



# SUGARCANE



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# Preface

With a robust agro potential the Country has, the Government of India has launched the One District One Focus Product Scheme (ODOFP) for agriculture sector by the Ministry of Food Processing Industries. Among its primary objectives, the ODOFP initiative aims to enhance the value of the products which is eventually expected to boost employment and income levels of the farmers. The identified products across the country is available at <https://www.nfsm.gov.in/odopstatecropsreport.aspx>

Karnataka has identified its product mix with high demand and export potential across all the districts. The implementing agency for this initiative is the Karnataka State Agricultural Produce Processing and Export Corporation Limited (KAPPEC), the nodal agency in the State.

VTTC being the nodal agency for promotion of exports from the State has made an attempt to draw the action plan district wise, to capture the potential, present status and future prospects in domestic and international markets. Besides, detailed insights have been provided into the biological description of the product, their local, national and international varieties, export-import analysis, HS codes. For a holistic perspective for those concerned, each report also provides SPS standards, processing technologies available, export grading and packing specifications, and suggested pivotal roles and responsibilities among the government departments, boards, corporations and Universities.

Presenting the Action Plan/Report for Sugarcane, a ODOFP product mapped to Belagavi district of Karnataka, formulated by VTTC. I sincerely hope that this ready reckoner with first-hand information regarding the farming sector would help all those concerned, especially the FPOs and food processing entrepreneurs who have a desire to focus on exporting this product.

**S.R Satheesha**

Director (Exports) & Managing Director

# Contents

<b>Sl No.</b>	<b>Description</b>	<b>PageNo.</b>
1	Introduction	01
2	Sugarcane as food	03
3	Successful Sugarcane varieties across the world	04
4	Varieties of Sugarcane cultivated in India	04
5	Varieties of Sugarcane grown in Karnataka	05
6	Top Sugarcane producing countries of the world : 2020	05
7	State wise Production of Sugarcane (2015-20)	06
8	Top 10 exporting and importing countries	07
9	World Export and Imports	08
10	Export performance of Sugarcane 2019 to 2022: All India and Karnataka	10
11	Export Analysis of Sugarcane and its products: 2021-22	11
12	SPS -TBT Standards for Cane Sugar and Jaggery	15
13	Processing technologies available	16
14	Action plan	17
15	Organisations working on Sugarcane	17
16	Responsibility Matrix	18
17	Regulators and Service providers	18

## Introduction

Sugarcane or sugar cane is a species of (often hybrid) tall, perennial grass (in the genus *Saccharum*, tribe Andropogoneae) that is used for sugar production. The plants are 2–6 m (6–20 ft) tall with stout, jointed, fibrous stalks that are rich in sucrose, which accumulates in the stalk internodes. A mature stalk is typically composed of 11–16% fiber, 12–16% soluble sugars, 2–3% non-sugar carbohydrates, and 63–73% water. Sugarcane belongs to the grass family, Poaceae, an economically important flowering plant family that includes maize, wheat, rice, and sorghum, and many forage crops. It is native to the warm temperate and tropical regions of India, Southeast Asia, and New Guinea. The plant is also grown for biofuel production, especially in Brazil, as the canes can be used directly to produce ethyl alcohol (ethanol).

Grown in tropical and subtropical regions, sugarcane is the world's largest crop by production quantity, totaling 1.9 billion tonnes in 2020, with Brazil accounting for 40% of the world total. Sugarcane accounts for 79% of sugar produced globally (most of the rest is made from sugar beets). About 70% of the sugar produced comes from *Saccharum officinarum* and its hybrids. All sugarcane species can interbreed, and the major commercial cultivars are complex hybrids. About 70% of the sugar produced globally comes from *S. officinarum* and hybrids using this species.

The stems grow into cane stalk, which when mature, constitutes around 75% of the entire plant. A sugarcane crop is sensitive to climate, soil type, irrigation, fertilizers, insects, disease control, varieties, and the harvest period. The average yield of cane stalk is 60–70 tonnes per hectare (24–28 long ton/acre; 27–31 short ton/acre) per year, but this figure can vary between 30 and 180 tonnes per hectare depending on knowledge and crop management approach used in sugarcane cultivation. Sugarcane is a cash crop, but it is also used as livestock fodder. Sugarcane genome is one of the most complex plant genomes known, mostly due to interspecific hybridization and polyploidization.

## Sugarcane Processing

Traditionally, sugarcane processing requires two stages. Mills extract raw sugar from freshly harvested cane and "mill-white" sugar is sometimes produced immediately after the first stage at sugar-extraction mills, intended for local consumption. Sugar crystals appear naturally white in color during the crystallization process. Sulfur dioxide is added to inhibit the formation of color-inducing molecules and to stabilize the sugar juices during evaporation.

### Milling

Sugarcane processing produces cane sugar (sucrose) from sugarcane. Other products of the processing include bagasse, molasses, and filter cake.

**Bagasse**, the residual dry fiber of the cane after cane juice has been extracted, is used for several purposes.

- fuel for the boilers and kilns
- production of paper, paperboard products, and reconstituted panelboard
- agricultural mulch
- as a raw material for production of chemicals





The primary use of bagasse and bagasse residue is as a fuel source for the boilers in the generation of process steam in sugar plants. Dried filter cake is used as an animal feed supplement, fertilizer, and source of sugarcane wax.

**Molasses** is produced in two forms: blackstrap molasses (with a characteristic strong flavor) and a purer molasses syrup. Blackstrap molasses is sold as a food and dietary supplement. It is also a common ingredient in animal feed, and is used to produce ethanol, rum, and citric acid. Purer molasses syrups are sold as molasses, and may also be blended with maple syrup, invert sugars, or corn syrup. Both forms of molasses are used in baking.

**Ethanol** is generally available as a byproduct of sugar production. It can be used as a biofuel alternative to gasoline and is widely used in cars in Brazil. It is an alternative to gasoline, and may become the primary product of sugarcane processing, rather than sugar. The production of ethanol from sugarcane is more energy efficient than from corn or sugar beets or palm/vegetable oils, particularly if cane bagasse is used to produce heat and power for the process. Furthermore, if biofuels are used for crop production and transport, the fossil energy input needed for each ethanol energy unit can be very low.

## Sugarcane as food

- Sayur nganten: An Indonesian soup made with the stem of trubuk (*Saccharum edule*), a type of sugarcane
- Sugarcane juice: a combination of fresh juice, extracted by hand or small mills, with a touch of lemon and ice to make a popular drink, known variously as air tebu, usacha rass, guarab, guarapa, guarapo, papelón, aseer asab, ganna sharbat, mosto, caldo de cana, or nước mía.
- Syrup: a traditional sweetener in soft drinks, now largely supplanted in the US by high fructose corn syrup, which is less expensive because of corn subsidies and sugar tariffs.
- Jaggery: a solidified molasses, known as gur, gud, or gul in South Asia, is traditionally produced by evaporating juice to make a thick sludge, and then cooling and molding it in buckets. Modern production partially freeze dries the juice to reduce caramelization and lighten its color. It is used as sweetener in cooking traditional entrees, sweets, and desserts.
- Falernum: a sweet, and slightly alcoholic drink made from sugarcane juice.
- Cachaça: the most popular distilled alcoholic beverage in



- Brazil; it is a liquor made of the distillation of sugarcane juice.
- Rum is a liquor made from sugarcane products, typically molasses, but sometimes also cane juice. It is most commonly produced in the Caribbean and environs.
- Basi is a fermented alcoholic beverage made from sugarcane juice produced in the Philippines and Guyana.
- Panela, solid pieces of sucrose and fructose obtained from the boiling and evaporation of sugarcane juice, is a food staple in Colombia and other countries in South and Central America.
- Rapadura is a sweet flour that is one of the simplest refining of sugarcane juice, common in Latin American countries such as Brazil, Argentina, and Venezuela (where it is known as papelón) and the Caribbean.
- Rock candy: crystallized cane juice
- Gâteau de Sirop – Syrup Cake
- Viche, a homebrewed Colombian alcoholic beverage

## Successful Sugarcane varieties across the world

Worldwide, there are several hundred varieties of sugarcane. Depending on the countries ranking in exports, their varieties are linked below: (Data as on 2015)

Myanmar: <http://www.sugarcanevariety.org/CountryDetails.aspx?CountryID=21>

Vietnam: <http://www.sugarcanevariety.org/CountryDetails.aspx?CountryID=21>

Mexico: <http://www.sugarcanevariety.org/CountryDetails.aspx?CountryID=21>

Brazil: <http://www.sugarcanevariety.org/CountryDetails.aspx?CountryID=21>

Uganda: <http://www.sugarcanevariety.org/CountryDetails.aspx?CountryID=21>

China: <http://www.sugarcanevariety.org/CountryDetails.aspx?CountryID=21>

Costa Rica: <http://www.sugarcanevariety.org/CountryDetails.aspx?CountryID=21>

Pakistan: <http://www.sugarcanevariety.org/CountryDetails.aspx?CountryID=21>

India: <http://www.sugarcanevariety.org/CountryDetails.aspx?CountryID=21>

Source: <http://www.sugarcanevariety.org/default.aspx>



## Varieties of Sugarcanes cultivated in India

Since inception of All India Coordinated Research Project on Sugarcane (AICRP) by ICAR-Indian Institute of Sugarcane Research has identified 116 sugarcane varieties and out of these, 55 sugarcane varieties have been released and notified for cultivation in different parts of our country.

<https://iisr.icar.gov.in/iisr/aicrp/download/FinalBookSugarcaneVarieties.pdf>

Zone-wise and year-wise sugarcane varieties identified, released & notified since 1982 to 2017 under AICRP on Sugarcane can be found in Page 3 – 5.

This report also gives a detailed description of all the notified species, their parents, crop characteristics, growing conditions, disease/drought susceptibility, expected yield and sugar content along with the regions recommended to grow that variety.

## Varieties of sugarcane grown in Karnataka

Sl. No.	Variety	Sucrose %	Region	Planting Season	Age at Harvest	Expected Sugar Recovery %
1	Co 8371 Co 86032	12.5	Southern and Coastal and North Karnataka	Aug. 1st week onwards	12 to 14 months	11.0 to 12.0
2	Co 7804 Co 62175	13.0	Central Karnataka	June, July, Aug, Oct and Nov.	12 to 14 months	11.0 to 11.5
3	CoC 671 Co 94012 Co 86032 Co 92020	14.5	Central and North Karnataka	Oct to Jan.	12 to 14 months	12.0 to 12.5
4	CoC 671 Co 86032 Co 94012 SNK 754 SNK 61 SNK 44	13.2	North Karnataka	June to February	12 to 14 months	12.0 to 12.5

Source:

<https://www.nijalingappasugar.com/sugarbreeding.html>

# Top Sugarcane producing countries of the world 2020

Rank	Country	Production %	Production Quantity
1	Brazil	40.54%	757.12 M
2	India	19.84%	370.50 M
3	China	5.79%	108.12 M
4	Pakistan	4.34%	81.01 M
5	Thailand	4.01%	74.97 M
6	Mexico	2.89%	53.95 M
7	United States	1.75%	32.75 M
8	Australia	1.62%	30.28 M
9	Indonesia	1.55%	28.91 M
10	Guatemala	1.52%	28.35 M

Source:

<https://www.tridge.com/intelligences/sugarcane/production>



## State wise Production of Sugarcane (2015-20)

Uttar Pradesh, Maharashtra and Karnataka have together produced 111 million tonnes of sugar, over 79 per cent of the total production of 139.13 mt in the last five years.

State/ Union Territory	2015-16	2016-17	2017-18	2018-19	2019-20
Uttar Pradesh	14583	140169	177033	179715	179539.1
Maharashtra	73679.6	52262	82984	89768.2	69311.9
Karnataka	37833.8	27378	31135.2	42408	38181
Tamil Nadu	25494.1	18988	17154	17140.2	14119.1
Bihar	12649.3	13036	13824.6	20116.3	13578.8
Gujarat	11120	11950	12072.1	11326.4	11570
Haryana	6692	8223	9632.9	8505	7730.4
Madhya Pradesh	5281	4730	5430	5281.7	7433.8
Punjab	6607	7152	8023.7	7773.7	7302
Uttarakhand	5885.8	6477	6271.4	6329.3	6937.7
Andhra Pradesh	9353	7830	7789.6	8094.6	6724
Telangana	2405	2061	2604.5	3183.6	2012.9
Chhattisgarh	67.8	848	1158.5	1452.1	1759
West Bengal	2075	1549.7	1437	1335.4	1527.6
Assam	1038.3	1207.2	1143	1093.9	1218.1
Odisha	577.2	344.3	240.1	417.8	505
Rajasthan	531.3	488.7	381.9	447.9	326.2
Nagaland	190.2	192.4	192.8	193.2	193.6
Puducherry	214	0	180.6	187.7	183.1
Kerala	138.1	113.1	115.1	106.3	120.8
Goa	-	40.2	0	35.3	53.7
Mizoram	51.3	50.5	44.8	44.3	44.3
Arunachal Pradesh	40.8	37.7	38.4	45.8	39.2
Tripura	40.5	44.1	42.5	35.9	36.4
Himachal Pradesh	38.7	21.1	36.7	33.3	32
Meghalaya	0.4	0.4	0.4	0.4	0.4
Jammu and Kashmir	0.3	-	0	0	0
Jharkhand	708.9	512.9	574.8	0	0
Manipur	348	348	348	315.1	0
ALL INDIA	348448	306069	379905	405416	370500

Value in thousand tonnes.

Source: <https://m.rbi.org.in/scripts/PublicationsView.aspx?id=20717>

## Top 10 exporting countries of the world 2021

Rank	Country	Share in Export Value	Export Value (USD)
1	Laos	69.85%	68.24 M
2	Myanmar (Burma)	19.29%	18.84 M
3	Malaysia	3.74%	3.65 M
4	Vietnam	2.2%	2.15 M
5	Mexico	1.02%	995.55 K
6	Brazil	0.6%	581.75 K
7	Uganda	0.56%	550.88 K
8	China	0.5%	492.49 K
9	Costa Rica	0.42%	409.41 K
10	Pakistan	0.28%	257.77K

Source:

<https://www.tridge.com/intelligences/sugarcane/export>

## Top Importing countries of Sugarcane from India (2020-21)

Rank	Country	Share in Import Value	IMport Value (USD)
1	China	87.36%	107.99 M
2	United States	6.55%	8.09 M
3	Singapore	2.96%	3.66 M
4	Canada	0.64%	794.77 M
5	United Kingdom	0.41%	508.26 K
6	Macao	0.23%	284.53 K
7	Netherlands	0.22%	272.99 K
8	Germany	0.20%	246.28 K
9	France	0.14%	173.84 K
10	Afghanistan	0.13%	162.44 K

Source:

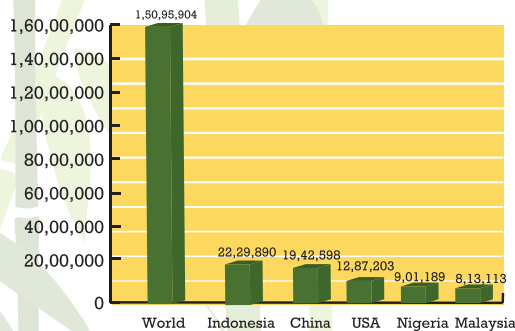
<https://www.tridge.com/intelligences/sugarcane/import>

## World Export and Imports (2021)

**170114: Raw cane sugar, in solid form, not containing added flavoring or coloring matter (excluding cane sugar of 170113)**

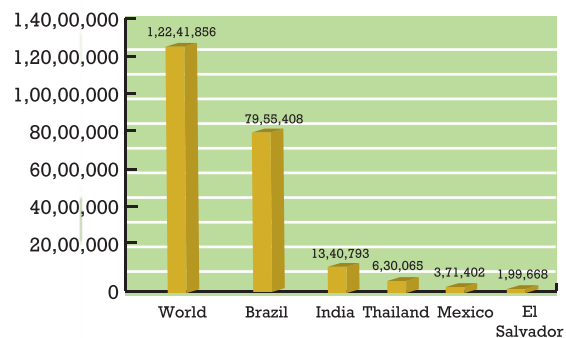
**2021 Global Imports 15,095,904 USD**

No.	Country	Value USD
1	Indonesia	2,229,890
2	China	1,942,598
3	USA	1,287,203
4	Nigeria	901,189
5	Malaysia	813,113



**2021 Global Exports 12,241,856 USD**

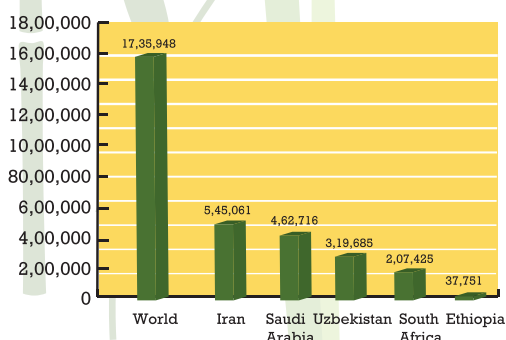
No.	Country	Value USD
1	Brazil	7,955,408
2	India	1,340,793
3	Thailand	630,065
4	Mexico	371,402
6	El Salvador	199,668



**170113: Raw cane sugar, in solid form, not containing added flavoring or coloring matter, obtained without centrifugation, with sucrose content 69° to 93°, containing only natural anhydrous microcrystals (see subheading note 2)**

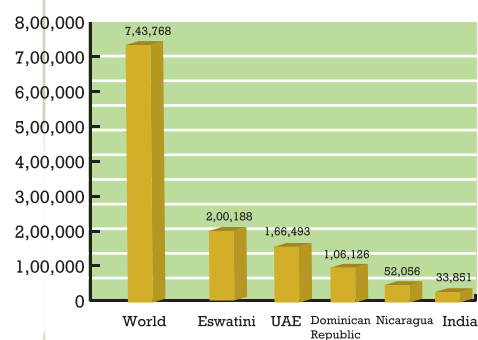
**2021 Global Imports 1,735,948 USD**

No.	Country	Value USD
1	Iran, Islamic Republic	545,061
2	Saudi Arabia	462,716
3	Uzbekistan	319,685
4	South Africa	207,425
5	Ethiopia	37,751



**2021 Global Exports 743,768 USD**

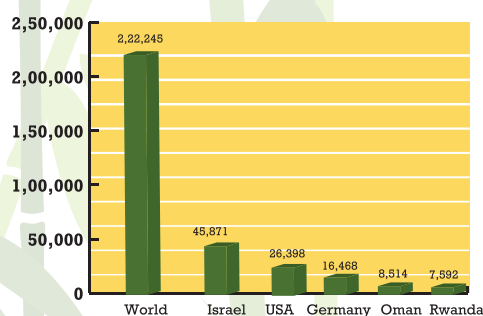
No.	Country	Value USD
1	Eswatini	200,188
2	UAE	166,493
3	Dominican Republic	106,126
4	Nicaragua	52,056
23	India	33,851



## 170191: Refined cane or beet sugar, containing added flavoring or coloring, in solid form

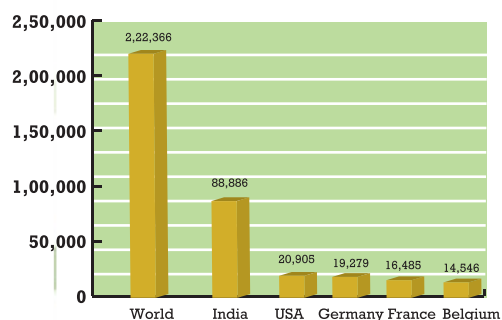
### 2021 Global Imports 222,245 USD

No.	Country	Value USD
1	Israel	45,871
2	USA	26,398
3	Germany	16,468
4	Oman	8,514
5	Rwanda	7,592



### 2021 Global Exports 222,366 USD

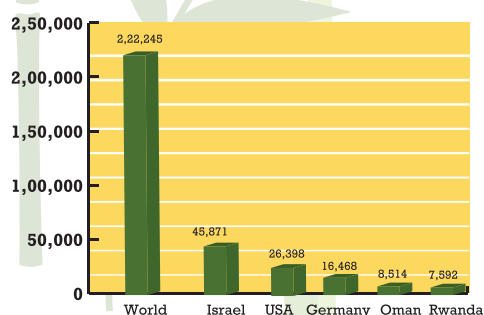
No.	Country	Value USD
1	India	88,886
2	USA	20,905
3	Germany	19,279
4	France	16,485
6	Belgium	14,546



## 170290: Sugars in solid form, incl. invert sugar and chemically pure maltose, and sugar and sugar syrup blends containing in the dry state 50% by weight of fructose, not flavored or colored, artificial honey, whether or not mixed with natural honey and caramel (excluding cane or beet sugar, chemically pure sucrose, lactose, maple sugar, glucose, fructose, and syrups thereof)

### 2021 Global Imports 222,245 USD

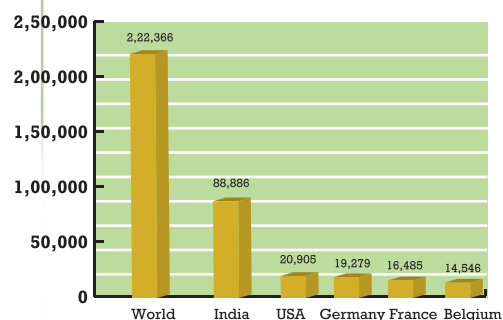
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Source: ITC Trade Map, 2021.

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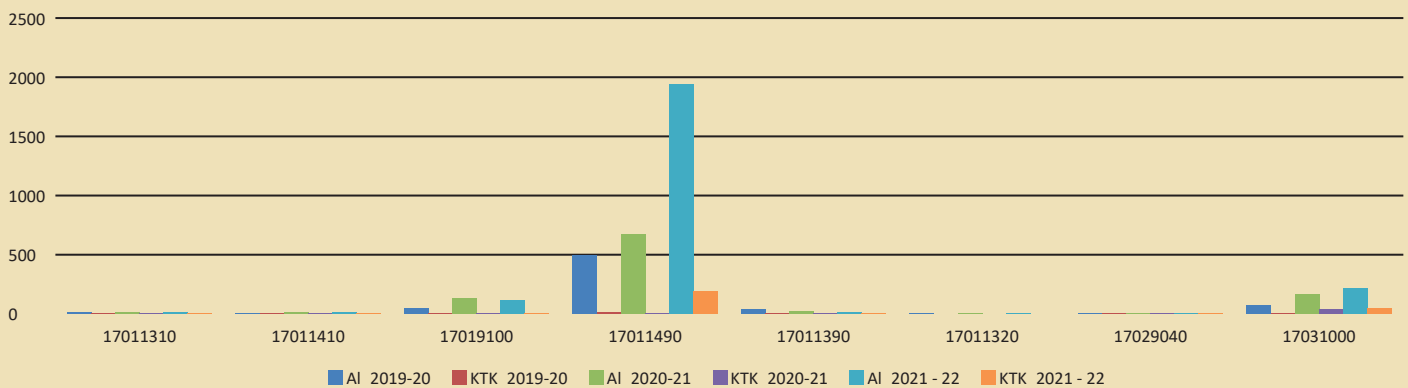


## Export performance of Sugarcane 2019 to 2022: All India and Karnataka

No	HS Code	Description	2019-20		2020-21		2021-22		Major Importing Countries
			AI	KTK	AI	KTK	AI	KTK	
1	17011310	Cane jaggery	10.81	0.8	15.90	1.19	15.38	0.88	Malaysia, USA and Nepal
2	17011410	Other Cane sugar: cane jaggery	6.36	0.07	14.21	0.13	13.52	0.07	USA, Nepal and UAE
3	17019100	Sugar refined containing flavouring or clearing matter	49.55	3.91	135.06	4.63	112.05	5.88	Tanzania, Sudan and UAE
4	17011490	Other Cane Sugar excluding those specified in note 2	494.91	11.21	675.32	0.70	1941.61	185.99	Indonesia, Bangladesh and Iraq
5	17011390	Other Cane Sugar specified in note 2	37.39	0.2	20.72	0.01	13.17	0.03	Somalia, Djibouti and Nepal
6	17011320	Khandsari Sugar	0.46	Nil	0.47	Nil	0.23	0	Bhutan, Nepal & Singapore
7	17029040	Caramel	2.69	0.05	3.07	0.05	3.73	0.07	Indonesia, Nigeria, UAE
8	17031000	Cane Molasses	72.21	4.01	167.61	35.99	214.62	50.62	Netherlands, Thailand , Vietnam

\* Value in Mn USD.

Source: Exim Analytics, DGCIS.

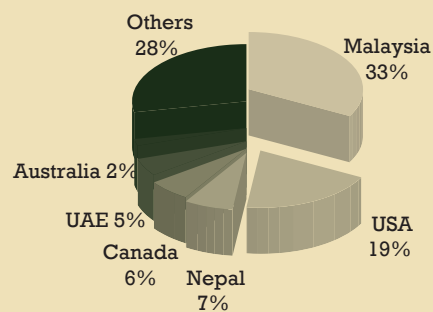
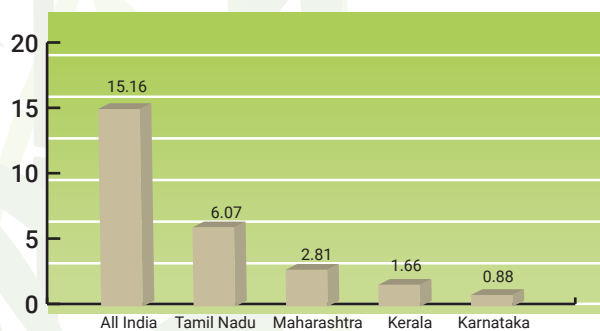


# Export Analysis of Sugarcane and its products: 2021-22

## 17011310: Cane jaggery

No.	State	Value USD Mn	Destination
0	All India	15.16	Malaysia, USA, Nepal (+78)
1	Tamil Nadu	6.07	Malaysia, Singapore, UAE (+33)
2	Maharashtra	2.81	USA, UAE, Afghanistan (+48)
3	Kerala	1.66	Saudi Arabia, UAE, Oman (+15)
5	Karnataka	0.88	USA, Canada, Australia (+10)

### Exporting States

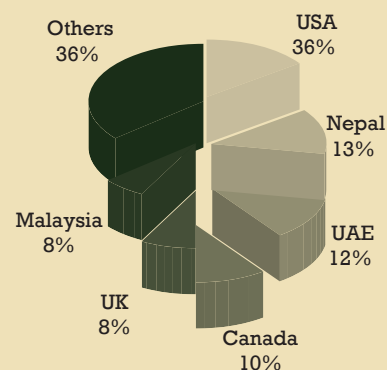
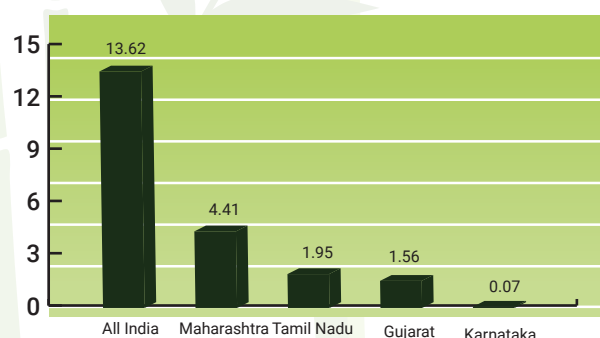


### Importing Countries

## 17011410: Other cane sugar: cane jaggery

No.	State	Value USD Mn	Destination
0	All India	13.62	USA, Nepal and UAE (+78)
1	Maharashtra	4.41	USA, UAE, UK (+56)
2	Tamil Nadu	1.95	Malaysia, UAE, Singapore (+31)
3	Gujarat	1.56	UK, USA, Canada (+49)
14	Karnataka	0.07	Australia, UAE, Canada (+8)

### Exporting States

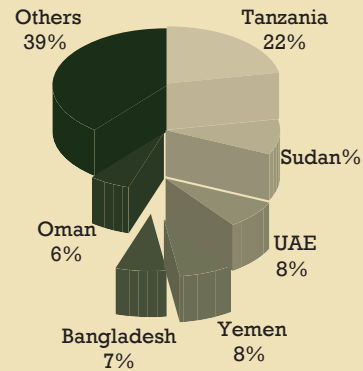
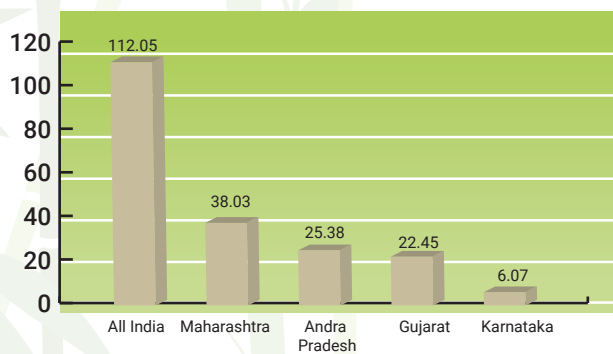


### Importing Countries

### 17019100: Sugar refined containing flavoring or clearing matter

No.	State	Value USD Mn	Destination
0	All India	112.05	Tanzania, Sudan and UAE (+51)
1	Maharashtra	38.03	Tanzania, Oman, Sri Lanka (+28)
2	Andhra Pradesh	25.38	Sudan, Yemen, Sri Lanka(+7)
3	Gujarat	22.45	Somalia, Djibouti, UAE (+25)
6	Karnataka	6.07	Tanzania, Sri Lanka, China RP(+6)

#### Exporting States

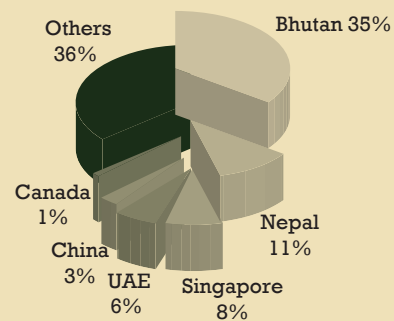
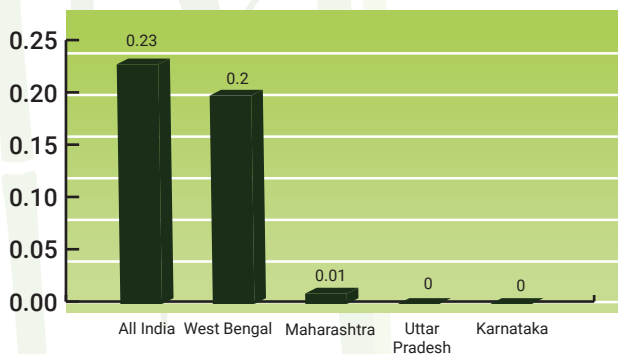


#### Importing Countries

### 17011320: Khandsari sugar

No.	State	Value USD Mn	Destination
0	All India	0.23	Bhutan, Nepal, Singapore (+15)
1	West Bengal	0.2	Bhutan
2	Maharashtra	0.01	Singapore, Kenya, Australia (+4)
3	Uttar Pradesh	0.00	UAE
9	Karnataka	0.00	USA

#### Exporting States

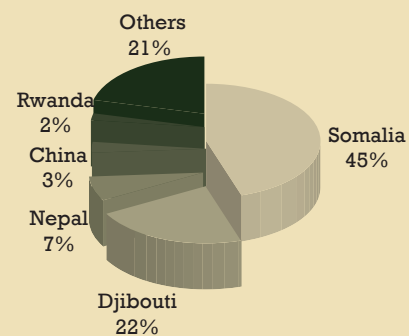
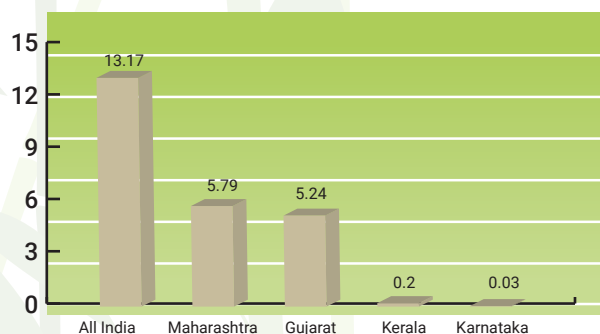


#### Importing Countries

### 17011390: Other Cane Sugar specified in note 2

No.	State	Value USD Mn	Destination
0	All India	13.17	Somalia, Djibouti and Nepal (+58)
1	Maharashtra	5.79	Somalia, Djibouti , China (+25)
2	Gujarat	5.24	Somalia, Fiji IS, USA (+31)
3	Kerala	0.20	UAE, USA, Saudi Arabia (+10)
10	Karnataka	0.03	UAE, Sierra Leone, Mauritius (+3)

#### Exporting States

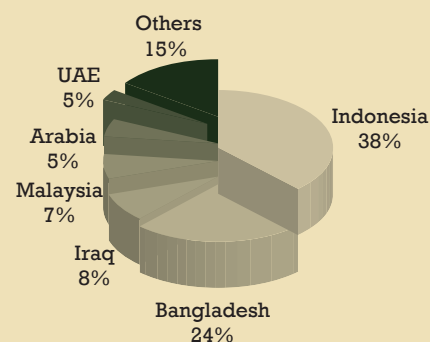
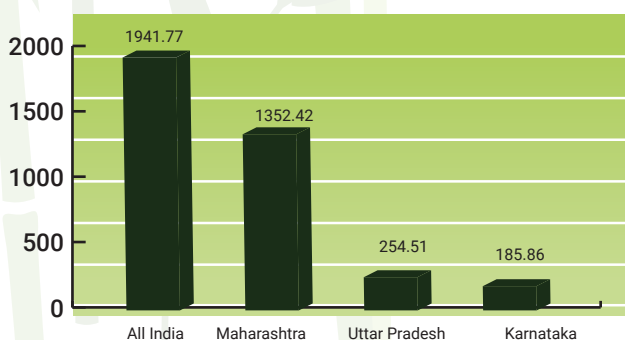


#### Importing Countries

### 17011490: Other Cane Sugar excluding those specified in note 2

No.	State	Value USD Mn	Destination
0	All India	1941.77	Indonesia, Bangladesh and Iraq (+68)
1	Maharashtra	1352.42	Indonesia, Bangladesh and Iraq (+55)
2	Uttar Pradesh	254.51	Indonesia, Bangladesh and UAE (+14)
3	Karnataka	185.86	Indonesia, Bangladesh and Iraq (+24)

#### Exporting States



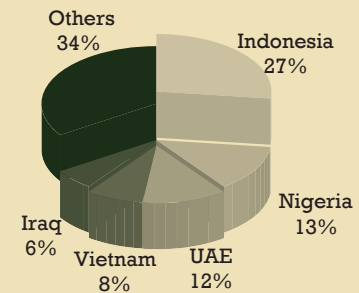
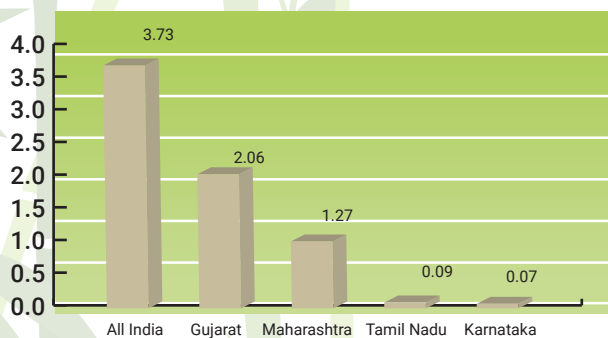
#### Importing Countries



### 17029040: Caramel

No.	State	Value USD Mn	Destination
0	All India	3.73	Indonesia, Nigeria, UAE (+67)
1	Gujarat	2.06	Indonesia, Nigeria, Vietnam(+40)
2	Maharashtra	1.27	UAE, Sri Lanka Israel (+35)
3	Tamil Nadu	0.09	Nigeria, Myanmar, Ghana(+12)
4	Karnataka	0.07	Congo D.R, Zambia, Malawi (+7)

#### Exporting States



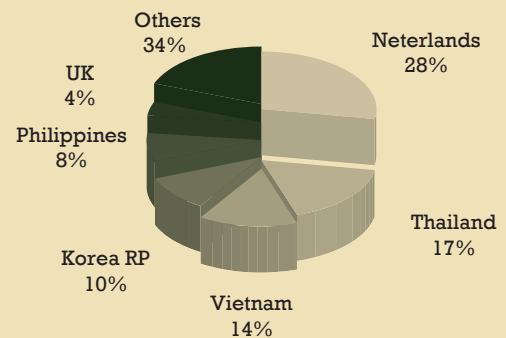
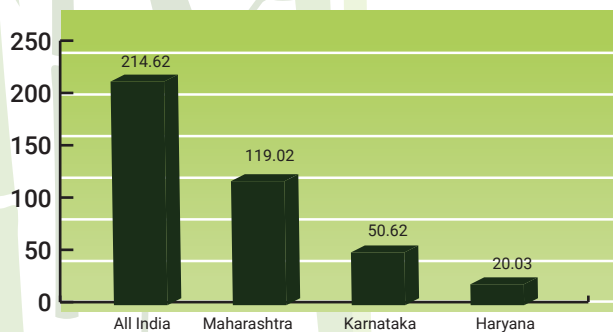
#### Importing Countries

### 17031000: Cane Molasses

No.	State	Value USD Mn	Destination
0	All India	214.62	Netherlands, Thailand, Vietnam (+58)
1	Maharashtra	119.02	Netherlands, Vietnam, Thailand (+14)
2	Karnataka	50.62	Netherlands, Phillipines, Thailand (+7)
3	Haryana	20.03	Korea, UK, Netherlands (+6)

Source: Exim Analytics, DGCIS 2021-22.

#### Exporting States



#### Importing Countries

## SPS -TBT Standards for Cane Sugar:

Raw cane sugar mainly consists of types of sucrose, fructose, and glucose (<95-98%). Additionally, the product contains water (1.5-3.5%) and minerals (<1-5%). Low moisture content significantly lengthens its shelf life by reducing the risk of moulds and other contamination by microorganisms

For European buyers, mineral content is a major topic in quality standards. The maximum level of mineral content is dependent on the type of raw cane sugar and whether the sugar has been partially centrifuged. Mineral content is often measured as ash. Unless the sugar contains many impurities, minerals account for most ash. For example, in the Philippine National Standard for Muscovado Sugar, the ash level in muscovado sugar may not exceed 3%. Compared to demerara sugar, muscovado sugar can have a much higher mineral content. Under the standards of Tate & Lyle, a large British sugar refiner/importer, demerara sugar should not exceed a maximum ash level of 0.45%. Compliance with this standard requires partial centrifugation of the raw cane sugar to remove excess molasses.

If raw cane sugar is overheated, it can contain high levels of acrylamide. Acrylamide has the potential to cause cancer. There are no European legal requirements for the level of acrylamide yet, but the European Union is investigating the need to take legal measures. The German government has set a maximum acrylamide value of 1000 µg/kg for all food products.



## Minimum requirements for Jaggery:

- I. Jaggery shall be :-
  - A. well dried, of firm consistency- not sticky or plastic.
  - B. having characteristic taste and flavour;
  - C. clean and free from insect infestations, live insect , dead insects, insect fragments, mould or mites, larvae, rodent hair and excreta.
  - D. free from fermented and musty odour;
  - E. free from dirt or soil.
  - F. free from natural or synthetic colours, artificial sweetening agents.
  - G. free from any fungal or bacterial contamination.
  - H. free from deleterious substances injurious to health.
  - I. free from bleaching agents.
  - J. free from added starch
- II. Jaggery shall comply with the residual level of Poisonous Metals (rule 57), crop contaminants (rule 57-A), naturally occurring toxic substances (rule 57-B), Insecticides and Pesticides residues (rule 65) and other food safety requirements as laid down under the provisions of Prevention of Food Adulteration Rules, 1955 for domestic purposes.
- III. Jaggery shall comply with the residual levels of heavy metals, pesticides residue and any other food safety requirements as prescribed under Codex Alimentarius Commission or importing countries requirement for export purposes.
- IV. Jaggery shall be sweet to the taste and free from any objectionable flavor

## SPS-TBT standards for top 5 countries for HS Code 17011310: Cane Jaggery

<https://www.indiantradeportal.in/vs.jsp?pid=17&agreements=127-1%2C127-3%2C127-7%2C146-7%2C146-8%2C146-16%2C186-7%2C191-1%2C191-3%2C191-7%2C225-7&indHscode=1351&hscodes=1701130000-127%2C17011310-146%2C170113100000-186%2C17011300-191%2C1701131000-225%2C&127=1701130000&146=17011310&186=170113100000&191=17011300&225=1701131000>

## Processing technologies available

- > Sugarcane Juice Bottling:  
<https://cftri.res.in/technologies/BVP/sjb.pdf>
- > Fortified sugarcane beverage in glass bottles:  
<https://cftri.res.in/technologies/BVP/fsb.pdf>
- > Bio-preservation of ready-to-eat sugarcane chunks:  
<https://cftri.res.in/technologies/FVP/bpr.pdf>
- > Sugarcane Juice Spread:  
[https://cftri.res.in/technologies/SFS/sugarcane\\_juice\\_spread.pdf](https://cftri.res.in/technologies/SFS/sugarcane_juice_spread.pdf)
- > Sugarcane de-skinning machine:  
<https://cftri.res.in/technologies/FM/ssm.pdf>
- > N-Triacontanol:  
<https://cftri.res.in/technologies/SFS/triacontanol.pdf>
- > Processing of jaggery powder:  
<http://www.niftem-t.ac.in/pmfme/jaggerymet.pdf>
- > Cane Sugar and Molasses:  
<https://www.britannica.com/science/sugar-chemical-compound/Crystallization>

## Action plan

- Though India ranks 2nd in production of Sugarcane, we are not among the top ten exporting countries. However, India ranks 1st in sugar, jaggery and other by products of Sugarcane.
- Sugar and Sugarcane policy formulated by Department of Food and Public distribution under the Ministry of Consumer affairs, Food and Public distribution, Government of India supports cultivation and expansion of Sugarcane as a cash crop. Highlights of the policy: <https://dfpd.gov.in/sugar-sugarcane-policy.htm>
- The Central Government has announced an incentive for sugar mills in the form of an additional domestic sales quota to those that export sugar and divert the commodity towards ethanol making, in the new 2021-22 season starting October.
- For ethanol making, mills had diverted 9,26,000 tonnes of sugar in 2019-20 and 3,37,000 tonnes in 2018-19. And, in the current season, more than 20 lakh tonnes is likely to be diverted. In the new season, about 35 lakh tonnes of sugar is estimated to be diverted; and by 2024-25, about 60 lakh of sugar is targeted to be diverted to ethanol, which would address the problem of excess sugarcane/ sugar as well as delayed payment issue, the Union ministry said.
- Several measures have been taken to sugarcane producers and sugar industry via the task force under NITI Aayog in the year 2020.  
[https://www.niti.gov.in/sites/default/files/2021-08/10\\_Report\\_of\\_the\\_Task\\_Force\\_on\\_Sugarcane\\_and\\_Sugar\\_Industry\\_0.pdf](https://www.niti.gov.in/sites/default/files/2021-08/10_Report_of_the_Task_Force_on_Sugarcane_and_Sugar_Industry_0.pdf)

## Organizations which work for Sugar and related industries:

- Indian Sugar Mills Association (ISMA)
- All India Sugar Trade Association (AISTA)
- National Sugar Institute (NSI)
- The Sugar Technologists Association of India (STAI)





# Responsibility Matrix

Sl. No.	Actions	Responsibility
1	Research on best global varieties	APEDA India and ICAR
2	Delegation of prospective exporters to Myanmar, Malaysia and Vietnam to improvise on cane products	Department of Food and Public distribution under the Ministry of Consumer affairs, Food and Public distribution, Government of India
3	Farmer Sensitization program on available opportunities	APEDA, India and KAPPEC Karnataka.
4	Inviting Exporters/ entrepreneurs to Investors meet for contract farming and processing industries	APEDA, India and KAPPEC Karnataka.
5	Farmer database and aggregation of the produce in Karnataka	APEDA, India; Agriculture department and related FPOs
6	Processing technology and Value Addition Handholding	CFTRI, Mysore and IIFPT, Thanjavur
7	Export training, orientation, and Market Intelligence	APEDA and VTTC Karnataka

## Regulators and Service providers

No.	Organization	Service	Contact
1.	APEDA	RCMC, Market survey and assistance.	1st Floor, Beeja Bhavan, Bellary Rd, Hebbal, Bengaluru - 560024. E: <a href="mailto:apedabl@apeda.gov.in">apedabl@apeda.gov.in</a>
2.	KAPPEC	PMFME Scheme	17, Richmond Rd, Shanthala Nagar, Richmond Town, Bengaluru - 560025. E: <a href="mailto:kappec1996@gmail.com">kappec1996@gmail.com</a>
3.	DGFT	IEC, Customs and ICEGATE	6th floor, Kendriya Sadan, C & E Wing, 17th main, Koramangala 2nd Block, Koramangala, Bengaluru - 560034 E: <a href="mailto:bangalore-dgft@nic.in">bangalore-dgft@nic.in</a>
4.	Plant Quarantine	Phyto Sanitary certification (SPS)	Hebbal-Boopasandra Road HA Farm Post, Bengaluru - 560024. E: <a href="mailto:dd-pqfsb-ka@nic.in">dd-pqfsb-ka@nic.in</a>
5.	BIAL Cool Port	Freight and Flight	KIAL Road, Devanahalli, Bengaluru -560300 W: <a href="http://www.aisats.in">http://www.aisats.in</a>