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## **PERFORMANCE OF AGRO BASED INDUSTRIES IN INDIA WITH SPECIAL REFERENCE TO SUGAR INDUSTRY**

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### *Abstract*

*The Indian sugar industry is a key driver of rural development, supporting India's economic growth. The industry is inherently inclusive, supporting over 50 million farmers and their families, along with workers and entrepreneurs of almost 550 sugar mills, apart from a host of wholesalers and distributors spread across the country. The Indian sugar industry is cyclical as, on the one hand it serves the domestic market, the largest in the world. Sugar is a sector of significant importance to the national economy. It has done so by commercially utilizing the rural resources to meet the great domestic demand for sugar and by generating surplus energy to meet the increasing energy needs of India. In addition to this, the industry has become the mainstay of the alcohol industry. The sugar sector also has a significant standing in the global sugar space. The Indian domestic sugar market is one of the largest markets in the world in terms of volume. India is also the Second largest sugar-producing nation and remains a key growth driver for world Sugar growing above the Asian and world consumption growth average.*

**Keywords:** *Agro-based industry, Agriculture, Farmers, Labour intensive, Capital saving*

### **INTRODUCTION**

Agriculture and industry are integral components of the development process due to their mutual relationship as agriculture provides inputs to the industry and output of the industry is used in agriculture to expand production. There are many industries which are based on agricultural production. Agro-based industries are depending on agriculture for their raw-material and other basic inputs. This inter-dependence must be oriented to suit the need of our country

and State. Stabilization and growth of agricultural production results in rapid advancement in output and employment in agro-industries. Further, the cumulative effect of agricultural growth and growth of agro-industries creates greater opportunities for industrial growth as well as integration of the different sectors of the economy. Agro-based industries may be classified into two categories namely food processing industries and non-food processing industries. Food processing industries mainly deal with the

preservation of perishable products and utilisation of by-products for other purposes. These types of industries include the processing of wheat, rice, maize, barley, pulses, meat, fruits, vegetables, etc.

#### Agro based Industries in India

Agro industry is an enterprise that processes raw materials, including ground and tree crops as well as livestock. The degree of processing can vary tremendously, ranging from the cleaning and grading of apples to the milling of rice, to the cooking, mixing, and chemical alteration that create a texturized vegetable food agro industries can be roughly categorized according to the degree the raw material is transformed. In general, capital investment, technological complexity and management requirements increase in proportion with the degree of transformation.

#### Sugar Industry in India

The sugar industry in India plays a vital role in socio economic development in rural areas by mobilizing rural resources and generating higher income and employment opportunities. About 7.5 percent of the rural population covering about 45 million sugarcane farmers, their dependents, and a large number of agricultural laborers are involved in sugarcane cultivation, harvesting, and ancillary activities. About half a million skilled and semi-skilled workers, From the rural areas are also engaged in the sugar industry. In India, the sugar industry is the second largest agro-based industry, next only to textiles and contributes about Rs.1650 crore to the central exchequer as excise duty and taxes annually. Besides, the State Governments realize about Rs.600 crore annually through purchase taxes, cess, etc. The total value of sugarcane produced in the country is estimated at Rs.24000 crore per year.

The sugar industry in India finds itself entangled in a complex web of problems leading to declining profitability

to the cane growers as well as the sugar industry. The reasons for the same are to be traced and suitably addressed to give a boost to this sector in the country. Unlike many western or major sugarcane growing countries, sugarcane is the only source of sugar in our country, and therefore, any mismatch between demand and supply of sugar in the country assumes significance at the national level and influences the economics of sugarcane cultivation to a great extent. The initiatives by the State Governments in the form of fixing a remunerative sugarcane price and pressurizing sugar mills to make payment within a reasonable time encouraged farmers to put in more area under the sugarcane crop.

This underlines the need to study the economics of sugarcane cultivation to understand the effectiveness of the price policy in determining the area under sugarcane crop. The initiatives of research institutions, particularly those directly involved with sugarcane crop, are required to be listed to study the growth in productivity of sugarcane crop. Further, the globalization of the Indian economy started in the early 90s is bound to direct the trade of agricultural commodities in the years to come.

#### Sugar Cultivation in India

Sugarcane and sugar beet are the main sources of sugar in the world. Out of total sugar produced in the world 60 per cent is obtained only from sugarcane. Asia is the largest producer of sugar followed by Europe. Most of the sugar in Asia comes from sugarcane whereas in Europe from sugar beet. Presently sugarcane is grown in an area of 16 m. ha in over 79 countries. The global production of raw sugar is 112 m.t. India stands first in area (3.93 m. ha) and production (167 m.t) among the sugarcane growing countries of the world. Uttar Pradesh has the largest area almost 50 per cent of the cane area in the country, followed by Maharashtra, Karnataka,

Tamil Nadu, Andhra Pradesh, Gujarat, Bihar, Haryana and Punjab. These nine are most important sugarcane producing states. Sugarcane production is also highest in U.P. followed by Maharashtra. Productivity wise, Tamil Nadu stands first with over 100 tonnes

per hectare followed by Karnataka, Maharashtra. Bihar has the lowest productivity amount the major sugarcane growing states. The sugar industry is the second largest agro-based industry, next only to textiles, in the country.

Table 1

Performance of Sugar and Sugar Cane Production in India during 2004-05 to 2017-18

Year	Area under Sugarcane (000 hectares)	Yield of cane (tonnes/hectare)	Production of sugar (000 tonnes)	No. of factories	Actual cane crushed (000 tonnes)	Production of sugar (000 tonnes)	Recovery (%)	Production of molasses (000 tonnes)	Molasses yield (tonnes/1000 tonnes cane)	Production of ethanol (000 tonnes)
1	2	3	4	5	6	7	8	9	10	11
2004-05	3661	64.8	237088	400	3545	124771	10.17	12691	96	5514
2005-06	4202	66.9	281172	453	3606	188672	10.22	19267	126	8551
2006-07	5151	69.0	355520	504	3474	279249	10.17	28361	174	13109
2007-08	5055	68.9	348188	516	3546	249906	10.55	26356	149	11313
2008-09	4415	64.5	285029	488	3725	144978	10.03	14538	.87	6542
2009-10	4175	70.0	292302	490	3825	185548	10.20	18912	108	8400
2010-11	4885	70.1	342382	527	3650	239807	10.17	24394	136	10970
2011-12	5106	69.3	353768	529	3868	256975	10.25	26342	137	11824
2012-13	5279	67.1	354400	526	4125	250598	10.03	25140	126	11744
2013-14	534.1	64.7	345600	509	4088	238464	10.23	24396	125	10882
2014-15	5307	69.1	366800	538	4101	273046	10.37	28310	135	12482
2015-16	5284	63.7	336900	526	4192	236492	10.62	25125	117	10873
2016-17	4945	61.3	303600	493	4337	194078	10.44	20285	99	9026
2017-18	5042	81.5	411000	525	4488	302427	10.74	32479	140	14063

The above table indicates the figures of the area under sugarcane yield of sugarcane. Production of sugarcane. The number of factories, working capacity. Cane crushed,

recovery. Sugar production, duration, and molasses production from 2004-2005 to 2017-18.

Table 2

## State-wise Sugarcane Cultivation in India (Thousand Hectares)

States	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Assam	29	27	30	-	-	-	-	-	-	-
A.P. & Telangana	196	158	192	204	190	195	210	190	186	177
Bihar	112	116	248	170	252	298	302	280	296	300
Gujarat	221	154	190	194	203	182	185	185	180	182
Haryana	90	74	85	95	100	118	115	116	120	122
Kerala	2	3	3	-	-	-	-	-	-	-
Maharashtra	768	756	965	1025	937	940	1060	1050	765	915
M.P. & Chhattisgarh	70	62	65	81	80	85	131	155	150	140
Karnataka	281	337	423	432	427	476	499	510	410	415
Orissa	11	8	13	40	40	42	30	30	43	35
Punjab	81	60	70	95	95	96	98	100	105	105
Pondicherry	2	2	-	-	-	-	-	-	-	-
Rajasthan	6	6	5	-	-	-	-	-	-	-
Tamil Nadu	309	293	316	335	320	285	255	250	260	201
Uttar Pradesh	2084	1977	2125	2252	2475	2513	2307	2302	2310	2330
Uttarakhand	107	96	107	108	110	111	115	116	120	120
West Bengal	18	14	15	-	-	-	-	-	-	-
Others	28	32	33	75	50	-	-	-	-	-
<b>Total</b>	<b>4415</b>	<b>4175</b>	<b>4885</b>	<b>5106</b>	<b>5279</b>	<b>5341</b>	<b>5307</b>	<b>5284</b>	<b>4945</b>	<b>5042</b>

It is observed that, Uttar Pradesh is the largest sugarcane cultivation area and in South India, it is Karnataka, and Tamil Nadu, Andhra leading state in cultivating sugarcane crops in India. Pradesh and Telangana have shown a considerable Maharashtra in another state given more importance amount of cultivating sugar cane crops. It is also very to sugar cane

cultivation Bihar, Gujarat, Haryana, clear that starts like Assam, Kerala, Pondicherry Uttarkhand, Madhya Pradesh, and Chhattisgarh (UT) Rajasthan, and West Bengal are shown a dismal focus moderate level of cultivation. In the case of feature of sugarcane cultivation.

Table 3

## State-Wise Number of Centrifugal Sugar Factories Working in India

States	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Andhra Pradesh	35	35	37	37	36	24	22	19	18	18
Bihar	9	9	10	11	11	11	11	11	11	11
Goa	1	1	1	1	1	1	1	1	1	1
Gujarat	18	18	19	19	18	18	20	21	20	17
Haryana	15	14	14	14	14	14	14	14	14	14

Karnataka	50	54	59	58	60	62	65	64	64	66
MadhyaPradesh	9	11	13	13	12	14	16	17	17	18
Maharashtra	147	143	167	170	172	157	183	180	152	187
Orissa	5	4	5	5	5	5	3	3	3	2
Punjab	16	15	16	17	16	16	16	16	16	16
Puducherry	1	1	2	2	2	2	2	1	1	m
Rajasthan	1	1	1	1	1	1	1	1	1	1
Tamil Nadu	37	41	44	43	43	42	43	42	39	36
East U.P	44	42	42	42	40	38	38	38	38	38
West U.P.	35	35	34	33	33	33	32	31	31	48
Central U.P.	53	51	49	49	49	48	48	48	47	4
West Bengal	1	1	1	1	1	1	1	1	1	1
Uttarakhand	10	10	10	10	9	9	9	8	8	7
Chhattisgarh	1	3	3	3	3	3	3	3	4	4
Telangana	-	-	-	-	-	10	10	7	7	7
All India	488	490	527	529	526	509	538	526	493	525

About the number of sugar factories in India for the period from 2008-09 to 2017-18 presented. The table indicates that there are no sugar industries found in Assam, Kerala, where as in the state of Telangana, sugar factories are missing for the period from 2008-09 to 2012-13. Another noteworthy feature of the above table implies that there is only one sugar factory run in the state of Goa and Rajasthan the highest number of sugar factories are found in the state like Maharashtra (187), Uttar Pradesh (90), Karnataka (66) and Tamil Nadu (36). Rest of the state only a few sugar factories are working.

#### Major Findings

- The area under sugarcane cultivation in the world is marginally decreased to 20.27 million ha. In 2004 to 19.78 million ha. In 2005. This led to a decrease in sugar cane production.
- Major sugarcane produced in Uttar Pradesh, Maharashtra, stood in second place. In Southern India both Karnataka and Tamil Nadu were the largest in sugarcane production.

- It has been observed that Uttar Pradesh is the leading State in the production performance of sugar production. Similarly, in the Southern State, Karnataka performed a leading role in the production of sugar.
- It has been observed that the States like Assam, Kerala, and Rajasthan sugarcane cultivation is almost negligible.
- It is also observed that there are no sugar industries found in Assam and Kerala. In the case of Telangana, there were no sugar factories from 2009 to 2013.
- It is further observed that the States like Assam, Nagaland, and Kerala has been ruled out in the sugar and sugar-related production activities. It has been further observed that Karnataka and Telangana have done a remarkable job regarding crushing activities during 2017-18 compare to 2016-17.

#### Conclusion

Agro based industries in India is one of the basic and backbone of Indian economy which provide employment,

income generation, industrial inputs and outputs, regional growth and associated with all kind of walks of human beings. Growth of agricultural sector became a growth of socio-economic development of the country. Therefore, it is concluded that, there is a vast scope in the export of agro based products in future with huge volume of foreign exchange. There is a need of specialized and effective steps to be taken for promoting the agro based export in future.

Thus, sugar industries in India play a pivotal role. The major contribution of significance crops comes from few states Viz., Uttar Pradesh, Maharashtra, Haryana, Gujarat, Karnataka, Andhra Pradesh, Tamil Nadu. It is at a very lower level, or almost the crop is missing in these states viz., Punjab, Assam, Orissa, West Bengal Rajasthan, and Pondicherry Besides, India is one of the longest sugar-producing countries next only to Brazil. It also undertakes the export of sugar to other countries. Further among the south Indian states, Karnataka is one of the south Indian states in sugar cane cultivating and sugar production.

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