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Analysis of production and marketing constraints faced by wheat growers in Dehradun district of Uttarakhand

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Abstract

The present study was conducted in 2021-22, in Dehradun district of Uttarakhand. Two blocks were selected from the district based upon highest area under wheat crop, out of which 185 farmers were interviewed. Farmers were categorized into three categories of small, medium and large based upon land holdings. The results were obtained using the Garrett's ranking technique. High cost of cultivation and inadequate irrigation facilities were ranked I and II as production constraints while low selling price and seasonality of production were ranked I and II as marketing constraints faced by farmers.

Keywords: Production and marketing constraints faced, wheat growers

Introduction

Wheat production and marketing in Dehradun, like in any other location, are hampered by constraints that affect total cultivation and distribution. Dehradun, in India's hilly state of Uttarakhand, has a landscape with irregular topography, limiting the amount of flat land suited for wheat growing. Wheat is the second most important cereal in India after rice contributing substantially to the national food security by providing more than 50% of the calories to the people who mainly depend on it. From a historical perspective, India had made spectacular advancements in the productivity and sustainability of wheat and wheat-based cropping system. The scenario of the past ten years has clearly indicated that the wheat production in the country has soared ahead despite the area remaining the same. Hitherto, the wheat programme has released around 480 varieties for different production conditions in all the wheat growing zones (ICAR-IIWBR).

Wheat (*Triticum* spp.) is a cereal crop that belongs to the family *Poaceae* (order *Poales*). Wheat is a staple source of nutrients for around 40% of the world's population. Wheat has already been cultivated for millennia. Wheat was among the first cereals crop to be farmed, and that has been a staple diet throughout Europe, Western Asia, and Northern Africa for over 8000 years. This is most likely due to wheat's agricultural versatility, convenience of grain storage, and simplicity of flour conversion for a variety of cuisines. Wheat is probably the most frequently produced crop in the world, with over 218 million hectares under cultivation, and its global trade exceeds that of all other crops collectively. Wheat is a vital aspect of the human diet, accounting for 20% of daily calories and protein. Wheat is indeed the second most powerful food crop in the undeveloped nations after rice in ensuring food security, with an estimated 80 million peasants depending on it for their survival. From its present output level, the FAO estimates that the world will need about 840 Mt of wheat by 2050. The need for animal feed and the detrimental consequences of climate change on wheat production are not included in this need. The production of wheat in emerging nations should expand by 77 percent to fulfill this demand, and more than 80 percent of the demand must come from vertical expansion (FAO 2009).

Materials and Methods

The research area for the study was selected to be the Vikasnagar and Sahaspur blocks of the Dehradun district of Uttarakhand. 185 respondents were selected from the 10 highest wheat-producing villages to collect data with the help of the Multistage Stratified Sampling technique. The research was conducted in the year 2021-22.

Information regarding the problems faced by the farmers in wheat cultivation and marketing was collected personally by interviewing the farmers. Constraints were identified in consultation with the experts of wheat cultivation and farmers were asked to rank the problems

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proposed to them. Garrett’s ranking technique has been used to analyze the factors influencing the production and marketing of wheat by the respondents. Garrett’s Ranking Technique provides the change of orders of constraints and advantages into numerical scores. The prime advantage of this technique over simple frequency distribution is that the constraints are arranged based on their severity from the point of view of respondents.

Hence, the same number of respondents on two or more constraints may have been given different ranks. Garrett’s formula for converting ranks into a percent is:

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

Where

R_{ij} = rank given for i th constraint by a j th individual;

N_j = a number of constraints ranked by a j th individual.

The percent position of each rank will be converted into scores referring to the table given by Garrett and Woodworth (1969). For each factor, the scores of individual respondents will be added together 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

Table 1: Identification of Constraints Faced by Wheat Farmers in Production of Wheat

Sl. No.	Problems/ Constraints	Total Score of Growers	Garrett’s Mean Score	Rank
1	High cost of cultivation	4.55	73.78	I
2	Inadequate irrigation facilities	13.64	67.00	II
3	Non-availability of skilled labour	22.73	64.00	III
4	Non-availability of quality seed	50.00	54.67	IV
5	High cost of irrigation	31.82	50.67	V
6	Lack of finance	40.91	41.33	VI
7	Lack of organic manure like FYM	59.09	43.78	VII
8	Non-availability of required land	68.18	34.56	VIII
9	High price of land	77.27	40.22	IX
10	Non-availability of fertilizer or plant growth regulators	86.36	33.33	X
11	High cost of agrochemicals	95.45	27.44	XI

Source: Field Study

The results from Table 1 Identify main obstacles faced by farmers in the study area when producing wheat crops. The High cost of agriculture was placed first among all the restraints faced by farmers. Due to rising prices for numerous agricultural inputs and production factors, most farmers believe they must bear a high production cost. Growers' total score for 'High expense of cultivation' is 4.55, with a Garrett's Mean Score of 73.78.

Among other limitations, Inadequate irrigation facilities ranked II, lack of skilled labour ranked III, lack of quality seed ranked IV, high cost of irrigation ranked v, lack of finance ranked VI, lack of organic manure such as FYM ranked VII, lack of required land ranked VIII, high price of land ranked IX, lack of fertiliser or plant growth regulators ranked X, and high cost of agrochemicals ranked XI.

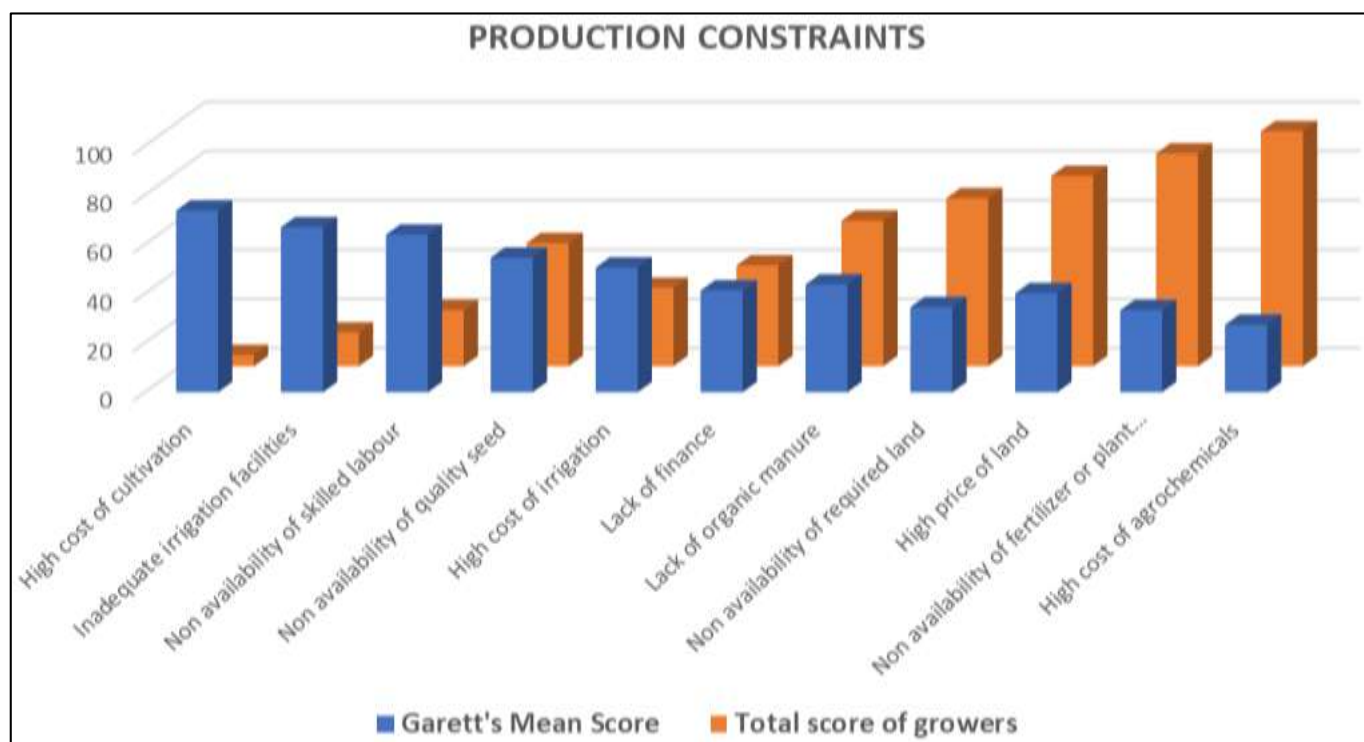


Fig 1: Constraints Faced by Wheat Farmers in Production of Wheat

Table 2: Identification of Constraints Faced by Wheat Farmers in Marketing of Wheat

Sl. No.	Problems/ Constraints	Total Score of Growers	Garett's Mean Score	Rank
1	Low selling price	5.00	75.90	I
2	Seasonality of production	15.00	63.20	II
3	Problem of transportation	25.00	60.40	III
4	Middlemen in marketing of wheat	35.00	58.00	IV
5	Absence of grading and processing	45.00	55.40	V
6	Lack of market information	55.00	47.50	VI
7	Unorganized channels of marketing mechanism	65.00	45.50	VII

Source: Field Study

The data presented in Table 2 identified the key difficulties faced by farmers in the research area when marketing wheat through various channels. According to Garrett's Scale, the main problem encountered during marketing is low selling prices. According to the previous table, farmers are unable to obtain appropriate pricing for their output despite the high cost of production. Other constraints are also ranked

according to Garrett's Mean score, with seasonality of production ranked as II, transportation problems ranked as III, middlemen problems ranked as IV, lack of grading as well as processing facilities ranked as V, lack of market information ranked as VI, and unorganised marketing channels ranked as VII.

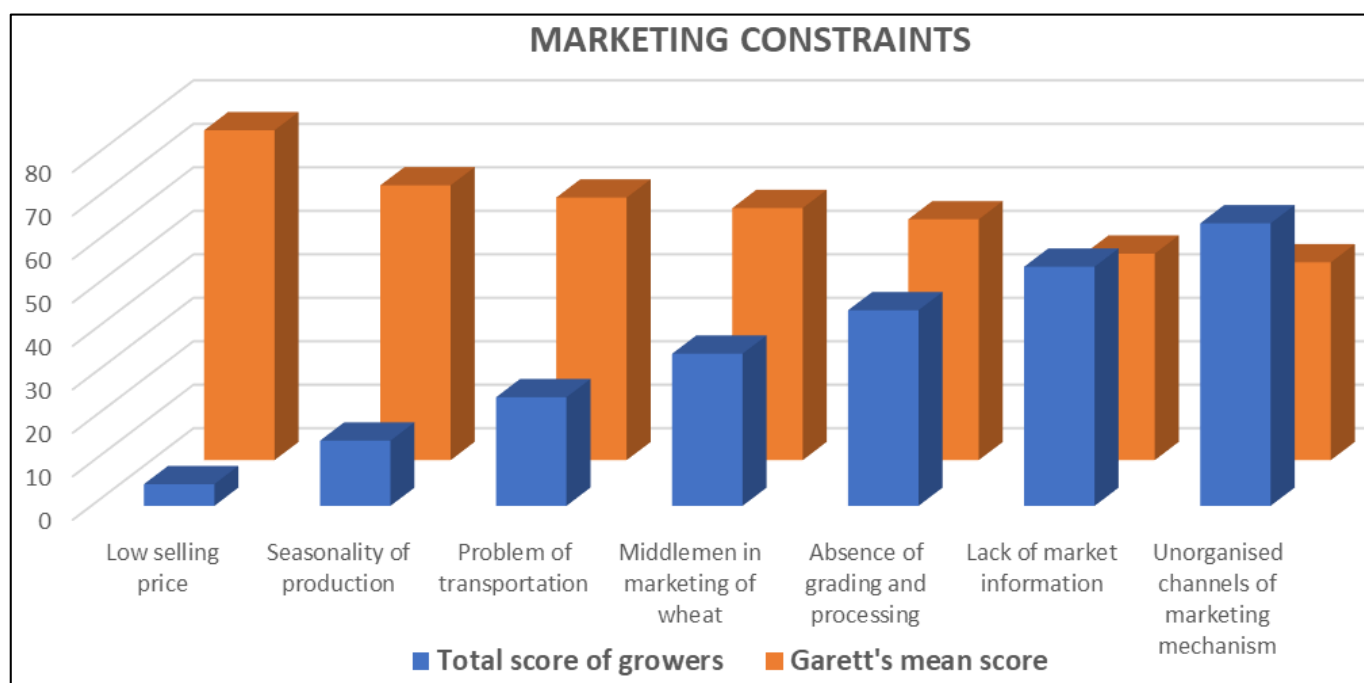


Fig 2: Constraints Faced by Wheat Farmers in Marketing of Wheat

Conclusion and Suggestion

Finally, wheat production and marketing in Dehradun are constrained by a number of limitations that obstruct effective production, distribution, and marketing. With the increase in area under wheat production in Uttarakhand, there is a need to overcome various constraints which farmers are facing and to improve the marketing and production of wheat.

To overcome the constraints in wheat production and marketing in Uttarakhand, several suggestions can be considered

Promote Research and Development: Invest in research and development programs to develop region-specific wheat varieties that are adapted to the local climatic conditions and have high yield potential. This would enable farmers to cultivate varieties that are resilient to the challenges faced in the region.

Improve Agricultural Infrastructure: Enhance agricultural infrastructure by providing farmers with access to modern

farming equipment and machinery. This includes promoting mechanization in land preparation, sowing, harvesting, and post-harvest activities to increase efficiency and reduce labor dependency. Additionally, the development of efficient irrigation systems can mitigate the impact of erratic weather patterns.

Strengthen Extension Services: Establish robust extension services to educate farmers about advanced agricultural practices, such as optimal fertilization, pest management, crop rotation, and soil conservation techniques. This would enhance their knowledge and skills, enabling them to adopt best practices for wheat production.

Establish Market Linkages: Facilitate better market linkages between farmers, traders, and consumers by improving transportation networks and logistics. Enhancing connectivity and establishing well-structured market platforms can reduce transportation costs, facilitate timely sales, and provide farmers with access to wider markets.

Support Farmer Cooperatives: Encourage the formation and strengthening of farmer cooperatives or producer groups to enhance collective bargaining power and reduce dependency on middlemen. These cooperatives can enable farmers to collectively invest in infrastructure, share knowledge and resources, and negotiate better prices for their produce. By implementing these suggestions, the constraints in wheat production and marketing in Uttarakhand can be gradually overcome. The collaborative efforts of the government, agricultural organizations, research institutions, and farmers themselves are crucial in implementing these strategies effectively and achieving sustainable growth in the wheat sector.

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