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Sugarcane for Energy Production in the Future

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Future Viability and Sustainability of Sugar Cane

- Viability and sustainability of the sugar cane industry are the most important issues.
- The 36% cut involves losses of 782M€ over the 2006-2015 period.
- An Adaptation Plan has been adopted to ensure viability and sustainability of the sugar cane industry.
- The Plan has been validated by consultants (LMC) who are world authorities on cost of production.
- LMC has recommended that the long term viability and sustainability is critically dependent on the establishment of a sugar cane cluster.
- The cluster will enable Mauritius to:
  - be a cost competitive supplier in the EU market
  - fully tap the energy potential (electricity and ethanol) of the sugarcane plant.
- The EU is agreeable to the findings of LMC and the contents of the Adaptation Plan of Mauritius.

The Multi Annual Adaptation Strategy
Action Plan 2006-2015 - safeguarding the Future
Underlying Philosophy

- Consensus and cohesion as cardinal principles
- A comprehensive approach
- Bold and deep reform
- Transformation of sugar industry into a sugar cane cluster
- An economically viable and socially acceptable package

The Multi Annual Adaptation Strategy
Action Plan 2006-2015 - safeguarding the Future
The Sugar Cane Cluster

- What is a cluster
  - Production: all types of sugar and in particular white sugar; ethanol from molasses and eventually cane juice, electricity from bagasse/coal and other forms of biomass.
  - Synergy: cane cultivation/harvest agreements between Millers and Planters and enhanced equity participation of vulnerable stakeholders in the sub-clusters.
- Funding
  - Accompanying Measurse: 200-250M€
  - EIB Concessionary Finance for 18 ACP Protocol Countries: 100M€
  - ACP/EU Energy Facility
  - Commercial Sources for several projects

Essential conditions for the establishment of a cluster

(i) a very efficient and sizeable mill; the mill being the seat of value creation and addition in that the cane plant will be converted to a host of value-added products;

(ii) Provision of energy , a sine qua non condition;

(iii) a reliable and sustainable supply of canes, while, in spite of the cost issues that still need to be addressed, the large producers are expected to have a more or less stable production, in the case of medium and small planters innovative measures have to be put in place to ensure the viability of plantations as well limit the loss of production;

Essential conditions for the establishment of a cluster

(iv) efficient and flexible state-of-the-art installations to produce different types of sugar and to optimize the use of bagasse, molasses and eventually cane juice;

(v) further strengthening of the commonality of interests between the other stakeholders and the millers through establishment of cane cultivation/harvest arrangements between planters and millers and appropriate participation in equity.

Components of Plan which will establish a sugarcane cluster

Cost Reduction

- Closure of 7 out of 11 factories, there will be 3 factories producing more than 100 000 t of sugar with two of them producing more than 150 000 t
- Voluntary retirement for 1200 employees of factories
- Voluntary retirement for 6000 employees of growing sector
- Facilitation of recourse to seasonal labour
- Substantial reduction of overheads
- Benefiting from economies of scale
- Reduction of indebtedness

Components of Plan which will establish a sugarcane cluster

Optimal Use of By-products: environment friendly green energy

- Increase of electricity from bagasse from 300 to 600 GWh
- Production of 30M litres of ethanol
- Optimal use of cane tops and trash
- Fostering research on use of higher fibre cane
- Considering the gasification of bagasse

Projected Production Figures

Subcluster	Projected sugar Production (t)	Cane crushing capacity TCH	Installed capacity MW	Ethanol ML	Special White
Savannah	185 000	425	83 + 25	15	All of the production
FUEL	170 000	450	62 + 42	15	All of the production
Médine	55 000	200	Possible 25	-	All of the production
Belle Vue	110 000	350	73	-	All of the production

Key Targets of the Plan

- Sugar Production 520 000t
- Bagasse Electricity 600 GWh
- Ethanol 30 M litres
- White/Special 100% of production
- Sugar factories 4
- Installed capacity 285-310MW
- Cost of Production Competitive on EU Market

Conclusion

The reform in the Sugar Cane Sector will not only enable the Mauritian Sugar cane cluster to sail safely in the future but more importantly safeguard a crop which from 2015 onwards will be an invaluable asset in terms of the production of renewable environment friendly energy, and which has the potential of being an efficient multiproduct biofactory for the production of high value added molecules including proteins, textiles, pharmaceuticals, vaccines and polymers. It is to be noted that of all cultivated crops sugar cane is one of the most efficient converter of solar energy into renewable biomass.