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Analysing the challenges encountered by farmers in the production and marketing of major cereal crops

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Abstract

This study was conducted in the state of Uttar Pradesh. Two major cereal crops viz; wheat, Paddy were selected for analysis. The districts were selected based on last five years average (2016-17 to 2020-21). The main Chakarpur Mandi from the district generally located at its headquarters was selected purposively. From the Mandi one commission agent was selected at random basis and 10 of the farmers who were available on the day of the interview at the Mandi were randomly interrogated. Thus, a total number of $10 \times 25 = 250$ farmers were selected for studying the constraints faced by the farmers. Primary data were collected for the agricultural year 2020-21. The timely non-availability of inputs like lack of labor at peak time, HYV seeds, chemical fertilizers, plant protection chemicals etc at village level was one of the major production constraints faced by the cultivators of major field crops. High cost of improved variety seeds was the second major economic problem and first major problem is lack of labor at peak time. Unstable weather condition was one of the major problems followed by no protection of crops from adverse weather conditions. Non-availability of the inputs on time in the market for production of crops was one of the major infrastructural problems. In case of marketing the major problems were faced by the paddy and wheat growers' Low quality of produce, non-Availability of labor, High cost of proper transportation etc.

Keywords: Constraints, production, marketing, cereals etc.

Introduction

Agriculture plays a vital role in ensuring food security and sustaining the global population. Within the agricultural sector, the production and marketing of major cereal crops hold significant importance. Cereal crops, such as wheat, rice, corn, and barley, are staple foods for a large portion of the world's population and form the backbone of many agricultural economies. However, the production and marketing processes of cereal crops are not without challenges. Farmers face numerous obstacles that hinder their ability to efficiently cultivate, harvest, and sell these crops. Understanding these challenges is crucial for developing effective strategies and policies to support farmers and enhance the overall productivity of the cereal crop sector. This study aims to examine the challenges encountered by farmers in the production and marketing of major cereal crops. By delving into these challenges, we can gain valuable insights into the factors that impact agricultural productivity, profitability, and sustainability. Identifying these challenges will aid in developing targeted interventions and solutions to address them, ultimately benefiting both farmers and consumers. The study will employ a comprehensive research approach, combining qualitative and quantitative methods. Interviews and surveys will be conducted with farmers, agricultural experts, and industry stakeholders to gather primary data. Secondary data from government reports, academic publications, and relevant agricultural databases will also be utilized to provide a broader understanding of the challenges faced by cereal crop farmers. The findings of this study will contribute to the existing body of knowledge on agricultural challenges, particularly in the context of cereal crop production and marketing. Policymakers, agricultural organizations, and researchers can utilize these findings to inform decision-making, design effective support programs, and foster sustainable agricultural practices. Ultimately, addressing the challenges faced by cereal crop farmers will enhance the resilience and productivity of the agricultural sector, ensuring food security and supporting economic development.

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Materials and Methods

Study area

For our research the area selected for study was Akbarpur block in Kanpur Dehat district of Uttar Pradesh. Total 12 villages were selected randomly out of which 250 respondents were selected randomly for the study purpose.

Crop selection

Out of several crops growing widely we have selected wheat and paddy for the study purpose in two different growing seasons.

Data collection

In order to identify the constraints encountered by farmers in the production of major field crops, the researchers conducted individual interviews with the respondents. Schedules specifically designed for this purpose were utilized during the interviews. To analyse the gathered data and draw meaningful conclusions, Garrett's ranking technique was employed. This approach facilitated the prioritization and evaluation of the identified constraints, leading to a comprehensive understanding of the challenges faced by farmers in crop production.

Classification of farmers

The farmers were classified in to four categories based on land holding marginal (0-1 ha), small (1-2 ha), semi-medium (2-4 ha), and medium (4-10 ha).

Statistical Analysis

Garrett ranking

In order to assess the acceptance of respondents and identify constraints in the processing and marketing of cereal production, the Garrett's ranking technique has been employed. This technique assigns numerical scores to the changes in the order of constraints and advantages. One key advantage of this technique, compared to simple frequency distribution, is that it considers the relative importance of constraints and advantages according to the respondents' perspectives. As a result, even if the same number of respondents identify multiple constraints, they may be assigned different ranks based on their perceived significance (Kumar and Pandey, 1999) [12].

The formula proposed by Garrett for converting ranks into percentages is as follows:

$$\text{Percentage} = \left(\frac{\text{Rank} - 0.5}{\text{Total number of respondents}} \right) * 100$$

Results and Discussion

Wheat growers face various constraints that affect their crop production. The most significant constraint reported by the growers is the lack of labor during peak periods, which was ranked as the top constraint. Following that, the high cost of seeds, particularly improved varieties, was ranked as the second major challenge. The non-availability of high-yielding variety (HYV) seeds was identified as the third constraint. Unstable weather conditions, including unpredictable rainfall and temperature fluctuations, were ranked fourth in terms of their impact on wheat cultivation. Weed infestation, lack of proper irrigation systems, and inadequate plant protection measures were ranked fifth, sixth, and seventh, respectively. The high cost of manures and fertilizers was listed as the eighth constraint, while pest and disease attacks were ranked

ninth. The lack of access to loans at low interest rates was identified as the tenth constraint. Lastly, miscellaneous problems encompassing various other challenges were ranked eleventh. Understanding and addressing these constraints are crucial for developing strategies to support wheat growers and enhance their productivity.

Wheat growers encounter various constraints when it comes to marketing their produce, impacting their ability to efficiently sell and distribute wheat. The most significant constraint faced by wheat growers, ranked first, is the low quality of produce. This constraint reduces the market value and demand for their wheat, affecting their profitability. The non-availability of labor ranks second, which poses challenges during critical marketing activities such as transportation and packaging. The high cost of proper transportation, ranked third, adds to the financial burden of growers, making it difficult to transport their wheat to markets or processing facilities. Lack of marketing knowledge ranks fourth, hindering growers' ability to effectively promote their wheat and navigate the complexities of the market. High charges of marketing, ranked fifth, further diminish growers' profitability as they incur significant expenses related to marketing their produce. The margin taken by middlemen, ranked sixth, reduces the income received by wheat growers, as intermediaries play a prominent role in the distribution chain. Lastly, the instability of prices, ranked seventh, poses challenges for growers in predicting and planning for market fluctuations, impacting their overall profitability. Addressing these constraints is crucial for improving the market conditions and profitability of wheat growers.

Paddy growers encounter several consequences that significantly impact their cultivation. The most critical consequence, ranked first, is the lack of labor during peak periods, leading to delays in crucial farming activities like planting and harvesting. The second-ranked consequence is the high cost of seeds, particularly improved varieties, which poses a financial burden for growers. Non-availability of high-yielding variety (HYV) seeds, ranked third, limits the potential productivity of their paddy crops. The fourth-ranked consequence is the costly nature of manures and fertilizers, increasing the overall production expenses for paddy growers. Unstable weather conditions, ranked fifth, including unpredictable rainfall and temperature fluctuations, pose challenges to paddy cultivation and can adversely affect yields. The lack of proper irrigation, ranked sixth, hampers the growers' ability to ensure sufficient water supply for their paddy fields. Plant protection, ranked seventh, becomes crucial in mitigating the damage caused by pests and diseases that can harm paddy crops. The eighth-ranked consequence is the lack of access to loans at low-interest rates, which restricts the financial resources available to paddy growers for investment in their cultivation. Pest and disease attacks, ranked ninth, pose significant threats to paddy yields if not properly managed. Infestation of weeds, ranked tenth, competes with paddy plants for resources and hinders crop growth. Lastly, miscellaneous problems, ranked eleventh, encompass various other challenges faced by paddy growers. Addressing these consequences is vital to support paddy growers in overcoming challenges and improving their yields and overall profitability.

Paddy growers encounter various constraints in the marketing of their crop, which pose challenges to their ability to effectively sell and distribute paddy. The most significant

constraint faced by paddy growers, ranked first, is the low quality of produce. Poor quality paddy reduces its market value and demand, impacting the profitability of growers. The non-availability of labor ranks second, which poses challenges during crucial marketing activities such as transportation and packaging. The high cost of proper transportation, ranked third, adds to the financial burden of growers, making it difficult to transport their paddy to markets or processing facilities. Lack of marketing knowledge ranks fourth, hindering growers' ability to effectively promote their paddy and navigate the complexities of the market. High charges of marketing, ranked fifth, further diminish growers' profitability as they incur significant expenses related to marketing their produce. The presence of middlemen, ranked sixth, affects growers' profits as intermediaries play a role in the distribution chain. Lastly, the instability of prices, ranked seventh, poses challenges for growers in predicting and planning for market fluctuations, impacting their overall profitability. Addressing these constraints is crucial for improving the market conditions and profitability of paddy growers.

Table 1: Constraints faced by the wheat growers

Sr. No.	Particular	Scores	Rank
1.	Lack of labor at peak time	58.00	I
2.	High cost of the seeds	57.15	II
3.	Non-availability of HYV of seed	56.01	III
4.	Unstable weather condition	54.90	IV
5.	Infestation of weed	49.44	V
6.	Lack of proper irrigation system	49.29	VI
7.	Plant protection	47.81	VII
8.	Costly manures and fertilizers	47.30	VIII
9.	Pest and disease attack	46.35	IX
10.	Lack of loan at low interest	45.68	X
11.	Miscellaneous problem	40.06	XI

Table 2: Constraints faced by the wheat growers in marketing

S. No.	Particular	Scores	Rank
1.	Low quality of produce	55.44	I
2.	Non-Availability of labor	52.34	II
3.	High cost of proper transportation	51.02	III
4.	Lack of marketing knowledge	50.22	IV
5.	High charges of marketing	49.84	V
6.	Middleman margin	48.34	VI
7.	Instability of price	45.80	VII

Table 3: Consequences faced by the paddy growers.

Sr. No.	Particular	Scores	Rank
1.	Lack of labor at peak time	62.87	I
2.	High cost of the seeds	57.80	II
3.	Non-availability of HYV of seed	54.06	III
4.	Costly manures and fertilizers	53.50	IV
5.	Unstable weather condition	51.75	V
6.	Lack of proper irrigation	48.69	VI
7.	Plant protection	48.58	VII
8.	Lack of loan at low interest	47.000	VIII
9.	Pest and disease attack	44.78	IX
10.	Infestation of weed	43.04	X
11.	Miscellaneous problem	39.93	XI

Table 4: Consequences faced by the paddy growers in marketing

Sr. No.	Particular	Scores	Rank
1.	Low quality of produce	55.72	I
2.	Non-Availability of labor	53.93	II
3.	High cost of proper transportation	50.76	III
4.	Lack of marketing knowledge	49.97	IV
5.	High charges of marketing	48.80	V
6.	Middleman	48.04	VI
7.	Instability of price	45.78	VII

Conclusion

The major problems faced by the wheat growers were lack of labour at peak time with score of 58.00 and posing the rank I. Deficiency of labour is might be due to decrease in the interest of farming as there the labour charges is low as compared to another field. The second major problem was faced by the growers was high cost of seed with the score of 57.15 followed by lack of high-yielding HYV seed with the score of 56.01.

The problems faced by the grower's during marketing was lack of quality produce with the score of 55.44 which is due to lack of ample supply of nutrients to the plant during their growing period and adverse climatic condition are factors which are liable for deteriorating the quality of the produce. The second major problem faced during marketing was non availability of labour with the score of 52.34 which is again due to low wages, hard work, and lack of interest. Transportation is another major problem with the score of 51.02 as there is lack of proper and uneven distribution of transporting vehicles as we all know that the marginal farmers do not have enough money to arrange the money to by such expensive transporting vehicle.

The major problems faced by the paddy growers were lack of labour at peak time with score of 62.87 and posing the rank I. Deficiency of labour is might be due to decrease in the interest of farming as there the labour charges is low as compared to another field. The second major problem was faced by the growers was high cost of seed with the score of 57.80 followed by lack of high-yielding HYV seed with the score of 54.06.

The problems faced by the grower's during marketing was lack of quality produce with the score of 55.72 which is due to lack of ample supply of nutrients to the plant during their growing period and adverse climatic conditions are factors which are liable for deteriorating the quality of the produce. The second major problem faced during marketing was non-availability of labour with the score of 53.93 which is again due to low wages, hard work, and lack of interest. Transportation is another major problem with the score of 50.76 as there is lack of proper and uneven distribution of transporting vehicles as we all know that the marginal farmers do not have enough money to arrange the money to by such expensive transporting vehicle.

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