The Pharma Innovation Journal 2021; SP-10(6): 449-451

www.ThePharmaJournal.com

The Pharma Innovation

ISSN (E): 2277- 7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2021; SP-10(6): 449-451

www.thepharmajournal.com
Received: 19-04-2021
Accepted: 21-05-2021

Mahendra Kumar Deshmukh
Department of Agricultural Economics, IGKV, Raipur, Chhattisgarh, India

AK Gauraha
Department of Agricultural Economics, IGKV, Raipur, Chhattisgarh, India

MR Chandrakar
Department of Agricultural Economics, IGKV, Raipur, Chhattisgarh, India

Corresponding Author:
Mahendra Kumar Deshmukh
Department of Agricultural Economics, IGKV, Raipur, Chhattisgarh, India

Constraints in the cultivation and marketing of sugarcane production in Kabirdham district of Chhattisgarh, India

Mahendra Kumar Deshmukh, AK Gauraha and MR Chandrakar

Abstract
The Present Study deals with the cost and return of sugarcane in the Kabirdham district of Chhattisgarh state. The district is purposely selected for this study because this district occupied highest area and production of sugarcane in the Chhattisgarh state and main commercial activities of the people living in this region are making and selling Gur (Jaggery), which is an agro-based industry. It was conducted in Kawardha and Pandariya blocks in the district. The primary data were collected for the year 2019-2020. Primary data were collected from the sample respondents by conducting personal interview and pretested schedule. 310 farmers were selected randomly from two blocks out of which, marginal (123), small (93), medium (62) and large (32). The major constraint in the production of sugarcane were labour shortage during peak period (76.79) followed by increasing wage rate of human labours (64.04). Delayed payment of sugarcane and bonus was a major marketing constraint faced by the growers (71.67), followed by Delayed in weighting and purchasing by factory (56.96) in the study area.

Keywords: sugarcane, constraint, production, marketing

Introduction
Sugarcane is one of the most important commercial crops of the world. Approximately 100 countries produce sugar. Brazil, Cuba, Mexico and Thailand are the major sugarcane producing countries and they producers 78% sugar from cane. Nearly, 69% of the world's sugar is consumed in the country of region. In year 2018 the world sugarcane production is 1803.94 million tonnes with area of 21.73 million hectare, where as Brazil has the highest area (8.58 million ha) while Australia has the highest productivity (95.71 tonnes per ha). India ranks second among the sugarcane growing countries of the world in terms of area and production after Brazil with an area under sugarcane cultivation of 5.11 million hectare area and 400.16 million tone of production with an average yield of 72.30 tonnes per ha. Other important sugar producing countries of the world are Thailand, Pakistan, Cuba, Mexico, Colombia, USA, Philippines and Indonesia.

In India, area of sugarcane accounted 2.24% to the gross cropped area. The area under sugarcane has gradually increased from 2.7 million hectares in 1980-81 to 5.11 million hectares in 2018-19. The growth of sugarcane in the country had been consistent during the past seven decades. There was increase in area, production, and productivity and sugar recovery during the period from 1930-31 to 2019-20, the area under sugarcane had gone up from 1.18 million ha to 5.20 million ha, productivity from 31 tons to 79.81 tons per ha and total cane produced from 37 million tons to 415.00 million tones. Current sugar production in the country is about 356.56 million tones. The crop is predominantly cultivated in Uttar Pradesh, Maharashtra, Karanataka, Tamil Nadu, Andhra Pradesh, Gujarat, Punjab, Haryana, Uttaranchal and Bihar. Uttar Pradesh and Maharashtra together alone accounted for nearly 65.68% of the total sugarcane area, which contribute of about 66.17% of total sugarcane production in India.

Chhattisgarh state which has been known as "rice bowl" of the country is now set to create a niche for itself in the sugar production. Some of the districts of Chhattisgarh are cultivated sugarcane predominantly and catching the area in Kabirdham (Kawardha), Surguja and Balod districts. The scope of sugarcane is bright in the Chhattisgarh, it is cultivated in 34.85 thousand hectare area and production of sugarcane was 86.25 thousand metric tons with average productivity of 24.75 tons per ha. The state govt. requires 67,500 metric tons of sugar per annum for distribution to the ration card holders through the public distribution system.

The sugar production in all the four factories (Kawardha, Pandariya, Balod and Surajpur) in the state had reached to 109400 metric tons. Kabirdham is the major sugarcane growing district of Chhattisgarh state. In Kabirdham sugarcane was cultivated in 21.21 thousand hectare area. The production of sugarcane in Kabirdham district was 16.63 lakh metric tons with average productivity of 78.39 tons per hectare.

Keeping in view the above discussion and importance of the sugarcane cultivation, the present study was an attempt to study the economics of cost and return of sugarcane production in the study area.

Materials and Methods

The present study pertains to Kabirdham district of Chhattisgarh. Out of 4 blocks of Kabirdham district, Kawardha and Pandariya blocks were selected on the basis of maximum area brought under cultivation of sugarcane. A list of the entire villages was obtained from the block headquarters of each selected block and three villages from each block was selected randomly, Jhalmala, Gangpur and Lakhanpur village from Kawardha block and Mohgaon, Ruse and Paraswara village from Pandariya block were randomly selected for the study.

Out of 1216 Sugarcane growers from selected villages, a sample of 304 respondents were selected. The percentage of proportionate sampling method was adopted for selection of respondents through which 25 per cent farmers were be undertaken from each farm size of holdings *i.e.*, marginal (up to 1.0 ha), small (1.0 to 2.0 ha), medium (2.0 ha to 4.0 ha) and large farmer (above 4.0 ha). So the 310 sugarcane growers were comprised of 123, 93, 62 and 32 under the marginal, small, medium and large farm size, respectively based upon their operational size of land holding by using standard classification given by Department of Land Resources, Government of India. The primary data were collected for the year 2019-2020.

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:

Percentage position = 100 * (Rij-0.5)/Nj

Where,
Rij = Rank given for ith constraint by jth individual.
Nj = Number of constraint ranked by jth 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 labour shortage during peak period (76.79) followed by increasing wage rate of human labours (64.04), Unavailability of HYV'S (56.22), grazing and watching (50.03), high cost of plant protection chemicals and fertilizers (43.69), lack of recommended package of practices (35.93) and unavailability of loan on time (22.42). Almost all sample respondents found that the main problem was the labour shortage during peak period in the study area. This problem can be solved to restrict the employment guarantee programme in rural area (MNREGA) at peak season of agricultural operations so that unemployed labour will move towards in agriculture or merging the MNREGA labour towards in agriculture sector. The II rank has high wage rates of human 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.

Table 1: Garrett scores for sugarcane production constraints in Kabirdham district

S. No.	Constraints	Mean score	Garret ranking
1	Labour shortage during peak period	76.79	I
2	Increasing wage rate of human labours	64.04	II
3	Unavailability of HYV'S	56.22	III
4	Grazing and watching	50.03	IV
5	High cost of plant protection chemicals and fertilizers	43.69	V
6	Lack of recommended package of practices	35.93	VI
7	Unavailability of loan on time	22.42	VII

Table 2: Garrett scores for sugarcane marketing constraints in Kabirdham district

S. No.	Constraints	Mean score	Garret ranking
1	Delayed payment of sugarcane and bonus	71.67	I
2	Delayed in weighting and purchasing by factory	56.96	II
3	Lack of storage and halting facilities	44.14	III
4	Lack of transportation facilities	28.84	IV

Table 2 showed that delayed payment of sugarcane and bonus was a major problem faced by the growers in the area (71.67), followed by Delayed in weighting and purchasing by factory (56.96), lack of storage facilities (44.14) and lack of transport facilities (28.84). As 71.67% 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 timely payment of the produce is provided to the growers.

References

1. Bee N, Rahman F. Growth Rate of Area, Production and Productivity of Sugarcane Crop in India. International Journal of Environmental & Agriculture Research 2020;6(4).
2. Chouksey P, Kashyap Y, Sarawgi AK. Economic Analysis Of Gur (Jaggery) Production In Narsinghpur District of Madhya Pradesh. Bulletin of Environment, Pharmacology and Life Sciences 2019;8(5):26-30.
3. Chinnappa B. "Resource Use, Cost Structure and Marketing of Sugarcane: A Case Study of Karnataka.", The Bihar Journal of Agricultural Marketing 1998;6(1):74-79.
4. Hussain FM, Anwar S, Hussain Z. Economics of Sugarcane Production in Pakistan: A Price Risk Analysis, International Research Journal of Finance and Economics 2006, 70-77.
5. Khushk AM, Memon A, Saeed I. Analysis of Sugar Industry Competitiveness in Pakistan, Journal of Agricultural Research 2011;49(1):137-151.
6. Kishor Raj, Shukla DS, Singh TR, Yadav SR. An Enquiry into Economics of Sugar Cultivation in District Sitapur (U.P.). Cooperative Sugar 1997;29(32):179-182.
7. Kishor Raj, Verma SC, Kumar V, Singh TR. Comparative Economics of Sugarcane Cultivation on Tractor Operated and Bullock Operated Farms in District Sitapur (U.P.) Cooperative Sugar 1999;31(2):105-112.
8. Kumar T. Cost and Returns of Sugarcane Production at Different Size Groups of Farms in District Meerut (U. P.), India, Annals of Agri-Bio Research 2014;19(3):561-565.
9. Murali P. Productivity Improvement in Sugarcane Farming in Tamil Nadu (India): Parametric and Non-Parametric Analysis, Statistics and Economics Section, Sugarcane Breeding Institute, (ICAR) Coimbatore, 641007, Tamil Nadu 2012.
10. Padmanaban NR. Analysis of area, production and productivity of sugarcane in Tamil Nadu. Department of Agricultural Economics, CARDS, TNAU, Coimbatore - 641003, India. Madras Agricultural Journal, publication 2000;86(10/12):674-675.
11. Raju SR, Rao PNA. Turnaround Management of Co-operative Sugar Factory. Cooperative Perspective 2009;43(4):19-26.
12. Sahu AK. Studies on an economic analysis of production, marketing and processing of sugarcane in Balod district of Chhattisgarh state. MSc Thesis, Indira Gandhi Agricultural University, Raipur 2016, 37-40.
13. Thennarasu R, Banumathy V. Economics of Sugarcane Production Using Eco-friendly Technologies in Cuddalore District, Tamil Nadu, Indian Journal of Agricultural Economics 2011;66(1):88-96.
14. Upreti P, Singh A. An Economic Analysis of Sugarcane Cultivation and its Productivity in Major Sugar Producing States of Uttar Pradesh and Maharashtra. Economic Affairs 2017;62(4):711-718.
15. Verma LK, Solanki A. Cost and Returns Analysis of Sugarcane Production in Baghpat district of Western Uttar Pradesh, India. International Journal of Current Microbiology and Applied Sciences 2020;9(1):733-739.