

**GOPAL KRISHNA GOKHALE COLLEGE,
KOLHAPUR**



**A STUDY OF SUGAR PRODUCTION AND
MARKETING SYSTEM IN KOLHAPUR .**

**A Project submitted to
BACHELOR OF VOCATIONAL DEGREE
IN
NUTRITION AND DIETETICS**

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CERTIFICATE



THIS CERTIFY THAT MISS. JADHAV MADHURA PRADIP HAVE COMPLETED HER PROJECT WORK ENTITLED “ ***STUDY ON PRODUCTION OF SUGAR*** “ FOR THE DEGREE OF BACHELOR OF VOCATIONAL STUDIES IN NUTRION AND DIETETICS, GOPAL KRISHNA GOKHALE COLLEGE , KOLHAPUR , AS A FULFILLMENT OF B.VOC. I EXAMINATION . THIS WORK IS COMPREHENSIVE , ORIGINAL AND COMPLETE. NO PART OF THE PROJECT HAS BEEN SUBMITTED RO THIS OR ANY OTHER COLLEGE FOR ANY OTHER TYPE OF DEGREE OR DIPLOMA OR CERTIFICATE COURSE.

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DECLARATION

I, JADHAV MADHURA PRADIP , HEREBY DECLARE THAT B.VOC. PROJECT ENTITLED, **STUDY OF PRODUCTION SUGAR** HAS BEEN SUBMITTED BY ME FOR THE DEGREE OF BACHELOR VOCATIONAL STUDY IN, GOPAL KRISHNA GOKHALE COLLEGE KOLHAPUR , UNDER THE GUIDANCE OF **DR. SWATI PATIL**, ASSISTANT PROFESSOR , GOPAL KRISHNA GOKHALE COLLEGE , KOLHAPUR. THIS DECALARATION IS TO REINFORCE THAT THIS DISSERTATION WORK HAS NOT BEEN PREVIOUSLY SUBMITTED TO ANY INSTITUTE. WHATEVER INFORMATION OR MATERIAL HAS BEEN REFER IS MENTIONED

MISS. JADHAV MADHURA PRADIP

PLACE: KOLHAPUR

DATE:

ACKNOWLEDGEMENT

IT'S MY PLEASURE TO SUBMIT THIS DISSERTATION TO THE DEPARTMENT OF NUTRITION AND DIETETICS , GOPAL KRISHNA GOKHALE COLLEGE, AND KOLHAPUR

I WOULD LIKE TO EXPRESS MY DEEPEST GRATITUDE TO MY PROJECT GUIDE AND **DR. MANJIRI A. MORE**, Associate Professor, GOPAL KRISHNA GOKHALE COLLEGE , KOLHAPUR FOR GIVING ME SUCH OPPORTUNITY FOR WORKING UNDER THE SHADOW OF YOUR EXCELLENCE KNOWLEDGE.

I AM HAPPY TO EXPRESS MY THANKS TOWARDS DR. S.G.RAKSHASE , COORDINATOR, ASSISTANT PROFESSOR OF DEPARTMENT OF NUTRITION AND DIETETICS, GOPAL KRISHNA GOKHALE COLLEGE ,DR. SWATI PATIL, ASSISTANT PROFESSOR OF NUTRITION AND DIETETICS DEPARTMENT, GOPAL KRISHNA GOKHALE COLLEGE , MISS. KOMAL BHOSALE , ASSITANT PROFESSOR, DEPARTMENT OF NUTRITION AND DIETETICS , GOPAL KRISHNA GOKHALE COLLEGE FOR HELPING ME DURING THE PROJECT WORK.

I AM ALSO THANKFUL TO MY CLASSMATES MISS. GAVALI YUGANDHARA, MISS. AIMAAN ATTAR , MISS. NAZIZ ATTAR FOR GIVING ME YOUR VALUABLE TIME.

FINALLY, I AM INDEBTED TO MY PARENTS FOR THEIR BLESSING AND CONTINOUS SUPPORT.

MISS. JADHAV MADHURA PRADIP

PLACE: KOLHAPUR

DATE:

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INTRODUCTION

SUGAR INDUSTRIES

The first sugar mill in India was established in year 1903 in Prattappur area of Deoria district. In India , sugarcane is planted thrice a year In October March and July depending on part of the country .Most of the sugar production in India takes place at local cooperative sugar mills.

Sugar Industries is big business in India . Around 525 mills produce more than 30 million tonnes of sugar every season. This makes it worlds largest producer unseating Brazil. Some 50 million farmers and millions of workers are involved in sugarcane farming.

India is the worlds largest consumer of sugar. According to the data from Indian Sugar Mills Association the country sugar mills produce 286.21 lakh tonnes of sugar every year.

Sugarcane is very Important input in making sugar. When sugarcane production increases sugar production also increases.

YEAR	HECTARE [THOUSANDS]	SUGAR PRODUCTION IN TONNES / HECTARES	PRODUCTION [MILLION TONNES]
1981	2666	58	154
1991	3686	65	241
2001	4315	68	296
2013	4944	69	342
2023	50962	80	405

Traditionally , Uttarpradesh and Maharashtra produce the majority of sugarcane in India. This can be attributed to major rivers present in both states.

STATE	PRODUCTION [1000 TONNES]	SHARE [PERCENTAGE]
UTTAR PRADESH	177,060	46.75
MAHARASHTRA	83,130	22.06
KARNATAKA	28,670	7.05
TAMIL NADU	16,540	4.39
BIHAR	13,980	3.71
GUJRAT	12,098	3.20



SHRI CHATRAPATI RAJARAM SAHAKARI SAKHAR KARKHANA Ltd. KASABA BAWADA KOLHAPUR.

The Kolhapur Sugar Mills Ltd. Was established in 1932. In 1973 the sugar undertaking of the company was separated and renamed as 'The Kolhapur Canesugar Works Ltd.'. The management of company was reluctant to the dues of cane farmers.

The Uskari Shetkari Sanghtana agitated with the management of the company for getting the cane payment. After restless efforts of sanghtana , the ownership of the sugar factory was handed over to the cooperative sugar factory Shri Chh. Rajaram Sahakari Sakhar Kharkana Ltd. Formed by the sanghatana.

This Industry was registered on 11th April 1984 vide Co.OP Department Maharashtra Registration No. KPR/KVR/PRG[A] 2[S] YEAR 1984 DATED 11-4-1984 AND KARKHANA HAS GOT INDUSTRIAL LICSENSE BEARING No. 2838/SIA/IMO/1998 DT. 28-12-1998 FROM GOVT OF INDIA NEW DELHI .

This Industry is located at Kasba Bvada , Taluka Karveer about 8 km from main city. The Karkhana is located in the high recovery zone and due to ample supply of water irrigation and nature of soil is of 11.5% to 12% and yield of cane is around 75 to 80 tonnes / hectare.

SCRSSKL was initially registered as sugar plant with 400 TCD. The plant was progressively upgraded to 2200TCD . with few modifications , the karkhana now achieves the normal cane of 3200 - 3300 TCD I.e. 130% to 135% capacity utilization . The karkhana has target crushing of 4.5 to 5 lakh tonnes per season and has crushed maximum of 5.75 lakh in 1995-96 sugar season .

In order to improve the entire sugar cane production , the karkhana proposes to the mordernise the plant and remove the bottle neck at various stations by adding balancing equipment , It is expected that, the modernizing of plant will reduce the cost of production by saving in chemicals, electric power , baggase and also manpower. The karkhana has all infrastructural facilities such as water , power, labour, transportation and disposal of effluents etc. To work capacity of 3500TCD.



OBJECTIVES OF THE STUDY

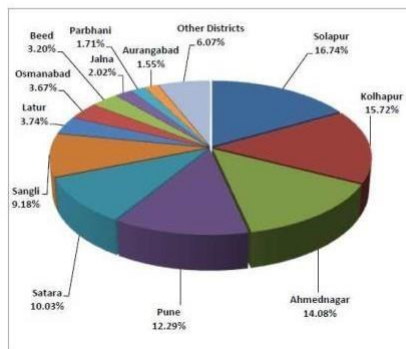
- ✧ TO STUDY THE SUGAR PRODUCTION IN KOLHAPUR
- ✧ TO KNOW THE PRICING MECHANISM OF SUGAR
- ✧ TO STUDY TYPES OF SUGAR
- ✧ TO STUDY BYPRODUCTS OF SUGAR PRODUCTION
- ✧ TO IDENTIFY PROBLEMS THAT HAVE NEGATIVE IMPACT ON OWNER OF THE FACTORY, WORKERS, TRADERS AND GIVING RECOMMENDATION FOR IMPROVEMENT OF THE MARKETING SYSTEM
- ✧ TO KNOW ABOUT THE GOVERNMENT POLICIES FOR SUGAR INDUSTRIES
- ✧ TO STUDY THE DIETICIAN'S ADVICE ON SUGAR INTAKE.



Sugar Statistics

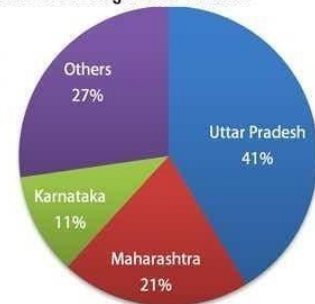
Maharashtra

Sugar production contribution (%) of major Districts in Maharashtra [season 2017-18]



Largest Sugarcane Producing States of India

Uttar Pradesh	145.39
Maharashtra	72.26
Karnataka	38.48
All India	352.16



MATERIAL AND METHODS

✧ REQUIRED EQUIPMENTS FOR SUGAR PRODUCTION

1] **WEIGHT CANE MACHINE** : Sugarcanes are weighed and examined to confirm how much cane has been delivered.

2] **CANE CARRIERS** : Described as the cane conveyors, is the moving apron that conveys the cane into the factory , and assures the feed to the mills by transporting the cane from yard to the crusher.

3] **CANE KICKER** : The cane kicker evens out cane load in the load in the cane carrier and the two sets of cane knives cut the cane into small pieces.

4] **CANE FIBRIZER** : It is used for tearing the sugar cane in small fibers.

5] **JUICER / CRUSHER** : Sugarcane is crushed to form juice , boiled and Evaporated and sulphied.

6] **PAN TANK** : A unit operator to take out sugar from mother liquor Through crystallization.

7] **CENTRIFUGAL MACHINE**: The mother liquor is separated from the Sugar crystals.



PROCESS OF SUGAR PRODUCTION

HOW TO GROW SUGAR CANE

Sugarcane is grown in warm to tropical areas of the world, with Brazil, India, Thailand, China and Australia. Each sugar cane farm has multiple fields all are at different stages of production to ensure that there is cane available to supply to the mills. From planting the cane through to harvest, the process can take up to the 18 months. The leaves are removed from the cane and the cut into 20 cm 'tranches'.

The field is then prepared with incisions made in the field at approx. 15-20 cm in width. The cane is then placed inside the hole horizontally and left to grow. The success of producing sugar begins at healthy soil. This is done with the addition of nutrients and lots of water. Sugar cane takes approximately 12 - 18 months to mature fully. During this time, it is important that cane is treated with pesticides and fertilizers to enable healthy and high yielding. cane plant



HARVESTING SUGAR CANE

Cane sugar does not need to be replanted , as only the top of the plant is removed during the harvesting . There are two ways to harvest sugarcane that is MANUALLY and MECHANICALLY. The manual harvest process often begins with sugar cane fields being burnt. This removes all the leaves so that the cane can be manually chopped to the ground by team of farmers . However this process takes days and burning of cane leaves result in wildlife and a reduction in quality of sucrose in the cane. Once the cane has been manually harvested, it is put on truck by hands and driven to the mill.



The alternative way the mechanized harvest involves a machine extracting the cane as it travels across the fields, whit list loading it into the truck. Mechanized harvest is seen as future of cane harvesting. This is primarily because it is not only better for environment and wildlife , but it is a more efficient operation taking the cane to the mill. Mechanized harvesting reduces the time of an average harvest by up to three-quarters , 24 to 30 hours to only 6 to 12 hours. This increase to the efficiency for the harvest means the higher sucrose yields and larger profits for the plantations.



TOTAL RECOVERABLE SUGAR :

Once sugarcane is transported to the mill, it has to be weighed and examined to confirm how much cane has to be delivered , and to determine the TRS content of the cane , also quality of the cane. This has the direct impact on price it will be sold for.

PROCESS OF SUGAR PRODUCTION

At sugar mill or facility , sugarcane undergoes the first of two possible stages of processing. The end result is raw sugar, which is pure sugar with some molasses content remaining.

Sugar cane processing at a mill requires a few stages to get sugar from sugar cane , and we will go through in their more details :

■ EXTRACTION :

The cleaning of sugarcane can be done wet or dry. Dry cleaning is preferred method as it is more environmentally friendly. After drying, it is chopped. This process removes the sugar cane juice. The juice is the valuable extract as it is used for sugar and ethanol production.

The sugarcane waste which is known as 'baggase' is then used as fuel to generate electricity in power plant.

■ CALRIFICATION :

The juice is treated for precipitate elimination via coagulation and sedimentation . The process removes sand, clay and other waste. To avoid decomposition , the juice then passes through a process of pH correction. Once this is done , the juice is mainly water, mineral salts and sugar.

■ BOILING :

Moisture is boiled off. During the boiling and evaporation process around 75% of water is removed, resulting in thicker syrup.



■ CRYSTALLIZATION :

The syrup is placed in large vessels where it is rotated slowly , allowing it to cool evenly. Seeding is then carried out , where small seed crystals are added to the syrup to catalyse the crystallization process. The molasses separate from the crystals and the liquid is ready for next stage.

■ CENTRIFUGING :

The crystallized syrup is separated from the sugar and dried by being put into centrifuges. This produce raw sugar by separating the sugar crystal from the molasses. For every 100 tonnes of cane that is processed , about 12 tonnes of VHP sugar is produced and 4 tonnes of molasses.

■ PACKAGING :

Sugar is packed in 50 kg bags.
Packed bags are carried by bag conveyers and stocked
In godown and delivered to customers / traders.



❖ THE DIFFERENT TYPES OF SUGARS PRODUCED IN SUGAR INDUSTRIES :

I. RAW SUGAR :

- ✓ Any sugar that has been through its first cycle of crystallization , at the sugar mill , is defined as partially purified sucrose also known as RAW SUGAR.
- ✓ The word 'partially' is important here. Not all of the stage of processing , and there is higher molasses and impurities content in raw sugar , as it is yet to refined.
- ✓ Raw sugar is not suitable for direct human consumption so is mostly commonly bought in bulk by food processors for use in food production.
- ✓ The amount of molasses measure that can be used to gauge quality in raw sugar.



II. REFINED SUGAR :

- ✓ Refined sugar is sugar that has been through two stages of crystallization , first at mill and then at a refinery.
- ✓ The resulting sugar can be defined by its purity in comparison to its raw counterpart.
- ✓ Less molasses is present in refined sugar, giving it its signature white, crystalline appearance.
- ✓ The raw sugar is melted to remove these impurities and essentially purified twice , making it fit for human consumption.



THERE ARE SEVEN GRADES OF INDIAN SUGAR WHICH HAVE BEEN APPROVED BY THE SUGAR TECHNOLOGIES ASSOCIATION OF INDIA AND INDIAN SUGAR MILLS ASSOCIATION ORGANISATION .

◆ GRADES ARE AS FOLLOWING :

- 1) S-30
- 2) S-31
- 3) SS -31 [S2 -31]
- 4) M-30
- 5) M-31
- 6) L-30
- 7) L-31

IN INDIAN SUGARS **S**, **M** AND **L** ARE USED TO DENOTE THE CRYSTAL SIZE OF SUGAR PARTICLES

- S MEANS 'SMALL'
- M MEANS ' MEDIUM '
- L MEANS 'LARGE'

IN INDIAN SUGAR **30** AND **31** REPRESENTS THE COLOR SERIES OF SUGAR

30 IS WHITE

31 IS SUPER WHITE



BY PRODUCTS OF SUGAR PRODUCTION

Any manufacturing process would result in by-products. A by-product is one that is produced incidentally or is a secondary product. There are several by-products to each industry. While some can be further processed and used while others are harmful and disposed of post proper treatment. Sometimes the by-products also have several uses just like a normal product or resource. What it is used for depends on the economics behind it. The sugarcane industry is no exception to this.

Sugarcane is primarily processed to produce sugar, however, it results in three key by-products: bagasse, molasses and filter muds. Each one of these has several uses but what they are most commonly used on depends on what is most desirable in the economical sense.

Bagasse

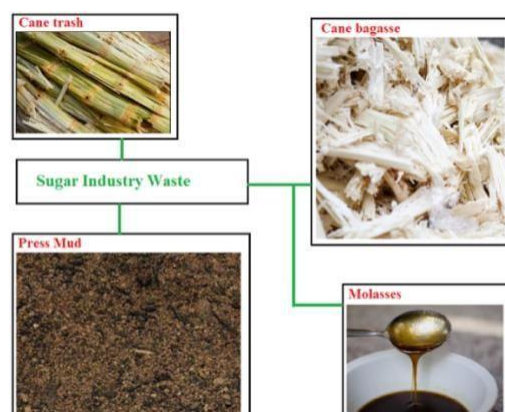
Bagasse refers to the dry residue left after the juice is extracted from the Sugarcane. One of the key uses of bagasse is to produce electricity. When used to produce electricity it serves as a great renewable source of energy. It has been used in several countries in the sugar mill itself and is seen as a viable option. It is even stored and used to generate electricity throughout the year. However, storage poses a challenge. Different methods of storage are being tried and tested. Bagasse also serves as a good raw material for producing paper. It serves as an alternative to wood pulp. Bagasse is also used to produce particleboard which is also known as chipboard. Furfural is also produced, which is a flammable chemical substance. It can also produce methane gas.

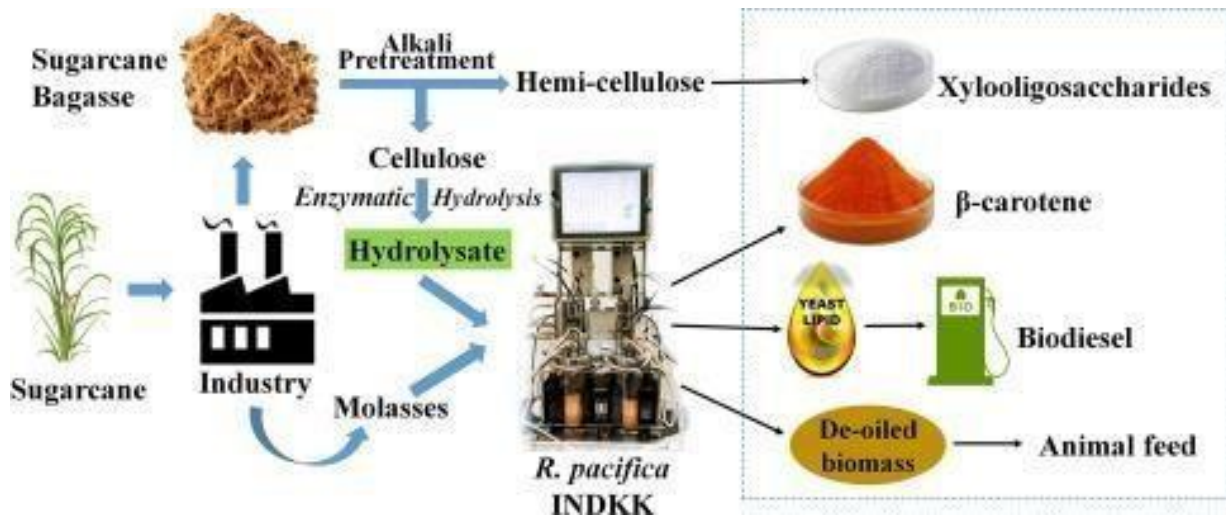
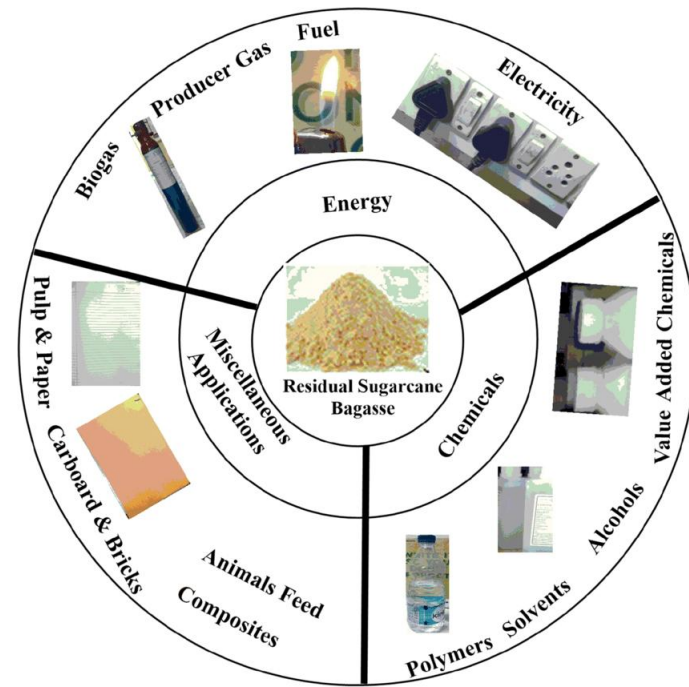
Molasses:

Molasses is one of the most important by-products of sugar production from Sugarcane. In fact, the importance of the production of ethanol has taken the centre stage and there are discussions to divert the entire production of Sugarcane to produce Molasses so that it can be processed to produce ethanol. Ethanol is seen as a great fuel and is blended with petroleum. The percentage of ethanol in petrol is projected to increase in the coming years. Molasses refers to the effluent produced after the continuous crystallization process. It is the last syrup left after all the sucrose has been obtained. Molasses can also be used to produce acetic acid, yeast, ethanol and Rum.

Filter mud:

Filter mud refers to the impurities which are removed through filtration of the juice. This forms cakes of mud and efforts are being made to identify the most rewarding usage of it. Currently, it is being used to produce fertilizer as it contains nitrogen. Refined wax can also be used as it contains fatty acids and lipids. It is also used as cattle feed.





RESULT AND DISCUSSIONS

The sugar industry plays a pivotal role in India's agriculture sector . India witnesses an annual domestic demand of about 27 million tones of sugar. Furthermore , sugarcane serves a dual purpose by not only producing sugar but also contributing to ethanol industry .

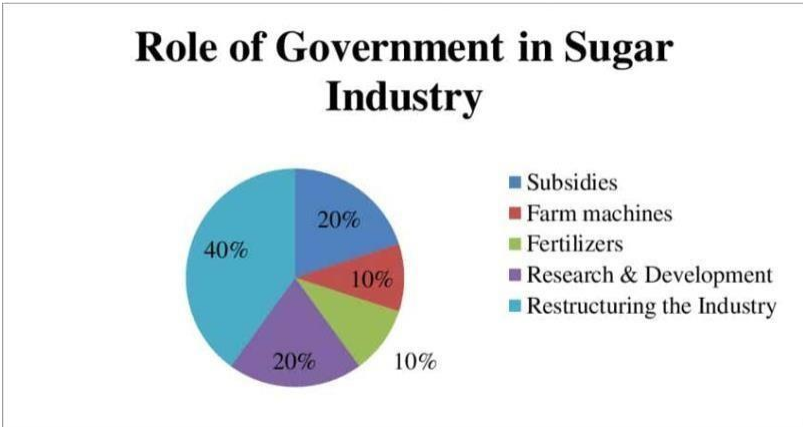
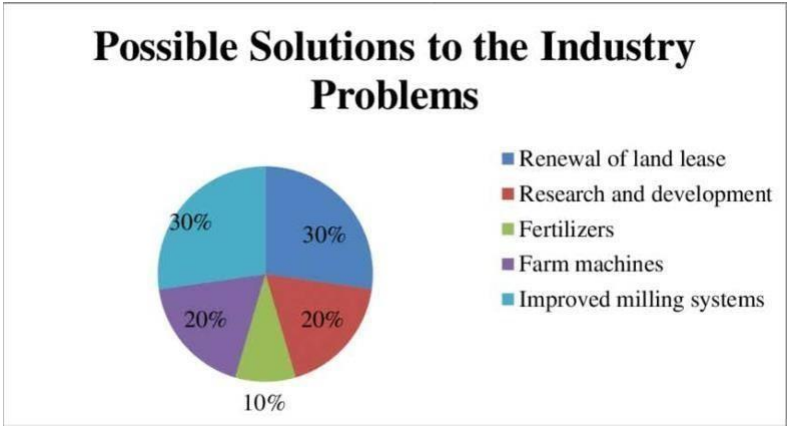
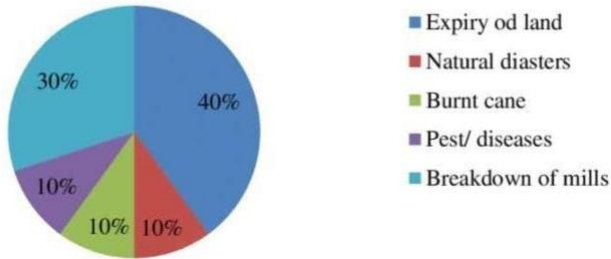
There are many advanced and efficient machinery used in production . The process is systematic resulting in crystal clear sugar . But still sugar industries face some kind of problems in Kolhapur as well as whole India. That is the matter of discussion.

PROBLEMS FACED BY SUGAR INDUSTRIES AND ASSOCIATES :

TYPE OF PROBLEM	PARTICULARS
1. INFRASTRUCTURAL PROBLEM	<ul style="list-style-type: none"> ● LESS ACCESSIBILITY ● INADEQUATE POWER SUPPLY ● COSTLY TRANSPORT ● LACK OF WAREHOUSE
2. FINANCIAL PROBLEM	<ul style="list-style-type: none"> ● LESS AVAILABILITY OF FINANCE ● HIGH INTREST RATE ● HIGH COST OF RAW MATERIAL ● HIGH PRODUCTION COST
3. PRODUCTION PROBLEM	<ul style="list-style-type: none"> ● SHORTAGE OF RAW MATERIAL ● UNDER UTILISATION OF CAPACITY ● LOAD SHADING ● TRANSPORT OF RAW MATERIAL FROM DISTANCE
4. MANAGEMENT PROBLEM	<ul style="list-style-type: none"> ● LENGTHY ADMINISTRATIVE PROCESS ● LARGE INVESTMENTS IN FIXED ASSETS ● DECISION MAKING PROBLEMS
5. HUMAN RESOURCE	<ul style="list-style-type: none"> ● LACK OF SKILLED LABOUR ● HIGH WAGES ● LABOUR INVESTMENT

<p>6. MARKET PROBLEM</p>	<ul style="list-style-type: none"> ● STIFF COMPETITION ● UNSTABLE VALUE OF PRODUCT ● LACK OF MARKET ● MONOPLY OF AGENTS
<p>7. RESEARCH DEVELOPMENT POLICIES</p>	<ul style="list-style-type: none"> ● NON - AVAILABILITY OF LABORATORIES ● LACK OF CONSULTANCY FACILITY
<p>8. OTHER PROBLEMS</p>	<ul style="list-style-type: none"> ● MORE GOVERNMENT CONTROL ● NATURAL CALAMITIES ● UNFAVOURABLE GOVERNMENT POLICIES

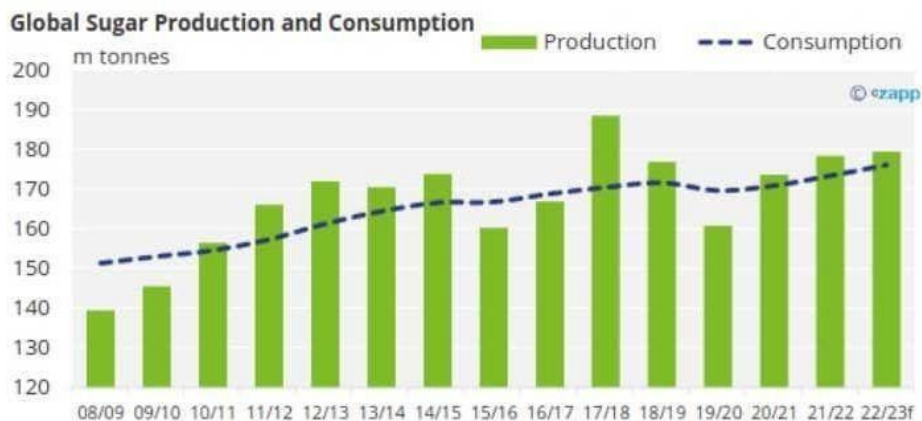
Problems in the Sugar Industry



SUMMARY AND CONCLUSION

✧ SOLUTIONS FOR PROBLEMS MENTIONED EARLIER :

1. IN KOLHAPUR DISTRICT 23 SUGAR INDUSTRIES ARE OPERATED. THESE INDUSTRIES PLAY VITAL ROLE IN RURAL ECONOMY OF DISTRICT. SUGAR INDUSTRIES MUST BE PROVIDE ASSURED PRICE FOR SUGAR BY PRODUCING BYPRODUCTS.
2. BEFORE SANCTIONING THE NEW SUGAR INDUSTRIAL UNITS, GOVERNMENT SHOULD FOLLOW THE RULE OF MINIMUM DISTANCE BETWEEN TWO UNITS.
3. GOVERNMENT SHOULD MAKE AVAILABLE THE STOREHOUSE ON LEASE FOR READY SUGAR BAGS
4. NEED TO ESTABLISH STRONG COMMUNICATION BETWEEN THE SUGARCANE PRODUCER AND SUGAR INDUSTRY.
5. INDUSTRIES SHOULD TAKE MORE ATTENTION ON HIGH YIELD VARIETY OF SUGAR CANE , IMPROVEMENT OF PRODUCTION OF CAPACITY AND TRAINING OF FARMERS.



GOVERNMENT POLICIES REGARDING SUGAR INDUSTRIES AND FARMERS :

❖ Fair and Remunerative Price (FRP)

With the amendment of the Sugarcane (Control) Order, 1966 on 22.10.2009, the concept of Statutory Minimum Price (SMP) of sugarcane was replaced with the 'Fair and Remunerative Price (FRP)' of sugarcane for 2009-10 and subsequent sugar seasons. The cane price announced by the Central Government is decided on the basis of the recommendations of the Commission for Agricultural Costs and Prices (CACP) in consultation with the State Governments and after taking feedback from associations of sugar industry.

Under the FRP system, the farmers are not required to wait till the end of the season or for any announcement of the profits by sugar mills or the Government. The new system also assures margins on account of profit and risk to farmers, irrespective of the fact whether sugar mills generate profit or not and is not dependent on the performance of any individual sugar mill.

In order to ensure that higher sugar recoveries are adequately rewarded and considering variations amongst sugar mills, the FRP is linked to a basic recovery rate of sugar, with a premium payable to farmers for higher recoveries of sugar from sugarcane.

Accordingly, FRP for 2022-23 sugar season has been fixed at Rs. 305 per quintal linked to a basic recovery of 10.25% subject to a premium of Rs. 3.05 per quintal for each 0.1% increase of recovery over and above 10.25% and reduction in FRP at the same rate for each 0.1% decrease in the recovery rate till 9.5%. With a view to protect interest of farmers the Government has decided that there shall not be any deduction in case where recovery is below 9.5%; such farmers will get Rs. 282.125 per quintal for sugarcane in the current season.

Fair and Remunerative Price of sugarcane 2023-24

- Highest ever Fair and Remunerative Price of Rs.315/qrtl approved for Sugarcane Farmers
- Government of India is committed to improve economic condition of farmers
- Decision to benefit 5 crore sugarcane farmers (Gannakisan) and their dependents, as well as 5 lakh workers employed in the sugar mills and related ancillary activities

❖ **Sugar Pricing Policy**

Price of sugar are market driven & depends on demand & supply of sugar. However, with a view to protect the interests of farmers, concept of Minimum Selling Price (MSP) of sugar has been introduced w.e.f. 07.06.2018 so that industry may get atleast the minimum cost of production of sugar, so as to enable them to clear cane price dues of farmers.

In exercise of the powers conferred by clause (c) of sub section (2) of section 3 of the Essential Commodities Act, 1955, Government has notified Sugar Price (Control) Order, 2018. Under the provisions of said order, Government initially fixed Minimum Selling Price (MSP) of white/refined sugar at Rs. 29/kg w.e.f. 07.06.2018 for sale by sugar mills at the factory gate for domestic consumption, which has been revised from Rs.29/kg to Rs.31/kg w.e.f. 14.02.2019. MSP of sugar has been fixed after taking into account the Fair & Remunerative Price (FRP) of sugarcane and minimum

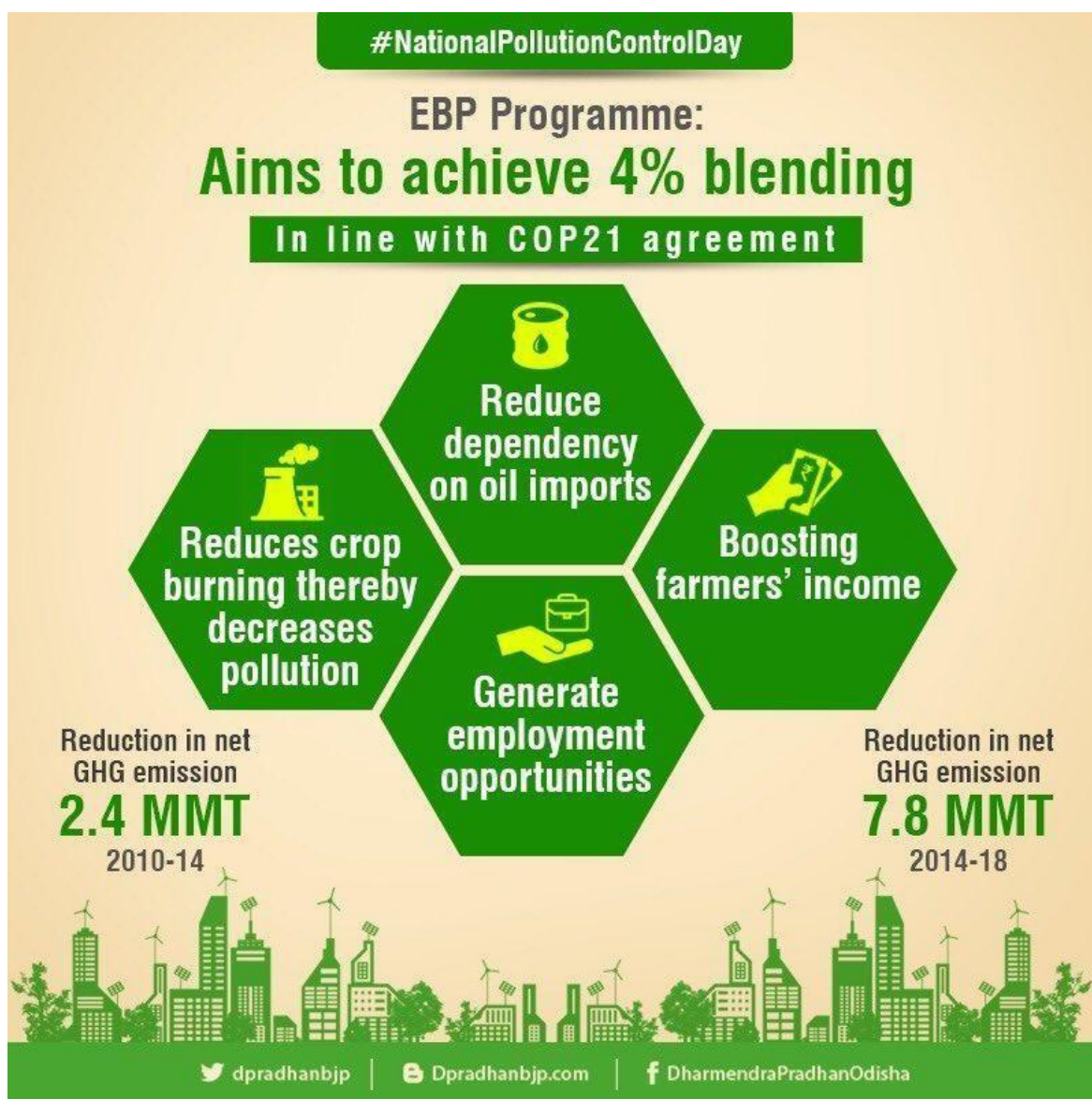
❖ **Ethanol Blended Petrol Programme (EBP Programme)**

The Ethanol Blended Petrol (EBP) programme was launched in year 2003 with the vision to boost agricultural economy, to reduce dependence on imported fossil fuel, to save foreign exchange on account of crude oil import bill, to reduce the air pollution and to support sugar sector and in the interest of sugarcane farmers.

Keeping in view the various benefits of Ethanol Blending Programme, Government has advanced the target of achieving 20% blending to 2025, which was earlier scheduled to be achieved in 2030. However, the ethanol production capacity in the country is not sufficient at present to achieve 20% blending by 2025. Accordingly, to meet the target of 20% blending by 2025, Government has been implementing various Ethanol Interest Subvention Schemes since 2018 (in 2021 ethanol production from grain was also included under these schemes) to encourage sugar mills and distilleries to set up new distilleries (molasses based, grain-based and dual-feed based) or expansion of existing distilleries (molasses based, grain-based and dual-feed based). Under all the ethanol interest subvention schemes, Government would bear interest subvention for five years including one year moratorium against the loan availed by project proponents from banks/financial institutions @ 6% per annum or 50% of the rate of interest charged by banks/financial institutions, whichever is lower. It is expected that this will bring an investment of about Rs. 41,000 crore in coming years.

❖ **FIXATION OF REMUNERATIVE PRICE OF ETHANOL FOR ETHANOL
SEASON 2022-23 (December to October)**

With a view to support sugar sector and in the interest of sugarcane farmers, the Government has also allowed production of ethanol from B-Heavy Molasses, sugarcane juice, sugar syrup and sugar. Government is also encouraging distilleries to produce ethanol from food grains such as Damaged Food Grains (DFG), maize & surplus rice available with FCI.



● DIETICIAN`S ADVICE ON TABLE SUGAR :

Table sugar has only limited advantages and if not consumed in moderation , then that advantage may also turn into a disadvantage.

Advantages of Table Sugar :

Most of the food items which we consume in our day to day life have several benefits. Even the salt also has different advantages. But when we talk about Table Sugar, you need to understand that Table Sugar has only limited advantages. And if not consumed in moderation, then that advantage may also turn into a disadvantage.

- **Good source of energy** – We all are well aware of this fact, and we have mentioned above also that sugar helps in providing us the energy. Our body needs glucose for various functions performed by our body organs. Our body obtains glucose from the carbohydrates only. And as we just mentioned above that sugar is also a form of carbohydrates. The carbohydrates which we get by consuming table sugar get breakdown into the molecules of glucose and sucrose. The molecules of the glucose reach our body organs with the help of the blood and this helps in providing energy to our body to perform various functions. There are many other food items also other than the table sugar that helps in providing the energy to our body. But table sugar is one such thing which contributes highly when it comes to providing the energy to our body. It provides a sudden boost of energy in our body. That is why when anyone feels dizzy or weak, it is suggested to provide them with salt and sugar water so that they can feel better.







SUGAR




health effects

created by LOVANDY.COM



-  Gives power to organs and muscles of the human body
-  Increases blood circulation in the brain and spinal cord, thus preventing sclerosis
-  Reduces the risk of damaging blood vessels with plaque thus preventing thrombosis
-  Helps to regulate liver and spleen



-  Suppresses immunity
-  Causes an instant increase of glucose level
-  Worsens skin condition and complexion
-  Cleans calcium from bones
-  Unused glucose goes to the 'fat store' thus causes excess pressure on the pancreas
-  Harmful to teeth; contributes to the formation of caries



see more on [LOVANDY.COM](https://lovandy.com)

- **Helps in Boosting our mood** – This is also true that sugar helps in boosting our mood. Some people say that it happens because of the taste buds whereas it has been researched that table sugar or the added sugar, helps in causing the dopamine rush. And it also boosts our brain's pleasure center. This helps in making us feel good and it boosts our mood by making us feel happy. That is why, when people are sad or depressed, they tend to eat the food items which have added sugar in them, like soft drinks, ice-cream, sweets, chocolates, cake, etc.

Disadvantages of Table Sugar

The Table Sugar or the Added Sugar is not very good for our health. Consuming them in the limited or controlled quantity is fine. But consuming them in large quantities can lead to different health problems. Let's know some of the disadvantages of Table Sugar.

- ✓ Consuming excess of table sugar can lead to the disease related to the heart. It is quite evident that the consumption of high sugar can cause a sudden spike in the blood pressure and blood sugar level, which is not at all good for health. If you are consuming the beverages which have high sugar added to them, they may lead to clogging of the artery also, which is again a problem for the heart.
- ✓ Obesity is one of the major problems which is caused due to excess sugar consumption. That is why, when losing weight, it is suggested not to consume too much sugar, otherwise it will make you fat.
- ✓ Consumption of high sugar can also lead to skin related problems like acne. As it increases the secretion of androgen and also leads to more production of oil, which causes acne.
- ✓ High sugar consumption is very harmful to a diabetic patient. Even if you are not diabetic and you do not consume sugar in moderation, you may become a diabetic patient as the consumption of sugar also alters the insulin level in the body.

- ✓ We all have been watching the advertisements for tooth decay for a long time. And we have been told by our adults also that consumption of table sugar can lead to the cavities. Due to the cavities, our teeth start demineralizing which impacts our dental health a lot.



Disadvantages of Sugar

- › Causes Obesity
- › Increases Risk of Heart Diseases
- › Causes Type-2 Diabetics
- › Damages Liver
- › Tooth and Bone Decay
- › Accelerates Skin Aging
- › Develops Acne
- › Promotes Addictive Nature
- › Results in Depression & Energy Loss

How to Cut Down Sugar Intake



Time to replace a few



Use Natural Sweeteners



Ditch the Harmful Alcoholic Beverages



Double check the Groceries

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