

## **An Economic Analysis of Sugarcane Production in Tamilnadu**

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### **ABSTRACT**

The twin objectives of increasing agricultural production and profitability at crop farm level have received widespread attention in farm production economies across the world. This is more so in India where agriculture continues to dominate in economic development, accounting one third of the gross domestic product and one fifth of foreign exchange. This sector absorbs about 52 percent of the total labour force(2004-2005) in the country and its contribution through links with manufacturing, distribution and services are very significant. Nearly 80 percent of the country's population still live in rural areas and are wholly or significantly dependent on agriculture and allied activities for their livelihood. The input system of the country too presents the fact that India is a country of ever expanding resource structure capable of meeting out the demand for agriculture, particularly in the context of increasing crop yield.

### **INTRODUCTION**

According to Johnson b.f. and Meller some aspects of agriculture's role appear to have a high degree of generality because of special features that characterize the agricultural sector during the course of economic development and therefore existence of enormous supply of resources in a potential farm is very necessary to explore the possibility of utilization of the supply for economic development. Lewi's two sector model, followed by Rani's and Fei on a theory of economic development stressed the existence of enormous supply in a potential farm and therefore it is necessary to explore the possibility of utilization of the surplus for economic development. However, many studies on agricultural development in India elsewhere also reveals the fact that the contribution of agricultural sector to GDP in India has continued to decline over years, while that of other sectors has increased more significantly. Supplementing to the above, in 1970-71 agriculture in India has contributed about 44 percent of GDP, which has declined to 31.4 percent and 14.6 percent respectively in 1990-91 and 2009-10 (at 2004-05 prices.)

### **STATEMENT OF THE PROBLEM**

Thus, sugarcane in the state has been subject to wider fluctuations for which both the farmers as well as the sugar industries are worse hit. More specifically, the sugarcane producers across the state are facing with the seasonal adversities, the sugar industries across, the state too are reportedly facing with the issues of high cane price, low sugar price, relatively a low recovery rate etc. With huge accumulation of arrears to sugarcane growers, the farmers in the state at large have not only limited their sugarcane area but also has lead for the shift in crop pattern to considerable extent.

The problem in the determination of cost-price relationship of sugarcane and its products also has assumed significance among the sugarcane growers in the state and are even made very debatable between policy makers, farmers and manufacturers of sugar in the state. In other words, both the

cost of production of sugarcane and sugar are reportedly increasing year by year which is seen evidential in the context of increasing trend in the satutory minimum price of sugarcane by

governments at the centre and states. Increasing cost of sugarcane cultivation some extent has even forced the cane growers for a shift in crop pattern while the sugar factories too are reported less profit stating the reason of increasing cost of sugar production which has forced the sugar units declared sick due to heavy loss. The price of Indian sugar too are relatively costlier than the sugar produced by countries elsewhere in the world; while the shifting crop pattern by farmers has put the sugar factories further in trouble to register fresh cane areas in the country.

. It is also be the fact that the sugar industries in India are regulated by a set of policies pertinent to the sugar price at which the sugar mills are to offer for sale at a regulated price(levy price) under public distribution system which has affected the quantity, price and time of sale of sugar in the open market. The dual pricing system viz., 40 percent of the sugar produced by factories to public distribution system and the rest of open market by sugar industries is very vague and has resulted in the mismatch between the price of sugarcane and sugar brought out for a greater instability in the sugar economy of the country. The debates that are emerging in the country between or among the stakeholders viz., the farmers, sugar factories and the policy makers therefore are how best the pricing policy of sugarcane and sugar be evolved such that both the cane growers and sugar factories get remunerative pricing for their produce.

## **OBJECTIVES**

1. To identify the socio economic characteristics of the selected sugarcane growers of Trichirappalli district in Tamil nadu.
2. To evaluate the economics of sugarcane cultivation viz., yield, cost revenue and profitability in Trichy district.

## **PERIOD OF THE STUDY**

The duration of the study was three years from june2016 to September 2016,and the primary data collected for the study were based on 2013-2014 sugarcane crop year.

## **LIMITATIONS**

1. This study was confined to the registered farmer households of Cauvery sugar unit-1 in pettavaithalai district of Tamil nadu and hence the conclusion drawn would largely applicable to these regions and may not be valid for other regions in the state.
2. Since primary data needed for the study were collected through survey method, which involves recall bias. Therefore, experimental accuracy cannot be expected in the data generated for the study. However, care has been taken to minimize the bias through check questions.
3. Moreover, a cross section survey covering two crops seasons may have its own limitations for exploration of findings.

**TABLE-1**  
**TREND IN AREA AND PRODUCTION OF MAJOR CROPS IN INDIA(1983-1984),(2009-2010).**

Moreover agriculture remains a major source of employment absorbing little more than 52 percent of the labour force down from about 70 percent in 1971 the share of agriculture exports in total export value has declined from about 18.5 percent in 1990-1991 to about 10.6 percent in 2009-2012 while the share of agriculture imports to total national imports has increased from 2.8 percent in 1990-1991 and reached even a high percentage of 8.2 percent in 1998-1999 and declined to about 4.4 percent in 2009-2010. The attempts of the successive five years plans to achieve self-sufficiency and self reliance in food grain production and productivity through reform process has reflected in substantial increase in agriculture production and productivity from a level of about 52 million tonnes in 1951-1952 to above 241.5 million tonnes in 2010-2011 and have even freed the

CROPS	AREA(HA MILLION HECTARES)		PRODUCTION(MILLION TONES)	
	TE 1983-84	TE 2008-9	TE1983-84	TE2009-10
Rice	40.1	43.8	53.5	95.0
Wheat	23.5	28.1	41.9	80.0
Coarse cereals	41.5	27.9	30.9	38.2
Pulses	23.4	23.0	12.1	14.6
Food grains	128.5	122.8	138.4	227.8
Oil seeds	18.5	26.8	11.6	27.5
Sugarcane	3.2	4.6	183.3	303.7
Fruits and vegetables	5.1	13.6	-	188.7
Condiments and spices million	2.2	2.6	-	4.15
Cotton(in bals)	7.9	9.7	7.3	24.1
Net area sown	142.0	140.8	-	-
Total cropped area	176.4	194.0	-	-

agricultural markets , liberalized the external trade in agriculture commodities and industry was de-protected to create more competition thereby reducing input prices and making terms of trade favorable to agriculture but the growth of agricultural sector resulting to a gap between rural income substantially productivity gains from the green revolution technology have reached a plateau in many regions causing per capita food grains production to decline which has serious implications on food and nutritional security poverty alleviation ,rural development ,farm income and rural- urban equity .thus, according to Sharma one of the important strategy challenges for faster , sustainable and more inclusive growth (9.0-95 percent) rate in the 12th five year plan under structural changes and unfavorable global economic environment requires a significant growth of 4.0 to 4.5 percent growth rates in agriculture . Therefore , agricultural growth has always been an important component for inclusiveness ,and the recent experience suggests that high GDP growth without high agricultural growth is likely to lead to acceleration in inflation in the country , which would adversely affect the larger growth process .the eleventh plan ,which had attempted to reverse declaration of agricultural growth during ninth and tenth plan had some success in food

grains production ,has touched a new peak of 241.56 million tonnes in 2010-2011 and growth in agriculture in the eleventh plan was about 3.3 percent per year . However, to achieve between 4 and 4.5 percent average growth in agricultural sector in the twelfth plan period adequate efforts on

the part of the government are required .moreover the estimates on the area and production of major crops showed that the net area sown for major crops in India has declined from 142 million hectares in triennium ending (TE) 1983-1984 to 140.8 million hectares in 2008-2009 TE ;while the total cropped area in the country has increased from 176.4 million hectares to194 million hectares during the same period as recorded in table -1.

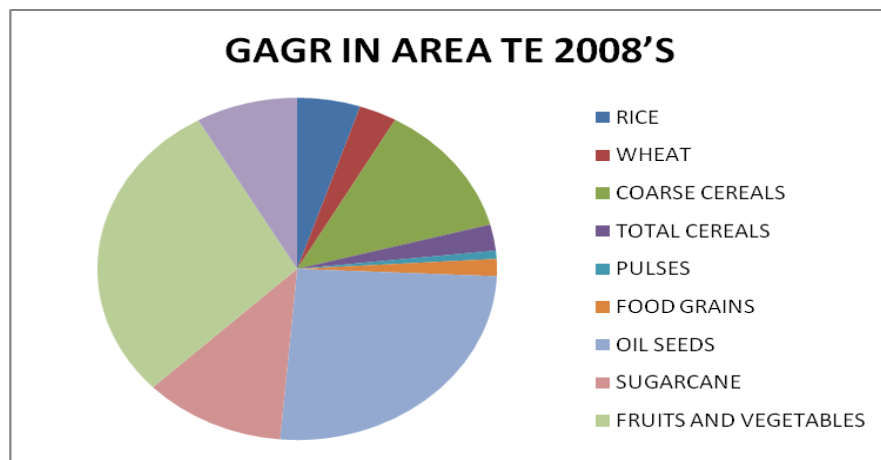
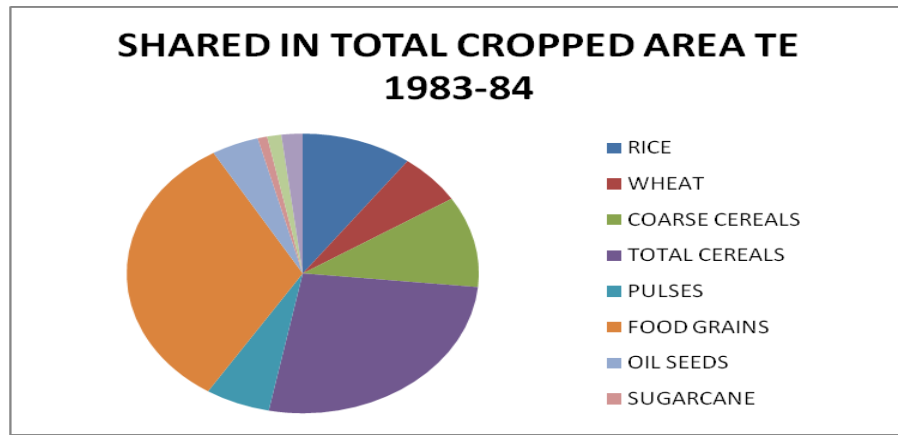
**TABLE-2(TOP 10 WORLD SUGARCANE PRODUCING COUNTRIES RANKED BY AVERAGE YIELD: TONNES PER HECTARE).**

Brazil is the leading sugar producer and exporter which dominates among the global trading nations and even has attained the status of a price taker in the world sugar market whose prices are

S.NO	COUNTRIES	YIELD	RANK
1	AUSTRALIA	87.8	I
2	COLOMBIA	81.8	II
3	MEXICO	75.7	III
4	BRAZIL	75.2	IV
5	INDIA	68.1	V
6	CHINA	67.7	VI
7	THAILAND	53.2	VII
8	PAKISTAN	50.4	VIII
9	SOUTH AFRICA	48.8	IX
10	CUBA	28.8	X

usually correlated with its relatively low production cost. Australia is the single largest sugarcane yield producing countries of the world with 87.8 tonnes of sugarcane per hectare followed by Columbia 81.8 tonnes and Mexico with 75.7 tonnes per hectare .India with its yield of 68.1 tonnes ranked 5 in the world ; while Cuba is the lowest among the top ten sugar producing countries ranked by average yield /tonnes per hectare as presented in table –ii.

**TABLE-3 GROWTH TRENDS IN AREA AND PRODUCTION OF MAJOR CROPS.**



Moreover, the compound annual growth rates (CAGR) of both area and production of major crops presented in table-2 revealed that fruits and vegetables witnessed with a highest growth rate of 5.58 and 6.76 percent respectively followed by oil seeds (2.57 percent and 5.12 percent) and sugarcane (1.29 percent and 2.26 percent) during 2000s, whereas the compound annual growth rate of food grains has shown flexible trend during these period. However, in case of cotton which is the most lucrative cash crop, the annual compound growth rate of both the area and production has shown comfortably an increasing trend since 1980s, which might be due to the introduction of technology driven Bt cotton as well as its higher profitability over other competing crops.

**SUMMARY AND CONCLUSION**

Sugarcane is an important commercial crop of the world and more than 100 countries are involved in the production of sugar. 78 percent of the sugar is being derived from sugarcane grown primarily in tropical and sub-tropical zones of the southern hemisphere. Currently, 69 percent of the world sugar is generally consumed by the countries of its region while the balance is traded on

world market .India ranks second among the sugarcane growing countries of the world in terms of both area and production after brazil .it has more than 5.03(2011-2012)million hectares of sugarcane cultivating area ,with the production of 357.67milliontonnes of sugars ,showing a growth rate of 15.29 percent .the yield of sugarcane in the country was 70,317kg per hectare. Sugar industry is the largest agro-based industry in India after textiles. It is not only being considered as a sugar producing commercial crop but has been largely assumed to be in the status of an energy crop. More than 50 million farmers, their dependents and a large number of agricultural laborers are involved in sugarcane cultivation, harvesting and related ancillary activities. More than 7.5 percent of the rural workforce is reportedly more than 500 sugar factories which utilize 50-60 percent of the cane produced and sugar manufactured around 16.45mt of sugar with an average crushing capacity of 2452 tonnes per day and a crushing duration of 161 days. The sugar industry generates rural employment at large and contributes over Rs 1000 crores to the central exchequer of exercise duty and taxes annually.

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