

**SPECIAL ISSUE**

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**SOCIETY OF TRAINING AND RESEARCH MANAGEMENT  
AURANGABAD (M.S.)**



# Invitation



Pravara Rural Education Society's

**Padmashri Vikhe Patil College of Arts, Science and Commerce,**

Pravaranagar, At./Po. Loni, Tal:Rahata, Dist: Ahmednagar

Re-Accredited by NAAC at 'A' Grade with CGPA 3.61 out of 4  
College with Potential for Excellence

ISO 9001: 2008 Certified & Recipient of Best Rural College Award

Solicits your gracious presence at the

## INAUGURAL FUNCTION

OF

## NATIONAL SEMINAR

ON

## 'CHALLENGES BEFORE INDIAN ECONOMY'

(Sponsored by University Grants Commission, New Delhi)

On Saturday 17<sup>th</sup> August, 2013 at 10.00 am

### Chief Guest

**Hon'ble Prof. Sukhadeo Thorat,**

Former Chairman, University Grants Commission, New Delhi  
Chairman, Indian Council of Social Sciences Research, (ICSSR) New Delhi

&

### President

**Hon'ble Padmabhushan Shri.Balasaheb Vikhe Patil**

Former Minister for Heavy industries (Govt.of India) and  
Chairman, Pravara Rural Education Society, Pravaranaagar

### Guest of Honour

**Hon'ble Dr.Y.K. Alagh**

Former Minister, Power, Planning, Science and Technology, GOI  
Chancellor, Nagaland University  
Chairman, Institute of Rural Management Anand

**Hon'ble Shri.Radhakrishna Vikhe Patil (MLA)**

Minister for Agriculture and Marketing (Govt. of Maharashtra)  
Trustee, Pravara Rural Education Society, Pravaranaagar

**Hon'ble Shri.Rajendra Vikhe Patil**

Secretary General, Pravara Rural Education Society, Pravaranaagar  
Senate Member, University of Pune.

**Dr.R.G.Rasal**

Co-ordinator

**Dr.S.R.Walunj**

Principal

• Venue : Seminar Hall, Library Building

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- Decline in investment in Agriculture- we have generally been given to understand that govt. investment was significant in boosting growth in agriculture. Beside the role of the govt. was not only to raise investment but also induce private investment in agri.
- The government failed to control the rapid growth of population in rural area and also to create non-agricultural employment in the rural sector
- Rural poverty is growing in general creating a sense of despair and anger among the rural poor
- Unbalanced agricultural development after green revolution.

#### **Conclusion:-**

The Indian agriculture sector there are many challenges but when we see the progress & contribution of agriculture in production & national income there is good progress after green revolution many agro base industry is growing in India. But to remove or overcome the challenges we have to take steps for second green revolution to increase agro literacy & technology.

#### **Reference Books:-**

1. Rasal Rajendra Indian and global Economic Development Success Publication Pune
2. 2011 Dedhmukh P.V. Farmers Suicides in India
3. Annual Report (2011-12) Department of Agriculture and Co-operation, Ministry of Agriculture Govt. of India
4. Economic Survey of India (2012-13) Govt. of India
5. [www.agricoop.nic.in](http://www.agricoop.nic.in)
6. [www.rbi.org.in](http://www.rbi.org.in)
7. Dr R.K.Datir and other Indian Economy 2013. Nirali Publication.

## **Productivity of Sugarcane : An Overview**

**Dr. Barhate G. H.**

Associate Professor Head, Dept. of Com. & Research Centre C. D. J. College of Commerce, Shrirampur. (University of Pune) email- [ghbarhate@rediffmail.com](mailto:ghbarhate@rediffmail.com)

#### **Introduction -**

The sugar industry is the second largest agro-based industry. Sugar is produced in 135 countries, out of this sugarcane is used as raw material in 83 countries and beet is used by 52 countries. Out of the total production of sugar in the world, 80% sugar is produced from sugarcane and 20% from beet.

India is the second largest producer of sugar in the world after Brazil and is also largest consumer. Out of the total sugar production, India's share is near about 20%. Indian sugar industry is an important agro- based industry and plays a vital role in the development of rural area and economic upliftment of about 50 million sugarcane farmers and around 5 lakh workers directly employed in sugar industry. Employment is also generated in various ancillary activities.

Today, Indian sugar industry's annual output is worth approximately Rs. 80,000 crores although it has potential to grow at double digits and double its worth to Rs. 1,60,000 crores over the next five years. However, sugar sector needs to be freed from myriad restrictions. The sugar industry should be free from levy sugar and pricing of sugarcane should be fixed by considering inflation and rising of related prices. The cultivation and productivity of sugarcane in India is lower than other countries. It is necessary to increase the productivity of sugarcane for economic upliftment of sugarcane growers.

#### **2. Objectives of the study-**

1. To study India's share in global sugar production
2. To study area and production of sugarcane
3. To study productivity of sugarcane in India and Maharashtra
4. To study sugarcane cultivation seasons and productivity
5. To study causes of low productivity.
6. To suggest remedies to overcome the problems

#### **3. Methods of Data Collection-**

The research paper mainly is based on secondary data. It includes books, Rangarajan Committee Report, Research Journal, websites related with sugar industry, research papers and other published data related with the sugar industry.

#### **4. India's Share in Global Sugar Production-**

Highest number of sugar mills established in India (527) and Brazil is the second. However, per day crushing capacity of Indian sugar mills is just 3000 metric tones (MT). It is less than other top 9 sugar producing countries. Due to limited

crushing capacity India's share in global production is just around 15%. In the year 1960-61, sugar production was just 3 million tones. During the span of 50 years it is increased by 8 times. Sugar production in India increased continuously and on the other hand share in global sugar production has increased from 4.95% to 15%. In case of cane sugar only, India's sugar is 20% of the world production. India produces only white sugar, raw sugar and refined sugar is not produced by Indian sugar mills. The details are given below:

**Table 1 : India's share in Global sugar production (Million Tones)**

Particulars	1963	1970	1980	1990	2000	2010	2012
World Sugar Production	51.89	71.14	84.5	110.6	130	156.67	173.83
India's Sugar Production	02.57	03.73	05.14	12.04	18.51	24.60	26.2
India's Sugar in Global Sugar Production (%)	04.95	05.24	06.08	10.89	14.23	15.51	15.07

Source: *Indian's Sugar Policy and the World Sugar Economy. FAO International Sugar Conference, Fiji 2012*

### 5. Production and Productivity of Sugar & Sugarcane -

Sugarcane is a perennial grass that is produced in tropical climate zones. It matures in 12 to 16 months various varieties of cane are developed by sugarcane Research centers. Productivity of cane is based on different factors viz quality of agricultural land, availability and quality of water, use of fertilizer, rainy season, maturity period and harvesting. More productivity means higher production and economic benefit to the farmers. Because average cost of production is reduced and it is beneficial to the farmer and sugar mills.

Area under sugarcane has increased continuously from 1930-31 to 1991-92. After this period it was raised from 38.44 lakh hectares to 49.44 lakh hectares during 1991-92 to 2010-11. Over the same period, sugarcane production has increased from 253.995 lakh tones to 339.168 lakh tones. After steady rise in sugarcane production, it was declined during some period. It was highest i.e.355.520 lakh tones during 2006-07 due to highest area covered by sugarcane crop.

India's productivity of sugarcane is less than other countries viz. Brazil, Australia, Argentina, USA; However, it is increased from 30.9 to 68.6 per hectare during the period from 1930-31 to 2010-11. Sugarcane productivity was doubled, but its growth was uneven and it should be up to 100 tones per hectares. The details about area under sugarcane, average yield per hectare, sugarcane production, sugar production and recovery of sugarcane is given in the following table.

**Table 2 : Area, Sugarcane production and productivity in India**

Year	Area (lakh hectares)	Average Yield (Tones Per hectares)	Sugarcane Production (Million tones)	Sugar Production (Million tones)	Recovery (%)
1930-31	11.76	30.9	36.354	0.120	8.96
1940-41	16.17	32.1	51.978	1.113	9.70
1950-51	17.07	32.1	54.823	1.100	9.99
1960-61	24.15	45.5	110.001	3.021	9.74
1970-71	26.15	48.3	126.368	3.740	9.79
1980-81	26.67	57.8	154.248	5.150	9.98
1990-91	36.86	65.4	241.045	12.047	9.84
2000-01	43.16	68.6	295.956	18.511	10.48
2006-07	51.51	69.0	355.520	28.328	10.16
2007-08	50.55	68.9	348.188	26.357	10.55
2008-09	44.15	64.6	285.029	14.539	10.03
2009-10	41.75	70.0	292.032	18.912	10.19
2010-11	49.44	68.6	339.168	24.394	10.17

source :Co-Operative sugar , vol.43(4), December 2011.

### 6. Following are factors are cleared from the above table :

1. Area, average yield of sugarcane, production of sugarcane and sugar increased continuously during last 80 years.
2. From 2000-01 to 2010-11 growth of all the above factors was uneven, in the year 2007-08 highest area covered under the sugarcane crop ultimately sugarcane and sugar production was highest in the country.
3. There is no significant development in recovery of sugarcane. Sugar production is related with recovery also. Average recovery 10-17%, means after the crushing of one ton of sugarcane, production of sugar only slightly more than one quintal.

### 7. Sugarcane Production and Productivity in Maharashtra :

Maharashtra is the highest sugar producing State of India. Its sugarcane yield and sugar production is also highest in the country. Sugarcane is important cash crop and area under the sugarcane is increase even though the prices of sugarcane

not favourable of the sugarcane growers. The details of harvested area, sugarcane production and yield per hector is below

**Table 3 : Area, Sugarcane production and productivity in Maharashtra**

Year	Harvested area (lakh hectors)	Production (lakh MT)	Yield (Per hectors/tones)
1960-61	1.55	104.04	66.92
1970-71	1.67	144.33	86.53
1980-81	2.58	237.06	91.74
1990-91	4.42	381.54	86.40
2000-01	5.95	495.69	83.27
2009-10	7.56	641.59	84.87
2010-11	9.65	856.91	88.80
2011-12	10.22	894.56	87.53

Source : Economic survey of Maharashtra 2012-13. P.104

1. Maharashtra ranked first in harvested sugarcane area, sugarcane production and per hector productivity in the country.
2. Out of the total area under the sugarcane in the country 19.52 % area covered in Maharashtra state.
3. Share of Maharashtra in respect of sugarcane production is 26 %.
4. Per hector sugarcane yield is highest as compared to Indian average yield.

### 3. Sugarcane Cultivation methods and yield-

Maharashtra is the highest sugar producing state of India. Its sugarcane yield per hector in 2011-12 season was 87.53 MT. Uttarpradesh is the second highest state and its per hector yield was only 59.6 MT. Sugar recovery percentage is also greater than India's average recovery percentage. Sugarcane crop is cultivated in a four seasons in Maharashtra. Its yield and recovery percentage is based on cultivation season. The season wise cultivation, production, average yield and recovery is given in the following table.

**Table 5 : Season wise sugarcane cultivation, production and yield.**

Season	Share (%) in total cultivation	Production (Lakh MT)	Yield (per Hec./tone)	Recovery (%)	Crop duration (Month)
Adsali	10	122.64	120	12.30	17.00
Pre-Seasonal	30	275.94	90	12.00	14.50
Suru	20	143.08	70	11.45	12.00
Ratoon	40	276.94	65	10.50	11.00
Total/weighted average	100	818.60	80	11.32	12.85

Source: Price policy for sugarcane : The 2013-14 sugar season, CACP, August 2012, Table 5.1.

1. Four cultivation methods or seasons of sugarcane in Maharashtra. Ratoon method is very popular and 40% sugarcane growers are adopted this method.
2. Percentage of Pre-Seasonal cultivation is 30% as per CACP. However, due to scarcity of water resources in Maharashtra the proportion of adsali is more than Pre-season. 30% is based on misleading information.
3. Sugarcane yield per hector is highest in Adsali season. It is 120 MT and near about double than Ratoon crop. Average yield is 80 MT at the national level, but Adsali season yield is 50% more than Maharashtra's average yield.
4. Recovery sugar proportion in Maharashtra is highest in the country. Adsali season recovery is highest as compare to other seasons. Average recovery rate is 11.32%, it is greater than national average 10.17%.
5. Adsali sugarcane is better for yield and recovery, but crop duration is higher than other seasons.

### 9. Causes of low Productivity-

1. S.M.P. and now Fair and Remunerative Price of sugarcane is always not reasonable.
2. Sugarcane price and productivity is always dependent on each other.
3. Non-availability of fertilizer at the proper time.
4. Shortage of electricity.
5. Higher labour charges.
6. Shortage of manures.
7. Higher preparation of land charges (Tractor Charges).
8. Scarcity of quality water resources.
9. Drip irrigation system is adopted by only 10% farmers.
10. Sugarcane is water intensive-crop, monsoons rain always affected on production.

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