in Mauritius, in order to identify the presence of components with potential commercial interest.

Our hypothesis is that toxic plants may contain a wide range of materials with properties that could be exploited in various industrial processes. It is anticipated that a major outcome of this investigation will be the formulation of a list of potential applications for toxic plants found in Mauritius, which could be used commercially for example, as new sources of anti-bacterials, anti-fungals, insecticides, pesticides, pigments, dyes, enzymes, anti-cancer, anti-malarial or anti-HIV agents, amongst others.

As a first phase, it is proposed to conduct a comprehensive literature search of work undertaken in the field of toxic plants in Mauritius. The findings will be organised into a database that will include the following key information:

- The time when a particular work was undertaken
- The time-line of follow-up work
- Toxic material (e.g., which part(s) of the plant, whether obtained directly or indirectly)
- Categorisation of the nature of toxicity (e.g., low, moderate, high)
- Route of toxicity (e.g., by surface contact, by inhalation, by ingestion, etc)



Picture 4: Toxic Plant Allamanda

- Target of toxicity (e.g., heart, lungs, nervous system, etc)
- Readily identifiable symptoms of toxicity
- References that relate toxicity to specified classes of chemicals
- Species, other than human, where toxicity has been reported
- Any reported and prospective applications

Following the first phase, which is estimated to last approximately a year, it is envisaged that in a second phase of this project, a number of toxic plants may be selected from the database for preliminary screening in collaboration with MSIRI and overseas partners, e.g., the Council for Scientific and Industrial Research (CSIR) of South Africa.

## 6.6 Science & Technology Education

### The Roles and Functions of a Science Park in Mauritius

The idea of establishing a Science Park in Mauritius has been put forward by a number of protagonists over the years. The initiative has been motivated by the need to simulate other developing nations by capitalizing on the potential of exploiting science and technology for the economic development of the country. Several models of Science Park have been evoked recently and a number of consultancies carried out in order to formulate the right model for Mauritius; an island with unique characteristics in terms of population and market needs. The Mauritius Research Council, under the aegis and support of the Ministry of Industry Science and Research, has conducted its own study. The main objective was to define the roles, functions and operation of a Science Park that could enhance the competitiveness of Mauritius. The approach adopted was a multi-stakeholder consultation through both qualitative and quantitative surveys as well as drawing extensively on the extant literature.

A major outcome of the study was the requirement for the Science Park to operate within the existing set up of research and related institutions, without duplication of activities. This will require the Science Park to operate within a networking approach whereby resources from various institutions are pooled together in order to avoid duplication and improve relevancy and cost-effectiveness of the services to be provided for new high-tech business creation. This networking approach will require careful arrangements both in terms of resource planning and the deployment of human capital.

### Business and Research Incubator Centre (BRIC)



The Business and Research Incubator Centre (BRIC) is a connecting and collaborative platform focused on enabling the necessary environment to foster the growth and development of innovative ideas into fruitful businesses. The BRIC was created to try to resolve some of the problems identified by innovators in the Business Angels Forums.

The BRIC will act as a facilitating vehicle having mainly the following functions: (i) to investigate the commercial potential of innovative ideas, principally from academia, but also from other resources; (ii) to harness the existing resources from relevant organisations to facilitate exchanges between the incubatees and interdisciplinary professionals including Business Advisory firms, Legal and Technical advisors and

marketing experts with a view to guiding them to foster the growth of their business; and (iii) to act as a feeder mechanism to contribute to the objectives and targets of existing business supporting schemes of Mauritius such as the Mauritius Business Growth Scheme (MBGS).

The MRC will initially house 5 innovators in the BRIC. The duration of incubation will range from a minimum of 6 months, with the possibility of renewal based on performance, to a maximum of 2 years. The first BRIC was launched by the Honorable Dr Rajeshwar Jeetah at the Council on the 3rd March 2011.

## 6.7 Social & Economic

### Gender-Based Violence (GBV) Indicators Project

The GBV Indicators Project has been commissioned by Gender Links, a South African NGO which operates in the area of gender mainstreaming in the development process in Southern Africa. The overall objective of this project is to arrive at a set of indicators which can help in the monitoring and evaluation of policies which seek to address gender-based violence, particularly in the context of the SADC Protocol on Gender and Development that has the target to halve gender-based violence by 2015.

The project takes the form of a nationwide survey which seeks to measure the prevalence of gender-based violence conceptualized in its physical, sexual, emotional and economic dimensions. Three countries have been identified by Gender Links to take part in this pilot project (Mauritius, Botswana and South Africa) and the intention is to extend this project to more countries in the SADC region in the forthcoming years.

The Centre for Applied Social Research of the Mauritius Research Council was offered the contract of carrying out this study for Mauritius, on account of its expertise in carrying out nationwide social surveys. The project was launched in June 2010 and is expected to be completed by April 2011.

### Study of the 'Extent, Nature and Costs of Domestic Violence to the Mauritian Economy'

This study of the 'Extent, Nature and Costs of Domestic Violence to the Mauritian Economy' has been commissioned by the UNDP and the Ministry of Gender Equality, Child Development and Family Welfare (MGECDWF) and implemented by the Centre for Applied Social Research. Its key objectives were to determine the extent and nature of domestic violence in the country as well as to attempt to economically evaluate the costs associated with this problem. The need for such a study was to fill in the gap in terms of rigorous and systematically-collected evidence on the magnitude of this social problem at national level, given that it is widely held that official figures provide at best a partial picture of the reality and that this social problem is generally perceived to affect a significant number of people, predominantly women. The study was completed in July 2010 and the findings were publicly disseminated in December 2010 at Labourdonnais Hotel in Caudan, Port-Louis.

### Study of the 'Secondary Educational System in promoting Knowledge and Awareness of Anti-Corruption Values in Mauritius'

The MRC through its Centre for Applied Social Research was solicited by the Independent Commission Against Corruption to carry out a 'Study of the Secondary Educational System in promoting Knowledge and Awareness of anti-corruption values in Mauritius'. The study aimed at (1) assessing the extent to which the current educational system is promoting knowledge and awareness of anti-corruption values and (2) to examine the current status of students' knowledge and attitudes towards corruption.



Picture 5: Dissemination of the report during the seminar

The study has led to several interesting findings. Most importantly, the evidence suggests that there is a gap in the provision of anti-corruption education in the educational system. The need to incorporate elements of anti-corruption education hardly ever drives the design of textbooks. Though respondents on the survey reported the organization of co-curricular activities which contribute to some form of value awareness, these are not in-built and permanent features of school life. Also the knowledge and attitudes of students about what constitutes corruption and corrupt practices are characterized by a degree of ambivalence whereby some acts are more easily accepted and tolerated than others. The study also points towards several recommendations for policy affirmation on this issue. In the main, it proposes that anti corruption education be implemented in an interdisciplinary and indirect approach to prevent any further compounding of the curricula. It also proposes the development of teaching and learning material with an explicit emphasis on anti-corruption education. It also suggests a way forward for ICAC in terms of its anti-corruption education initiatives. The study was completed in January 2010 and publicly disseminated at the MRC in September 2010.

### **Study of 'Crime and Violence in the Republic of Mauritius'**

The MRC was solicited by the Prime Minister's Office to carry out a study to determine the extent of crime and violence in the Republic of Mauritius as well as to capture people's perceptions of the level of crime and their level of security in society. The study mainly involves a nationwide victimization survey of a representative sample of adults in the Republic but is also complemented with other research methods associated with a qualitative approach, including Focus Group Discussions and semi-directive interviews with key informants from relevant segments of civil society. This study was launched in June 2009 and is expected to last some 18 months. The design of the questionnaire, the sampling methodology and the nationwide survey has been completed in both Mauritius and Rodrigues over the period January to April 2010. Sandrine Ah Choon, research assistant at CASR and Yousouf Buxsoo fieldwork organizer were in Rodrigues in March 2010 to train fieldworkers and launch the survey in Rodrigues. A preliminary draft of the report has been submitted in October 2010 to the PMO.

### **Poverty observatory**

The Mauritius Research Council won a bid to set-up and to host the Poverty Observatory (PO) for the Republic of Mauritius over the period April 2009 to March 2010. The main objective of the PO was to adopt qualitative research methods to gather and assess the experiences of the poor. The objective is to collect data at the grassroots, analyse and quickly disseminate the findings. This qualitative approach complements the work of the Central Statistics Office, which conducts analysis on poverty using quantitative data from the Household Budget Surveys. Mixing findings from both methodologies would give a better picture of poverty-related issues and consequently better inform poverty reduction initiatives. The research findings coming out of the PO have been disseminated through bulletins and a final report.



Picture 6: Findings of the site visit by the Poverty Coordinator

## **6.8 Other Research Areas**

### **IPR – Support for UK patent application**

The Council has provided support for the processing of a UK patent application (Patent Application Number 0920508.9 filed on 23 November 2009) for a 'Flapping Wind Generator', invented by Mr R Balkee. The invention concerns a renewable-energy device and therefore relates to an area of development that is being accorded significant attention and support, both locally and internationally.

The Council's support covers the application fee for a preliminary examination (GBP30) and the search fee (GBP150), with regard to the UK patent application. This application is also subject to an accelerated examination through the UK-IPO Green Channel, which applies specifically to inventions in the field of "environmentally-friendly technology".

### **Collaborative Mauritius - Connecting the Innovation Eco-system in Mauritius, for Mauritius**

During August 2010, the MRC organised an Innovation Week under the theme "Connecting the Innovation Eco-System". The main objective was to establish the base for a national collaborative innovation platform to be implemented in Mauritius that would engage effective cross-institutional interactions among the participating stakeholders.

To assist the Council, the expertise of Mr Grant Kearney, co-founder of InnovationXchange (IXC) Australia was sought, due to his worldwide experience in advising, training, setting up and managing organisations in matters pertaining to Innovation.



Picture 7: Launching of the Innovation Week

The Innovation Week produced a report recommending a roadmap for the establishment of a national collaborative platform for the promotion/sharing of knowledge, and where multi-stakeholder engagement is facilitated and recognised.

This national collaborative platform called "Collaborative Mauritius" (CM) would be piloted over a two-year period as an initiative of the MRC, under the aegis of its parent Ministry (i.e., the Ministry of Tertiary Education, Science, Research and Technology) and the support of other national Innovation stakeholders.

The CM platform foresees the facilitation and implementation of the following programmes, amongst others in the period 2011-2012:

- *Innovation Partners Programme*: the goal of the Innovation Partners Programme is the establishment of successful 'innovation partnerships' amongst at least eight of the major stakeholders (Innovation Partners) within the Mauritian innovation system;
- *Innovation Access & Commercialisation Programme*: the aim of the Innovation Access & Commercialisation Programme is to provide industry (particularly SMEs), universities and research institutes with access to the resources and support they need to collaborate and innovate;
- *Innovation Awareness Programme*: this programme will be deployed along two axes, namely: the establishment and maintenance of a national innovation website and portal, promoting Mauritius as a collaborative and entrepreneurial society; and the running of an annual National Innovation Festival to promote and encourage a culture of collaborative innovation and entrepreneurship at all levels within Mauritius

### **Promoting Research & Development for Commercialisation - the Virgin Coconut Oil**

Following the 2009 exploratory mission to Agalega, the MRC found scope to produce Virgin Coconut Oil (VCO) in Mauritius through modern small scale coconut processing technology. Such technology permits VCO production at the cottage-industry level with several prospective commercial outcomes due to VCO's potential applications (medicinal, cooking, and cosmetic).



With the view to commercialise R&D, the Council pursued this project and sought alliances with private sector to explore VCO production in Mauritius. One of the private sector companies was selected as a partner because of its reputation on the local market as a well-established fresh coconut water bottling business.

Since 2010, MRC has assisted the private company by conducting research, technical, sales and marketing studies necessary to determine the project commercial viability. The outcome of these activities has been very positive resulting in business plans demonstrating the project's profitability as from year 2 of commencement.

The project was presented to the Mauritius Business Growth Scheme (MBGS) and deemed eligible for funding for technical assistance. It has additionally been put to the MRC Board for funding of capital equipment. The private company has also pledged funds toward the site development and realisation of this new Public-Private-Partnership venture.

Final approval is being sought from each of project partners to officially launch this initiative. In parallel, the MRC is refining a contractual agreement that will define how the MRC funds will be recovered in the form of royalties from incremental sales of VCO products. These will be claimed as a future source of MRC alternative funding from which other R&D initiative of this type will benefit.

In line with the Government's plan to enhance SME development, this MRC initiative could 'show-case' the first Mauritian Government Research and SME Industry partnership of commercial intent with positive socio-economic and environmental benefits for the nation.

#### **Needs assessment for neurological rehabilitation services in Mauritius**

The objective of this project, which emanates from a proposal conceived by Dr A Soopramanien and Dr U Sohur (who are both part of the biomedical networking group of Mauritian diaspora), is to obtain qualitative and quantitative information relating to neurological rehabilitation care needs in Mauritius. The needs assessment will comprise a gap analysis and a priority-setting exercise, which will cover the following:

- incidence/prevalence of stroke, spinal cord injury and traumatic brain injury;
- types of services and infrastructure available for patients in need of neurological rehabilitation;
- type of long term care provided to patients with severe neurological disease;
- human resources available in the country for provision of neurological rehabilitation;
- specific training programmes available in this area; and
- amenability of public infrastructure for persons with disabilities.

In line with the above, it is envisaged that the activities to be undertaken by the MRC for the project will involve the following:

- Searching, collecting, cleaning and collating of secondary information held by the Ministry of Health and Quality of Life (MoHQL), private clinics, private practitioners, social organisations and non-governmental organisations;
- Analysis of information and arrangement of findings in accordance with the relevant medical terminology and practice;
- Reviewing of published work related to Mauritius, specific to the area under study;
- Assisting Dr Soopramanien and Dr Sohur in conducting the needs assessment and in preparing a report for submission to the MRC;
- Assisting in organising a stakeholders' workshop to discuss the findings/recommendations and agree on a general outline for implementing rehabilitation services in Mauritius.



The MoHQL has agreed to the Terms of Reference of the project and will facilitate access to and sharing of relevant information.

It is expected that this project will be completed over a period of twelve months.

### **Survey of the quality of potable water in Mauritius**

In September 2009, the Ministry of Industry, Science and Research (MoISR) requested the Mauritius Research Council (MRC) to report on the impact of the use of fertilizers on the water table and on the health of the population, with a view to elaborating a policy and developing a strategy for subsequent adoption.

In this context, the MRC set up a Task Group comprising stakeholders with responsibilities for the sourcing, supply and distribution of water, as well as for monitoring the quality of water distributed for domestic and industrial uses. The Task Group also included representation of institutions involved in research and development.

In December 2009, the Ministry of Renewable Energy and Public Utilities (MoREPU) was informed of the request made to the MRC, and gave its approval for the Council to conduct a survey on the quality of potable water in Mauritius.

The Task Group presented the preliminary findings of the survey, based on the results of the statistical analysis carried out between September 2009 and February 2010 on data obtained from various stakeholders. On the basis of these findings, proposals were made for the way forward, including the following:

- to conduct an evaluation of additional data on the quality of water (e.g., untreated water) for comparison with the current analysis effected on treated water;
- to evaluate the potential influence of seasonal variations (e.g., rainfall) over the period 1989 – 2009, on the levels of the various parameters recorded;
- to undertake a comparative exercise on the quality of potable water in collaboration with the relevant authorities of Reunion Island;
- to carry out a study on the distribution and flow-paths of water from the aquifers to boreholes.

Following submission of a report of the findings of the survey to the MoREPU, the Task Group is currently working on the Terms of Reference for further work that could be undertaken.

## **6.9 Overseas Mission**

### **2 - 7 November 2009: Brooks World Poverty Institute - Manchester, UK**

Mr N.Richards, the Poverty Observatory Coordinator, visited the Brooks World Poverty Institute in Manchester, United Kingdom from 2-7 November 2009. The aim of this visit was to develop links and a working relationship with the Poverty Observatory so that the Poverty Observatory, under the aegis of the Mauritius Research Council, could work with accredited organizations and have access to research and training facilities. The second objective of this visit was to enable the Poverty Observatory to meet its important goals and make it sustainable for the continuation of its activities.

### **24 - 28 January 2010: Visit of the Poverty Observatory Coordinator - Rodrigues**

Mr N. Richards, the Poverty Observatory Coordinator, visited Rodrigues from 24- 28 January 2010 to carry out field visit in Rodrigues for the 3rd Bulletin of the Poverty Observatory which was solely dedicated to Poverty in Rodrigues. The aim of this visit was to inform relevant persons

in Rodrigues of the progress of the Poverty Observatory and encourage them to be active in the work of the PO. Those who were involved in aspect of Poverty alleviation were also solicited for articles for the 3rd bulletin.

Fieldwork and interviews were conducted in areas where the poorest live. Their views on their current situation and the effectiveness of the current poverty alleviation activities in place in Rodrigues were sought.

**22 - 25 Feb 2010: 6th SANBIO Steering Committee Meeting - Pretoria, South Africa; and visits to DST, CSIR and Innovation Hub, Johannesburg**

The Executive Director, Dr Arjoon Suddhoo, was invited to attend the 6th SANBio Steering Committee Meeting held on the 23rd February 2010 at the CSIR Knowledge Commons, Pretoria, South Africa. The visit was an opportunity for the Executive Director to visit the Department of Science and Technology, the CSIR and the Innovation Hub of South Africa to establish formal contacts in relation to the proposed project for the setting up of a Science, Technology and Innovation Park in Mauritius.

**22 - 24 March 2010: Gender Justice and Local Government Summit - Johannesburg, South Africa**

Mr Aveeraj Peedoly was invited to attend the first Gender Justice and Local Government Summit - Johannesburg, South Africa from 22 - 24 March 2010 by South African NGO Gender Links. The summit fell under the banner of '365 days of local action to end gender-based violence' and focused on best practices for empowering women and addressing gender-based violence (GBV) submitted by local councils and other stakeholders and included key note addresses and parallel seminars by experts in the field of GBV at local government level. All the costs associated with this invitation were borne by Gender Links.

**19 - 22 April 2010: SANBIO/BIOFISA Workshop on Intellectual Property Management and Commercialisation - Harare, Zimbabwe**

Dr Madhvee Madhou attended a 3 day SANBio/BioFISA Workshop from 19th April-23rd April 2010 in Harare. Participants included representatives from Malawi, Mauritius, South Africa, Zimbabwe, Zambia, Namibia and Finland.

The main issues which were addressed include:

- Identified needs and initiated activities of harmonising Intellectual Property Management and Commercialisation (IPMC) in the region
- Science, Technology and Innovation programmes and IPMC in Finland and the EU
- Support instruments to enhance cooperation between research institutes and enterprises.
- STI elements in SADC

Mechanisms to conduct funding of patents, patent protection and industrial property policies giving credit to inventors were discussed.

The major aspects of STI elements in SADC and EU were also discussed. These included presentation of complex science, technology and innovation (STI) indicators in a way that is accessible to the policy community.

Following discussions the following needs were identified in the region:

- To develop and cause the adoption of internationally comparable STI indicators
- To build human and institutional capacities for STI indicators and related surveys;
- To enable African countries to participate in international programmes for STI indicators;

It was recommended that countries in the region adopt STI benchmarking systems and institutional policy measures to promote commercialisation of research output.

### **12 - 14 July 2010: Development of a Seaweed Industry in Rodrigues and Establishment of a Coconut Industry in Rodrigues**

Further to a solicited presentation made to Mr. The Hon. Von-Mally and the senior staff of the Ministry of Fisheries and Rodrigues on the 14th May 2010, a MRC delegation visited Rodrigues from the 11th July to 13th July 2010 to sensitize local stakeholders on virgin coconut oil (VCO) and seaweed production

The overall mission objectives were to:

- present opportunities for the production and processing of coconuts in Rodrigues
- present opportunities for the production and processing of seaweeds and byproducts in Rodrigues
- conduct a situational analysis of coconut- and seaweed-related activities via site visits and stakeholder meetings
- prepare proposals for implementation of VCO production and a seaweed farming pilot project.

The MRC presented the VCO and seaweed projects to Senior Rodrigean officials and relevant stakeholders. A lively interaction session followed indicating that the projects and future activities were positively received. This encouraged the Council to identify key local stakeholders for the development of the proposed projects.

Key to the success of the VCO project is the availability of the Coconut raw materials. Rodriguan officials signaled the presence of 5000 coconut trees in Rodrigues, an intention to crop an additional 5000 trees from Agalega, and the rehabilitation of 2 existing 'cocoteraies'. In addition, a portion of 3000 hectares of available land could be considered for coconut plantation.

Other factors identified in rendering this project successful are: developing markets for VCO products; implementing the supply chain management for the proper collection, production, storage, distribution and sale of coconuts and related VCO products; and finally, the development of VCO products under a Rodrigues brand, targeting the Tourism, Hotel, Spa and Resorts, Airports and Retail outlets in Rodrigues, Mauritius and overseas.

Seaweed farming and value-adding activities were found to represent high commercial potential with significant socio-economic dimensions for Rodrigues. Interest was expressed by relevant stakeholders for use of seaweeds in their different activities, including inclusion of seaweeds in formulation of pig rations to alleviate the problem of increasing pig feed cost,, as an innovative ingredient to be used in combination with locally available fruits and vegetables for food processing, especially in the context of the setting up a 'Cuisine Communautaire' on the island and as plant growth promoters in Agriculture.

Given the interest of the Rodriguan authorities and the relevant stakeholders in the two projects the MRC has developed two research proposals, namely on the establishment of a VCO industry and on the setting up of a pilot study on seaweed farming in Rodrigues. Both the proposals have been forwarded to the Ministry of Fisheries and Rodrigues for consideration.

### **4 - 8 September 2010: WIPO-ARIPO Regional Workshop on Patent Drafting - Windhoek, Namibia**

The World Intellectual Property Organization (WIPO) and the African Regional Intellectual Property Organization (ARIPO) jointly organized, in co-operation with the government of the Republic of Namibia, the 4th Edition of the WIPO-ARIPO Regional Workshop on Patent Drafting, which took place in Windhoek, Namibia from October 4th-8th 2010.

The purpose of the workshop was to create a cohort of patent drafting specialists in African countries, with the ultimate goal of increasing the level of patenting in the region. The event was attended by 20 Namibian participants, 24 participants from ARIPO member states and one nominated observing candidate from Mauritius, MRC Research Officer Dr Gottoli.

The week-long residential Patent Drafting Workshop was subsequently followed up by a Patent Drafting Distance Learning (DL) Course launched on February 14th 2011 to be completed by April 15th 2011. Dr Gottoli was awarded the WIPO Patent Drafting Certificate for his efforts and the MRC was officially recognized as the WIPO Patent Drafting reference point for Mauritius.

### 6.10 Capacity Building

#### Course on Writing Skills

At the request of the Ministry of Tertiary Education, Science, Research and Technology, the Mauritius Research Council in collaboration with the University of Mauritius (UoM), the University of Technology, Mauritius (UTM) and the Mauritius Institute of Education (MIE), organized a course to improve the writing skills of local researchers. The main objective of the course was to enhance the skills of young researchers including MPhil/PhD students to write in Research Journals and to increase the publication output of their research activities in peer-reviewed journals. A multidisciplinary team of 18 resource persons from the UoM, UTM and MIE contributed to the design and delivery of the course. This 2 day course was run in 3 batches based on thematic classification; (i) Science/Agriculture, (ii) Engineering and (iii) Social Science/Economics/Management.

The course was officially launched by Dr the Hon Rajeshwar Jeetah, Minister of Tertiary Education, Science, Research and Technology on Thursday 28th October 2010 at the Octave Wiehe Auditorium. Sessions were held from 29th October to 19 November 2010 at the Middlesex University, Mauritius Branch Campus, in Bonne Terre, Vacoas and at the Mauritius Research Council, in Ebene.

From the feedback evaluation forms about 75% of the participants found the course content very useful, relevant to their work and well presented. This initiative was welcomed by the majority of participants and it was recommended to conduct the course on an annual basis to target more researchers.

### 6.11 Promoting commercialization of projects

#### Business Angels Forum (BAF)

At the request of the Ministry of Tertiary Education, Science, Research and Technology, the Council in collaboration with, University of Mauritius (UoM), Board of Investment (BOI), Enterprise Mauritius (EM), National Productivity and Competitiveness Council (NPCC) organized the first Business Angels' networking forum (BAF) which was officially launched by the Hon. Dr Rajeshwar Jeetah, Minister of Tertiary Education, Science, Research and Technology on the 29th July 2010 at the Four Points by Sheraton in Ebene.

The purpose of the forum was to provide a platform to link potential investors to individuals/companies or institutions having commercially viable ideas in the following fields:

- Biomedical Research/Pharmaceuticals/Cosmetics
- Agribusiness/food industry
- IT/Engineering/Construction/Finance
- Tourism/Textiles/Handicrafts



Picture 8: Participants at the BAF

During the event, 49 participants had the opportunity to present their innovative ideas to 32 investors. The ideas presented were in a wide range of fields ranging from IT to Tourism and Handicrafts.

The Council carried out a survey on the appreciation of the participants for the Forum. The very encouraging fact was that the projects of 7 participants caught the interest of at least one business angel who wanted to discuss further with the participants for possibilities of investing in their projects.

### **Business Angels Forum Support Scheme**

As a result of these encouraging results from the BAFs, the Council launched the Business Angels' Forum Support Scheme to help Research and Tertiary Education institutions or any organization in Mauritius to organize their own BAF. The MRC will provide a grant of Rs 25,000 to any institution envisaging organizing a BAF and will provide technical advice on matters pertaining to organization/logistics of the forum.

The main objectives of this scheme are:

- (iv) To bridge the gap between Research and Industry
- (v) To give people the opportunity to present their innovative concepts/ideas to the business world
- (vi) To encourage innovative in-house business developments with the ultimate goal of promoting innovation in Mauritius.

To date, the Middlesex University, Mauritius Branch Campus, the Faculty of Agriculture of the University of Mauritius and the University of Technology, Mauritius, have benefited from this award to organize their BAF.

### **6.12 Outreach**

#### **SADC Science, Engineering and Technology (SET) Week**

The Mauritius Research Council (MRC), operating under the aegis of the Ministry of Industry, Science and Research organized a **Science, Technology and Innovation (STI) Forum, on 22 - 24 October 2009**, at the Swami Vivekananda International Convention Centre (SVICC) in the context of the 1st SADC SET Week.

The main objective of the forum on Science, Technology and Innovation (STI) was to sensitize the public and representatives of the SADC Member States in general, on the importance of Science and Technology for socio-economic development.

On this occasion eminent local and SADC Member States Scientists and Engineers were invited to debate on the following topics of regional importance:

#### **Main Theme:**

*Harnessing Science, Engineering and Technology for socio-economic development*

#### **Sub Themes:**

- *Renewable Energy (Geothermal, Ocean Thermal Energy Conversion, Hydro, Wind, Solar, Wave)*
- *Satellite Technology for coastal and marine applications*
- *Climate Change*
- *Medical Science and Technology (Telemedicine)*

- *Information and Communication Technology (ICT) including Geographical Information System (GIS)*
- *Bioinformatics*
- *Agricultural Science and Technology (Food Security and Food Technology, Biotechnology)*
- *Water Security*
- *Indigenous Knowledge Systems*
- *Space Science (Astronomy, Square Kilometre Array Radio Telescope)*
- *Aircraft engineering*

The general public was invited to attend the forums.

### **National Science, Engineering and Technology Week (SET WEEK 2010, Mauritius)**

The Ministry of Tertiary Education, Science, Research and Technology and the Mauritius Research Council held a Mini National Science, Engineering and Technology Week 2010 at Cyber Tower 1 on 2 – 4 December 2010. The collaborating partner institutions were Enterprise Mauritius, Human Resource Development Council, Mauritius Chamber of Commerce and Industry, Ministry of Education and Human Resources, Rajiv Gandhi Science Centre, University of Mauritius and University of Technology, Mauritius.

The main objective of the SET week was to sensitize the public in general, on the importance of Science, Engineering and Technology for socio economic development. SET Week is in line with Government Programme 2010-2015 for “a new drive to Science Popularisation and sensitization of Science activities” and the objectives of the SADC Protocol on Science, Technology and Innovation.

The theme for the National SET week was “Biodiversity” in line with the UN year on Biodiversity. However, other relevant themes of national importance, such as, Renewable Energy, Food Security and Agro Industry and Tourism and Sustainable Development were also included.

The National SET Week 2010 consisted of:

1. A Launching Ceremony which was held on the 2<sup>nd</sup> of December 2010 at 13:00
2. A Forum on Biodiversity (Terrestrial and Marine)
3. A Forum on Renewable Energy
4. A Forum on Food Security and Agro-Industry
5. A Forum on Tourism for Sustainable Development
6. A “Caravane de la Science” from the Rajiv Gandhi Science Centre
7. An Exhibition with twenty-one (21) participating institutions/organizations

### List of Events

A complete list of events organized by the Council during the period July 2009 to December 2010 is given below.

No	Date	Title of project	Principal Investigator/ Researcher
1	14 Jul 2009	<b>Seminar:</b> Fine Mapping of a Major Yellow Spot Resistance Gene in Sugar Cane Variety M134/75	Dr A Saumtally & Dr S Aljanabi, MSIRI
2	27 Jul 2009	Bioinformatics - <b>One-Day Workshop</b>	Prof L Mumba, Assoc. Prof E Bongcam-Rudloff (Sweden) Dr E Korpelainen (Finland)
3	22-24 Oct 2009	SADC Science, Engineering and Technology (SET) Week, Mauritius, October 2009 - <b>Forum</b>	-
4	22-25 Oct 2009	SADC Science, Engineering and Technology (SET) Week, Mauritius, October 2009 - Exhibition	-
5	19 Nov 2009	<b>Seminar:</b> A Study of the Implementation and Impact of Corporate Governance in Mauritius	Ms J D Mahadeo
6	19 Nov 2009	<b>Launching</b> of the 1 <sup>st</sup> Poverty Observatory Bulletin	Mr N Richards
7	07 Dec 2009	<b>Seminar:</b> E-Waste Quantification and Characterisation	Dr C Bokhoree Mr P Kowlesser
8	16 Feb 2010	<b>Seminar:</b> Agalega Ile Durable - Use of Coconut Oil as a substitute for diesel for Transportation & Electricity in Agalega	-
9	18 Feb 2010	<b>Task Force Mtg:</b> Survey on Quality of Potable Water in Mauritius	-
10	13 Mar 2010	<b>Training:</b> Study on Crime and Violence in the Republic of Mauritius (2010)	-
11	08 Apr 2010	<b>Seminar:</b> Intergenerational Social Mobility in CHA Housing Estates in Mauritius	Mr L A Darga
12	01 Jul 2010	<b>Seminar:</b> Strategy Processes and Practices in Changing Mauritius: A Study of its Local Business Organisations	Mr S Agathe Ushad Mr D K Boojhawon
13	11-13 Jul 2010	<b>Interactive Sessions</b> during MRC Visit to Rodrigues - Coconut products and Seaweed Production	Dr A Suddhoo Dr H Neeliah Dr M Madhou Dr G Gottoli
14	18-19 Jul 2010	Participation of MRC in Salon de la Santé	-
15	29 Jul 2010	1st Investors (Business Angels) Forum	-
16	23 - 27 Aug 2010	Connecting the Innovation Eco-System	Mr G Kearney, Innovation Xchange International Ltd

No	Date	Title of project	Principal Investigator/ Researcher
17	02 Sept 2010	A <b>demonstration</b> of Electricity Generation from Coconut Oil and Waste Vegetable Oil	-
18	09 Sept 2010	<b>Seminar:</b> Study of the Secondary Educational System in promoting knowledge and awareness of Anti-Corruption Values in Mauritius	Dr H Mariaye
19	30 Sept - 3 Oct 2010	Participation of MRC in the Electronic and Technology <b>Exhibition</b> (ET10)	-
20	21 Oct 2010	<b>Workshop</b> - Essential Communications Skills for Entrepreneurs	-
21	28 Oct 2010	<b>Launching - Basic Course on Writing Skills for Research Journal</b>	-
22	29 & 30 Oct 10	<b>Training - Basic Course on Writing Skills for Research Journal</b> (Theme 1 - Science / Agriculture)	-
23	29 & 30 Oct 10	<b>Training - Basic Course on Writing Skills for Research Journal</b> (Theme 2 Engineering)	-
24	29 & 30 Oct 10	<b>Training - Basic Course on Writing Skills for Research Journal</b> (Theme 3 - Social Sciences /Economics / Management	-
	3 & 4 Nov 10	<b>Training - Basic Course on Writing Skills for Research Journal</b> (Theme 3 - Social Sciences /Economics / Management	-
	18 & 19 Nov 10	<b>Training - Basic Course on Writing Skills for Research Journal</b> (Theme 3 - Social Sciences /Economics / Management	-
25	11 Nov 2010	<b>Technical Workshop:</b> Phytoplasma diseases: An emerging threat to the Worldwide Agriculture	Dr A Bertaccini, University of Bologna, Italy
26	15 Nov 2010	2nd Business Angels Forum - Agribusiness/ Food Industry	-
27	01 Dec 2010	<b>Seminar:</b> Green IT: Exploring Successful Sustainable Computing Initiatives for Mauritius	Mr J Bismohun, Cyber IT Training Services Ltd
28	02 Dec 2010	<b>Launching Ceremony:</b> National, Science, Engineering & Technology SET WEEK	-
29	02 Dec 2010	<b>SET Week 2010: Forum</b>	-
30	02 Dec 2010	<b>Exhibition:</b> National, Science, Engineering & Technology SET WEEK	-
31	03 Dec 2010	<b>Seminar:</b> Bioprospecting of Natural Resources, including Seaweeds	Dr T Revol, Texinfine Laboratory, France



**6.13 List of sponsorships**

MRC participated/sponsored the following events/activities:

<b>Period</b>	<b>Partners</b>	<b>Events/Activities</b>
Feb 2010	University of Mauritius	UOM Research Week 2009-2010: The Council sponsored the prize giving ceremony for the 5 best Undergraduate Projects Award from the 5 different faculties.
Jul 2010	University of Mauritius	International Conference on Pure and Applied Chemistry (ICPAC-2010)
Nov 2010	Mr C Dukhira	Support for the Publication of new book – ‘Global India Focusing Mauritius and South Africa’
Nov 2010	Mr R Balkee	Payment of Patent Application for Mr R Balkee, to Intellectual Property Office for Flapping Wind Generator
Dec 2010	Society of Biology Teachers	National Biology Olympiad which aims at promoting biology education and enabling pupils to show excellence in learning biological sciences.



## 7. An analysis of Sponsored Research

### 7.1 Evolution of research portfolio

During the financial year 2009/2010, MRC had processed forty two research applications. Thirty four new projects were approved bringing the research portfolio to 384 with project value of Rs 146 millions. Chart 7a shows the trend of the Council's research portfolio over the past 13 years.

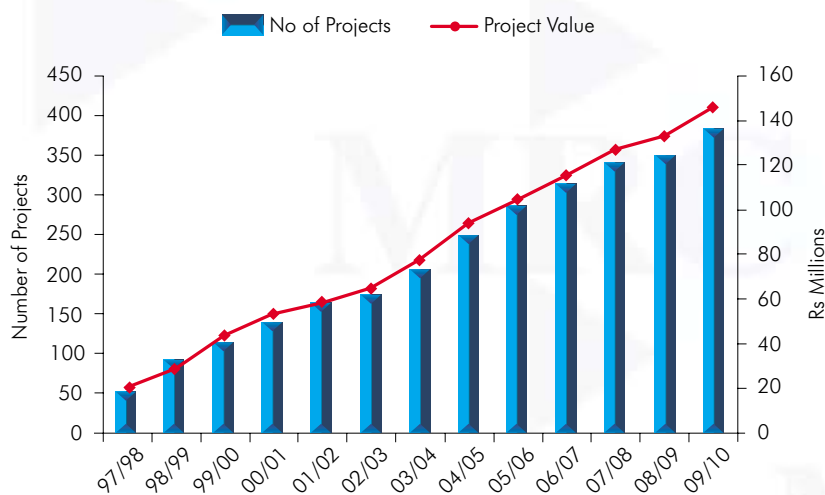


Chart 7a: Evolution of Research Portfolio

The above chart shows the relationship between the total project value and the number of projects over the last 13 years. The total number of projects has increased from 52 to 384 implying an average of 29 projects per year. The project value has risen from Rs 20.6 millions to Rs 146 millions entailing that the council spent nearly Rs 11 millions on average each year.

The distribution of the 384 projects is as follows:

Grant Scheme	Ongoing Projects	Completed Projects	Terminated Projects	Total No. of Projects
Unsolicited Research Grant Scheme	16	120	16	<b>152</b>
Solicited Research Grant Scheme	28	112	4	<b>144</b>
Private Sector Collaborative Research Grant Scheme	2	27	7	<b>36</b>
Post Graduate Award	24	-	1	<b>25</b>
Small Scale Research Grant Scheme	2	15	9	<b>26</b>
Public Sector Collaborative Research Grant Scheme	-	1	-	<b>1</b>
<b>TOTAL</b>	<b>72</b>	<b>275</b>	<b>37</b>	<b>384</b>

### 7.2 Allocation of funds by Schemes

Chart 7b represents the distribution of the total funds (Rs 145,929,018) by Schemes. The Solicited Research Grant Scheme (SRGS) leads the funding list with 49.8%, followed by the Unsolicited Research Grant Scheme (URGS) with 43.6%, the Private Sector Collaborative Research Grant

Scheme (PSCRGS) with 3.7% and the Post Graduate Award (PGA) with 2%. The Small Scale Research Grant Scheme (SSRGS) and the Public Sector Collaborative Research Grant Scheme (PuSCRGS) collectively contribute to nearly 1% of the total funding.

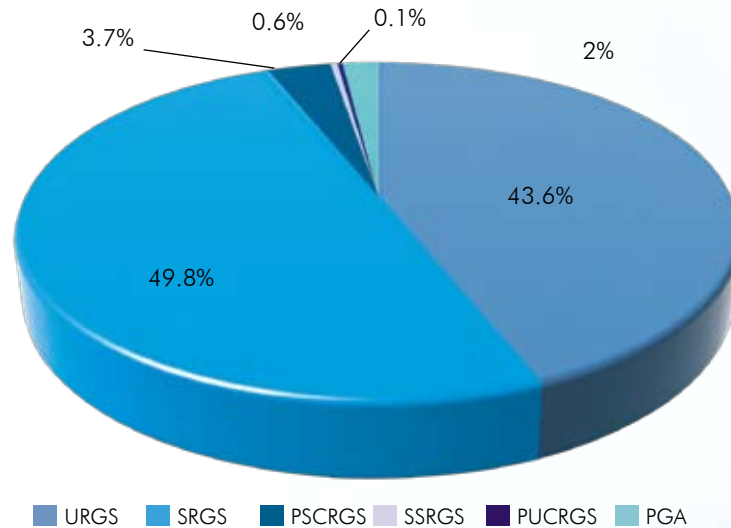


Chart 7b: Allocation of Funds by Scheme (31st Dec 2010)

### 7.3 Composition of research portfolio

The research portfolio is classified under eleven themes, as shown in Chart 6c. The Social/Economic theme has the largest share of 28.6% of total funding, followed by Ocean Technology & Marine Resources with 17.3%, Biomedical & Biopharmaceutical with 13.4%, Energy Efficiency & Renewable Energy with 9.1%, and Manufacturing Technology with 8.8%. 6.9% and 5.0% of total fund is allocated to Science & Technology Education and Land & Land Use, respectively. Waste Management & Waste Recycling, Information & Communication Technology and Water Resources share approximately 6% of the total fund. Others contributes to 5.0% of total funding.

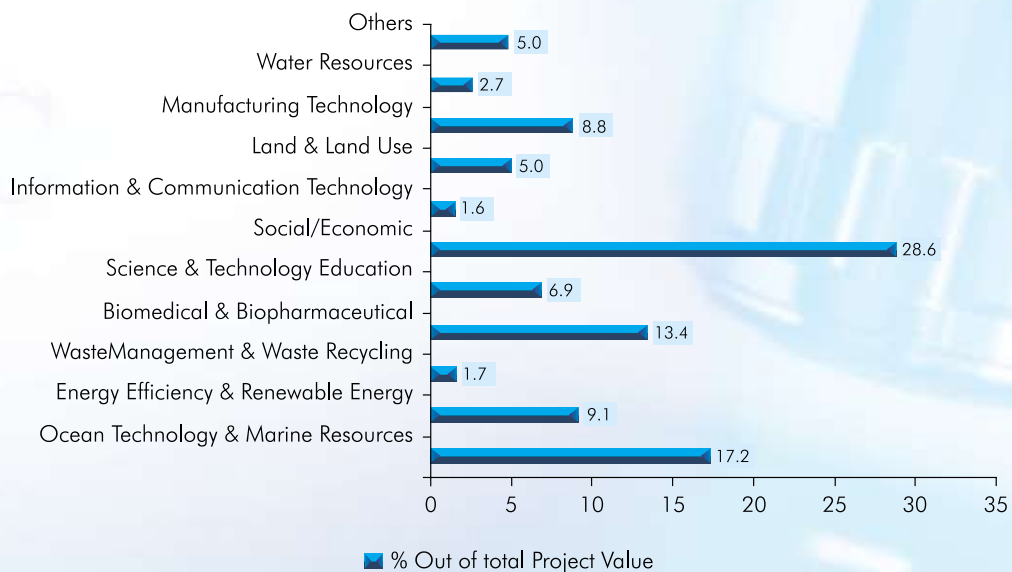
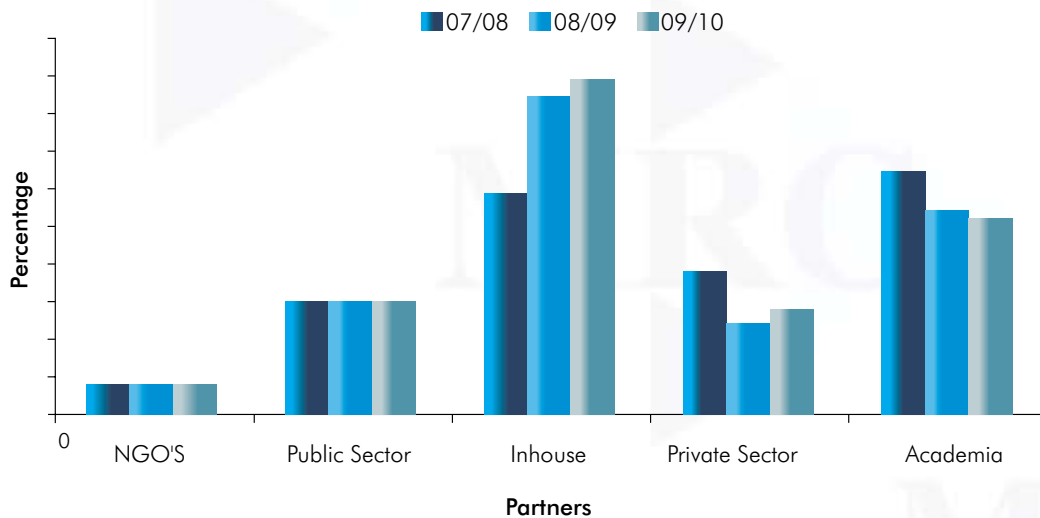


Chart 7c: Allocation of funds by theme (31st Dec 2010)

#### 7.4 Research Partnership

Chart 7d shows our various research partners and their trend in collaborative research work with MRC over the past three years. Academia, which includes the University of Mauritius and the University of Technology, are the major collaborating partner with a contribution of 26% in research work as at 31 Dec 2010. MRC is undertaking more in-house research projects as shown in the chart, from 29% in the year 2007-2008 to reach 44% in fiscal year 2009/2010. The collaboration of the Public Sector remains very important with a contribution of 15% followed by the Private Sector contributing around 14% of the research and development. The contribution of NGOs has remained constant at 4% over the last 3 years.



## 8. Financial Highlights

### Revenue

During the 18 months ending 31 December 2010, the Council raised revenues amounting to Rs 48.1 million (2008/2009 – Rs 31.9 million), as shown below:

	18 months ending 31 Dec 2010	12 months ended 30 June 2009
	Rs. (m)	Rs. (m)
Recurrent Budget	36.5	18.8
Capital Budget	6.5	10.0
Other Revenues	5.1	3.1
<b>Total</b>	<b>48.1</b>	<b>31.9</b>

Grants received under the Recurrent Budget are used towards personnel and administrative costs of the Council.

Grants received under the Capital Budget are invested in Research and Development projects and plant and equipment of the Council. The Council has raised additional revenues of Rs 5.1 million (2008/2009: Rs 3.1 million) from other sources to undertake further specific research.

The rise in recurrent budget is explained as follows:-

In September 2009 MRC moved to Ebene Heights and as a result the rental and the cost of electricity has increased drastically thus impacting on the recurrent budget.

Only Rs 6.5 million was received for the Capital Budget during that 18 month period because the Council was asked by the Ministry of Finance and Economic Development to use its accumulated reserves to fund Research and Development

## **REPORT OF THE DIRECTOR OF AUDIT TO THE BOARD OF THE MAURITIUS RESEARCH COUNCIL**

### **Report on the Financial Statements**

I have audited the accompanying financial statements of the Mauritius Research Council which comprise the statement of financial position as of 31 December 2010, the statement of financial performance and the statement of cash flows for the 18-month period then ended and a summary of significant accounting policies and other explanatory notes.

### ***Management's Responsibility for the Financial Statements***

Management is responsible for the preparation and fair presentation of these financial statements in accordance with the International Financial Reporting 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.

### ***Auditor's Responsibility***

My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with International Standards of Supreme Audit Institutions. Those standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

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

### **Opinion**

In my opinion, the financial statements give a true and fair view of the financial position of the Mauritius Research Council as of 31 December 2010, and of its financial performance and its cash flows for the 18-month period then ended in accordance with International Financial Reporting Standards.

## **Report on Other Legal and Regulatory Requirements**

### ***Management's Responsibility***

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

### ***Auditor's Responsibility***

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

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

### **Opinion**

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

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

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

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

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



**(Dr R. JUGURNATH)**

Director of Audit

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

19 January 2012

## 9. Financial Statements

## STATEMENT OF FINANCIAL POSITION

AS AT 31 DECEMBER 2010

	Notes	2010 18 months Rs	2009 12 months Rs (Restated)
<b>ASSETS</b>			
<b>Non Current Assets</b>			
Plant & Equipment	3	5,775,439	5,075,799
Intangible Asset	4	7,074,194	6,702,926
Pension Asset	5	2,134,209	2,407,599
		<u>14,983,842</u>	<u>14,186,324</u>
<b>Current Assets</b>			
Other Receivables	6&7	3,353,775	3,892,117
Cash & Cash Equivalents	8	7,536,269	11,231,504
		<u>10,890,045</u>	<u>15,123,621</u>
<b>TOTAL ASSETS</b>		<u><b>25,873,887</b></u>	<u><b>29,309,945</b></u>
<b>EQUITY AND LIABILITIES</b>			
<b>Capital and Reserves</b>			
Deferred Capital Grant		9,925,844	14,582,158
Retained Earnings		7,593,637	7,461,310
Revaluation Reserve		229,058	-
		<u>17,748,539</u>	<u>22,043,468</u>
<b>Non-Current Liabilities</b>			
Employee Benefits	9	2,669,182	1,732,551
<b>Current Liabilities</b>			
Other Payables	9&10	4,859,907	3,647,106
Accounts payable	6&9	596,259	1,886,820
		<u>5,456,166</u>	<u>5,533,926</u>
<b>TOTAL EQUITY AND LIABILITIES</b>		<u><b>25,873,887</b></u>	<u><b>29,309,945</b></u>

Approved by the Board of Directors on 12th January 2012.


Prof S. Jugessur , C.S.K,G.O.S.K  
Chairperson

Dr A. Suddhoo  
Executive Director



**STATEMENT OF COMPREHENSIVE INCOME****18 MONTHS ENDING 31 DECEMBER 2010**

	<b>Notes</b>	<b>2010 18 months Rs</b>	<b>2009 12 months (Restated) Rs</b>
<b>REVENUE</b>	<b>11</b>	<u>53,447,457</u>	<u>32,353,670</u>
<b>EXPENDITURE</b>			
Administrative Expenses:	<b>13</b>	39,309,013	18,957,359
Depreciation and Amortisation	<b>3 &amp; 4</b>	<u>2,870,258</u>	<u>1,887,208</u>
		42,179,271	20,844,567
Research and Development Expenses	<b>12</b>	<u>11,135,858</u>	<u>9,394,735</u>
<b>TOTAL EXPENDITURE</b>		<u>53,315,129</u>	<u>30,239,302</u>
<b>NET SURPLUS FOR THE PERIOD</b>		<u><b>132,328</b></u>	<u><b>2,114,368</b></u>



**STATEMENT OF CHANGES IN EQUITY AS AT 31 DECEMBER 2010**

	Retained Earnings	Deferred Capital Grant	Revaluation Reserve	Total
	Rs	Rs	Rs	Rs
<b>Balance at 1 July 2008</b>	<b>5,346,942</b>	<b>13,520,409</b>	<b>-</b>	<b>18,867,351</b>
Adj for accruals for prior years	163,245	-	-	163,245
Surplus for the year	1,951,123	-	-	1,951,123
Capital Grant received	-	12,343,692	-	12,343,692
Research & Development Expenditure reclassified as deferred Income for the year	-	(9,394,735)	-	(9,394,735)
Amortisation of grant	-	(1,887,208)	-	(1,887,208)
<b>Balance at 30 June 2009 (Restated)</b>	<b>7,461,310</b>	<b>14,582,158</b>	<b>-</b>	<b>22,043,468</b>
Surplus for the year	132,328	-	-	132,328
Capital Grant received	-	9,349,802	-	9,349,802
Research & Development Expenditure reclassified as deferred Income for the year	-	(11,135,858)	-	(11,135,858)
Amortisation of grant	-	(2,870,258)	-	(2,870,258)
Net Revaluation of fully depreciated asset	-	-	229,058	229,058
<b>Balance at 31 December 2010</b>	<b>7,593,637</b>	<b>9,925,844</b>	<b>229,058</b>	<b>17,748,539</b>

**STATEMENT OF CASH FLOWS**  
**18 MONTHS ENDING 31 DECEMBER 2010**

	<b>2010</b>		<b>2009</b>	
	<b>18 months</b>		<b>12 months</b>	
	<b>Rs</b>	<b>Rs</b>	<b>Rs</b>	<b>Rs</b>
<b>Net surplus for the period</b>	132,328		1,951,123	
Adjustment for:				
Depreciation and amortisation	2,870,258		1,887,208	
Deferred income released	(14,006,116)		(11,281,943)	
Interest receivable	(707,006)		(474,490)	
(Gain)/Loss on disposal of plant & equipment	(30,099)		-	
<b>Operating deficit before working capital changes</b>	(11,740,636)		(7,918,101)	
Increase in other receivables	(398,433)		(511,841)	
Increase/(Decrease) in other payables	1,212,801		1,072,413	
Decrease/(Increase) in pension asset	273,390		(908,252)	
Increase in Employee Benefits	472,442		591,834	
Increase in passage benefits	110,403		315,151	
<b>Cash generated from operations</b>	(10,070,033)		(7,358,796)	
Interest received	707,006		474,490	
<b>Net cash from operating activities</b>		(9,363,027)		(6,884,307)
Cash flows from investing activities				
Payments for purchase of intangible asset	(585,186)		(180,324)	
Payments for purchase of plant & equipment	(3,450,107)		(2,335,311)	
Proceeds on disposal of plant & equipment	353,284		-	
<b>Net cash used in investing activities</b>		(3,682,010)		(2,515,635)
<b>Cash flow from financing activities</b>				
Capital grant received		9,349,802		12,343,692
<b>Net increase/(decrease) in cash and cash equivalents</b>		(3,695,234)		2,943,750
<b>Cash and cash equivalents at beginning of the period</b>		11,231,504		8,287,754
<b>Cash and cash equivalents at end of the period</b>		<b>7,536,270</b>		<b>11,231,504</b>

**NOTES TO THE ACCOUNTS****18 MONTHS ENDING 31 DECEMBER 2010****1. LEGAL FORM AND ACTIVITIES**

The Mauritius Research Council is an organization established under the Mauritius Research Council Act 1992 (Act No. 10 of 1992) and its principal place of business is Level 6 Ebene Heights, 34 Cybercity, Ebene. The Council is engaged in the following activities:

- (a) To foster, promote and coordinate research and development in all spheres of scientific, technological, social and economic activities;
- (b) To advise the Government on all matters concerning scientific and technological policies;
- (c) To lay guidelines for, and initiate the formulation of research and development policies on a national basis; and
- (d) To encourage commercial utilisation of research and development results in the national interest.

**2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

The principal accounting policies adopted by the Mauritius Research Council and which have been applied consistently are set out below:

**(a) Basis of Accounting**

The financial statements have been prepared in accordance with International Financial Reporting Standards (IFRSs) and on historical cost basis.

At the date of authorization of these financial statements, the following International Financial Reporting Interpretations Committee (IFRIC) had already been issued:

**(b) Standards and interpretations in issue but not yet adopted**

At the date of authorization of these financial statements, the following International Financial Reporting Standards (IFRSs) /International Financial Reporting Interpretations Committee (IFRICs) had already been issued but not yet effective

	<b>Effective Date Annual period beginning on or after</b>
IFRS 1: First-time Adoption of International Financial Reporting Standards - (Additional exemption for entities ceasing to suffer from severe hyperinflation)	1 July 2011
IFRS 3: Business Combination - (Amendments resulting from May 2010 Annual Improvements to IFRSs)	1 July 2010

IFRS 7:	Financial Instruments: Disclosures - (Amendments enhancing disclosures about transfers of financial assets)	1 July 2011
IFRS 9:	Financial Instruments - Classification and Measurement	1 January 2013
IFRIC 14:	The Limit on a Defined Benefit Asset, Minimum Funding Requirements and their Requirements	1 January 2011
IAS 1:	Presentation of Financial Statements - (Amendments resulting from May 2010 Annual Improvements to IFRSs)	1 January 2011
IAS 12:	Income Taxes - (Limited scope amendment - recovery of underlying assets)	1 January 2012
IAS 24:	Related Party Disclosures - (Revised definition of related parties)	1 January 2011
IAS 32	Financial Instruments: Presentation - (Amendments relating to classification of rights issues)	1 February 2010
IAS 34:	Interim Financial Reporting - (Amendments resulting from May 2010 Annual Improvements to IFRSs)	1 January 2011

The Council anticipates that the adoption of these Standards and Interpretations in the future periods will have no material impact on the financial statements.

#### **(c) Revenue Recognition**

Income is based on income-related government grant and is measured at fair value of the consideration received.

#### **(d) Comparative Figures**

The Council has prepared its financial statements for period of 18 months period ending 31 December 2010 as required by the Statutory bodies (Account and Audit) Act.

The Comparative figures for the Statement of financial position, Statement of comprehensive income, statement of cash flows statement of changes in Equity and related notes are not entirely comparable.

Figures for fiscal year 2008-09 have been regrouped or restated, where necessary.

#### **(e) Government Grants**

Asset-related grants are treated as deferred income, whereas income-related grants are recognized in the period they become receivable.

**(f) Property, Plant & Equipment**

Plant and Equipment are stated at cost less accumulated depreciation and any accumulated impairment losses. Depreciation is calculated to write off the cost of fixed assets on a straight-line basis over the expected useful lives of the assets concerned as follows:

	Years
Motor Vehicles	7
Furniture & Fittings	10
Office Equipment	7
ICT Equipment	4
Books	5

Purchase of non-current assets below the threshold of Rs 5,000 is written off during the year.

The gain or loss arising on the disposal of an item of property, plant and equipment is determined as the difference between the sales proceeds and the carrying amount of the asset and is recognized in the income statement.

During the year, revaluation was carried out on items of Plant and Equipment whose carrying amount did not reflect fair value at the end of the reporting period.

Certain items in plant and equipment were not revalued as their carrying amount reflects market value.

Revaluation of plant and equipment is effective as from 1 July 2009. A revaluation committee was set up since external valuers were not deemed to be cost effective.

**(g) Intangible Assets**

Intangible assets acquired separately are measured on initial recognition at cost. Following initial recognition, intangible assets are carried at cost less any accumulated amortization and any accumulated impairment losses. Internally generated intangible assets, excluding amortization development costs, are not amortized and expenditure is reflected in the income statement in the year in which the expenditure is incurred.

Computer software that is not considered to form part of any hardware equipment is recorded as intangible assets. They are amortized at cost and amortised over its estimated useful life of four years

*Research and development costs*

Research costs are expensed as incurred. An intangible asset arising from development expenditure on an individual project is amortized only when the Council can demonstrate the technical feasibility of completing the intangible asset so that it will be available for use or sale, its intention to complete and its ability to use or sell the asset, how the asset will generate future economic benefits, the availability of resources to complete the asset and the ability to measure reliably the expenditure during the development.

During the period of development the asset is tested for impairment annually. Following the initial recognition of the development expenditure, the cost model is applied requiring the asset to be carried at cost less any accumulated amortization and accumulated impairment losses. Amortisation of the asset begins when development is complete and the asset is available for use. It is amortised over the period of expected future sales. During the period of which the asset is not yet in use, it is tested for impairment annually.

**(h) Retirement and other Benefits***Defined Benefit Pension Plan*

The Council subscribes to a defined benefit plan, the assets of which are held in a separately administered fund. The pension costs are assessed using the projected unit credit method. The cost of providing pensions is charged to the Income Statements so as to spread the regular cost over the service lives of employees in accordance with the advice of the actuaries. The pension obligation is measured as the present value of the estimated future cash outflows using a discounted rate by reference to the current interest rates and the yields on bonds and treasury bills.

No actuarial gains and losses are recognized since the net cumulative unrecognized actuarial gains and losses at the end of the previous reporting period do not exceed 10% of the greater of present value of the total benefit obligation at previous reporting year and the fair value of plan assets at the same date.

*Employee Passage Benefit Entitlement*

Employee entitlements to passage benefit allowance are recognised when they accrue to employees. A provision is made for the estimated liability up to the balance sheet date.

*Employee leave entitlement*

Employee entitlements to bank sick leave as defined in the PRB 2008 Report (the regulatory body for remuneration of MRC employees) are recognized as and when they accrue to employees. An accrual is made for the estimated liability for bank sick leave.

**(i) Provisions**

Provisions are recognized when the Council has a present obligation as a result of a past event and it is probable that the Council will be required to settle the obligation. Provisions are measured at the Council's best estimate of the expenditure required to settle the obligation at the balance sheet date, and are discounted to present value where the effect is material.

**(i) Impairment**

At each balance sheet date, the Council reviews the carrying amount of its tangible assets to determine whether there is an indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss and the carrying amount of the asset is reduced to its recoverable amount.

**(k) Risk Management Policies**

A description of the various risks to which the Council 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 Council 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 taken accordingly.

*Credit risk*

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

**(l) Financial Instruments**

Financial assets and liabilities are recognized on the balance sheet when the Council becomes a party to the contractual provisions of the financial instrument.

The Council's accounting policies in respect of the applicable financial instruments are as follows:

*Other Receivables*

Other receivables are stated at their nominal value as reduced by appropriate allowances for irrecoverable amounts.

*Cash and Cash Equivalents*

Cash and cash equivalents comprise of cash at bank and in hand, and are subject to an insignificant risk of changes in value.

*Other Payables*

Other payables are stated at their nominal value.

**(m) Accounting Judgments and key sources of estimation uncertainty**

The preparation of Financial Statements in accordance with IFRS requires the directors and management to exercise judgment in the process of applying the accounting policies. It also requires the use of accounting estimates and assumptions that may affect the reported amounts and disclosures in the Financial Statements. Judgments and estimates are continuously evaluated and are based on historical experience and other factors, including expectations and assumptions concerning future events that are believed to be reasonable under the circumstances. The actual results could by definition therefore, often differ from the related accounting estimates.

Where applicable, the notes to the Financial Statements set out areas where management has applied a higher degree of judgment that have a significant effect on the amounts recognized in the Financial Statements, or estimations and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year.

The key assumptions concerning the future and other key sources of estimation uncertainty at the balance sheet date include Retirement Benefit Obligations.

*Retirement Benefit Obligations*

The cost of defined benefit pension plans is determined using actuarial valuations. The actuarial valuation involved making assumptions about discount rates, expected rates of return on assets, future salary increases, mortality rates and future pension increases. Due to the long-term nature of these plans, such estimates are subject to significant uncertainty.



**3. PLANT & EQUIPMENT**

	<b>MOTOR VEHICLES Rs</b>	<b>FURNITURE &amp; FITTINGS Rs</b>	<b>OFFICE EQUIPMENT Rs</b>	<b>ICT EQUIPMENT Rs</b>	<b>BOOKS Rs</b>	<b>TOTAL Rs</b>
<b>COST</b>						
As at 01 July 2009	9,022,529	1,571,240	1,693,822	3,632,454	-	15,920,045
Revaluation	-	119,110	43,028	150,427	-	312,564
Additions	-	989,895	442,644	1,944,817	72,752	3,450,107
Disposal	(2,504,094)	(311,458)	(989,596)	-	-	(3,805,148)
Write-offs	-	(533,238)	(428,914)	(1,153,884)	-	(2,116,037)
As at 31 December 2010	6,518,435	1,835,548	760,983	4,573,813	72,752	13,761,531
<b>DEPRECIATION</b>						
As at 01 July 2009	4,995,883	1,347,805	1,628,543	2,872,016	-	10,844,247
Depreciation on revalued asset	-	17,866	9,229	56,410	-	83,506
Disposal Adjustment	(2,236,155)	(281,969)	(963,612)	-	-	(3,481,736)
Write-offs	-	(533,238)	(429,143)	(1,153,884)	-	(2,116,265)
Charge for the period	1,398,204	189,594	121,970	932,022	14,550	2,656,340
As at 31 December 2010	4,157,932	740,058	366,987	2,706,564	14,550	7,986,092
<b>CARRYING AMOUNT</b>						
As at 31 December 2010	2,360,503	1,095,490	393,996	1,867,249	58,202	5,775,439
As at 30 June 2009	4,026,646	223,436	65,279	760,438	-	5,075,799

**4. INTANGIBLE ASSET**

	<b>LBOI PROJECT</b>	<b>COMPUTER</b>	<b>TOTAL</b>
	<b>Rs</b>	<b>SOFTWARE</b>	<b>Rs</b>
		<b>Rs</b>	
<b>COST</b>			
As at 01 July 2009	6,567,683	180,324	6,748,007
Additions	-	585,186	585,186
As at 31 December 2010	<u>6,567,68</u>	<u>765,510</u>	<u>7,333,193</u>
<b>AMORTISATION</b>			
As at 01 July 2009	-	45,081	45,081
Amortisation for the period	-	213,918	213,918
As at 31 December 2010	<u>-</u>	<u>258,999</u>	<u>258,999</u>
<b>CARRYING AMOUNT</b>			
As at 31 December 2010	6,567,683	506,511	7,074,194
As at 30 June 2009	6,567,683	135,243	6,702,926

**5. PENSION ASSET****Amounts recognised in balance sheet at end of the period**

	<b>2010</b>	<b>2009</b>
	<b>Rs</b>	<b>Rs</b>
	<b>18 months</b>	<b>12 months</b>
Present value of funded obligation	10,861,652	7,788,859
Estimated Fair value of plan assets	(14,295,937)	(10,206,407)
	<u>(3,434,285)</u>	<u>(2,417,548)</u>
Present value of unfunded obligation	-	-
Unrecognised actuarial gain/(loss)	(322,138)	9,949
<b>Amounts recognised in balance sheet at end of the period</b>	<b><u>(3,756,423)</u></b>	<b><u>(2,407,599)</u></b>

<b>Amounts recognised in income statement</b>	<b>2010</b>	<b>2009</b>
Current service cost	1,523,662	799,332
(Employee Contribution)	(865,747)	(430,662)
Fund expenses	77,827	25,840
Interest cost	1,226,745	650,949
(Expected return on plan assets)	(1,785,675)	(1,070,223)
Actuarial loss/(gain) recognised	-	(22,163)
Past service cost recognised	-	-
Transition effect of adopting IAS 19	-	-
<b>Total included in staff costs</b>	<b><u>176,812</u></b>	<b><u>(46,927)</u></b>

**Movements in liability recognised in balance sheet :**

At start of the period	(2,407,599)	(1,499,348)
Total staff cost as above	176,812	(46,927)
(Contributions paid by employer)	(1,525,636)	(861,324)
<b>At end of the period</b>	<b>(3,756,423)</b>	<b>(2,407,599)</b>
<b>Actual return on plan assets :</b>	<b>1,827,108</b>	<b>-131,515</b>

**Main actuarial assumptions at end of the period:**

<i>Discount rate</i>	10.50%	10.50%
<i>Expected rate of return on plan assets</i>	10.50%	11.00%
<i>Future salary increases</i>	7.50%	7.50%
<i>Future pension increases</i>	5.50%	6.50%

**No. of members** **35** **22**

As per IAS 19 Pension Asset is recognised at the lower of:

- a) The amount recognised in the IAS 19 report, Rs 3,756,423 and  
b) the total of:  
i) any cumulative unrecognised net actuarial losses, Rs 322,138 (2009: Rs 9,949) and past service cost, Rs nil (2009: Rs nil)  
ii) the present value of any economic benefits available in the form of refunds from the plan or reductions in future contributions to the plan, Rs 1,812,071 (2009: Rs 3,400,000).

Pension asset has therefore been recognised at **Rs 2,134,209 (2009:Rs 2,407,599)**.

**5. PENSION ASSET****Reconciliation of the present value of defined benefit obligation**

	<b>2010</b>	<b>2009</b>
Present value of obligation at start of period	7,788,859	6,199,516
Current service cost	1,523,662	799,332
Interest Cost	1,226,745	650,949
(Benefits paid)	(51,134)	48,894
Liability (gain)/loss	373,520	187,956
Present value of obligation at end of period	<u>10,861,652</u>	<u>7,788,859</u>

**Reconciliation of fair value of plan assets**

Fair value of plan assets at start of period	10,206,407	9,120,670
Expected return on plan assets	1,785,675	1,070,223
Employer contributions	1,525,636	861,324
Employee contributions	865,747	430,662
(Benefits paid + other outgo)	(128,961)	(74,734)
Asset gain/(loss)	41,433	(1,201,738)

**Fair value of plan assets at end of period** 14,295,937 10,206,407

**Distribution of plan assets at end of period**

<i>Percentage of assets at end of the period</i>	<b>2010</b>	<b>2009</b>
Government securities and cash	52.20%	56.35%
Loans	7.80%	8.06%
Local equities	25.20%	20.97%
Overseas bonds and equities	14.00%	13.65%
Property	0.80%	0.97%
Debenture stocks	0.00%	0.00%
<b>Total</b>	<b>100%</b>	<b>100%</b>

**History of obligations, assets and experience adjustments**

<b>Period</b>	<b>2010</b>	<b>2009</b>
Currency		
Fair value of plan assets	14,295,937	10,206,407
(Present value of defined benefit obligation)	(10,861,652)	(7,788,859)
Surplus	3,434,285	2,417,548
Asset experience (loss)/gain during the period	41,433	(1,201,738)
Liability experience (loss)/gain during the period	(373,520)	(187,956)
	<b>2010</b>	
Expected Employer Contributions	<u>1,327,789</u>	

Retirement benefit obligations have been based on a report from SICOM Ltd dated 03 March 2011.

**6. OTHER RECEIVABLES/ACCOUNTS PAYABLE**

## (i) Other Receivables

Accounts receivable (Rs 936,775) from University of Mauritius (UOM) in respect of unspent funds when the Centre for Applied Social Research (CASR) was under its aegis from 1 July 2008 to 20 May 2009.

Accounts payable (Rs 936,775) to UOM in respect of office space when CASR was housed at UOM,

During the year ended 31 December 2010 the two transactions were set off between UOM and MRC.

## (ii) Accounts payable

	<b>18 months 2010 Rs</b>	<b>12 months 2009 Rs</b>
Employee benefits	596,259	950,045
Rental payable to UOM	-	936,775
	<u>596,259</u>	<u>1,886,820</u>

## 7. Other Receivables

Other receivables are stated at their nominal value as reduced by appropriate allowances for irrecoverable amounts.

	<b>18 months 2010 Rs</b>	<b>12 months 2009 Rs</b>
Prepayments	1,196,722	444,972
Other receivables	-	788,150
Advances to employees for purchase of cars	2,157,054	1,722,220
Accounts receivable	-	936,775
	<u>3,353,775</u>	<u>3,892,117</u>

The staff loans bear interest at the rate of 7.5% p.a. and is repayable over a period of 5 or 7 years

## 8. CASH AND CASH EQUIVALENTS

	<b>2010 Rs</b>	<b>2009 Rs</b>
Bank Balances	7,530,239	11,224,960
Cash Balance	6,030	6,544
	<u>7,536,269</u>	<u>11,231,504</u>

## 9. EMPLOYEE BENEFITS

Employee benefits represent provision for sick leave, annual leave, passage benefits and gratuity.

Employee entitlements to bank sick leave as defined in the PRB 2008 Report (the regulatory body for determining remuneration of MRC employees) are recognised when they accrue to employees. An accrual amount of Rs 2,423,829 (2009: Rs 1,951,387) is made for the estimated liability for bank sick leave.

This year the accumulated balance under these items are detailed as below:-

	<b>DECEMBER 2010 (18 Months) Rs</b>	<b>JUNE 2009 (12 Months) Rs</b>
<b>Opening Balance</b>		
Passage Benefits	731,205	416,058
Sick Leave	1,951,387	1,359,553
	<u>2,682,592</u>	<u>1,775,611</u>
<b>Earnings for the year</b>		
Passage Benefits	925,049	588,700
Sick Leave	721,787	591,834
Gratuity	292,356	362,300
Annual Leave	139,533	172,915
	<u>2,078,725</u>	<u>1,715,749</u>

**Paid to staff**

Passage Benefits	814,642	273,553
Sick Leave	249,345	-
Gratuity	292,356	362,300
Annual Leave	139,533	172,915
	<u>1,495,876</u>	<u>808,768</u>

**Balance as at 31 December 2010**

Passage Benefits	841,612	731,205
Sick Leave	2,423,829	1,951,387
	<u>3,265,441</u>	<u>2,682,592</u>

These obligations are payable as follows:

**Current Liabilities**

Payable within one year	<u>596,259</u>	<u>950,045</u>
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**Non Current Liabilities**

Payable after one year	<u>2,669,182</u>	<u>1,732,547</u>
	<u>3,265,441</u>	<u>2,682,592</u>

**10. OTHER PAYABLES**

Other payables are stated at their nominal value.

	<b>18 months 2010 Rs</b>	<b>12 months 2009 Rs</b>
Accruals	2,702,853	1,924,886
Loan from Accountant General	2,157,054	1,722,220
	<u>4,859,907</u>	<u>3,647,106</u>

**11. REVENUE**

	<b>2010 Rs</b>	<b>2009 Rs</b>
Recurrent Grant from Government	36,450,000	18,800,000
Miscellaneous income *	733,657	163,245
Non recurrent income:		
Gain on disposal of fixed assets	30,099	-
Revenue from commissioned work	<u>2,227,585</u>	<u>2,108,482</u>
	39,441,341	21,071,727
Deferred Income Release	14,006,116	11,281,943
	<u>53,447,457</u>	<u>32,353,670</u>

**12. RESEARCH & DEVELOPMENT EXPENSES**

	<b>2010</b>	<b>2009</b>
	<b>Rs</b>	<b>Rs</b>
Solicited Research Grant Scheme	3,797,123	3,061,029
Unsolicited Research Grant Scheme	1,542,398	2,543,316
Small Scale Research Grant Scheme	115,000	5,000
Public Sector Research Grant Scheme	-	560,005
Private Sector Research Grant Scheme	-	-
Post Graduate Award Scheme	773,090	313,396
Centre for Applied Social Research	3,042,356	2,705,606
Poverty Observatory	1,590,352	30,000
Communication skills	9,950	-
Writing skills	256,517	-
Business Angels Forum Support Scheme	246,875	-
Research Dissemination & Promotion	564,718	176,383
	<u>11,938,378</u>	<u>9,394,735</u>
Transfer to computer software	(491,056)	-
Transfer to computer equipment	(243,919)	-
Transfer of books	(67,545)	-
	<u>11,135,858</u>	<u>9,394,735</u>

**13. ADMINISTRATIVE EXPENSES**

	<b>2010</b>	<b>2009</b>
	<b>18 months</b>	<b>12 months</b>
	<b>Rs</b>	<b>Rs</b>
<b>Personnel</b>		
Salaries & Other related costs	24,526,214	12,906,521
Travelling & Transport	2,025,316	1,105,091
Training	47,800	274,075
Uniforms	133,960	51,600
	<u>26,733,290</u>	<u>14,337,287</u>
<b>Office Expenses</b>		
Motor Expenses	908,217	588,671
Printing, Postage & Stationery	689,473	400,032
Advertising & Publicity Fees	262,914	199,919
Telephone & Fax	573,264	377,653
Newspapers & Periodicals	92,852	79,761
Office Expenses & Incidentals	857,025	441,152
	<u>3,383,746</u>	<u>2,087,189</u>
<b>Building Facilities</b>		
Rent	7,386,460	1,320,000
Cleaning	248,078	-
Security	62,473	277,656
Electricity & Water Charges	624,621	231,822
Insurance	67,444	55,103
	<u>8,389,076</u>	<u>1,884,581</u>

**Advisory & Professional**

Legal & Professional Fees	262,200	219,464
Board Membership & Committee Fees	416,263	297,000
	<u>678,463</u>	<u>516,464</u>

**International Liaison**

Overseas Missions	124,438	131,839
Total Administrative Expenses	<u>39,309,013</u>	<u>18,957,359</u>

**14. SURPLUS FOR THE PERIOD**

The surplus for the period has been arrived at after charging/(crediting):

	<b>18 months 2010 Rs</b>	<b>12 months 2009 Rs</b>
Amortisation of grants	9,349,802	12,343,692
Research and Development Expenses	11,135,858	9,394,735
Staff Costs	26,733,290	14,337,287
Depreciation and amortisation	2,870,258	1,887,208
Gain on disposal of Plant & Equipment	(30,099)	-

**15. STAFF COSTS**

The average number of employees during the period was:

	<b>2010</b>	<b>2009</b>
Number of Staff	<u>35</u>	<u>31</u>

	<b>2010 Rs</b>	<b>2009 Rs</b>
Aggregate remuneration comprised:		
Salaries	24,526,214	12,906,521
Other Costs	2,207,076	1,430,766
	<u>26,733,290</u>	<u>14,337,287</u>

**16. OTHER CHARGES**

	<b>2010 Rs</b>	<b>2009 Rs</b>
Interest paid to Accountant General under Car Loans	<u>151,873</u>	<u>66,941</u>

The above interest has not been recognised in the accounts of the Council as it represents interest on car loans contracted by the employees, payable to the Accountant General.



**17. RELATED PARTY TRANSACTIONS**

The immediate and ultimate controlling party of the Council is the Government of Mauritius.

The Council has no related party transactions.

**18. REMUNERATION OF KEY MANAGEMENT PERSONNEL**

The remuneration of the Director, Board members and other members of key management personnel during the period were as follows:

	<b>18 months 2010 Rs</b>	<b>12 months 2009 Rs</b>
Short Term and Fringe Benefit	470,764	239,960
Salary, Petrol Allowance, Medical Benefit	3,482,046	2,824,356
Chairman Fees	341,963	252,000
Board Fees	74,300	45,000
	<u>4,369,073</u>	<u>3,361,316</u>

**19. COMMITMENTS**

As at 31 December 2010, the Council has a commitment of Rs 16.981 million towards 69 ongoing research projects, whereas as at 30 June 2009, the commitment was Rs 17.037 million towards 75 ongoing research projects.

**20. CONTINGENT LIABILITIES**

For the 18 months ended 31 December 2010, there is no pending litigation, claim, judgments or settlement to which the Mauritius Research Council is a party, or of any transactions or changes in the Mauritius Research Council Unit's policies or business activities

**21. OPERATING LEASES**

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

	<b>2010 Rs</b>	<b>2009 Rs</b>
Upto 1 year	5,508,000	4,632,460
After 1 year and before 5 years	4,131,000	12,393,000
After 5 years	-	-
	<u>9,639,000</u>	<u>17,025,460</u>

General Operating Lease Description - Office Rental:

Lessor

National Pension Fund

Area of Premises

900 square metres

Lease Period

Initial fixed duration of 3 years and 1

month

Lease Commencement date

1st September 2009

Lease Termination date

30th September 2012

Rental

Rs 510 per square metre per month

inclusive of common area charges,

15 parking bays and VAT Rs 995,976

Deposit

## List of ongoing projects as at 31 December 2010

## Annex I

I. OCEAN TECHNOLOGY & MARINE RESOURCES					
No.	Title of project	Scheme	Institution	Principal Investigator	Project Value (Rs)
1	Pilot Project for Marine Environmental Education and Reef Conservation centres for beaches around Mauritius	URGS	MRC/Mauritian Scuba Diving Association/ Reef Conservation Mauritius	Mr Iain Watt	200,000
2	An innovative hybrid soil nailing, soil bio-engineering and beach drainage method to stabilise the coastal slopes in Mauritius	PGA	MRC / UOM	Ms L Aworer	120,000
3	Characterising and modelling of oceanic processes in the South West Indian Ocean using ocean remote sensing	PGA	MRC / UOM	Mr M R Badal	120,000
4	Studying the relationship of lagoonal stress and coral symbionts (zooxanthellae) population around Mauritius using fluorescence techniques	PGA	MRC / UOM	Mrs S Mattan - Moorgawa	120,000
5	Mapping genetic diversity of microalgae and macroalgae in the lagoons of the Republic of Mauritius	PGA	MRC / UOM	Ms S B Sadally	120,000
6	Spatio-temporal distribution of seaweeds in the lagoons of the Republic of Mauritius and exploration of both field and laboratory-based cultivation success of some selected seaweeds.	PGA	MRC / UOM	Mrs J Persand	120,000
7	Development of a seaweed industry in Mauritius and Rodrigues- collection and preparation of 12 commonly seaweed samples	SRGS	MRC/UOM	Mr R Persand	20,000
8	Food Products derived from local seaweeds: Phase 1 - Feasibility Study	SRGS	AREU		318,400
9	Potential of local seaweed resources as alternative feed ingredients in pig diets	SRGS			900,000
10	Collection, Identification & Delivery of Ulva lactuca for Food Processing	SRGS	Mr R Persand		21,000
11	Seaweeds-Based Plant Growth Promoters	SRGS	MRC/UOM		398,580
<b>Sub - Total</b>					<b>2,457,980</b>

II. ENERGY EFFICIENCY & RENEWABLE ENERGY					
No.	Title of project	Scheme	Institution	Principal Investigator	Project Value (Rs)
12	Development of a locally designed wind turbine technology	PSCRGS	MRC / M&E Commercial Engineers Ltd	Mr Andre Gerard Closel	165,000
13	Wind Towers & Solar Radiation	SRGS	MRC		828,845
14	Life cycle assessment and economic and social evaluation of recycling in Mauritius	PGA	MRC / UOM	Ms S A Rajcoomar	120,000
15	Life cycle assessment of electricity generation systems in Mauritius	PGA	MRC / UOM	Ms R Brizmohun	120,000
16	Assessing polluting potential of hydroponics effluents and developing methods for reuse	PGA	MRC / UOM	Ms P Seechurn	120,000
17	Feasibility Study on Use of Coconut Oil (CNO) and Waste Vegetable Oil (WVO) to Generate Electricity	SRGS	MRC/ Mr M Chan	Mr G. M Chan Chun Pong	155,700
18	Ambre Community based Eco Management	URGS	Association Forever Blue	Mrs C Langlois	178,249
19	Framework for the design of sustainable residential buildings in Mtius	URGS	UOM		300,000
20	Development of a Natural Fibre Industry in Mauritius	SRGS	MRC/AREU/UOM/ APEXHOM		1,695,000
21	Feasibility for the production of Virgin Coconut oil	SRGS	MRC/COCO UP		1,518,000
22	Feasibility study on the use of coconut oil for electricity generation	SRGS	MRC/UOM		0
<b>Sub - Total</b>					<b>5,200,794</b>

<b>III. WASTE MANAGEMENT &amp; WASTE RECYCLING</b>					
<b>No.</b>	<b>Title of project</b>	<b>Scheme</b>	<b>Institution</b>	<b>Principal Investigator</b>	<b>Project Value (Rs)</b>
23	Creation of a database for products made of recycled solid waste and recycling industries	SSRGS	MRC / Services Sans Frontieres	Mr Sargoo Gooroochurn	45,000
24	Turning waste into wealth - Vinasse into an organic fertilizer	URGS	MRC / UOM	Dr. Bhanooduth Lalljee	233,000
25	Development of an intelligent simulator for recycling of organic solid waste by composting	URGS	MRC / UTM	Dr C Bokhoree	1,203,000
26	E-Waste disposal in Mauritius-An assessment of its environmental impacts and an evaluation of the risk potential	PGA	MRC / UOM	Ms N Jeenally	120,000
27	Implementation of computational models to simulate naturally occurring solid waste decomposition processes	PGA	MRC / UOM	Ms P Ramsamy	120,000
28	Investigation on the production of best quality compost from biowaste and cellulolytic waste to be used as substrate for the cultivation of Oyster mushrooms	PGA	MRC / UOM	Ms Y Mihilall	120,000
29	Reviewing and testing E-waste policies using a systemic model	SRGS	MRC/UTM		75,100
30	A Survey of E-waste Management practices	SRGS	MRC/UTM	Dr Neeliah/Mr K Tatoree	0
<b>Sub - Total</b>					<b>1,916,100</b>

IV. BIOMEDICAL & BIOPHARMACEUTICAL					
No.	Title of project	Scheme	Institution	Principal Investigator	Project Value (Rs)
31	A Quantitative risk assessment study towards the law and the use of GMO's in a Mauritian Eating Habit	SSRGS	MRC / City Clinic	Mr Bhooshun Gopal	50,000
32	Contribution of the positional candidate gene OXR1 to premature coronary heart disease and to type 2 diabetes in the Mauritian population	URGS	MRC / UOM	Dr (Mrs) Meera Manraj	625,500
33	Contribution of the positional candidate gene OXR1 to premature coronary heart disease and to type 2 diabetes in the Mauritian population	PGA	MRC / UOM	Mrs Lan Heng Nathalie Sem Fa	120,000
34	Investigation into the use of sugarcane bagasse for producing fibre-based composites	PGA	MRC / UOM	Mrs A Vaydea Soochieta	120,000
35	Molecular Mapping of Sugar Cane, Saccharum sp Using Orthologous Marker Systems	PGA	MRC / UOM	Mr Y Parmessur	120,000
36	Phytomagnetism: effect of magnetic fields on the physiology and biochemistry of plant cultures	PGA	MRC / UOM	Mr D Poinapen	120,000
37	Wheat flour fortification with iron and folic acid in Mauritius	PGA	MRC / UOM	Ms S Khedu	120,000
38	Phytoplasma diseases on tomato in Mauritius	URGS	MRC / AREU		568,000
39	Investigation of potential comercial applications of toxic plants found in Mauritius	SRGS	MRC		252,168
40	Molecular and clinical effects of functional foods on diabetes and cardiovascular diseases	URGS	UOM	Prof T Bahorun	500,000
41	Neurological Rehabilitation Services in Mauritius	SRGS	MRC		158,915
42	Health & Safety Issues Pertaining to pesticides use in Mauritius, with focus on the tossible links with Cancer	SRGS	MRC/Ministry of Tertiary Education, Science and Research		0
<b>Sub - Total</b>					<b>2,754,583</b>

V. SCIENCE & TECHNOLOGY EDUCATION					
No.	Title of project	Scheme	Institution	Principal Investigator	Project Value (Rs)
42	Conservation of Biodiversity: National Park of Black River Gorges	SRGS	MRC / MWF		135,000
43	A study of students' mathematical achievement at form II level in Mauritius	PGA	MRC / UOM	Mr K S Angateeah	120,000
<b>Sub - Total</b>					<b>255,000</b>

VI. SOCIAL / ECONOMIC					
No.	Title of project	Scheme	Institution	Principal Investigator	Project Value (Rs)
45	KABP Study on Small Sugar Planters in Mauritius (Situational Analysis)	SRGS	MRC / CASR		659,400
46	Religion, Health & Culture in the Indian Ocean: Representation of Interdisciplinary Practice in Mauritius and Western Australia	SRGS	MRC / University of Western Australia		3,795,000
47	National Study on Crime and Violence	SRGS	MRC / CASR / PMO		1,888,700
48	Mapping the supply chain of Broiler Chicken in Mauritius to assess the impact of external threat	URGS	MRC / UOM	Mrs Brinda Tatayah	353,850
49	Thematic chronology of: Political life since 1598 to the present, of the Chinese Diaspora in Mauritius since 1654 of ' The Age of curiosity' and of L'Esclavage, L'Eglise et Francmaconneries: Publication of the works on Mauritius	URGS	MRC / Private	Mr J Tsang Mang Kin	300,000
50	Survey on the cultural industry in Mauritius	SRGS	UNESCO/Ministry of Arts & Culture	CASR	1,129,000
51	The Impact of Financial Liberalisation on corporate finance and corporate investment in developing countries. The case of Mauritius	PGA	MRC / UOM	Mr C C Prayagsingh	120,000
52	Gender-based violence Indicators Project	SRGS	Gender Links		1900000
53	The Profile and Motivation of Women Entrepreneurs in Mauritius	URGS	Dr (Mrs) P Baguant		232,200
<b>Sub - Total</b>					<b>10,378,150</b>

VII. INFORMATION & COMMUNICATION TECHNOLOGY					
No.	Title of project	Scheme	Institution	Principal Investigator	Project Value (Rs)
54	Supporting QoS in Mobile IPv6 Systems	PGA	MRC / UOM	Mr A Durbarry	120,000
55	A Secure data access model for the Mauritian Healthcare Services	URGS	MRC / UOM	Dr O Moonian	568,995
<b>Sub - Total</b>					<b>688,995</b>

VIII. LAND & LAND USE					
No.	Title of project	Scheme	Institution	Principal Investigator	Project Value (Rs)
56	Sustainable production of palm on marginal Lands: Optimum Sucker population density of Pejibaye	URGS	MRC / MSIRI	Dr Noel Govinden	895,100
57	Ecology and Management of Maruca vitrata on beans in Mauritius	PGA	MRC / UOM	Mrs L Unmole	120,000
<b>Sub - Total</b>					<b>1,015,100</b>

IX. MANUFACTURING TECHNOLOGY					
No.	Title of project	Scheme	Institution	Principal Investigator	Project Value (Rs)
58	Repositioning SME Entrepreneurs in the New Economy Context	URGS	MRC / Economic & Management Services Ltd	Mr D Gokhool	249,000
59	The Adoption of ERP Systems amongst SMEs in Africa and the Middle East	URGS	MRC / UTM		1,033,512
<b>Sub - Total</b>					<b>1,282,512</b>

X. WATER RESOURCES					
No.	Title of project	Scheme	Institution	Principal Investigator	Project Value (Rs)
60	A survey on the quality of potable water in Mauritius - Phase II	SRGS	MRC	MRC	125,000
<b>Sub - Total</b>					<b>125,000</b>

XI. OTHERS					
No.	Title of project	Scheme	Institution	Principal Investigator	Project Value (Rs)
61	Ensuring effective emissions control by Catalytic Converters	PSCRGS	MRC / Omnitech Ltd	Mr Jean Pierre Han Hang	913,225
62	Guidelines on Intellectual Property Rights	SRGS	MRC		253,303
63	Isolation and Molecular Characterisation of Food-Borne Bacteria	URGS	MRC / UOM	Assoc Prof Y. Jaufeerally Fakim	1,155,000
64	A Geostatistical approach to forecasting rainfall over Mauritius.	PGA	MRC / UOM	Mr K R Dhurmea	120,000
65	A novel topography-based limited area model for numerical weather prediction for Mauritius	PGA	MRC / UOM		120,000
66	Advanced modelling of transportation networks in Mauritius using GIS	PGA	MRC / UOM		120,000
67	Climate indicators for climate change of Mauritius and Rodrigues	PGA	MRC / UOM		120,000
68	Mauritian Innovation Database	SRGS	MRC		653,160
69	The impact of wind engineering on green technology and safe design of high rise buildings in Mauritius towards reducing pedestrian wind danger in the context of MID	SRGS	MRC/UOM		255,000
70	Setting up of Business Research Innovation Centre	SRGS	MRC		-
71	Setting up of Intellectual Property Promotion Scheme	SRGS	MRC		-
72	Setting up of Research Industry Linkage Award	SRGS	MRC/MoTESRT		300,000
<b>Sub - Total</b>					<b>4,009,688</b>
<b>Grand Total</b>					<b>30,083,901</b>



## List of Projects Completed during the Period July 2009 to December 2010

## Annex II

No.	Title of project	Scheme	Classification
1	A Quantitative Needs Assessment of the Education System in Promoting Knowledge and Awareness of Anti-Corruption Values in Mauritius	SRGS	Social/Economic
2	A Study of the implementation and impact of corporate governance in Mauritius	URGS	Social/Economic
3	A survey on the quality of potable water in Mauritius	SRGS	Water resources
4	Agreement: Collection and Delivery of Seaweed Samples for Laboratory Analysis and Taxonomy Study	SRGS	Ocean Technology and Marine Resources
5	Assistance for the preparation of the state of information society in Mauritius	SRGS	Information and Communication Technology
6	Bioinformatics Industry	SRGS	Biomedical & Biopharmaceutical
7	Collection, Identification & Delivery of Gracilaria salicornia for Food Processing	SRGS	Science & Technology education
8	Conversion of diesel vehicles in Agalega to run on coconut oil (CNO)	SRGS	Energy efficiency and Renewable Energy
9	Establishment and operation of a poverty observatory for the Republic of Mauritius	SRGS	Social/Economic
10	Evaluation of local seaweed sap under controlled condition	SRGS	Ocean Technology and Marine Resources
11	E-waste quantification and characterisation for Mauritius (Activity 1)	SRGS	Waste Management and Water Recycling
12	E-waste quantification and characterisation for Mauritius (Activity 2)	SRGS	Waste Management and Water Recycling
13	Geothermal energy - Geothermal energy prospection and production for Mauritius; Desktop study	SRGS	Energy efficiency and Renewable Energy
14	Integrational Social Mobility in CHA Housing Estates in Mauritius	URGS	Social/Economic
15	Modeling and predicting scenarios on energy demand and consumption (both peak and average) in electricity in Mauritius	SSRGS	Energy efficiency and Renewable Energy
16	Regeneration des solvants uses de l'île Maurice	SSRGS	Energy efficiency and Renewable Energy
17	Strategy processes and practices in changing Mauritius: A study of its local business organisations	URGS	Social/Economic
18	Study of the nature, extent and cost of domestic violence to the Mauritian economy	SRGS	Social/Economic
19	Use of coconut oil (CNO) as a substitute for transport fuel in agalega: Implementation on vehicles in Agalega	SRGS	Energy efficiency and Renewable Energy
20	The roles and implications of a Science Park in Mauritius	SRGS	Science & Technology education





