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Business Opportunity for Developing Entrepreneurship in Sugarcane Sector

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Abstract

Sugarcane crop and its by-products are the important components which exert profound influence on the rural economy as well as world. They support the national agrarian economy by increasing GDP and foreign exchanges, besides supporting subsidiary industrial development. Sugarcane provides opportunity to the growers to become entrepreneur. By developing products of sugarcane (white sugar) and use of by-products such as Jaggery, baggase, Pressmud, Charcoal, Molasses, etc. farmers can develop their entrepreneurial activity in sugarcane sector as it is produced in huge quantity.

Introduction

Sugarcane is important cash cum industrial crop belong to the family Gramineae. It is cultivated in about 5.20 million hectares of land with an annual production of 415.0 MMT and productivity about 79.81 tonnes per hectare during 2018-19. Sugarcane can be cultivated under diverse agro climatic conditions. Sugarcane crop and its products contribute about 1.1% to the national GDP which is significant considering that the crop is grown only in 3% of the gross cropped area (Shyamrao and Kumar, 2020). Sugarcane is used for sugar (more than 65%) and remaining utilized for chewing purpose, juice and jaggery making. Nowadays, Jaggery and Jaggery by-products gaining more importance in Indian domestic markets because of high nutritive value and health benefits compared to sugar. Sugarcane sector is an integral and important component of agro-food industry in India, which contributes immensely for employment generation and earning foreign exchange. Sugarcane and Sugar products constitute the major share in Indian food basket, next only to rice and wheat. The projected demand of sugar, Jaggery offers new entrepreneurship opportunities for small and marginal farmers. Jaggery is used for making many sweets and value added products. Other than sugar mills and Jaggery processing unit, alcohol, charcoal industry can also provide small scale to high scale business opportunities for developing entrepreneurship depending upon the land, requirement of Jaggery, marketing facilities, consumption rate, etc. Jaggery unit, alcohol production for gasohol (Gasoline 80% + Alcohol 20%) as petroleum substitute and charcoal production plant from leaves as it is a good source of carbon (C) can be a viable options for rural job generation and prosperity.

Jaggery Business: Not Only A Traditional Byproduct of Sugarcane Anymore

Jaggery, popularly known as gur, is a golden-yellow to dark brown, textured coarse, wholesome, commonly used and unrefined sugar, obtained by concentration of

sugarcane juice. It is manufacturing in about 25 countries with a total production of 13 million tons per annum. India is the largest producer of Jaggery in the unorganized field of agro-processing, with a share of 55% of the total world production, followed by Colombia (11 percent). In 2016, about 14.2 percent of the total sugarcane produced in India is being utilized for making Jaggery and khandsari (a mixture of crystalline sugar and molasses). Of total world production, India produces more than 60 percent of the Jaggery. The country is regarded as one of the world's leading traders and exporters as the largest producer of Jaggery. In 2015-16 India exported 2,92,212 tons of Jaggery and pastry products worth Rs. 1,289.2 crores. It provides jobs to unemployed rural people in their vicinity with minimum capital investment. Single unit of Jaggery unit can be beneficial and profitable for small and marginal farmers and can fetch more market price from quality Jaggery and Jaggery by products like Jaggery syrup, sugarcane vinegar and Jaggery value added products like gur laddu, gur chikki, gur sonth masala, gur sweets, gur powder, gur chocolate etc. It is consumed directly or used for preparation of sweet confectionery items and traditional (Ayurvedic) medicines. All these Jaggery types have their own characteristic taste and aroma. About 60 to 70 percent of the total Jaggery comes from sugarcane. It has high medicinal and nutritional values and easily available to rural people. It will also not be feasible for sugar factories alone to satisfy the total demand for sweeteners as the population grows. Therefore, the interests of the Jaggery manufacturing unit must be secured and the operations strengthened and modernized for more purposeful purposes. Jaggery unit provides jobs to unemployed rural people in their vicinity with minimum capital investment and also helping in developing entrepreneurial activity and entrepreneurship in sugarcane sector. The details are as follows.

Different Shaped Solid Jaggery

Matured cane harvested after detrashing and transported to the processing units for extraction of sugarcane juice. Juice is processed further for making different types and shapes of solid Jaggery. Shape of Jaggery may be cuboidal, trapezoidal and square. Other products can be prepared like fortified jiggery, Granular Jaggery, etc.

Liquid Jaggery

Liquid jaggery is an immediate product collected during jaggery making process. The concentrating juice is removed from boiling pan at temperature of 103-106 °C depending on variety and agro-climatic zone and further to make liquid jaggery.

Granular Jaggery

The fresh cane juice is heated in open pan at temperature of 120 °C and after which the concentrating mass is transferred in wooden pan and churned thoroughly and

left without stirring for good crystal formation.

Jaggery Chocolate

Jaggery is considered to be best medicinal sweetener. The colour, texture and sweetness of jaggery make it suitable for chocolate like preparations/ products. Jaggery chocolate can be a good option for business in sugarcane sector.

Fermented Cane Juice Products

Rum

From cane juice rum is produced in India as well as other countries. India is exporting large quantities of rum to the European and other Asian countries and fetching foreign exchange.

Wine

Sugarcane is area and production is very high and produces huge amount of sugarcane juice can be used for wine making. Wine consists of sugar, amino acids, minerals, etc. cane juice fermented into wine as nutritious alcoholic drink. It has good market in the country. One can start business in wine industry by growing sugarcane or purchasing sugarcane at commercial level. So, there is good business opportunity in sugarcane wine industry.

Vinegar

The vinegar is a fermented product of sugarcane juice. It can be used in making salad, pickles, table vegetables, soup and other food products. Vinegar is made of acetic acid and water. Acetic acid is produced by bacteria after fermentation. Bacteria convert ethanol into acetic acid. It is also used as preservatives and medicine. Sugarcane Vinegar is also fetching good price in the market. So, there is opportunity to develop business in this sector.

Yeasts

Fermenting molasses of cane obtained from mills baker's yeast are better for edible purposes. This yeast sells at a higher price in compressed yeast form and also in dry yeast form. The quality of yeasts from cane juice is superior.

Ethanol Industry

India had an ethanol blending goal of 10 percent for 2022. To maximize its ethanol blending capacity, the Indian government declared that it will encourage sugar mills and distilleries to extend their C-heavy molasses feedstock to sugarcane juice, B-heavy molasses, and damaged food grains, and it has increased the ethanol procurement price. If cane-producing states are authorized to blend higher than 10 percent, potentially up to 20 percent, to compensate for lower blending rates in other states, blending of 10 percent ethanol can only be accomplished nationwide. Transporting fuel ethanol over long distances to non-producing states (in the

process, burning diesel) is simply not efficient. Furthermore, considering that blending is carried out at the state-depot level in India. In non- sugarcane producing countries, the only way to increase ethanol blending worldwide is to create capacity for fuel ethanol from alternative feedstocks. Thus, while the sugar cane industry largely supports ethanol and assumes that it could help resolve the surplus of sugar, the impact of ethanol will remain relatively small in 2020. However, we must flag up the fact that some industry participants believe diversion to ethanol could be already as high as 1 million MT of sugar equivalent in 2019-20. In terms of sucrose diversion, ethanol is not yet a major game changer today, as it has been in Brazil. Nevertheless, there are rumours that the Indian government might seek to increase the ability of fuel ethanol in order to be able to divert as much as 5 million MT of ethanol-equivalent sugar when required. This sounds a lot of wishful thinking at the moment, but we have found in India that there is little success.

Implications

- Good awareness of what is taking place in the factory.
- It is possible to some degree to regulate vegetative development and manage sugar production.
- To optimize cane yields and sugar recovery, knowledge of phenological growth phases is crucial.

Charcoal Industry

A considerable quantity of crop residues produced in the form of leaf from sugar cane leaves are a good source of carbon. These leaves are usually burned in order to clear the field for the next harvest. Sugarcane waste leaves can be used to manufacture charcoal which can become a viable business venture for entrepreneurs. As the supply of wood decreases, the demand for charcoal increases, especially in the winter season. The charcoal processing company is making big profits.

Converting Waste into Value Added Products

Community based approach for converting sugarcane waste into valuable products/ service including vermicompost, electricity, fuel, organic fertilizer source; may also be taken up as enterprise. Vermicompost from sugarcane trash can be prepared. The compost produced by pre-decomposing of by-products of sugar processing industries (Sugarcane trash and bagasse), with efficient microbes (composting) followed by vermicomposting point towards the feasibility of an integrated system of vermicomposting to

produce nutrient rich vermicompost (Karpagam *et al.*, 2016).

Budchip Settling Unit

Sugarcane requires huge quantity of seed setts for planting one hectare area. To overcome this problem, bud chip method can be a effective option for farmers and entrepreneurs can sell the settling after production in nursery to sugarcane growers. Sugarcane settlings can be taken up as a small scale business venture.

Sugarcane Juice Retail Unit

People across the globe, in summer, look for cold drinks to quench their thirst. Sugarcane juice which is made out of naturally grown sugarcane sticks is one of the best alternatives to chemical intensive aerated cold drinks. Many roadside vendors sell sugarcane juice where huge crowd gathers around for one glass of sugarcane juice, no matter how huge the crowd is, such is the demand for sugarcane juice during summer. No matter how much you charge a glass of sugarcane juice, people always think it is worth spending money. This is one seasonal business which helps which could fetch good profits with a little investment. Usually this business requires low investment on few labour and machinery for juice extraction and its maintenance (Expert Market, 2019).

Conclusion

India has made remarkable growth in sugar sector but there are several issues that need urgent redressal to keep the momentum such as low productivity of sugarcane and low sugar recovery, non-availability of sugarcane seeds. Rapid consolidation in sugar, jaggery, charcoal, alcohol industry, more vertical integration and large number of smaller processing unit will be the key trends in the future.

References

- Karpagam, C., Puthira, P.D., Moovendan, P., 2016. Farmer led gross root level entrepreneurial initiatives for sustainable sugarcane production system in Tamil Nadu, India, *Journal of Applied and Natural Science*, 8(4), 2249-2255.
- Sugarcane Juice Parlour Business Plan, Ideas & Opportunities. Expert Market. May, 2019. Retrieved from <https://www.expert-market.com/sugarcane-juice-business-plan-ideas-opportunities/>
- Shyamrao and Kumar, 2020. Sugarcane Borers: A major Threat to Sugarcane Production in India and Their Management. *Biotica Research Today* 2(5) Spl.: 225-228.