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Problems and remedial measures in context of partial adoption of sugarcane technology

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Abstract

The present study was carried out in the Surguja district of Chhattisgarh state. Data were collected from 120 respondents as 60 beneficiary respondents and 60 non-beneficiary respondents of six selected villages. The results of the study indicate that the major problem of the beneficiary respondents was 'high charges of transportation and poor facilities' and 'misconception about the application of manures' was a very serious problem in non-beneficiary respondents. Whereas sugarcane damaged by non-insect pests viz. rats, deer, elephants, and domestic cattle was the joint problem of both beneficiary and non-beneficiary respondents, and it can also be observed in their suggestive measures of problems of the beneficiary respondents where the sales centre of Raghunathpur should be reopened and the charges of transportation should be fixed by the government to minimize the transportation problems. And "to promote the use of manure, the benefits of manure would have to be demonstrated and given detailed information about it" expressed by non-beneficiary respondents whereas farmers should be made aware of such techniques to deal with rats, deer and elephants as well as to provide compensation of affected farmers were expressed by both beneficiary and non-beneficiary respondents of the study area.

Keywords: Problems and remedial measures, partial adoption, sugarcane technology, Chhattisgarh state

1. Introduction

In India, the total area under sugarcane cultivation is 48.57 Lakh hectares and 2nd largest producer of sugar in the world having 399.25 million tons of production with average productivity of 82.20 tons/hectare (Source: Annual report 2021-22 of Ministry of Agriculture & Farmers Welfare, Government of India). Chhattisgarh has comprised of three agro-climatic regions, the northern hills zone, plains zone and Bastar plateau zone. The sugarcane in Chhattisgarh is cultivated under 34.85 ('000 ha.) area and the production of sugarcane was 86.25 ('000 metric tons). The future scope and area expansion of sugarcane is bright in the northern hills zone of Chhattisgarh where the production of 11.04 lakh metric tons and average productivity of 49.96 tons/ha which is double in compared with their state average productivity (24.75 tons/ha). The major problem in the sugarcane growing areas of the northern hill zone of Chhattisgarh is a lack of marketing and

means of transportation facilities.

2. Methodology

The study was carried out in the Surguja district under the northern hill zone of Chhattisgarh state, in the periphery of Maa Mahamaya Co-operative Sugar Factory Ambikapur during the years 2021–2022. Out of seven blocks, two blocks, Lundra and Batauli considered in which six sugarcane growing villages were purposively selected with ten beneficiaries and ten non-beneficiaries of sugarcane growers as registered and non-registered members of the sugar factory. Thus, 120 respondents whereas 60 beneficiary and 60 non-beneficiary respondents of a sugar factory were finally selected. Data were collected with the help of a well-developed structured schedule.

3. Results and Discussions

Table 1: Distribution of respondents according to intensity of problem.

Sl. No.	Problem statement	Intensity of problem			Mean score	Rank order
		Very Serious (3)	Serious (2)	Least Serious (1)		
A	Problems related to beneficiary respondents (n=60)					
1.	Timely unavailability of FYM/Compost manure/press mud.	5	17	38	1.45	IV
2.	Untimely and improper supply of token slip for selling of sugarcane.	10	14	36	1.57	III

3.	High charges of transportation and poor facilities.	46	14	0	2.77	I
4.	Delay in payment of bonus price (22%).	35	8	17	2.30	II
B Problems related to non-beneficiary respondents (n=60)						
1.	Timely unavailability of improved varieties.	3	8	49	1.23	VIII
2.	Poor irrigation facilities.	45	10	5	2.67	III
3.	Poor economic condition.	29	16	15	2.23	IV
4.	High cost of chemicals, fertilizers and plant protection material.	44	15	1	2.72	II
5.	Low price of sugarcane in their locality.	29	17	14	2.25	V
6.	Lack of knowledge about soil and sett treatment.	26	12	22	2.07	VII
7.	Misconception about the application of manures.	48	8	4	2.73	I
8.	Lack of information about recommended varieties, fertilizers, and plant protection materials.	14	40	6	2.13	VI
C Problems related to both respondents (n=120)						
1.	Timely unavailability of chemical fertilizers.	39	28	53	1.88	II
2.	Shortage of labour during sowing and harvesting time.	22	6	92	1.42	IV
3.	High cost of seeds.	35	26	59	1.80	III
4.	Sugarcane is damaged by non-insect pests viz. rats, beer, elephants, and domestic cattle.	79	15	26	2.44	I

Table 1 revealed that in all problems of beneficiary respondents, 'High charges of transportation and poor facilities' ranked 1st with the highest mean score, i.e., 2.77 followed by a 2.30 mean score in 'Delay in payment of bonus price' (22%) ranked 2nd, 'Untimely and improper supply of token slip for selling of sugarcane' ranked 3rd with 1.57 mean score and 'Unavailability of FYM/Compost manure/press mud' had 4th rank with 1.45 mean score.

Similarly, the problems in non-beneficiary respondents were observed as 'misconception about the application of manures' had 1st ranked with the highest 2.73 mean score followed by a 2.72 mean score in 'high cost of chemical fertilizers and plant protection material' ranked 2nd. 'Poor irrigation facilities' ranked 3rd with 2.67 mean scores, 'Poor economic conditions' ranked 4th with 2.23 mean score and 'low price of sugarcane in their locality' ranked 5th with

2.25 mean score. 1.23 mean score was found in 'Timely unavailability of improved varieties' ranked 5th, 'Lack of information about recommended varieties, fertilizers, and plant protection materials' ranked 6th with 2.13 mean score, 'Lack of knowledge about soil and sett treatment' ranked 7th with 2.07 mean score and 'Time unavailability of improved varieties' ranked 8th with 1.23 mean score was recorded.

In the case of both beneficiary and non-beneficiary respondent problems expressed as; 'Sugarcane damaged by non-insect pests viz. rat, beer, elephants, and domestic cattle's and observed 1st ranked with 2.44 mean score followed by 1.88 mean score in 'Timely unavailability of chemical fertilizers' ranked 2nd, 'High cost of seeds' ranked 3rd with a 1.80 mean score whereas 'shortage of labour during sowing and harvesting time' ranked 4th with a 1.42 mean score was found.

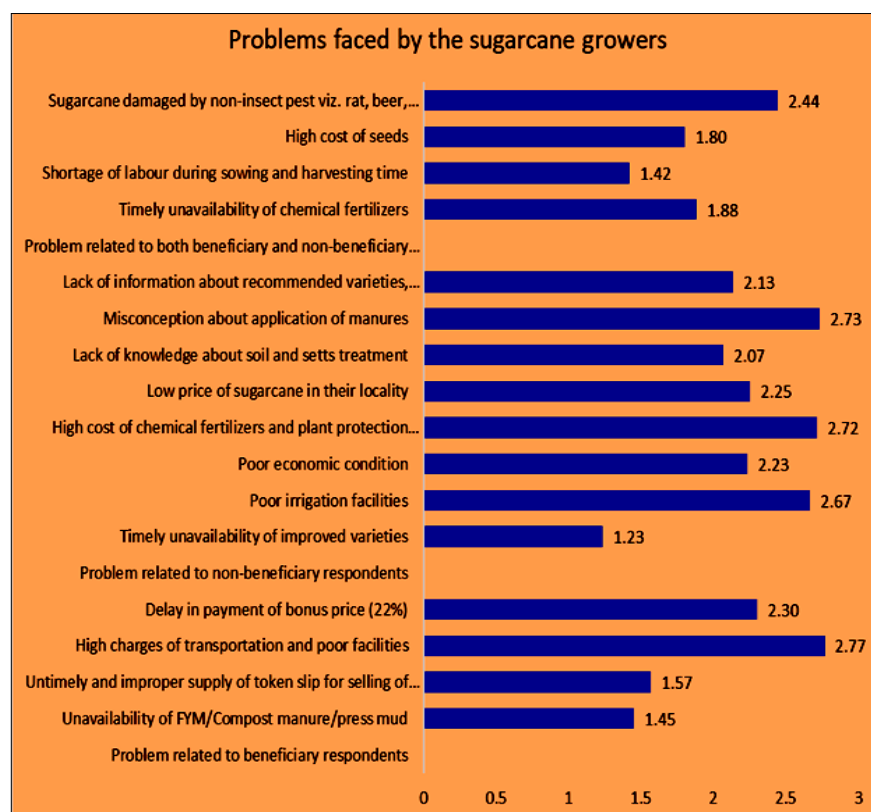


Fig 1: Distribution of problems faced by sugarcane growers

Table 2: Distribution of the respondents according to their remedial measures to overcome the problems.

Sl. No.	Remedial measures to overcome the problems	Frequency	Percentage	Rank order
A	Suggestion related to beneficiary respondents (n=60)			
1.	To promote animal husbandry for the availability of FYM/compost manures.	23	38.33	IV
2.	Sugar factory should be on a timely and proper supply of token slips for the sale of sugarcane.	24	40.00	III
3.	The factory collection centre of Raghunathpur should be reopened and the charges for transportation should be fixed by the government to minimize the transportation problems.	55	91.66	I
4.	There is a need to provide a bonus at the earliest by the sugar mill.	44	73.33	II
B	Suggestion related to non-beneficiary respondents (n=60)			
1.	Timely provided an improved variety of sugarcane.	14	23.33	VIII
2.	Increase the irrigation facilities by the department.	52	86.66	II
3.	Credit facilities should be made available in their locality.	46	76.66	V
4.	Timely and subsidized rate of chemical fertilizers and plant protection material should be provided.	49	81.66	III
5.	To minimize the input cost and facilitate the market of sugarcane.	45	75.00	VI
6.	Training and demonstration should be provided regarding soil and sett treatment.	37	61.66	VII
7.	To promote the use of manure, the benefits of manure would have to be demonstrated and given detailed information about it.	53	88.33	I
8.	Farmers should be made aware of the cultural operation; sett treatment and insect pest and disease management and training should be conducted for them.	48	80.00	IV
C	Suggestion related to both beneficiary and non-beneficiary respondents (n=120)			
1.	Timely provided chemical fertilizers.	68	56.66	III
2.	To promote the machinery equipment for harvesting.	28	23.33	IV
3.	Use of three budded setts to minimize seed cost.	72	60.00	II
4.	Farmers should be made aware of such techniques to deal with rats, bear and elephants in the field as well as provide compensation by the government.	99	82.50	I

Table 2 revealed that the suggestive measures expressed by beneficiary respondents, 91.66 per cent of respondents suggested the factory collection centre of Raghunathpur should be reopened and the charges of transportation should be fixed by the government to minimize the transportation problems which is 1st ranked followed by 73.33 per cent were suggested that there is a need to provide a bonus at an earliest by the sugar mill ranked 2nd. About 40.00 per cent of respondents suggested sugar factory should be on the timely and proper supply of token slips for the sale of sugarcane ranked 3rd, whereas 38.33 per cent of respondents suggested promoting animal husbandry for the availability of FYM/compost manures and stood ranked 4th.

Similarly, suggestive measures expressed by the non-beneficiary respondents, 88.33 per cent of respondents suggested to promote the use of manure, the benefits of manure would have to be demonstrated and given detailed information about it was ranked 1st, followed by 86.66 per cent suggested that increase the irrigation facilities by the department ranked 2nd. About 81.66 per cent of respondents suggested timely and subsidized rate of chemical fertilizers and plant protection material should be provided ranked 3rd, whereas, 80.00 per cent of respondents suggested farmers

should be made aware of cultural operation; sett treatment and insect-pest and disease management and training should be conducted for them ranked 4th, 76.66 per cent of respondents suggested credit facilities should be made available in their locality ranked 5th, 75.00 per cent suggested to minimize the input cost and facilitate the market of sugarcane ranked 6th and 61.66 per cent of respondents suggested training and demonstration should be provided regarding soil and sett treatment ranked 7th, and 23.33 per cent of respondents suggested timely provided an improved variety of sugarcane and stood ranked 8th.

Suggestive measures expressed by both beneficiary and non-beneficiary respondents, 82.50 per cent of respondents suggested farmers should be made aware of such techniques to deal with rat bear and elephant in the field as well as provide compensation by government ranked 1st followed by 60.00 per cent of respondents suggested use of three budded sett to minimize seed cost ranked 2nd. About 56.66 per cent of respondents suggested timely provided chemical fertilizers ranked 3rd, whereas 23.33 per cent of respondents suggested promoting the machinery equipment for harvesting sugarcane and stood 4th ranked.

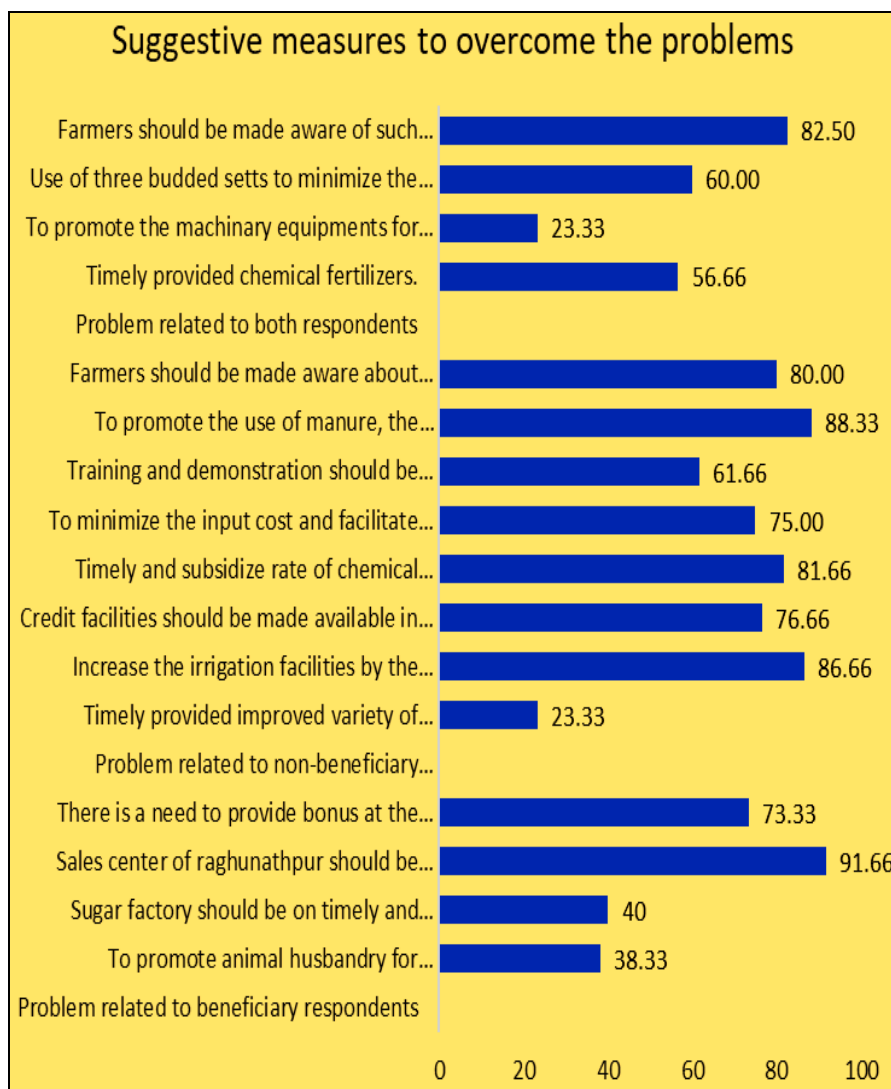


Fig 2: Distribution of the suggestive measures expressed by sugarcane growers.

4. Conclusions

It can be concluded that the major problem of the beneficiary respondents was 'high charges of transportation and poor facilities' and 'misconception about the application of manures' was a very serious problem in non-beneficiary respondents. Whereas sugarcane damaged by non-insect pests *viz.* rats, deer, elephants, and domestic cattle was the joint problem of both beneficiary and non-beneficiary respondents, and it can also be concluded that suggestive measures expressed by the beneficiary respondents were the sales center of Raghunathpur should be reopened and the charges of transportation should be fixed by the government to minimize the transportation problems. And to promote the use of manure, the benefits of manure would have to be demonstrated and given detailed information about it expressed by non-beneficiary respondents, whereas farmers should be made aware of such techniques to deal with rats, deer and elephants in the field as well as provide compensation was expressed by both beneficiary and non-beneficiary respondents. The study can also be concluded that the above-identified problems of sugarcane growers should be minimized by the remedial measures as suggested by him, then, the expansion of area and productivity of sugarcane will be enhanced.

5. References

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