



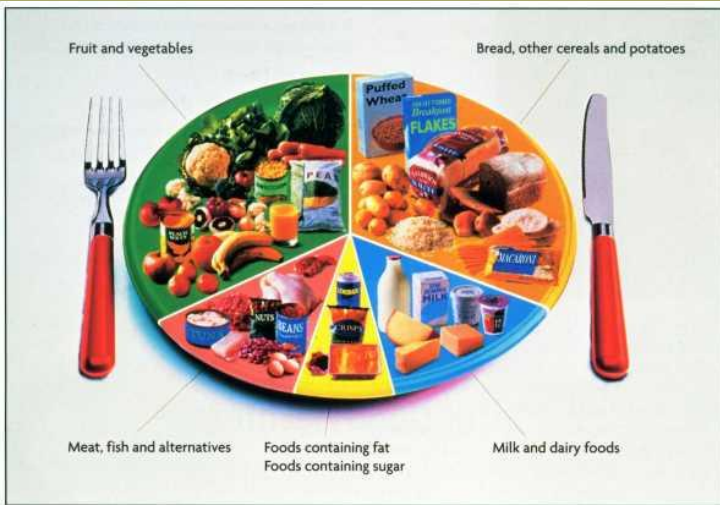
# NATIONAL RESEARCH GROUP ON IMPACTS OF FOOD QUALITY ON HUMAN HEALTH

Identified Research Priorities

02 FEBRUARY 2012



# DIET & HEALTH



## Diabetes

- ~17% of population
- **4<sup>th</sup> highest rate** in the world
- Consequences: Disabling(amputation) & fatal complications
- Annual amputation rate: **400 people**
- Causes: Genetic pool, High saturated fats : toxic to pancreas

## Overweight

- **50.9%** of population overweight & obese
- **7.4%** of age group 12-19 years obese & **8.4%** overweight

**Lipids**  
(Abnormal Cholesterol & other blood fat)

•**25-35%**

**Coronary Heart Disease**

•**Death rate: ~ 3580** per year

**Hypertension**

•**37.9%**



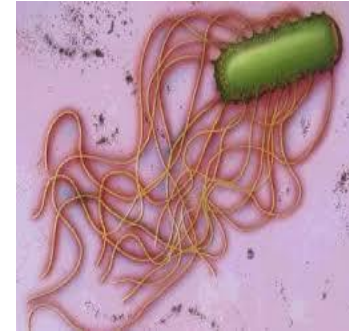
**Main Causes Of Death in 2010:  
Diabetes, Heart Disease, Cancer  
= ~54% death**

Sources:  
Mauritius Non Communicable Disease Survey Report, 2009, Ministry of Health and Quality of Life  
National Cancer Control Programme, Action Plan: 2010 -2014; tmbc.gov.uk

# Food Safety

Number of reported food poisoning cases during the past 12 months: **288**

Number of Death:**5**



## Causes of Contamination:

- Micro organism Contamination:264
- Chemical Contamination : **15**
- Foreign Matter contamination: **1**
- Toxic Plant / Fish: **8**



## Sources of Contamination:

- Toxic intake (Fish + Plant)
- Expired canned food
- Contamination on site of food preparation (Restaurant, Bakery & Home Cooking)



Datura

## Cancer

- **1400** new cases of cancer every year
- Annual cancer death rate: **900**
- Diet linked to cancer of bowel, stomach & breast

## Constitution of a Multi institutional and Multidisciplinary Core Group in July 2011

### Public Sector

- MRC
- AREU
- Ministry of tertiary education, Science, Research & Technology
- MSB
- Ministry of Agro Industry & Food Security
- Ministry of Health & Quality of Life
- Ministry of Industry, Commerce & Consumer Protection

### Private Sector

- MCCI
- APEXHOM
- Food & Allied LTD
- Universal Development Corporation
- Animaterra Co.LTD

### Academia

- University of Mauritius  
**Dr. Pugo-Gunsam**  
**Chairperson**

**7 consultative meetings (Jul to Dec 2011)**



# APPROACH

## FOOD SUPPLY CHAIN

**From farm**

**To fork**



**Agricultural Production**

**Consumers**

**STAKEHOLDERS' RESPONSIBILITIES FOR FOOD QUALITY AND SAFETY**  
**SALE, MANUFACTURING/PROCESSING,**  
**PACKAGING**

**GOOD AGRICULTURAL PRACTICES**

**GOOD DISTRIBUTION PRACTICES**

**GOOD MANUFACTURING PRACTICES**

**GOOD DISTRIBUTION PRACTICES**

**REGULATORY MECHANISM AND LEGAL FRAMEWORK**

## Emanation of Sub-committees

- Food Regulations and Standards;
- Traceability and Monitoring of Food Safety;
- Sustainable Agriculture in Mauritius and
- Food Quality Issues

## Tasks of Subcommittees

- focus on
- the current status,
- relevant policies and strategies,
  - The Maurice Ile Durable Program
  - Strategic Options in Crop Diversification and Livestock Sector (Ministry of Agro Industry (2007-2015)
  - The Food Security Fund Committee-Strategic Plan (2008-2011).
  - National Plan of Action for Nutrition (2009-2010)
- projects,
- governing legislations,
- the gaps,
- challenges and emerging issues of each theme.

**Presentation to a wider range of stakeholders in a national workshop on 15 September 2011.**

# RESEARCH THEMES



## Issues

- **Bad eating Habits (Snacking/Junk)**
- **Fast tracked lines**
- **Working parents**
- **No demand for best quality of food**
- **Not able to make informed choices**
- **Need to empower Mauritians to select good quality food**

### THEME 1

**Education  
And  
Awareness**



## Issues

- **General perception that GAP's should be improved**
- **Need for sustainable agricultural production**
  - *Reduced use of chemical pesticides and fertilizers*
  - *Increased use of bio-products*

## THEME 2

**Sustainable  
Agricultural  
Production  
System**

## Issues

- **High prevalence of diabetes, heart disease, hypertension and obesity**
- **Bad cooking habits**
- **Bad eating habits**
- **Reuse of cooking oils**
- **High prevalence of anaemia in adolescent girls and pregnant women (27%)**

### THEME 3

**Diet related  
Research**

## Issues

- Need for onsite rapid testing\need for new and modern equipments
- High analysis Time (Turn-over)
- Need for tagging method at all production levels for traceability
- Lack of information on the origin of feed/food ingredients and food sources

## THEME 4

### Traceability and monitoring

#### Relevant Stakeholder

- Ministry of Health and Quality of life
- Ministry of Agro-Industry and food Security
- Ministry of Industry, Commerce and Consumer Protection (MSB)
- Ministry of Fisheries and Rodrigues

## Objective

- To achieve food safety through food inspection, product tracing and product recalls

# Issues

- Need for self-regulation and Quality Assurance along value chain
- Barriers due to lack of harmonisation of standards on different market
- Need for a multi-sectoral platform to federate all stakeholders
- Perception that public is not adequately protected from unwholesome, mislabeled or adulterated food
- Need for a paradigm shift for food safety evaluation from end-product testing to food chain monitoring

- Science based and precise
- Practical and enforceable to all operators
- Harmonized with international norms

## THEME 5



## Food Regulations and Standards

### Relevant Stakeholder


- Ministry of Industry, Commerce and Consumer Protection
- Ministry of Agro-Industry and food Security
- Ministry of Health and Quality of life
- MSB
- National Codex Committee

### Enforcement of Regulations:

- Food Act, Meat Act, Plant Protection Act, Fair Trading Act

## Main Objective

- Protecting public health

	Short Term (0-2 years)	Medium Term (2- 4 years)	Long Term (4-6 years)
Area of Intervention	<b>Education and Awareness</b>		
<i>Objective 1</i>	<i>To provide consumers with the skills and Knowledge to consume safe and healthy food</i>		
Research Direction/ project	Booklets on Food Safety Booklet on Quality Nutrition for the Mauritian Population	Information Booklets for operators in the Food Industry	Inclusion of Nutrition and food quality in Primary School Curriculum of study
	Small Television spots/ Programme on nutrition, food safety and quality related issues		
	Radio Programme for sensitization of Producers and consumer education on food quality issues		
<i>Objective 2</i>	<i>To Train Farmers to adopt good agricultural practices</i>		
Research Direction/ project	To reinforce training programme to help farmers and adopt GAPs and to keep record of pesticide and fertiliser used [On-going activity by AREU ]		
	Regular capacity building for Trainers (Training of trainers) to understand new techniques and systems		






	<b>Short Term (0-2 years)</b>	<b>Medium Term (2- 4 years)</b>	<b>Long Term (4-6 years)</b>
<b>Area of Intervention</b>	<b>Sustainable Agriculture and Nutritional Farming</b>		
<i>Objective 1</i>	<i>To promote sustainable agriculture and Nutritional Farming</i>		
Research Direction/ project	Evaluation of Soil Health management practices in different soil, climate and cropping system		
	Restoration of Soil Health in Mauritius		
	To further develop integrated pest and disease management practices under local condition		
<i>Objective 2</i>	<i>To promote production of underutilised vegetables and Fruits</i>		
Research Direction/ project	Valorisation of Specific fruits/ food crops in Mauritius and Rodrigues		
<i>Objective 3</i>	<i>To Promote Nutrition Farming</i>		
Research Direction/ project	To develop a planning tool for soil fertility amendments and nutrient balance		



	Short Term (0-2 years)	Medium Term (2- 4 years)	Long Term (4-6 years)
Area of Intervention	<b>Diet – Related Research</b>		
Objective 1	<i>To ensure a safe and quality nutrition for the Mauritian Population</i>		
Research Direction/ project	Study to identify why the reuse of cooking oils in Mauritius is still currently practised		Development of legislative measures regarding reuse of cooking oil
	Studies to identify the causes of anaemia in A study on Iron Supplement with a view to decrease the occurrence of anaemia in the Mauritian population		
	Developing a typical healthy Mauritian plate for human consumption		

	Short Term (0-2 years)	Medium Term (2- 4 years)	Long Term (4-6 years)
Area of Intervention	Traceability and Monitoring throughout the food chain		
Objective 1	<i>To achieve food safety through food inspection, product tracing and product recalls</i>		
Research Direction/ project	Preparing a report of Food Regulations and proposed amendments to facilitate recall of food products	Improving facilities with improved, new and modern equipments for the testing of pesticides residues, antibiotic and adulterants	
	Introduction of onsite rapid testing on a pilot basis	Reduced Analysis Time (Turn-over) by developing more new, rapid instrumental methods of analysis	
	Developing of Tagging method throughout the food chain	Implementation of GS1 Traceability Standard by the MCCI	
Objective 2	<i>To monitor pesticide residues in the food chain through a surveillance programme</i>		
Research Direction/ project	Enhanced monitoring of selected food items (locally and Imported) for pesticide/ fertiliser residues Dissemination of Results of analysis to the Public and Stakeholders	Developing a monitoring system for traceability of agrochemical usage	To implement regulation and legislative mechanisms to ensure safe levels of pesticide residues on food items.
Objective 3	<i>To Monitor consumption of GMOs in Mauritius</i>		
Research Direction/ project	Capacity Building for the setting up of GMO detection Facility at Food Technology Laboratory		Survey on the different aspects and composition of GMO in Mauritian Food
Objective 4	<i>To continuously collect, analyse and utilise data on specific nutrition indicators to monitor the nutritional status of the population</i>		
Research Direction/ project	Development of a data collection, analysis and reporting system related		

	<b>Short Term (0-2 years)</b>	<b>Medium Term (2- 4 years)</b>	<b>Long Term (4-6 years)</b>
<b>Area of Intervention</b>	<b>Food Regulations and Standards</b>		
<i>Objective 1</i>	<i>To enforce standards in Food Safety such as HACCP and Others</i>		
Research Direction/ project	Development of Guidelines similar to HACCP applicable to SMEs/ Food Sector		
<i>Objective 2</i>	<i>To allow consumer to obtain nutritional Information at a glance</i>		
Research Direction/ project	Introduction of GDA labeling	Responsible Consumer Communication and Advertising campaign on Health Claims	
<i>Objective 3</i>	<i>To reinforce the regulatory framework to ensure food Quality and Safety</i>		
Research Direction/ project		Research on institutional structure for the Setting up of a multi-institutional and multi-Sectoral National Food Regulatory Body	
		Setting up of legislations on Health Claims Labelling	
		Setting up of legislations on Labelling of Toxicity and pesticide residues in processed food or raw ingredients	

# ACKNOWLEDGEMENT





<b>Organisation</b>	<b>Technical Committee Members</b>
Chairperson	Dr P Pugo Gunsam (UoM)
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Mauritius Standards Bureau	Mrs R Nanhuck; Mr L Soobramanien
Mauritius Chamber of Commerce and Industry	Dr H Khoodoo; Mrs A Chikhuri
University of Mauritius	Mrs S D Biranjia-Hurdoyal
Food Technology Laboratory Ministry of Agro-Industry and Food Security	Mrs H Dowlut; Mrs B R Kureeman; Mr L H Lee Fook Choy
M & D Corporate Services, Member of Food and Allied Group	Mrs P Cavalot
Pick'N'Eat Ltd, (KFC), Member of Food and Allied Group	Mrs C Deville
Universal Development Corporation (Pty) Ltd	Mrs J Piette
Animaterra Co. Ltd	Mr G Maurel
Ministry of Health and Quality of life	Mr J Gangaram
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**All Participants in the Workshop of 15  
September 2011**

**The Ministry of Tertiary Education,  
Science, Research and Technology**

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Thank You For Your Attention

