

GOVERNMENT OF MAURITIUS

A ROADMAP FOR THE MAURITIUS SUGARCANE INDUSTRY FOR THE 21ST CENTURY

1. **Why does The Mauritius Sugarcane Industry need a Roadmap for its Sugarcane Industry?**
 - 1.1. Mauritius has an annual target of 600,000 tonnes of sugar. Under the Sugar Protocol, Mauritius has a quota of 491,030 metric tonnes (of white sugar equivalent) in any 12 month period. This works out to 507,000 tonnes of sugar. The revenue under the Sugar Protocol has provided stable and predictable level of earnings which have allowed Mauritius to ensure a decent standard of living for its 1.2 million inhabitants on roughly 1860 square kilometres of land area.
 - 1.2. The scope and nature of benefits arising from sugar cultivation are wide and varied. They range from tangible elements such as soil preservation, employment, net export earnings, quasi Foreign Direct Investment (FDI) flows, foreign exchange availability, avoidance of imports of fossil fuels, carbon sequestration, assignments for the service industry, cheaper electricity for the economy, lower levels of pollution load and budget savings, to very qualitative elements such as broadening of ownership, social stability and greenery for the tourism sector. The multitude of benefits, secured through what is known as the multifunctional role of sugar underpin the stability of the Mauritian society.
 - 1.3. The ACP-EU Partnership Agreement (widely referred to as the Cotonou Agreement) was signed for 20 years (2000 -2020), and the first financial envelope under the Agreement ends in 2007. Because the Cotonou Agreement is a non-reciprocal trade agreement, it had to secure a waiver under WTO rules and this waiver expires on 31 December 2007.
 - 1.4. On 31 December 2007, all commodity protocols attached to the Cotonou Agreement, except the Sugar Protocol, will disappear. Under Article 36.4 of the Cotonou Agreement, the parties have agreed on the need to review the Sugar Protocol with regard to its compatibility with WTO rules, with a view to safeguarding the benefits derived therefrom, taking into consideration its special legal status.
 - 1.5. On the other hand, negotiations on agriculture began in early 2000, under Article 20 of the WTO Agreement on Agriculture. In November 2001, Ministers adopted the Doha Declaration, which in regard to agriculture, agreed to establish fair and market oriented trading system through a programme of fundamental reform. Such reforms purport to the phasing out of all export subsidies and substantive reductions in domestic support will have adverse consequences for Mauritius.
 - 1.6. The WTO Framework Agreement of 1 August 2004 calls for an end to all forms of export subsidies in all sectors including sugar and reductions in import tariffs, both of which will result in a substantial reform of the EU Sugar Regime. Any reform of the EU Sugar Regime impacts on ACP Sugar supplying states under the Sugar Protocol, as our prices have always been aligned on EU prices.

- 1.7 In 2003, Australia, Brazil and Thailand challenged the legality of the EU Sugar Regime under WTO rules. They argued that the EU's officially unsubsidized export of sugar exist only because of the high "intervention price" guaranteed to domestic producers under the Common Market Organization. They also argued that this quantity included the 1.6 million tones currently imported from ACP and India under the Sugar Protocol. The WTO Panel upheld both complaints and this ruling was confirmed by the WTO Appellate Body in April 2005. The ruling of the WTO panel means that the EU would need to reduce its import tariffs resulting in the phasing out of the export of some 5.1 Million tonnes of sugar.
- 1.8 In 2001, the EU took the unilateral decision, under the Everything But Arms (EBA) initiative, to suspend all customs duties and levies for all imports from 46 Least Developed countries (LDCs). In the case of sugar, rice and bananas, duty free access was deferred until 2009. The LDCs have been allocated a quota of raw cane sugar for refining, increasing by 15% each year until 2009. The EU basing itself on the WTO and its assessment on EBA developments, now fears that as from 2008, LDC sugar may swamp the EU market.
- 1.9 The European Commission (EC) has based itself on this to propose radical reforms (reduction of prices as from 2007 culminating in a 39% cut in 2009) in its draft Council Regulations of 22 June 2005.
- 1.10 The net foreign exchange earnings for the industry are 300m USD, out of which 85% represent foreign exchange earnings. These earnings have to be compared to the food bill of some 300 million USD. The revenue accruing to producers is obtained after deduction of the funds required for insurance, research and improvement of production infrastructure.
- 1.11 The current costs of production as determined by Landell Mills Consultants, a world authority on cost of production in the sugar sector, are such that Mauritius will not be able to be a cost competitive supplier in the new market environment. Unless the costs of production in the sugar industry are substantially brought down and other avenues explored through rapid diversification within the sugar cane cluster, the Mauritian economy will face a catastrophic situation. In such a context, Mauritius has no option but to undertake a major reform, that would increase its level of competitiveness.

2. Important Milestones in the Development of the Mauritius Sugar Industry

- 2.1 The sugarcane plant was introduced in Mauritius in 1639 by the Dutch colonizers to produce artisanal rum. The first sugar mill was set up at Villebague in 1745. Subsequent colonial powers (France and then Great Britain) used the slave trade and the indentured labour system to expand and consolidate the industry. At its peak, there were 259 sugar mills in 1838 in Mauritius.
- 2.2 Sugar has been traded under the Commonwealth Sugar Agreement since 1951 and under the Sugar Protocol since 1975. Mauritius has made constant efforts to improve and maintain the economic viability of this industry which has been the very lifeblood of our economy, as indicated by the following:

- Mauritius Action Plan for the Sugar Industry 1985-1990
- Sugar Industry Efficiency Study of 1988
- Bagasse Energy Development Programme of 1991
- Blueprint on Centralisation of Milling Operations in Mauritius of 1997
- Sugar Sector Strategy Plan 2001-2005
- Action Plan 2005-2015

- 2.3. To benefit from economies of scale, sugar mills have regrouped and modernized. Today, there are 11 sugar factories with an estimated production of 575,000 tonnes of sugar annually. 10 of these factories use bagasse or bagasse and coal to produce electricity, which is sold under contractual arrangements to the Central Electricity Board. Compagnie Thermique de Savannah and CEB have already signed a power purchase agreement for an 82MW plant. In 2004, sales amounted to 318 GWH, which is equivalent to around 20% of total energy use. As part of Government policy to broaden ownership in the sugar industry, small planters and employees hold 20% of the share in milling companies, as well as holding a stake (10%-20%) in cogeneration plants, through the Sugar Investment Trust (SIT).
- 2.4. The corporate sector of the industry has played a major part over the years to rationalize and modernize sugar activities in Mauritius. Growing companies have made substantial investments in factory centralization, in field operations through derocking, land preparation and mechanized harvesting in order to increase overall productivity and efficiency.
- 2.5. In order to bring down labour costs, which stood well above 50% of production costs, a Voluntary Retirement Scheme (VRS) was introduced in 2001 and some 8200 employees of the sugar industry opted for voluntary retirement. The benefits guaranteed to such employees are 300 m2 of land and a cash compensation of 2 months' salary per year of service for male agricultural workers who are 55 years and above and female agricultural workers who are 50 years and above. For other workers retiring under the VRS scheme, the compensation is as follows:

<u>Length of service</u>	<u>No of Month of salary per year</u>
Ist 5 yrs Service	1.50
Next 10 years	1.25
Next 10 Years	1.00
Remainder of Service	0.75

- 2.6. The companies whose employees retire under the scheme, have on the other hand been provided incentives, namely exemption from payment of land conversion tax. Such companies have so far applied to convert an estimated extent of 2258 arpents (953 ha) of land on sites of their choice.

3. Challenges in a Globalised Environment.

- 3.1 As a small vulnerable economy which has to operate in a globalized environment, Mauritius needs a roadmap that will allow it to preserve its sugarcane sector and its multiple benefits and to transform the present threats into opportunities. Such a roadmap should address the following challenges:

- (i) preserve and consolidate the foreign exchange earnings from the sector to ensure a stable and predictable revenue for our food imports;
- (ii) preserve the livelihood of small planters and employees and their families who depend directly on the sugarcane sector;
- (iii) optimize value-added of sugar and its co-products;
- (iv) maintain social cohesion, which is the foundation of our much appreciated peaceful and stable democracy;
- (v) preserve and protect our environment- it is recognized that without the sugarcane plantations, which both bind the soil and act as carbon dioxide sink, our soils would degrade very fast, the lagoons would silt up and the air quality degrade, with adverse effects on tourism and fishing;
- (vi) optimize the production of environment friendly sources of energy, electricity from bagasse and ethanol from molasses;
- (vii) preserve the secondary employment created by those who indirectly service the industry, namely the SMEs have built on this foundation to create employment and tackle poverty; and
- (viii) ensure that the corporate sector is pro-active, with a leaner and more efficient organization which will allow it to meet the challenges of decreasing sugar prices.

4. Need to Preserve the Acquis under Longstanding Preferences

- 4.1 Article 36.4 of the Cotonou Agreement provides *“the parties reaffirm the importance of the commodity protocols, attached to Annex V of this Agreement. They agree on the need to review them in the context of the new trading arrangements, in particular as regards compatibility with WTO rules, with a view to safeguarding the benefit derived therefrom, bearing in mind the special legal status of the Sugar Protocol”*.
- 4.2. In its ruling of April 2005, the WTO Appellate body has confirmed the suggestion made by the panel to the effect that the EU should “fully respect its international commitments with respect to imports, including its commitments to developing countries.” The EU in its Appellant’s submission to the WTO Appellate body itself recognized “the Sugar Protocol provides for a unique mechanism of trade related development assistance”.
- 4.3. The ongoing WTO Round negotiations recognize the vital importance of long –standing preferences, like the Sugar Protocol.

5. How can Mauritius Face these Challenges?

- 5.1 Mauritius will be able to face these challenges only through concerted action with all stakeholders. The Government Programme for 2005-2010 clearly states that Government will considerably strengthen its diplomatic endeavours vis-à-vis the EU and

the WTO in order to safeguard our economic interests and more specifically, it undertakes to :-

- (i) promote fast track modernization and diversification of the sugar sector to convert the sugar industry into an efficient cane industry geared towards the production of sugar, high value added sugar, by-products and energy;
- (ii) promote the optimal use of bagasse, molasses and an increased production of special sugars;
- (iii) institute a consultative mechanism including all sugarcane stakeholders with the aim of introducing a democratization process in order to bring necessary reforms to the sugarcane sector;
- (iv) ensure broader participation of small planters in sugar milling as well as in energy production to make it easier for small planters to purchase and sell agricultural lands;
- (v) ensure that reforms aimed at reducing production costs are carried out in ways that are socially acceptable;
- (vi) ensure the survival of small planters and invest Rs 2 billion in derocking and irrigation schemes for small planters over the next 5 years;
- (vii) set up a Land Swapping System to facilitate financing of the modernization of the sector as well as regrouping of small planters; and
- (viii) review the financing mechanism of the sugar cess with a view to better adapt it to the needs of the industry.

5.2 With the implementation of the Mauritius Action Plan 2005-2015, the sugar industry is expected to evolve as follows:

Table 1: Expected Evolution of the sugar industry from 2005 to 2015

Feature	2005	2015
Sugar Production (t)	575,000	550,000
Export Mix	Basically bulk raws	Fair share of bulk raws and direct consumption sugars
Sugar Factories	11	6
Acreage (ha)	72,000	65,000 (including 5000 ha in difficult areas)
Electricity		
Bagasse (GWh)	325	600
Coal (GWh)	425	1100
Ethanol (M litres) From local molasses	-	30
Cost of production	Medium	Low medium

--	--	--

5.3 Production and Export Mix

The action plan aims at providing the formation of a sugar cluster which inter alia involves a much higher level of electricity produced from bagasse, higher production of special sugars, the production of ethanol from molasses and the development of other sugar based products.

5.4 The desired export mix can be attained through –

- (i) expanding sales of direct consumption sugars, special and white. This can be achieved via minimal investment. There is presently existing spare capacity; and
- (ii) local value added can be maximized through packing via either centrally located or sugar factory sited packing plants; moving further upmarket in products; rigorous quality control and through HACCP (Hazard Analysis Critical Control Point) production norms i.e zero defect.

5.5 Field Operations

5.5.1 There are four categories of cane producers in Mauritius: the corporate sector and the very large planters accounting for some 70% of production; the medium and large planters representing some 5% of production; the small planters whose plot size is less than 4 ha accounting for some 23% of production and the métayers accounting for some 2% of production. The latter generally grow canes in difficult and low yielding regions which are also environmentally sensitive, i.e “the difficult areas”. The small planters own land which is generally lower yielding than those of the corporate sector.

5.5.2 The challenge for the corporate sector is to maintain efforts to improve yields through mechanization/irrigation, to reduce both production and management costs and to invest in co-products. As regards the small planters and métayers, there is a strong need to improve yield through intensive land preparation, derocking and irrigation.

5.6 Derocking

5.6.1 Of the 72,000 ha currently under sugar cane cultivation, 22,000 ha are under free soils and do not require derocking. Some 14,000 ha belong to the corporate sector and very large planters and have already undergone intensive derocking.

5.6.2 It is expected that in 10 years the land under sugar cane cultivation would be reduced to 65,000 ha. This includes 5000 ha of land classified as difficult and sensitive as they are found in highly rocky regions or mountain slopes. Sugar cane in these areas has to be maintained for environmental and social considerations.

5.6.3 With proper derocking, 50,000 ha of land can become free soils. But very intensive derocking leading to fine derocking would not be feasible on the remaining 10,000 ha of land.

5.6.4 A large proportion of the 24,000 ha that require land preparation belong to small planters, each owning one or several small plots. In order to facilitate the derocking process, small planters need to be regrouped into units which would facilitate economies of scale and cost reduction. Funds and equipment should be available and service provision (cutting, loading, transport and cultivation) should be well established for small planters.

5.6.5 It is therefore proposed that an efficient coordination mechanism should be established to ensure effective coordination between the different organizations involved and that each institution implements each component of the projects within a set time frame. The MSA will monitor and coordinate the implementation of this scheme. Stone crushers would be called upon to collaborate in the derocking programme for the disposal of the rocks.

5.7 Irrigation

5.7.1 Currently around 21,000 hectares are under irrigation. The majority of this area is estate land or land owned by large planters. The objective is to increase the acreage under irrigation by 10,000 ha, by 2015. For 5,000 ha, sources of water have been identified. For the remaining 5,000 ha, more research on sources of water is required.

5.7.2. Procedures for the irrigation projects would be reviewed so as to avoid unnecessary delays and expenditure and to ensure the timely execution of the projects.

5.7.3 Social facilitators would conduct field visits and interact with the small planters to provide guidance and advice as well as identify problems in the timely implementation of the irrigation network

5.8 Regrouping of Small Planters

5.8.1 Small planters would be encouraged to regroup in order to facilitate land preparation, derocking, mechanization and irrigation. A flexible form of regrouping for the management of land preparation would be considered through a process of continuing dialogue and consultation with the small planters. It would be ensured that the regrouping process benefits the small planters.

5.8.2 It is planned to complete land preparation for 2000 arpents in December 2006. The total area to be covered is 30,000 arpents over the period 2006 to 2011.

5.8.3 The planters in regrouped units would be provided concessionary finance in terms of grants or soft loans and lower sugar insurance fund premiums.

5.8.4 Training in group management skills, leadership, participative management and technical training would be provided to the planters and those involved in the management of the regrouped units.

5.8.5 New machinery adapted to smaller scale operations would be introduced. In order to prevent abandonment of land, legal and administrative measures would be taken to ensure that the land is used for sugar cane production whilst ensuring that the owner preserves his/her ownership rights.

5.9 **Special Funds**

5.9.1. The functioning and role of Planters' Funds would be reviewed to ensure that moneys are credited therein in time and are used rationally and judiciously with a view to enhance the productivity and competitiveness of small planters. The possibility of merging the administration of such funds with the Small Planters' Welfare Fund would be examined on a priority basis.

5.10 **Production on Difficult Lands**

5.10.1 Some 5000 ha of land are in rocky and slopy regions and are considered to be difficult for cultivation. These lands are cultivated by small planters and métayers, who lease land from the large estates. The cost of cultivation is relatively high.

5.10.2 The objective of producing on these lands is to prevent adverse environmental and social consequences of the potential loss of cane in difficult areas. Soil erosion from less stable land-use may cause sedimentation/eutrophication in downstream reservoirs or lagoons, which may have a negative impact on water supplies and also on aquatic biodiversity in downstream rivers, reservoirs and lagoons. The implications could be particularly significant on the coral reef, where sedimentation would have a particularly severe impact. The maintenance of sugarcane cultivation will help to prevent soil erosion in the steeply sloped difficult areas.

5.10.3 Support would be provided to encourage continued production in these areas. Such financial support is available in the EU to farmers operating in mountainous and difficult regions. The small planters and métayers would be provided further training in better cultural practices and on how to tackle the problems which are specific to their plantations.

5.11 **Métayers**

5.11.1 The acquisition of land under métayage will be facilitated through mutual agreement between métayers and landowners of the acquisition of land under métayage and the review of the terms and conditions of the métayer contract. Government would, wherever required, act as a facilitator through tax incentives and concessionary loans.

5.12 **Labour, Social and Welfare Aspects**

5.12.1. The social costs of any restructuring process are generally very high as employees are a vital component of the industry. It is important to ensure that the labour, social and welfare aspects are given special attention with a view to protect the interest of employees and to ensure that the restructuring process is conducted in a socially sensitive manner. In this context, the following measures are proposed:-

- (i) workers who do not opt for voluntary retirement schemes would continue to enjoy permanent status and its related benefits;
- (ii) as the sugar industry would move from a low-skilled commodity approach to a diversified one with emphasis on multifunctionality and value-added products, there would be need for upgrading the skills of the employees. A training programme would be worked out with the collaboration of the relevant institutions to ensure employees' capacity building and specialization. This programme would have a component of reskilling to enable the retired workers to reintegrate the world of work or engage in income generating activities;
- (iii) there should be more transparency in the recruitment policy in the sector in order to ensure that the industry has the necessary pool of competence and skills;
- (iv) the Voluntary Retirement Scheme would be revisited to ensure that workers who retire on voluntary basis obtain the benefits attached to the scheme within the shortest delay;
- (v) a Training/Reskilling Fund would be established for the purpose of reskilling the former sugar industry workers;
- (vi) welfare activities will be conducted with the collaboration of NGO's and trade unions. An advisory service would be established to provide advice and counselling to the workers on the placement of the funds and developing income generating projects;
- (vii) special training schemes for female workers who retire would be carried out with the support of the relevant ministries and institutions to enable the women to start a new activity and to overcome the psychological difficulties during such transition; and
- (viii) the Modernisation Fund for capacity building of the trade unions and their members will be reviewed.

5.13 Factory operations and management

5.13.1 The future of the sugar industry depends on an adequate and profitable supply of canes and operations of mills. In this regard, the following measures are proposed –

- (i) centralisation of milling activities and reduction of number of factories from 11 to 6 by 2008, in the context of a global centralization plan;
- (ii) a minimal investment approach to be achieved through the optimization of the spare capacity of factories and minimization of transport costs;
- (iii) introducing flexi factories so as to allow the optimum mix of sugar and co-products;
- (iv) review of the legal framework to enable:-
 - (a) packing plants for special sugars to operate at the level of sugar factories;

- (b) the free flow of cane and products derived therefrom, including co-product activities;
- (c) factory area delimitation to ensure that milling capacities are optimized at least transport cost.
- (v) close collaboration between millers, service providers and planters in regrouped units to ensure that there is minimum delay between the harvesting and the milling of canes; and
- (vi) the 1997 Blue Print on Centralisation will continue to apply to the closures and factories wishing to close down would have to comply with its provisions.

5.14 Sugar Cane Co-Products

5.14.1 Bagasse

By 2015, independent power plants located in sugar factory sites are expected to export some 1,700 GWh of electricity. The optimal burning of bagasse in power plants with 83 bar boilers and condensing/pass out turbo alternators would yield some 600 GWh.

In normal circumstances, some 1100 GWh would come from coal. However high biomass supply, cane trash and more particularly, energy cane and fuel cane would reduce the contribution of coal with attendant benefits on foreign exchange, the revenue of the sugar industry, the mitigation of the enhanced greenhouse effect and the reduction of the volume of coal ash. Furthermore, the use of biomass has to be viewed against the background of the projected high cost of oil. Accordingly a two pronged approach is proposed.

5.14.2 Optimal use of bagasse

For optimal use of bagasse:-

- (i) all sugar factories will be coupled with firm power plant operating with state of the art technology;
- (ii) factories would be geared towards maximizing energy savings;
- (iii) wherever possible, cane field residues would be used as fuel;
- (iv) new plants would come on stream in Savannah (82MW in 2007) and Médine (35 MW in 2011/2012) depending on the demand of CEB;
- (v) the existing plants in FUEL and Deep River Beau Champ would be replaced in 2008-2011 with more or less similar or slightly expanded dispatch capacity. Some 65MW is involved; and
- (vi) all the power plants have to adhere to the environment norms applicable to them.

5.14.3 Energy and Fuel Canes

- (i) Energy and fuel canes can provide cost-effective alternatives in the use of cane and as a source of renewable biomass for the production of electricity. The fuel cane with its very high fibre content is suitable only for energy production. Its stalk, tops, leaves and trash can be used for this purpose. The energy cane, which has a sufficiently high sucrose content can be used both for sugar and energy production. The fibre output per hectare fuel cane could be up to three to four times that of typical sugar cane varieties.
- (ii) Their costs of production would be lower than those of cane meant for sugar production as both energy canes and fuel canes have a much higher ratooning capacity, require less replanting, less weed control, and they show higher resistance to pests, diseases and wind. Given their vigour, they could be particularly appropriate for suitable lands.
- (iii) Fuel canes could be harvested over an extended period compared to the commercial sugar cane. This would allow the idle time of mechanical harvesters to be reduced.
- (iv) Imported high quality, energy and fuel cane clones will be bulked through micropropagation and evaluated in the field to confirm their potential under local conditions, especially the sucrose content and/or fibre content. The cane and total biomass yield will also be determined. The reaction to diseases and pests will be assessed to ensure that the clones are resistant or have the required level of tolerance and that they do not represent any danger to the industry in the field of crop protection.
- (v) The clones will also be used as parents in the breeding programme and appropriate crosses will be made either to incorporate genes which may be lacking or to increase further their potential e.g through hybridization with the 40 new varieties of *Saccharam spontaneum* that have recently been imported into Mauritius.

5.14.4 Ethanol

- (i) It is estimated that some 30 million litres of ethanol can be obtained locally for use as blended gasoline/ethanol. The vision is to use Mauritian molasses to produce ethanol for blending and /or export, imported molasses to produce ethanol for blending and/or export and the processing of imported hydrous ethanol into anhydrous ethanol for re-export.
- (ii) Studies will be carried out on the various options for the disposal of vinasse.
- (iii) A strategy for blending of ethanol and gasoline through a staged approach to reach 25% in 2015 would be formulated.
- (iv) An appropriate equity participation mix would be worked out to ensure that both the interests of sugar cane planters and investors are safeguarded, that there are appropriate profit sharing schemes and a time bound strategy to attract funding including joint venture and local investors.

5.15 Kyoto Protocol to the United Nations Framework Convention on Climate Change

Mauritius is a signatory of the Kyoto Protocol and there is a possibility for specific projects to be used to generate Emission Reduction Credits under the Protocol. The value of these Emission Reduction Credits could be as much as US \$20 per tonne of coal offset by bagasse.

5.16 Rhum Agricole

The production of Rhum Agricole as a high value product will be encouraged and production increased.

5.17 Equity Participation

5.17.1 Planters and employees own some 20% of equity in milling companies through the Sugar Investment Trust. In order to foster the sense of ownership and participation in the reform process, the following measures are proposed -

- (i) an increase of the share of planters in power companies over and above the share of SIT;
- (ii) an increase of the bagasse transfer price for small planters;
- (iii) providing at least 25% equity participation of ethanol companies to small planters and sugar cluster employees; and
- (iv) a possible increase of the share of SIT in the equity of milling companies in the context of the new deal to further foster commonality of interests between all categories of producers.

5.18 Rationalising The Use Of Global Cess

5.18.1 The cess is levied after deduction of administrative and marketing costs at source by the Mauritius Sugar Syndicate and before sharing out revenue to planters and millers. It is used to provide services to stakeholders of the industry.

5.18.2 There are areas of overlapping in the activities of the cess-funded institutions and some of them may no longer be serving the stakeholders of the sugar industry. There is a need to rationalize and reengineer these institutions so that they are empowered to respond to the new challenges facing the sugar industry and to implement the reform process. It is proposed to enlist an international consultant to review the role and functions of these institutions and to make recommendations. The reorganization of the institutions should be completed by 2008;

5.19 Research and Development

Mauritius has a world renowned sugar research institute. The role of the institute will be reviewed to allow it to move from a sugar industry focus to sugarcane cluster focus and the following measures are proposed :

- (i) research and Development should concentrate on areas of crop improvement, biotechnology, co-products and biomass utilization;
- (i) short term measures such as rapid replacement of old established varieties which are out-yielded by newly released ones would be implemented and this is a matter which rests solely with extension and technology transfer to the producers. The medium to long term strategy comprises the use of novel technologies and the introduction of high quality, energy and fuel canes;
- (ii) research would also be carried out in new technologies including biotechnology in order to produce improved and more productive varieties. The tapping of the potential of the sugar cane plant as a biofactory for the production of high value added molecules e.g pharmaceuticals, nutraceuticals, vaccines, polymers; and
- (v) an amount of Rs 500m has been earmarked for the 2005-2015 period and for such research and development

5.20 Debt situation

The industry's ability to implement these programmes is financially constrained as it is not able to recoup the costs of its investment through sale of land although it has been exempted from payment of land conversion tax. Creative and innovative solutions have to be found for the sector to reschedule its debts and find buyers for its converted land.

5.21 Agricultural Crop Diversification

- 5.21.1 Given that the numerous trials for large scale commercial cultivation of non-sugar crops have been unsuccessful, attention was and will continue to be focused on the use of cane land, namely cane interlines or rotational land. Cane interlines are available for the first three months of the growth of virgin or a first ratoon cane. Rotational land is available for some six months i.e the time between the uprooting of a cane at the end of a crop cycle and the start of a new crop cycle.
- 5.21.2 In Mauritius, the concept of diversification within sugar includes the optimal use of co-products, the production of special sugars, as well as the optimal use of cane interlines and cane rotational land.
- 5.21.3 Cane land used for diversification comes essentially from those plantations of the corporate sector which are well prepared and have irrigation facilities in the drier regions. The major part of the cane land is rented out to small growers who generally cultivate a wide variety of foodcrops. The corporate sector is involved mainly in the cultivation of potatoes.
- 5.21.4 In the coming years, the non-sugar sector will be confronted with several challenges:
- (i) production of a larger volume of quality foodcrops to satisfy the needs of a much higher inflow of tourists and meet the demand generated by a higher per capita consumption of fruits and vegetables of a population increasingly aspiring to a healthier life style;

- (ii) production of a wider variety of foodcrops to cater for the growing demand for safer and higher quality food; and
- (iii) reducing the cost of production through increased productivity per unit area of land and per unit of investment.

5.21.5 These challenges will be met essentially through the implementation of an ambitious strategy for the non-sugar sector which would, inter alia, provide for the use of high technology production techniques. Biotechnology is a key element of the forward looking agricultural diversification strategy of Mauritius.

6. How does the EU propose to help?

6.1 On 24 Jan 2005, the EU Commission released a Commission Staff Working Paper on an Action Plan on accompanying measures for Sugar Protocol countries affected by the reform of the EU Sugar Regime. The Commission proposed to provide accompanying measures over a maximum period of 8 years, and expects every country to determine, as part of its adaptation strategy, the duration of support requested. This proposal is still under consideration.

6.2 The Action plan 2005-2015 for Mauritius has been reviewed by international consultants to ensure that it is in line with EU criteria. In view of the nature of the reform and adaptation measures which meet our needs, we would need the bulk of the funding in the period 2005-2010 Government has no choice but to borrow to start this local reform. Hence the Government will make a plea that investments in the multi-annual adaptation strategy and measures in the process of being implemented as well as current and future financial implications should be refinanced..

6.3 On 22 June 2005, the EU Commission has made a proposal for a Regulation of the European Parliament and of the Council, establishing accompanying measures for Sugar Protocol countries affected by the reform of the EU sugar regime. It has proposed a quantum of Euro 40 million for all 18 Sugar Protocol countries for 2006, and as yet no quantum for remaining period (2007-2013). This will be known after its Financial Perspectives 2007-2013 enter into force on 1 Jan 2007, and the amount provided under "Development Cooperation and Economic Cooperation Instrument".The preferred mechanism will be (sectoral) budget support.

6.4 The objectives, cost and time line for the projects are as follows:

Project	Expected Output	Cost Estimate Rs Billions	Starting Date	Expected Completion Date
Field Operations Regrouping of small planters, derocking/irrigation/mechanization	Enhance competitiveness in particular of small planters	4.3	2005	2015

Project	Expected Output	Cost Estimate Rs Billions	Starting Date	Expected Completion Date
Support to Production in Difficult Areas	Maintenance of production in socially and environmentally sensitive areas	1.0		2015
Centralisation of Factories	Moving from 11 to 6 factories	2.5	2006	2008
Power Plants	Doubling electricity production from Bagasse and commissioning 182 MW of power plants.	8.3	2007	2011
Ethanol Production	To optimize use of molasses.	Not yet known	2006	2015
Labour, Social and Welfare Measures	Ensure socially sensitive approach	1.7	2006.	2008
Research & Capacity Building	Moving to an intelligent industry and fully tapping the biomass potential of the cane plant.	0.5	Ongoing	Ongoing
Restructuring of Cess	Reducing the Cess by 50% and rationalising the use of cess funds.	0.9	2005	2008
Debt servicing	Financial situation reviewed	2.4	2005	2007
Contingency		1.9		
Total		23.5		

7. Conclusion

- 7.1 This roadmap will lead us to our objectives if there is a collective will and concerted action, even if the road may be appear rough and unchartered at times. Standing still will imperil our economic growth and social development. The Mauritian people has always shown great resilience, perseverance and innovative capacity. We will certainly overcome the challenges ahead as we have the political will to do so.

September 2005