Asian Journal of Agricultural Extension, Economics & Sociology

Volume 41, Issue 7, Page 124-128, 2023; Article no.AJAEES.99435
ISSN: 2320-7027

Challenges Faced by the Paddy Farmers during COVID-19 Regime in Andhra Pradesh

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/AJAEES/2023/v41i71953

Open Peer Review History:
This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: https://www.sdiarticle5.com/review-history/99435

Short Research Article

Received: 04/03/2023
Accepted: 08/05/2023
Published: 17/05/2023

ABSTRACT

Rice is the main food for about 800 million people in India, which constitutes about 65% of its population. The unexpected imposition of lockdown with very little preparation obstructed farming and the food systems in numerous different ways. Rice was majorly affected by the restrictions during COVID-19; hence the present study was designed. A multistage sampling design was adopted the for selection of the sample. Garrett's ranking method was used to prioritize challenges and the results revealed high input cost, high wage rate of labour, high transportation cost, and non-availability of farm labour were major challenges faced by paddy farmers to cope with these challenges we suggested that Government should provide adequate inputs to the farmers at a judicious time on a need basis through RBK's, high need to encourage farmers towards mechanization, labour scarcity should be reduced by employing MGNREGA workers in operations,

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Government should provide required inputs at lower/ judicious prices by establishing the manufacture industries and also should ensure that correct and reliable market information to reach the farmers.

Keywords: Challenges; COVID-19; paddy production; paddy marketing; Garrett's ranking technique.

1. INTRODUCTION

Rice is the main food for around 800 million people in India, which constitutes about 65 percent of its population. Its role is detrimental to nutrition, the economy, employment, culture, and history. Rice contributes to approximately 40 percent of India's total food grain production. The total area of rice in India was 43.77 million hectares with 169.14 million tonnes of production and 3860 kg ha^{-1} productivity [1]. The unexpected imposition of the lockdown, with very little preparation or arrangement, has obstructed agriculture and the food systems in numerous different ways. During the Bengal Famine in 1943, where the gradual deterioration of its agriculture by several agro-social factors was accelerated into one major calamity resulting from the outburst of Brown Spot disease in Bengal's paddy fields caused by *Helminthosporium oryzae,* resulting in heavy losses of human lives in the state along with Labour scarcity, high cost of labour, high cost of machinery, non-availability of quality seed, irrigation water scarcity, lack of storage facilities, lack of transportation facilities, lack of market information and price fluctuations for inputs & outputs were some of the major factors that put the marketing and production of paddy in the country at risk throughout the recorded agricultural history. Prolonged existence of such adversities, when left unchecked, culminate into an inevitable breakdown of food security. It was suspected that a similar pattern might emerge during the COVID-19 pandemic of 2020. Apart from heavy losses of life due to the disease, humanity has endured lockdowns, shutdowns and other protection measures necessitated by the COVID-19 pandemic which gave an additional blow and Rice was majorly affected by the restrictions during COVID-19 since timely and non-availability of inputs, high wage rate and scarcity of labour due to social distancing measures, high input cost, and non-availability of the required inputs were observed hence the present study was designed to analyze the challenges faced by paddy farmers in production and marketing during COVID-19 regime in Andhra Pradesh [2-7].

2. MATERIALS AND METHODS

2.1 Sampling Design

A multistage sampling design was adopted for the selection of samples at different levels of district, mandal, and villages for the present study. Andhra Pradesh was selected for the study as it is one of the major rice-producing states in India. West Godavari district was selected from Andhra Pradesh since it is having the highest area under rice cultivation. Three mandals and two villages with 20 respondents from each village were selected thus constituting of total 120 farmers for collecting necessary information related to the objective of the present study.

2.2 Methods of Data Collection

The present study focused mainly on the primary data collected from the sample respondents. However, the data necessary for the selection of districts, mandals, and villages were collected from secondary sources. primary data was collected from the paddy farmers through a pre-tested and well-designed questionnaire developed for the study as per the objectives. The secondary data about the area, production, and productivity of rice cultivation in the selected district for the year 2019-20 were collected from the Agriculture Statistics at Glance 2019-2020.

2.3 Methods of Data Analysis

The Garrett's ranking method was used to prioritize the challenges faced by the farmers both in the production and marketing of paddy during COVID-19 pandemic. The paddy farmers in the selected villages were asked to rank the challenges they encountered in production and marketing during the COVID-19 regime. These ranks were converted into percent positions by using the formula:

$$\text{Percentage position} = \frac{100(\text{Rij} - 0.5)}{\text{Nj}}$$

Where,

R_{ij} = Rank given for the i^{th} item by the j^{th} individual
N_j = Number of items ranked by the j^{th} individual

The percent position of each rank was converted to a score by referring to tables given by Garrette and Woodsworth (1969). Referring to Garrett's table, the estimated percent positions were converted into a score. Thus, for each problem, the mean score was estimated. The problem with the highest mean value was considered as the most important one and the others followed in that order. The challenges were initially included in the pre-structured schedule by reviewing the articles on problems faced by the paddy farmers in paddy production and marketing during the COVID-19 regime. The challenges faced by the paddy farmers in paddy production and marketing during the COVID-19 regime were as follows: Lack of accessibility to the market, non-availability of inputs, high input cost, non-availability of farm labour, high wage rate of labour, high transportation costs, non-availability of the required information on price/prices in other markets, lack of warehousing facility, non-availability of packaging material, No financial assistance, lack of storage facilities, lack of adequate extension support, middlemen malpractices and delay in payments after selling the produce [8-11].

3. RESULTS AND DISCUSSION

Challenges faced by farmers both in paddy production and marketing during the COVID-19 regime have been presented in Table 1. It could be detected from the results that the major challenges faced by farmers both in paddy production and marketing during the COVID-19 regime were high input costs (rank I) since during the lockdown the prices of everything goes up like petrol which indirectly hastens the rise in input cost followed by High wage rate of labour (rank II) due the imposition of lockdown and restrictions on the movement of people as well as vehicles leads to scarcity which ultimately hastens the increase in the wage rate of labour, High Transportation cost (rank III) due to restrictions on the movements and rice in petroleum products the transportation cost also increased which became a burden for the farmers during COVID-19 time, especially for small and marginal farmers, Delay in crediting the amount by government after procurement (rank IV) due to various reasons the amount after procurement was not credited into the farmers' account which also has a great effect on farmers to buy the inputs for the next season and the non-availability of farm labour (rank V) this was happened due to people or labour during the COVID-19 time has fear and also due to restrictions the availability of labour was more which finally affected the operations during and after harvesting. These were the major constraints encountered by paddy farmers during the COVID-19 regime in Andhra Pradesh because of the sudden imposition of the lockdown [12-15].

Table 1. Challenges faced by paddy farmers during the COVID-19 regime

S. No.	Problems	Average	Rank
1	High input cost	77.23	I
2	High wage rate of labour	76.11	II
3	High Transportation cost	68.73	III
4	Delay in crediting the amount by govt. after procurement	67.26	IV
5	Nonavailability of farm labour	59.78	V
6	No financial; assistance	55.70	VI
7	Lack of adequate extension support	51.48	VI
8	Lack of storage facilities	46.17	VIII
9	Non-Availability of inputs	45.96	IX
10	Non availability of required information on Price in market	42.80	X
11	Lack of warehousing facility	34.02	XI
12	Non availability of packaging material	33.41	XII
13	Lack of accessibility to market	26.30	XIII
14	middlemen malpractices	17.84	XIV

4. CONCLUSION

It could be detected from the results that the high input cost (rank I) followed by High wage rate of labour (rank II), High Transportation cost (rank III), and Delay in crediting the amount by govt after procurement (rank IV) and the non-availability of farm labour (rank V) were key constraints faced by paddy farmers during the COVID-19 regime in Andhra Pradesh. Hence the following suggestions were made after getting the results Government Should provide adequate inputs to the farmers at a judicious time on a need basis through RBK's, high need to encourage farmers towards mechanization, labour scarcity should be reduced by employing MGNREGA workers to the farm operations, Government should provide the required inputs at lower/ judicious prices by establishing the manufacture industries, should ensure that correct and reliable market information to reach the farmers and also should encourage online and e-NAM marketing.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
https://www.sdiarticle5.com/review-history/99435