Training Manual for Secondary School Laboratory Attendants

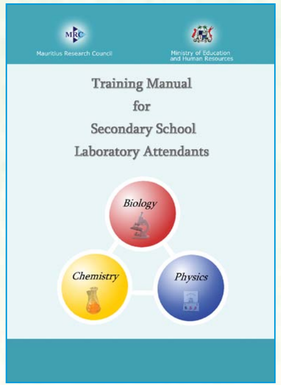

Laboratory Attendant

The MRC has published a *Training Manual for Secondary School Laboratory Attendants* as a joint collaboration with the Ministry of Education and Human Resources (MoEHR) and the Mauritius Institute of Education (MIE).

This is the first training manual that has been developed for laboratory attendants working in Mauritius and Rodrigues, and has been produced by a Task Force composed of experienced teachers from State and Private secondary schools.

"To Equip Secondary School Laboratory Attendants with a variety of Skills and Knowledge"

The publication of this manual follows the recommendations formulated at the conclusion of a four-day Awareness Workshop for Laboratory Attendants. The need to develop core material that will form the basis of a structured training course was identifiied. The course is designed to equip secondary school laboratory attendants with a variety of skills and knowledge to provide effective support in science teaching programmes.



The manual is the product of extensive consultations with laboratory attendants, teachers and schools, and addresses critical training needs in:

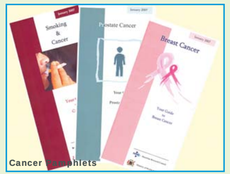
- laboratory organisation and management,
- hazards and standard precautions in the laboratory,
- safety and First Aid procedures for the laboratory,
- basic laboratory techniques, skills and maintenance, and
- basic IT skills.

Importantly, this manual has a potentially wider audience since it may also be used as a resource material in other countries that follow similar secondary school science curricula. ■

Collaborators: Min. of Education and Human Resources and Mauritius Institute of Education

Community Outreach - Cancer

The MRC, with the collaboration of the Ministry of Health and Quality of Life, has produced a series of pamphlets on cancer aimed at providing basic key information to the public.


Cancer Pamphlets

The pamphlets, which include simple statistics based on the latest available data from the National Cancer Registry, cover the prevalent forms of cancer affecting women and men in Mauritius – breast cancer, prostate cancer, and cancer related to smoking. The pamphlets can be downloaded from:

http://www.mrc.org.mu/Cancer.htm

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Mauritius Research Council
MRC Newsletter Issue 1 23 May 2007

Seaweed Industry

Based on the growing world market and the global trend of the seaweed industry in terms of wealth creation and its various uses, the MRC in the context of the Land-Based Oceanic Industry (LBOI)project is proposing the development of a seaweed industry in Mauritius.

"Recent Scientific findings show that seaweeds can prove to be highly useful to mankind."

The advantages of using deep-sea water are that various temperature regimes are possible for the culture of different species; the water is free of pathogens, the water is taken from well below the photic zone, which is free from contaminations and the water naturally contain nutrients.


Different types of Seaweeds

In this context, a desk study has been undertaken in-house with the following objectives:

1. To carry out an internet search on commercially important seaweeds
2. To identify the commercially important seaweeds found in Mauritius
3. To analyse the potential for (a) harvesting wild stocks, (b) culturing of commercially viable seaweeds and (c) processing of seaweeds
4. To study the possibility of culturing other commercially valuable species and to examine the technological processing of seaweeds into niche products, including pharmaceutical applications.

Future actions will include:

1. Assessment of the size of the local and regional market
2. Preparation of a business plan on the feasibility of introducing seaweed culture in Mauritius
3. Making recommendations related to species suitability, culture methods and infrastructure. ■

Collaborators: Board of Investment, Mauritius Oceanography Institute, Albion Fisheries Research Centre, University of Mauritius, Entreprise Mauritius, Rodrigues Regional Assembly and Foreign Institutions.

Research Grant Schemes

In order to fulfill its objectives of promoting research and nurturing a research culture in the country, the MRC offers six (6) Research Grant Schemes:


Guidelines

1. Unsolicited Research Grant Scheme (URGS)
2. Solicited Research Grant Scheme (SRGS)
3. Private Sector Collaborative Research Grant Scheme(PSCRGS)
4. Small Scale Research Grant Scheme (SSRGS)
5. Public Sector Collaborative Research Grant Scheme (PuSCRGS)
6. Post Graduate Award Scheme (PGAS)

More information on the different schemes can be found at the following address:

http://www.mrc.org.mu/Funding.htm

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A copy of the Newsletter can be viewed at the following website address:

http://www.mrc.org.mu/Newsletter.htm

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Mauritius Research Council

MRC Newsletter
23 May 2007 Issue 1

In this Issue

Land-Based Oceanic Industry

The proposal for the setting up of a Land-based Oceanic Industry (LBOI) lays the foundation for a whole new industry, based on commercial application of the deep Indian Ocean water of our Exclusive Economic Zone.

This new industry could generate more wealth from the ocean and provide a number of direct and indirect jobs. The products of the new oceanic industrial cluster are aimed mostly at export, but will also serve both the tourist and the local markets.

Project Brief

Over 1,000 metres below the surface of the sea, deep currents travel continually around the globe, slowly transporting large masses of water of exceptional quality. Mauritius is ideally positioned to utilise these deep waters from the Indian Ocean which flow a few kilometres off the coast of the island.

Commercial applications of deep sea water have been around for many years but few countries can capitalise on the geographic advantage of being located near

(Continued on Page 2)

Chairman's Message


Prof S Jugessur

Mauritius is moving forward, and the MRC as the apex institution to advise the Government on its Science & Technology - led development path, is pleased to present this first issue of its newsletter.

We are living in a world where our policies and strategies have to be in line with global requirements while, at the same time, meet national priorities. Our survival rests on the extent to which we can harness both local and international resources to our benefit. This is what we are trying to promote.

I am confident the public will find this newsletter very useful.

We welcome you to this inaugural issue of the MRC Newsletter.

Prof S Jugessur

Launching of LBOI

The Board of Investment and The MRC organised a presentation on the Land-Based Oceanic Industry, which was held at the Swami Vivekanada Conference Centre, Pailles on the 14th of December 2006.


Dr A Suddhoo, Prof S Jugessur and Hon R Sithanen at the Launching Ceremony

The purpose of the presentation was to disseminate details of the project to a wide audience comprising the local private sector, other local potential entrepreneurs, the Academia and stakeholder institutions.

Executive Director's Message


Dr A Suddhoo

The MRC, in its capacity to advise the Government on all matters pertaining to Science and Technology (S&T), is being called upon to play a leadership role at a time when the economy is in a phase of transition. An example is the initiative of the Council to set up the Land-Based Oceanic Industry.

In order to meet today's national challenges, the Council has identified the following priority research areas: Ocean Technology and Marine resources; Energy Efficiency and Renewable Energy; Waste Management; Biomedical and Biopharmaceutical Research; and S&T Education. The emphasis is on making S&T work for societal benefits and sustainable development.

By communicating our activities to you, this Newsletter falls under the strategy to enhance our linkages with our partners and the general public.

Dr A Suddhoo

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Land-Based Oceanic Industry

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the deep sea currents. In Hawaii, for example, using a long pipe from the coast to deep waters, cold deep seawater is pumped


Desalination Plant in Hawaii

onto the shore where a cluster of industries have sprung up to exploit the various applications of deep sea water.

Innovation

The innovation in the proposal for Mauritius lies in the manner in which the various applications can be integrated such that the resulting system is technologically synergistic and highly profitable, while remaining environment-friendly, and creating significant employment both upstream and downstream.

"Deep seawater characteristics allow for the development of a novel, innovative industry"

Applications of Deep Seawater

There are various possible ways of utilising deep seawater in Mauritius. The applications are very wide, including bottled drinking water, air conditioning, aquaculture, aquaponics, thallassotherapy, cosmetics, inland tourism and high purity salt among others.

Each application is already being commercialised in a few selective countries and the potential exists for Mauritius to tap into the growing world market for organic deep sea water products. It is worth mentioning that such products can be integrated into our tourism value chain.

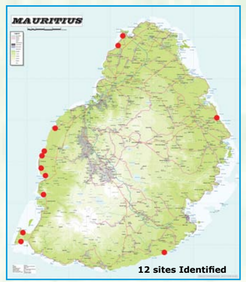
Project Implementation


Makai Consultants diving off the coast of Mauritius

Makai Oceanic Engineering Inc., a consulting firm from Hawaii is actually working on a site selection exercise. The final site will be known in April 2007 out of an initial list of 12. It is expected that deep seawater will be pumped onto land in late 2008, to be utilised for a multitude of applications.

Research & Development (R&D)

The proposed oceanic industry is a rational and multi-disciplinary system involving science and technology as well as sound entrepreneurship. Its sustainability will depend on constant innovation and diversification onto other applications while capitalising on established markets.



R&D, as well as S&T capacity building, will be key in keeping the industry informed of cutting edge technologies. ■

Collaborators: Min. of Agro-Industry &Fisheries, State Investment Corporation, Board of Investment, Min. of Finance & Economic Development, Mauritius Oceanography Institute, Min. of Public Utilities, Mr M A Vayid, Dr B K Baguant, Enterprise Mauritius Ltd., Sugar Investment Trust, Joint Economic Council

Visiting Chair of Innovation

Dr A Suddhoo was recently invited by the Queen's University, Belfast for a keynote address on Innovation centered around the Land-Based Oceanic Industry project. He was awarded the Visiting Chair of Innovation. ■

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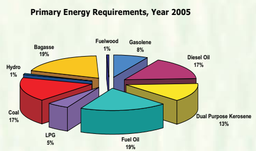
Energy Efficiency & Renewable Energy

The issue of Renewable Energy & Energy Efficiency is a national priority area for MRC. This area has great currency because energy is ubiquitous to our modern lifestyles. With economic development, rising



standards of living and increased demand, our energy dependence on imported fossil fuels has grown over the past decades.

This high dependency, currently standing at around 80%, has several implications for the future development of Mauritius. There is the high volatility of oil prices. Further, anthropogenic greenhouse gas emissions resulting from burning of fossil fuels are linked to climate changes that may have dire consequences for island nation-states. More importantly, however, is the fact that Mauritius is bestowed with a host of renewable energy sources that have so far remained largely untapped.

Regional Collaboration

In this respect, MRC is working closely with l'Agence Régionale de l'Energie Réunion


Wind Turbines in Reunion Island

(ARER) mainly to share experiences as island states and also to identify joint collaborative projects to promote the deployment and use of RE technologies and to develop supporting energy policies. For instance, ARER is already involved with several community projects involving RE.

The design and construction of low-energy embodied houses (i.e. energy efficient houses) are also areas of mutual interest.

Renewable Energy Workshop

A two-day workshop on Renewable Energy was organised by MRC at the end of July 2006. MRC acted as a facilitator to provide a platform for the main stakeholders in the Energy

"A Cleaner and Energy Secure Mauritius"

sector to discuss issues pertaining to RE sources & technologies for a cleaner and energy secure Mauritius.

Following presentations from the public and private sectors, civil society and aid agencies, and a multi-stakeholder consultation process, a synthesis report has been submitted to the Ministry of Public Utilities as input to the forthcoming Master Plan on RE.

The recommendations concern the electricity sector only. A vision for zero dependency on imported fossil fuel in the power sector has been proposed. A two-pronged approach has been recommended to displace fossil fuels with emphasis on Energy Efficiency measures in all sectors of the economy backed by community participation and education.

(Continued on Page 4)

Community Outreach


Students and teacher of St Mary's College

MRC provided mentoring support to four Form IV students, St Mary's College, who participated in the Rajiv Gandhi Science Centre National Youth Award 2006.

The students built a wind turbine to test the hypothesis that electricity can be generated from wind power. Application of the wind-generated electricity was demonstrated by lighting two LEDs. A token of appreciation was awarded to the team for its initiative and achievement. ■

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Energy Efficiency & Renewable Energy

(Continued from Page 3)

"Mauritius is constantly aiming to increase its capacity and visibility through collaboration"

Renewable Energy Network

A suggestion emanating from the RE Workshop was the setting up of a Renewable Energy Network (REN) in Mauritius to foster Public, Private, Civil Society and aid agency partnerships for the promotion of RE policies and technologies in a concerted and meaningful way.

Renewable Energy Resources Assessment

The long-term viability of a vibrant RE industry will depend on the amount of renewable energy that can be harvested from various sources. MRC is teaming up with the Mauritius Meteorological Services, and other stakeholders, to conduct a comprehensive assessment of wind and solar energy resources for the Island of Mauritius. Fieldwork for this one-year (at least) long project will begin in May 2007.

Collaborations of the Centre for Wind Energy Technology (India) and Solar Energy Centre (India), respectively, have been sought.

The Jatropha Feasibility Study

The MRC, in conjunction with other stakeholders (AREU, MSIRI, UOM, UTM), completed a desk study in October 2006 on the feasibility of producing biodiesel from either Jatropha cultivated on marginal land in Mauritius or the importation of raw materials for the Ministry of Industry, Small and Medium Enterprises, Commerce and Cooperatives. ■

Seminars/Workshops

The MRC organises seminars/workshops regularly to disseminate information to the general public and target groups. In the past six (6) months, eight (8) such events were organised, namely:

(1) Molecular Mechanisms of Anti-Oxidant Protection in Health and Disease and (2) Effects of Black Tea Consumption on Ischaemic Heart Diseases among the Mauritian Population. Presented by Dr T Bahorun and Prof O I Aruma,

(3) Indiscipline and Violence in Schools. Presented By Dr V Ramharai, Mrs A Curpen & Dr H Mariaye,

(4) Presentation on the Land-Based Oceanic Industry, in collaboration with the Board of Investment,

(5) Can the Local Market Sustain the Existing Locally Oriented Garment Production Capacity. Presented by Mr L A Darga & Ms R Gebert,

(6) Implementation and Practice of Quality Management in the Tourism Sector in Mauritius. Presented By Mr D Lai Wai,

(7) Developping successful entry strategies for BPO operations in Mauritius. Presented By Mr S Mungur & Mr S Adams,

(8) Launching of the Training Manual for Secondary School Laboratory Attendants.

Information on seminars/workshops can be obtained on the MRC website at:

http://www.mrc.org.mu ■

En Bref

December 2006


Exchange of Documents between Dr A Suddhoo, MRC and Dr M Ntimbi, Tanzania

Signing of a Memorandum of Understanding between the Department of S&T, Ministry of Higher Education, United Republic of Tanzania and the Mauritius Research Council. ■

September 2006

Signing of Memorandum of Understanding with The Institute of Water and Sanitation Development (IWSD) for incorporating the Water Research Fund for Southern Africa (WARFSA) students' grants in the MRC Grants and Awards Programmes. ■

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