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Constraints analysis of mustard production and marketing in Banaskantha district of Gujarat

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Abstract
Study on constraint analysis of Mustard was carried out during agriculture year 2021-22. The study was conducted at Banaskantha districts of North Gujarat region which account 73.70 percent of the total mustard area of the state. Taluka, villages and sample farmers was selected by adopting multistage sampling technique. Two Talukas were purposively selected from Banaskantha district *viz.*, Tharad and Dhanera. Five villages were randomly selected from each selected taluka. Twelve mustard growing farmers were selected randomly from each selected village. Thus, total of 2 talukas, 10 villages and 120 mustard growing farmers were selected for study. For this study total of 20 market functionaries were randomly selected from Dhanera and Lakhani regulated markets. Ten processors were selected from Banaskantha district. The primary data were collected by using well designed pre-tested interview schedule for the *Rabi* season of 2021-22. The secondary data were collected from the records of Ministry of Agriculture and Farmers Welfare, GoI, and Directorate of Horticulture, GoG, Gandhinagar. Major problems faced by mustard growing farmers in production werelack of awareness and high price of plant protection chemicals and by high inputs cost for mustard cultivation, respectively. Lack of marketing information and higher cost of labour and transportation considered as important marketing constraints from the view point of farmers.

Keywords: Mustard production, marketing, agriculture

Introduction
India is the second most populated and seventh largest country in the world. The country is rich in both natural endowments and manpower resources. The economy of the country is normally agrarian and majority of the population earns its livelihood from agriculture. It helps a lot in securing foreign exchange which in turn enables us to import capital goods and essential commodities.

Mustard is the highly important crop among the oilseed crops grown in the country. It is important not only from the point of view of its contribution to the national agricultural production, but also because of its industrial use. It is the most important oil seed crop of the country because of its utility as food for the common man and also as raw material for some industries to manufacture soaps, lubricants, textile, auxiliaries etc.

Mustard crop in India are grown in diverse agro climatic conditions ranging from north-eastern, north western hills to down south under irrigated/rain fed, timely/late sown, saline soils and mixed cropping. India account for 11 percent of the total mustard production. Indian mustard accounts for about of the 6.78 million ha and the production is 9.12 million tonnes during 2019-20. At the same time yield remain only 1345 kg per ha. In the India major mustard production states is Rajasthan (46.28%), Haryana (12.61%), Uttar Pradesh (10.50%) and Madhya Pradesh (10.03%). Rajasthan is the highest mustard producing state in the India and producing 4.22 million tonnes. However, Gujarat is having highest yield 1932 kg per ha of mustard in country, (Ministry of Agriculture and Farmers Welfare, Govt. of India, 2020).

In various districts of Gujarat, Banaskantha district ranked first in terms of area (73.70%) during 2019-20. In the Gujarat total mustard cultivation is 1.72 lakh hectares and 3.33 lakh tonnes of mustard production and productivity is 1932.25 kg per ha. The maximum contribution of district in respect of area is shared by Banaskantha (1.27 lakh ha) followed by Patan (0.19 lakh ha) and Mehsana (0.13 lakh ha) in the 2019-20. Banaskantha district alone itself cultivated 1.27 lakh hectares and 2.55 lakh tonnes of mustard production and productivity is 2005 kg per ha. Hence, it felt necessary to study the production and marketing system of mustard in Banaskantha. Among the various Taluka of Banaskantha, Tharad rank first in terms of area and production of mustard.

In the Banaskantha total mustard cultivation is 1.45 lakh hectares and 2.69 lakh tonnes of production. The maximum contribution of taluka is with respect to area is shared by Tharad (22.83%) followed by Dhanera (20.71%), Palanpur (12.04%), Lakhani (10.49%) and Vav (7.90%) for the 2021-22. Tharad and Dhanera both Taluka cultivated 43.54 percent total mustard area and production is around 43.60 percent.

Methodology

The investigation was carried out in district Banaskantha during 2020-21. In order to achieve the objectives of the present study the multistage sampling technique was adopted. In the first stage Banaskantha district was selected purposively based on maximum mustard area and at the subsequent stages, two talukas from the district was selected purposively. There after five villages from each taluka were selected randomly. Finally, from each selected village, 12 mustard growing farmers were selected at random.

Garrett's ranking technique was used to organize the farmers responses on constraints of crop production and marketing. Garrett's ranking technique provides the changes of orders of constraints and advantages into numerical scores. The prime advantage of this technique over simple frequency distribution was that the constraints were arranged based on their importance from the point of view of respondent. Garrett's formula for converting ranks into percent is:

Percent Position = $100 * (R_{ij} - 0.5) / N_j$

Where,

R_{ij} = Rank obtained by the i^{th} variable for j^{th} respondents

N_j = Number of variables ranked by j^{th} respondents

The percent position of each rank was converted into scores referring to the table given by Garrett and Woodworth (1969). For each factor, the scores of individual farmers were added together and divided by the total number of the farmers from whom score were added. These mean scores for all the factors were arranged in descending order and the constraints were ranked accordingly.

Results and Discussion

In this section an attempt has been made to isolate a major constraints faced by the farmers in production and marketing of mustard in order to increase their effectiveness and also give suggestion to the policy makers. Here, Garrett's ranking technique was used to organize the farmers responses on constraints of mustard production. The mean scores for all the factors affecting production and marketing were arranged in descending order and constraints were ranked accordingly. The prime advantage of this technique over simple frequency distribution is that the constraints are arranged based on their importance from the point of view of farmers.

Major production constraints of mustard growing farmers

The major constraints faced by farmers in production of mustard presented in Table 1. It can be seen from Table 1 that lack of awareness and price of plant protection(insecticide, herbicide *etc.*) was considered most important constraint related to mustard production with Garrett's score of 55.17 followed by high input cost for mustard cultivation (55.00), shortage of fertilizer and manures (54.83), higher production expenditure (52.22), non availability of labour when needed and higher labour charge (49.39), lack of availability of sufficient quality seed (48.30), lack of availability of credit (46.01) and lack of awareness about new technology and practices (39.33) among farmers.

Table 1: Major production constraints faced by mustard growing farmers

[n=120]

Sr. No	Production Constraints	Garrett's score	Rank
1	Lack of awareness of insecticide and pesticide and high price of insecticide and pesticide	55.17	1
2	High input cost for mustard cultivation	55.03	2
3	Shortage of fertilizer and manures	54.83	3
4	Higher production expenditure	52.22	4
5	Non availability of labour when needed and higher labour charge	49.39	5
6	Lack of availability of sufficient quality seed	48.30	6
7	Lack of availability of credit	46.01	7
8	Lack of awareness about new technology and practices	39.33	8

Major marketing constraints of mustard growing farmers

The major constraints in marketing of mustard presented in Table 2. The data in the Table 2 indicates that lack of marketing information was most important constraint (Garrett's score, 56.91) followed by higher cost of labourand transportation (Garrett's score, 51.61). Another prominent constraint from the point of view of farmers was higher commission of middlemen (51.04), delaying on payment (50.12), lack of transportation facility (49.51), fluctuation of price (46.51) and lack of storage facility (44.37).

Table 2: Major marketing constraints faced by mustard growing farmers

[n=120]

Sr. No	Marketing Constraints	Garrett's score	Rank
1	Lack of marketing information	56.91	1
2	High cost of labour and transportation	51.61	2
3	Higher commission of middlemen	51.04	3
4	Delaying on payment	50.12	4
5	Lack of transportation facility	49.08	5
6	Fluctuation of price	46.51	6
7	Lack of storage facility	44.37	7

Suggestive measures for increasing mustard production

For the successful and targeted level of production, the following suggestion can be given to the farmers:

1. Use of good quality seed
2. Use of scientific package and practices of mustard production
3. Application of balanced does of nutrients
4. The plant protection measure mainly the use of integrated pest management
5. Use of improved post-harvest technology
6. Crop insurance incentive
7. Infrastructure development with fair marketing system
8. Timely sowing for which efficient weather forecasting may be used
9. Credit facilities with low rate interest
10. Proper on farm extension service

Conclusion

The major constraints faced by farmers in mustard production were lack of awareness and high price of insecticide and pesticide followed by high input cost for mustard cultivation, shortage of fertilizer and manures, higher production expenditure, non-availability of labour when needed and higher labour charge, lack of availability of sufficient quality seed, lack of credit and lack of awareness about new technology and practices. The major marketing constraints faced by the mustard growing farmers were lack of marketing information followed by high cost of labour and transportation, higher commission of middlemen, delaying on payment, lack of transportation facility, fluctuation of price and lack of storage facility.

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