

Original Research Article

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## Constraints in the Cultivation and Marketing of Sugarcane in the District of Belagavi, Karnataka, India

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### ABSTRACT

A sample of 100 sugarcane growers from 25 villages has been studied in the current paper entitled constraints in the production and marketing of sugarcane in the Belagavi district of Karnataka state. In the choice of district, tehsil, village and sample farmers, multi-stage sampling design was used. Using a pre-tested organized schedule by personal interview form, relevant data on different types of restrictions faced and anticipated solutions were collected. Garrett's ranking technique was used to estimate the constraints encountered in the production and marketing of sugarcane. The results of the study revealed that several constraints such as non-availability of water for irrigation, erratic distribution of rainfall, delay in the onset of monsoon, high wage rates, low local market prices, high commission charges and high transport costs were among the major disadvantages in Belagavi district as a whole. In order to overcome these constraints, 80.14 percent of respondents suggested that the government should provide all sugarcane growers in the area with drip irrigation facilities under a strict monitoring scheme. The majority of farmers strongly suggested that appropriate arrangements had to be placed in place to ensure that the minimum support price of the produce was charged to the farmers.

#### Keywords

Sugarcane,  
Production,  
Garrett's ranking  
technique,  
Marketing,  
Constraints, etc

#### Article Info

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## Introduction

One of the most important sectors in the Indian economy is agriculture. It contributes 18% of the Gross National Product (GNP) and provides 65% of employment. Despite the decline in its share of India's GDP, agriculture still contributes significantly to India's GDP. There are a number of crops grown by

farmers. These include various food crops, oil seeds, commercial crops etc.

Sugarcane is one of the most important commercial crops spread across various agro-climatic zones in Karnataka. Karnataka is the third largest sugarcane producing state in India, holding 11.53 per cent of production and 8.83 per cent of the area. It has the second

highest productivity, followed by Tamil Nadu. Among the country's 100 leading sugarcane producing districts, 11 belong to Karnataka in that Belagavi, Vijayapura, Mandya, Bellary, Raichur and Mysore together account for about 61 percent of the production of the state. In the state, Belagavi ranked first in the area with 1,15,849 ha and 98,41,129 tonnes of production (Anon., 2015). While Mandya is known as Karnataka's sugar bowl, the district has lost that status to Belagavi in recent years. Today, there are only five sugar factories in Mandya, while Belagavi has 20 sugar factories, out of 58 in the state. Belagavi is followed by the district of Bagalkote, where nine factories are operating. Although the area and production of sugarcane has increased in recent years, the increase has been only slight because farmers face a number of problems in growing this crop.

In this study, an attempt has been made to understand the problems faced by growers in the production and marketing of sugar cane in the region. It is with the view that if constraints faced by growers in the area are identified, it is possible to establish feasible solutions to resolve these problems. This will help increase sugarcane production in the district of Belagavi. In view of this, the present study was conducted with defined objectives to examine constraints faced in the cultivation of sugarcane and to obtain suggestions made by the respondents to overcome the constraints.

### **Materials and Methods**

The present study was conducted in the Belagavi district of Karnataka state, where five Tehsils were selected for the study, namely Athani, Chikkodi, Gokak, Hukkeri and Raibag. Lists of sugarcane growing villages were subsequently obtained from the District Agricultural Officer and five villages were selected randomly from each tehsil. Hence, the

total number of selected villages was twenty-five. Four sugarcane growers were chosen randomly from each of the selected villages. The maximum sample size was therefore worked out to 100. For collecting relevant data, a pre-tested structured schedule was used. The data collected from the respondents includes general information, size of holdings, intercropping, inputs used, cost of cultivation and opinions on various production and marketing constraints faced by sugarcane growers. At their homes and in some cases at a common place in the village, the respondents were interviewed. The purpose of the study was also explained to the respondents. Garrett's ranking technique was used to estimate the constraints encountered in the production and marketing of sugarcane.

### **Garrett's ranking technique**

Garrett's ranking technique is a tool which is commonly used for the variable that makes use of mean scores expressed in ranks. It offers the change of orders of constraints and benefits into numerical ratings. The primary advantage of this technique over simple frequency distribution is that, from the point of view of respondents, the constraints are structured based on their intensity. Therefore, the same number of respondents may have been ranked differently on two or more constraints.

Garrett's formula for converting ranks into percentage is:

$$\text{Percentage position} = 100 * (R_{ij} - 0.5) / N_j$$

Where,

$R_{ij}$  = Rank given for  $i^{\text{th}}$  constraint by  $j^{\text{th}}$  individual.

$N_j$  = Number of constraint ranked by  $j^{\text{th}}$  individual.

The percentage position of each rank will be converted into scores referring to the table given by Garrett and Woodworth (1969).

The scores of individual respondents will be added together for each factor and divided by the total number of respondents for whom scores will be added.

These mean scores for all the constraints will be arranged in descending order, the constraints will be accordingly ranked.

## **Results and Discussion**

Production constraints include factors that have impeded the production of sugarcane in the fields. The various production problems experienced by the growers in the area are shown in Table 1.

The major constraint in this category were non-availability of water for irrigation(80.14) followed by erratic distribution of rainfall (76.32), delay in onset of monsoon (66.27), no credit facility (66.03), irregular power supply (55.59), high wage rates (54.48), non-availability of labour (50.31), high cost of fertilizers (48.76), high incidence of pest and diseases (38.60), high soil salinity (36.85), low soil fertility (38.44), non-availability of planting material (23.00) and heavy wind during harvest season (21.20).

Almost all sample respondents found that the main problem was the non - availability of water for irrigation in the study area. Thus, sample farmers need technical guidance on techniques of water harvesting and farmers can use water efficiency only by providing lifesaving irrigation.

The II rank has an irregular distribution of rainfall. Owing to the prolonged dry spell of the last two years, the delay in the onset of the monsoon has III rank. High wage rates (VI) labour was one of the fundamental factors

without which it was impossible to produce at all. Agriculture labours, small and marginal farmers migrating to nearby cities to meet their basic requirements for other works such as carpentry and factory, trained youth have a negative attitude towards agriculture creating scarcity of labour in agriculture and increasing wage rates.

Non-availability of labour ranked VII as the farmers faced the issue of labour scarcity. The majority of farmers also faced a high incidence of pests and diseases due to the lack of quality setts and safety chemicals in time. These findings were in line with those of Tanveer (2006).

In order to ensure better sugar recovery and at the same time to minimize losses to farmers, harvested sugar cane should be transported to mills on time. In Table 2, various marketing problems encountered by the growers were identified and presented.

Table 2 showed that low local market prices was a major problem faced by the growers in the area(71.37), followed by high commission charges (62.40), lack of storage facilities (62.23), price fluctuations (39.37), high transportation costs (35.09) and lack of transport facilities (32.63).

One of the major constraints faced by farmers in the study area was low prices in the local market. The main reason for this low price in the local market may be the regulations imposed on farmers that do not allow them to sell their product in any other market.

High commission charges (II), lack of storage facilities (III), price fluctuations (IV), high transport costs (V) and lack of transport facilities (VI) in the study area were other constraints in their rankings. Similar findings were also recorded while studying about soybean marketing constraints by Basavaraj and Kunnal (2002).

**Table.1** Garrett scores for sugarcane production constraints in Belagavi district

Sl. No.	Particulars	Percent	Rank
1	Non-availability of water for irrigation	80.14	I
2	Erratic distribution of rainfall	76.32	II
3	Delay in onset of monsoon	66.27	III
4	No credit facility	66.03	IV
5	Irregular power supply	55.59	V
6	High wage rates	54.48	VI
7	Non-availability of labour	50.31	VII
8	High cost of fertilizers	48.76	VIII
9	High incidence of pest and disease	38.60	IX
10	High soil salinity	36.85	X
11	Low soil fertility	38.44	XI
12	Non-availability of planting material	23.00	XII
13	Heavy wind during harvest season	21.20	XIII

**Table.2** Garrett scores for sugarcane marketing constraints in Belagavi district

Sl. No.	Particulars	Percent	Rank
1	Low price in local market	71.37	I
2	High commission charges	62.40	II
3	Lack of storage facility	62.23	III
4	Price fluctuations	39.37	IV
5	High cost of transportation	35.09	V
6	Lack of transport facilities	32.63	VI

As per the result of the study, 80.14 per cent of the growers were faced non-availability of water for irrigation. It is therefore strongly recommended that, at the time of planting, the government should urgently provide all growers with subsidized drip irrigation facilities.

As 71.37% of growers have raised the issue of low prices in the local market, relevant policymakers should emphasize this issue and make adequate arrangements to ensure that the minimum support price of the produce is provided to the growers.

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