The Pharma Innovation

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Constraints faced by sugarcane growers in Sindhudurg district

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Abstract
The study explored Training needs of sugarcane growers in Sindhudurg district. Sindhudurg district were purposively selected from Konkan region of Maharashtra state on the basis of maximum area under cultivation. Two talukas *viz.*, Vaibhavwadi and Kankavli from Sindhudurg district were selected purposively based on maximum area under sugarcane cultivation and five villages from each taluka were selected. From each village twelve respondents were selected randomly. The constituting total sample size is 120. The Ex-post-facto research design was used for the study. A properly organized questionnaire designed for study was used for collecting the data from respondents through personal interview method. The data collections from the respondents were edited tabulated and analyzed using suitable statistical tools like frequency, percentage, mean, standard deviation, chi-square and Kendall's coefficient of concordance. The study noticed that, the constraints faced by the sugarcane growers had majority areas of rate offered by sugar factories are non-remunerative with highest mean rank (7.86) followed by no timely harvesting by sugar factory crew (7.61), scarcity of labour (7.34), loss due to wild animals (5.63), untimely and inadequate availability of irrigation water from canal and river (5.48) and least constraints faced by respondents were unavailability of different types of fertilizer ((3.49), small size of land holding (2.61), difficulties in securing planting material of improved varieties (2.55) and inadequate knowledge of pests and diseases (2.45).

Keywords: Sugarcane, Kendell's coefficient, constraints

Introduction

Sugarcane is long duration crop maturing in 12-14 months. The planting method vary place to place, therefore, the states has to encourage optimum use of water & space. Due to long crop duration inter cropping is a major tool to enhance higher returns to the farmers. Sugarcane belongs to the family Graminaceae and genus *Saccharum officinarum*. The genus Saccharum comprises mainly of five species, three of which are cultivated and two are wild species. Sugarcane crop has its origin in New Guinea, later it spread to many countries of the world. India is considered as homeland of sugarcane and some 50 million farmers and millions of more workers, are involved in sugarcane farming. There are many other industries which are based on sugarcane by diversification and utilization of co-products and by products of the sugar industry, instead of merely depending on production of sugar. Thus the effort should be for integral utilization of sugarcane, its co products and by products to produce many value added products, to derive maximum benefits from sugarcane crop.

The increased production of sugarcane by way of adoption of new technologies necessitated modernization of sugar industry, thereby, boosting the general economy of the country. The modernized sugar industries can crush any quantity of cane and to produce sugar products. This resulted into increasing demand for sugarcane. Thus, a major breakthrough in sugarcane production in India need to be accomplished with the knowledge of the present package of practices that are recommended by the concerned sugarcane research institutes and the varieties plus other inputs used by the sugarcane growers in the cultivation of sugarcane.

There is a common observation that most of the technologies evolved remain at the research stations and it is not uniformly adopted by the farmers. There is no exception with sugarcane on the basis of extensive research on sugarcane over past couple of decades; sugarcane technologies are now available which can boost sugarcane production. Although enough viable and adoptive technologies have been developed, many of these have not reached the ultimate growers. This may be one of the reasons for poor average sugarcane yield and sugar recovery as compared to both potentiality of sugarcane yield and recovery.

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Sugarcane and sugar output can be increased if the growers adopt the recommended package relating to sugarcane production technology. For increasing the yield and income of the farmers there is need to know the appropriate training needs and to be convinced about recent knowledge regarding production technologies.

Materials and Methods

The present study was carried out in Konkan region of Maharashtra State during the year 2022-23. The present investigation was carried out in Konkan region for the study one district is selected purposively, i.e. Sindhudurg. In Sindhudurg district two talukas were selected purposively i.e. Vaibhavwadi and Kankavli based on maximum area under sugarcane cultivation. In selected talukas five villages were selected, thus total ten villages were selected for the present investigation. From each selected village, twelve farmers were selected randomly. That farmer who are engaged in sugarcane cultivation was selected as a respondent. Thus, 120 total respondents for the present study. An interview schedule was prepared, so as to collect the information in line with the objectives of the study. Personal interview technique was used for data collection. The ex-post-facto research design was used for the present study. The data collected from the selected respondent during the course of investigation was entered and tabulated in the excel worksheet and then appropriate analysis of data was made according to objectives formulated for study. Further, the statically techniques were applied to analyze tabulated data and interpreted it to reach up to the findings. Statistical methods to be used *viz.* mean, standard deviation, Chi-square test, Kendell's coefficient of concordance, frequency and percentage.

Results and Discussion

Major constraints faced by sugarcane growers were identified from past literature, consultation with experts and through local enquiries during the pre-testing of schedule. List of constraints identified are presented in Table 1.

Table 1: Constraints identified in sugarcane cultivation

Sr. No.	Constraints
1.	Unavailability of different types of fertilizer
2.	Scarcity of labour
3.	Rate offered by sugar factories are non-remunerative
4.	Untimely and inadequate availability of irrigation water from canal and river
5.	Inadequate knowledge of pests and diseases
6.	Loss due to wild animals
7.	Difficulties in securing planting material of improved varieties
8.	Small size of land holding
9.	No timely harvesting by sugar factory crew

After identifying the constraints, on the basis of scoring by each respondent Kendall's coefficient of concordance was found to check whether there existed an agreement among the respondents to rank these constraints.

Table 2: Test statistics for Kendall's coefficient of concordance of the constraints faced by sugarcane growers

N	119
Kendall's W	.798
Chi-Square	760.133
Df	8
Asymp. Sig.	.000

Kendall's W usually ranges from 0 to 1. Zero shows no agreement between the respondents and one shows perfect agreement. From the test statistics given in Table 19, Kendall's W seem to be 0.798 which was significant at 1 percent level of significance. This showed that there existed strong agreement among the respondents in ranking the constraints according to the severity perceived by sugarcane growers. The constraints faced by sugarcane growers were ranked in order of severity on the basis of responses obtained from them are presented in Table 2.

Table 3: Rank wise constraints faced by sugarcane growers

Sr. No.	Constraints	Mean rank	Rank
1.	Rate offered by sugar factories are non-remunerative	7.86	I
2.	No timely harvesting by sugar factory crew	7.61	II
3.	Scarcity of labour	7.34	III
4.	Loss due to wild animals	5.63	IV
5.	Untimely and inadequate availability of irrigation water from canal and river	5.48	V
6.	Unavailability of different types of fertilizer	3.49	VI
7.	Small size of land holding	2.61	VII
8.	Difficulties in securing planting material of improved varieties	2.55	VIII
9.	Inadequate knowledge of pests and diseases	2.45	IX

It was observed from Table 3, that the constraints 'rate offered by sugar factories are non-remunerative' ranked Ist by respondents might be due to that the factory crew harvests the sugarcane from many villages at a time for harvesting which leads to the drying of the sugarcane which indirectly affects the weight and rate of the sugarcane. However, 'harvesting is not done at proper time by sugar factory' ranked IInd by respondents might be due to that factory crew comes for harvesting of the sugarcane as per their schedule and does the harvesting of sugarcane from many villages in single time.

Constraints of 'scarcity of labour' ranked IIIrd by respondents due to that the cultivation of the sugarcane in villages takes place at same time and labours are not available to the growers alongside wages of the labours are also too high that they aren't affordable for many days.

The constraints 'loss due to wild animals' ranked IVth by respondents might be because of the severity of the outgo of the wild animals due to the nearness of the forest area and large uncovered land holding leads to the loss in cultivation.

As regards to 'untimely and inadequate availability of irrigation water from canal and river' ranked Vth by respondents might be due to inadequate availability and poor irrigation system that depends upon consistency in electric supply.

Further, it was observed that 'unavailability of different types of fertilizers' ranked VIth by respondents because recommended dose of fertilizer (RDF) collectively helps in growth and development of crops, required different fertilizers which were not available as per requirements.

It was observed that the constraints 'small size of land holding' ranked VIIth by respondents might be due to fragmented land holding increasing day by day.

As regards to 'difficulties in securing planting material of improved varieties' ranked VIIIth by respondents might be due to that change in planting material as per the factory's profitability and requirement.

Further it was seen that 'inadequate knowledge of pests and diseases' ranked IXth by respondents. This might be due to

the knowledge about innovations in farming have helped farmers to become much more productive and use of disease resistant varieties and protection of the crop from various diseases and pest

Conclusion
Regarding the constraints faced by sugarcane growers, it was observed that the major constraints were rate offered by sugar factories are non-remunerative with highest mean rank (7.86) followed by no timely harvesting by sugar factory crew (7.61), scarcity of labour (7.34), loss due to wild animals (5.63), untimely and inadequate availability of irrigation water from canal and river (5.48) and least constraints faced by respondents were unavailability of different types of fertilizer ((3.49), small size of land holding (2.61), difficulties in securing planting material of improved varieties (2.55) and inadequate knowledge of pests and diseases (2.45).

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