

## FOREWORD



The difficult phase of the Indian sugar industry during 2006-07 and 2007-08 has now transformed in to a worrisome situation with scarce availability of sugarcane and shortage of sugar. This is very peculiar since there was an acute shortage of sugarcane in 2008-09 against the backdrop of surplus sugar stocks during the previous two seasons. Earlier, when the industry had faced the problem of very high stocks, low sugar prices and less demand for sugar, the Central Government had to intervene by creating a buffer stock of 5 million tonnes and giving transport subsidy for exporting sugar to support sugar industry. The scenario has now been completely reversed with low sugar production, low sugar stocks and very high sugar prices in domestic market, together with insufficient availability of sugar in domestic as well as international markets. The price rise accelerated further in February 2009, when India entered the international market as a major sugar importer following a sharp drop in domestic sugar production. In an unprecedented move, the Central Government supplemented the domestic sugar availability and it was made available at reasonable price to the vulnerable sections of society. The sugar mills in the country also volunteered in this Herculean task by offering additional 10% levy sugar.

Such circumstances in the Indian sugar industry call for thrust in two major areas. The first being, ensuring adequate availability of quality sugarcane and creating awareness in sugar industry for concentrating efforts to increase productivity and sugar recovery on a sustainable basis. In India, sugarcane is grown in both tropical and sub-tropical regions with vast variation in sugarcane productivity and sugar recovery. There is enormous scope for improvement by adopting suitable agronomical practices with appropriate sugarcane

varieties for better recovery. The Government of India has taken steps by revising norms of providing loan to sugar mills under Sugar Development Fund (SDF) for cane development. The financial limit for cane development loan has been increased from Rs. 30 million to Rs. 60 million. This would help in enhancing cane development activities at sugar mill level.

Secondly, the history of sugarcane and sugar production in the country shows a cyclical variation. In a five-year cycle, three good seasons are usually followed by two bad seasons. One of the reasons attributed for this sugar cycle, is the mindset of farmers to shift away from sugarcane cultivation on account of lesser sugarcane price and delayed payment. The time has come for the Government, sugar industry and farming community to come together to reduce the impact of cyclical sugar situation and to ensure that the sugar cycle is brought under control.

In 2008-09, growers received a good cane price and it was expected that next season would be a better one inspiring farmers towards increasing area under sugarcane. There is a need to infuse confidence in sugarcane growers for increasing sugarcane and sugar productivity. The sugar mills will have to play a pivotal role in promoting research activities and give utmost importance to cane development activities. At least 1% of the mills' turnover needs to be spent on research activities and cane development work. The research organizations and sugar industry will have to work cohesively for this common cause of developing new high yielding and high sugared varieties. There are obvious limitations to increase area under sugarcane and thus concerted efforts will have to be aimed at bringing about a vertical growth by way of intensive sugarcane farming.

There is urgent need to strengthen extension mechanism by establishing strong linkages between research institutes, sugar mills and cane growers. This would help in efficient transfer of improved technologies developed in sugarcane agriculture to sugarcane growers. It is necessary that every sugar mill establishes an exclusive cane development wing with qualified staff and infrastructure in addition to the existing harvesting department. The staff of cane development wing should be equipped with sophisticated audio-visual aids for training and field demonstrations of cane cultivation technologies.



Formation of farmers' groups at each sugar mill will help in accelerating extension activities and dissemination of knowledge.

The Government has taken decision to permit sugar mills to produce ethanol from sugarcane juice. In the years of surplus sugarcane production, conversion of sugarcane juice directly to ethanol will help in regulating sugar prices. This can be one of the possible solutions to reduce the impact of sugar cycle. The continuous and adequate supply of ethanol to oil companies will make the Government's ethanol blending programme a success and will also assist in stabilizing ethanol and sugar prices in future.

As there are distinct variations in sugarcane and sugar yields across the country, meticulous planning, time-bound implementation and monitoring cane development programmes need to be undertaken to overcome constraints of low productivity and sugar recovery. New high yielding varieties of different maturity period need to be included in planting programme. The harvesting programme must be designed to ensure that the adequate mature cane is available for crushing throughout the season. The sugar mills need to cooperate with each other in the overlapping area to avoid duplication in cane registration. Maturity-wise harvesting programme has to be implemented and monitored by the sugar mill for maintaining higher sugar recovery throughout the crushing season. Rigorous follow-up and timely review of such programmes would enable the sugar industry to assert itself as self-reliant and globally competitive.

In the past years, the sugarcane growers have seen wide fluctuations in cane prices, which are ultimately governed by national and international sugar prices. The cane grower is a major stakeholder in the sugar industry and it is of paramount importance that he is assured of a profitable cane price.

The world has now focused its attention on generating renewable energy for minimizing green house effect and climate change. Sugarcane is the most efficient energy crop and many countries have started processing sugarcane for production of sugar, ethanol and co-generated power. India has great potential in harnessing renewable energy from sugarcane and therefore the situation is conducive for establishing sugar complexes for utilizing sugarcane for the production of by-products. Though there is huge potential for cogeneration in the sugar industry, not even 25% of this has been harnessed. For establishing bagasse based cogeneration plants

the Government of India has decided to give loan to sugar mills from Sugar Development Fund (SDF) up to 40% of project cost at 4% interest rate. This will add value to the bagasse which would be beneficial to sugar industry in the years of surplus availability of sugarcane and when the prices of these commodities are low. A holistic view needs to be taken to utilize potential of sugarcane for making its use for other purposes than restricting to production of sugar only.

It is important for India to have a continuous presence in the international market. It is because when India decides to import sugar, it triggers rise in international sugar prices and when India has surplus sugar and decides to export, the international sugar prices get depressed.

On VSI front, Sugarcane Breeding Centre, Amboli is engaged in producing genotypes of desired traits during the last three years since its establishment in 2006. More than thousand genotypes are at clonal selection stage. The molecular biology and genetic engineering division is developing and evaluating transgenic sugarcane plants resistant to early shoot borer, internode borer and abiotic stress. The tissue culture division has been successful in developing around eight promising genotypes. The sugar engineering, sugar technology, alcohol technology and environmental sciences departments have played proactive role in consultancy for cogeneration, sugar refinery and distillery projects.

I acknowledge and appreciate the dedication and sincere efforts of the scientists and staff of the Institute working in various fields. I am confident that they will continue to render excellent services to sugar and allied industries. I sincerely thank my colleagues on the Board of Trustees and members of the Governing Council for their support and keen interest in the activities of the Institute.

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