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# Estimation of Marketing Cost, Marketing Margin and Constraints in Production of Paddy Cultivation in Prayagraj District of Uttar 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.*

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## ABSTRACT

The present study was conducted in Prayagraj district of Uttar Pradesh. A total of one hundred respondents were selected randomly. The data were gathered using pre-structured interview schedule. The study revealed that marketing cost, marketing margin, and price spread for channel I, paddy grower reaches to the consumers directly. Producer share in consumer price was 94.14 percent. Market efficiency was 16.07. Marketing cost, marketing margin, and price spread for channel II three intermediaries were identified through which paddy reaches to the consumers i.e, Village merchant, Miller, Retailers. This is the longest channel among the two identified channels. Producer share in consumer price was 57.19 percent. Market efficiency was 1.70. Among the ten constraints related to production of paddy was, high cost of plant protection chemicals was ranked first by sample farmers and was reported by 64.59% while high incidence of disease in the peak period ranked second.

*Keywords: Marketing cost; marketing margin; price spread; constraints.*

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## 1. INTRODUCTION

The economy of India and the mainstay of people's lives both depend heavily on agriculture. Uttar Pradesh is an agriculture state leading in rice production in the country and it used to supply a sizable amount of rice grain to the central pool of food stocks. According to Directorate of Economics and Statistics, DAC&FW, Uttar Pradesh occupies second position in terms of area and production. It covers about 5.74 million hectare area with annual production of 15.52 million tones. “In India, there exists an elaborate and inter-connected system of agricultural produce markets through which the produce flows from the producer to the consumer. The market system in India comprises 30,000 rural primary markets, 7,000 wholesale assembling markets at the secondary stage and terminal distribution markets in every urban city or town” [1].

Marketing is frequently seen as a potent multiplier and development engine. A productive rice marketing system will lower marketing expenses and increase middleman profit, increasing the farmer's share of the consumer rupee. Marketing is the last step in the farming process, where the farmer turns all of his labour and capital into money. Any unfavourable treatment at this crucial juncture will likely lessen the farmer's desire to continue investing in and operating the farm [2,3]. The emergence of regulated markets has caused fundamental changes to start occurring in India's traditional agricultural market structure. A well design marketing strategy can help farmers generate much more income. Therefore, it is vital to compute marketing expenses, margins, and price spread while marketing paddy [4,5]. Paddy farmers confront a number of marketing difficulties. Among the most important are higher marketing expenses, price changes, and a shortage of transportation. The bulk of rural markets lack the essential facilities—such as auction platforms, godowns, and warehouses—necessary for effective crop trade [6-8]. For rice farmers, all of these problems lead to lower farm income levels and a low producer share of the consumer rupee.

The present study covers the economics of paddy production and marketing efficiency. It envisages suggesting possible corrective measure to bring about the desired improvement in production and marketing of paddy.

## 2. RESEARCH METHODOLOGY

**Sampling design:** Multi-stage random sampling design was adopted for the selection of district as the first stage unit, block as the second stage unit, villages as the third stage units and farm holdings as the final and ultimate stage units.

**Selection of the district:** Keeping in view the limitation of resources and time, the study was conducted in Prayagraj District of Uttar Pradesh.

**Selection of block:** Out of the 23 blocks of selected district, Koraon block is selected due to highest net sown area of paddy in the district.

**Selection of villages:** A complete list of all villages was obtained from the related Gram Panchayat, of which 5% villages were selected randomly. The villages Belvaniya, Babhan patti, Sukulpur, Dhanapur and Banwari were selected.

**Selection of farmers/respondents:** A separate list of farmers growing paddy of selected villages were obtained from Gram Pradhan. Thereafter these farmers were categorized into different size farm groups. Out of that, 10% respondents were selected randomly on the basis of paddy cultivation for the study. Based on size of holding, farmers were classified into three groups i.e.

1. Marginal farmer (below 1 ha)
2. Small farmer (1-2 ha)
3. Semi-medium farmer (2-4 ha)
4. Medium farmer (4-10 ha)
5. Large farmer (>10 ha)

From this list 100 respondents were selected randomly through proportionate allocation to the population.

### 2.1 Analysis of Data

**Marketing Cost:** The total cost incurred on marketing by various intermediaries involved in the sale and purchase of the commodity till it reaches the ultimate consumer can be computed as follows:

$$C=C_f+ C_{m1}+C_{m2}+C_{m3}+\ldots..+C_{mn}$$

Where, C= Total cost of marketing
$C_f$ = Cost borne by the producer- farmer for the cost production, and
$C_{mn}$ = Cost incurred by the $i^{th}$ middlemen in the process of buying and selling.

## 2.2 Marketing Margin of Middlemen

**Absolute margin** = $P_{Ri}$ ($P_{pi}$ + $C_{mi}$)

**Percentage margin of i $^{th}$ middlemen ($P_{mi}$)** = $P_{Ri}$ - ( $P_{pi}$ + $C_{mi}$) X100 $P_{Ri}$

Where, $P_{Ri}$ = total value of receipts per unit (sale price)

$P_{Pi}$ = Purchase value of goods per unit (purchase price)

$C_{mi}$ = Cost incurred on marketing per unit

The margin includes profit to the middle men and return to the shortage, interest overheads and establishment expenditure.

**Price spread:** Price spread is the difference between the price paid by the consumer and the price received by the producer for an equivalent quantity of the farm produce.

**Price spread** = $\frac{(consumer\ price - net\ price\ of\ producer)}{consumer\ price}$ ×100

**Garrett's ranking technique:** In Garrett's scoring technique, the respondents were asked to rank the factors or problems and these ranks were converted into percent position by using the formula

$$Percent\ position = \frac{100(Rij-0.50)}{Nij}$$

$R_{ij}$ = Rank given for the i$^{th}$ variable by j$^{th}$ respondent

$N_j$= Number of variable ranked by j$^{th}$ respondent

## 3. RESULTS AND DISCUSSIONS:

**Channel-1:** Producer – Consumer.

**Channel-II:** Producer - village merchant - Miller - Retailer – Consumer.

**Table 1. Marketing cost in marketing of paddy through Channel I**

| S. No. | Particulars | Sample average (Rs/qtl) |
|---|---|---|
| 1. | Producer sale price to consumer | |
| 2. | Cost incurred by producer | |
| | i. Transportation cost | 25 (1.47) |
| | ii. Gunny bag cost | 24 (1.41) |
| | iii. Loading unloading cost | 28.57 (1.68) |
| | iv. Weighing charge | 10 (0.58) |
| | v. Miscellaneous charge | 12 (5.85) |
| 3. | Total Marketing Cost | 99.57 (5.85) |
| 4. | Net price received by Producer | 1600.43 (94.14) |
| 5. | Sale Price to Consumer | 1700 (100) |
| | **Producer's share in consumers rupee** | **94.14** |
| | **Price Spread** | **99.57** |
| | **Marketing efficiency** | **16.07** |

*Source: Primary data (Figures in parenthesis indicate percentage to the total)*

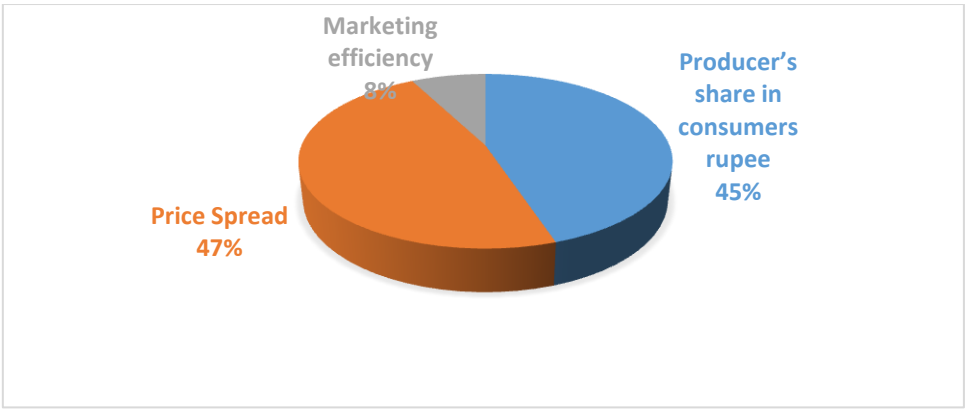


**Fig. 1. Marketing cost in marketing of paddy through Channel I**

Table 1 reveals that marketing cost, marketing margin, and price spread for channel I, where paddy reaches to the consumers directly. Average marketing cost when producers sold the consumer is Rs 1700/q. Among these, cost transportation Rs.25/q, loading and unloading cost Rs. 28.57/q, packing material cost Rs. 24/q, weighing charges Rs.10/q, and miscellaneous charge cost Rs 12/q, respectively. Sale price of the producer to the Consumer was Rs.1700/q.

In this channel, Producer share in consumer price was 94.14 percent. Price spread was Rs.99.57/quintal. Market efficiency was 16.07.

**Table 2. Marketing cost in marketing of paddy through Channel II**

| S. No. | Particulars | Sample average(Rs/qtl) |
|---|---|---|
| I | Producer sale price to village merchant | |
| 1. | Cost incurred by producer | |
| | i. Transportation cost | 40 (1.48) |
| | ii. Gunny bag cost | 24 (0.89) |
| | iii. Loading unloading cost | 25.6 (0.95) |
| | iv. Weighing charge | 10 (0.37) |
| | v. Miscellaneous charge | 10.6 (0.39) |
| 2. | Total Marketing Cost | 110.2 (4.09) |
| 3. | Sale Price to village merchant | 1650 (61.29) |
| 4. | Net price received by Producer | 1539.8 (57.19) |
| II | Village Merchant to Miller | |
| 1. | Cost incurred by Village merchant | |
| | i. Transportation cost | 35 (1.30) |
| | ii. Loading unloading cost | 16.5 (0.61) |
| | vi. Storage cost | 25 (0.92) |
| | vii. Miscellaneous charge | 10.5 (0.39) |
| 2. | Total Marketing Cost | 87 (3.23) |
| 3. | Marketing margin by village merchant | 250 (9.28) |
| 4. | Sale Price to Miller | 1987 (73.81) |
| 5. | Net price received by Village merchant | 1900 (70.57) |
| III | Miller sale price to Retailer | |
| 1. | Cost incurred by Miller | |
| | i. Transportation cost | 30 (1.11) |
| | ii. Bagging charge | 30 (1.11) |
| | iii. Processing charge | 150 (5.57) |
| | iv. Loading unloading cost | 20 (0.74) |
| | v. Miscellaneous charge | 32 (1.18) |
| 2. | Total Marketing Cost | 262 (9.73) |
| 3. | Marketing margin by Miller | 220 (8.17) |
| 4. | Sale Price to Retailer | 2382 (88.48) |
| 5. | Net price received by Miller | 2120 (78.75) |
| IV | Retailer sale price to Consumer | |
| 1. | Cost incurred by Retailer | |
| | i. Transportation cost | 40 (1.48) |
| | ii. Loading unloading cost | 20 (0.74) |
| | iii. Storage cost | 40 (1.48) |
| | iv. Miscellaneous charge | 10 (0.37) |
| 2. | Total Marketing Cost | 110 (4.08) |
| 3. | Marketing margin by Retailer | 200 (7.42) |
| 4. | Sale Price to Consumer | 2692 |
| 5 | Net price received by Retailer | 2582 (95.31) |
| | **Consumer paid price** | **2692 (100)** |
| | **Producers share in consumer rupee** | **57.19** |
| | **Price Spread** | **1152.2** |
| | **Marketing efficiency** | **1.70** |

*Source: Primary data (Figures in parenthesis indicate percentage to the total)*

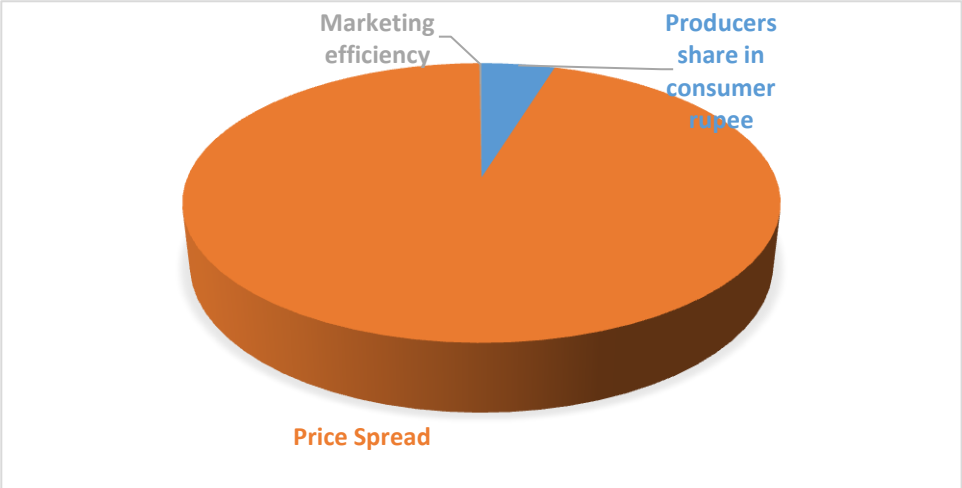


**Fig. 2. Marketing cost in marketing of paddy through Channel II**

**Table 3. Price spread and marketing efficiency**

| S. No. | Particulars | Channel I | Channel II |
|---|---|---|---|
| 1. | Total marketing cost | 99.57 | 569.2 |
| 2. | Total marketing margin | 0 | 670 |
| 3. | Price spread | 99.57 | 1152 |
| 4. | Producer share in consumer rupee | 94.14 | 57.19 |
| 5. | Marketing efficiency | 16.07 | 1.70 |

Table 2 reveals that marketing cost, marketing margin, and price spread for channel II three intermediaries were identified through which paddy reaches to the consumers ie, village merchant, miller, retailers. This is the longest channel among the two identified channels. The producer sells his produce to the village merchant, and village merchant to Miller, and miller to retailer, and retailer to consumer. Finally the produce reaches consumers after collecting margin. Average marketing cost when producers sold their produce to village merchants was Rs. 110.2/q. Among these, the cost transportation Rs.40/q, loading and unloading cost Rs. 25.6/q, packing material cost Rs. 24/q, weighing charges Rs.10/q, and miscellaneous charge cost Rs 10.6/q, respectively. Sale price of the producer to the village merchant was Rs.1650/q in different farm size groups.

In the channel II, marketing cost of the producer, village merchant, miller, wholesalers and retailers was 4.09 percent, 3.23 percent, 9.73 percent and 4.08 percent of consumers paid price respectively. The village merchant margin was estimated to be 9.28 percent and the retailer's margin was 7.42 percent of the consumer paid price. Producer share in consumer price was 57.19 percent. Price spread was Rs.1152.2/quintal. Market efficiency was 1.70. Similar findings was recorded by C.P. Kinhale [9], where the total marketing cost was higher in Channel I in comparision with other Channels i,e. Channel II and Channel III.

Table 3 explains about Price spread, producer share in consumer rupee and marketing efficiency in channel-1 is 99.5, 94.14 and 16.07 respectively. Price spread, producer share in consumer rupee and marketing efficiency in channel -II is 1152, 57.19 and 1.70 respectively.

**To find out different constraints/problems in production of paddy in different size of farm group in study area:** Table 4 explains about the constraints face in production of paddy. In overall comparison, 64.59 percent have problem about high cost of plant protection chemicals and 59.63 percent respondents have problem about high incidence of diseases, 53.18 percent respondents have problem about high cost of manure and fertilizer, 50.97 percent respondents have problem about high wages for labour, 50.26 percent respondents have problem about inadequate credit, 47.03 percent respondents have problem about high cost of seed, 45.99 percent respondents have problem about poor soil fertility ,45.15 percent respondents have

**Table 4. Constraints in production of paddy**

| S. No. | Particular | Average score | Rank |
|---|---|---|---|
| 1. | High incidence of diseases | 59.63 | II |
| 2. | High cost of seed | 47.03 | VI |
| 3. | High interest rate on loan | 45.15 | VIII |
| 4. | Inadequate credit | 50.26 | V |
| 5. | Poor soil fertility | 45.99 | VII |
| 6. | Uncertain weather | 41.31 | IX |
| 7. | Lack of knowledge and improved technology | 38.89 | X |
| 8. | High cost of manure and fertilizer | 53.18 | III |
| 9. | High cost of plant protection chemicals | 64.59 | I |
| 10. | High wages for labour | 50.97 | IV |

*Source: Primary data*

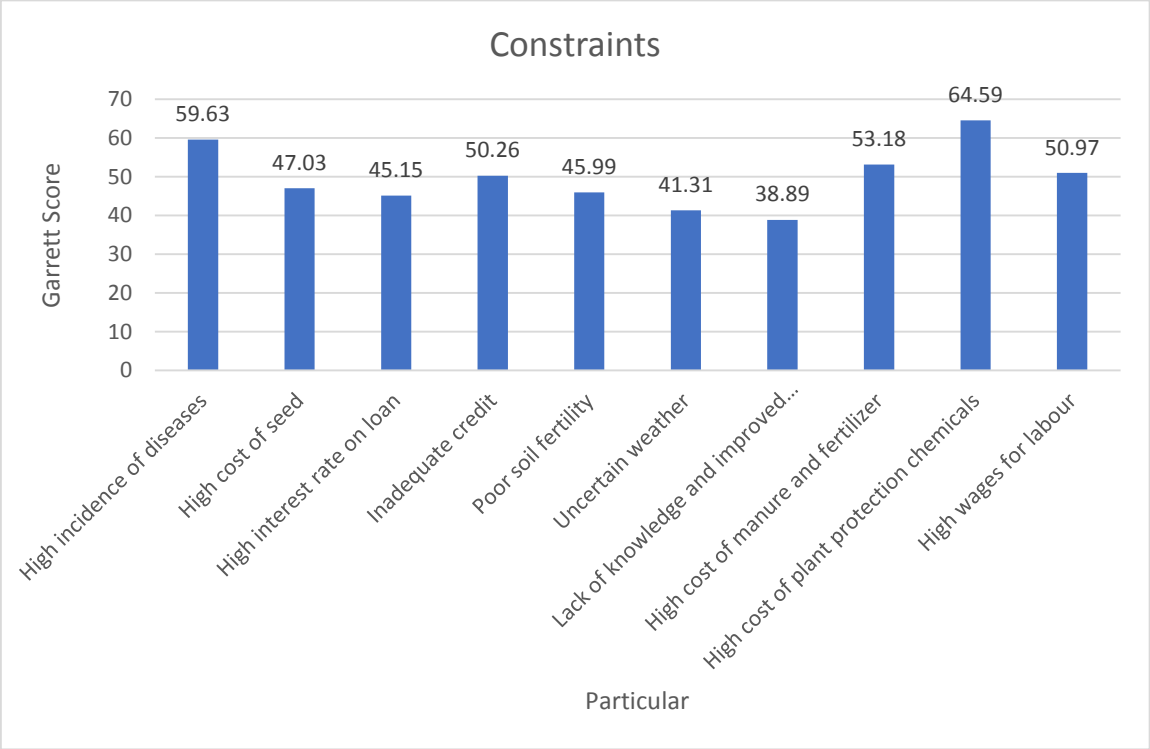


**Fig. 1. Constraints in production of paddy**

problem about high interest rate on loan, 41.31 percent respondents have problem about uncertain weather, 38.89 percent respondents have problem about lack of knowledge and improved technology. Similar findings was recorded by Satya Prakash, where the major constraints in rice production as perceived by the farmers are broadly categorized into financial, technical, miscellaneous and management related problems in the study areas.

## 4. CONCLUSION

Among the two marketing channels identified in Koraon block, the channel-I. i.e. Producer-Consumer was found more popular in marketing of paddy. The average per hectare yield and gross return were maximum on medium size farms followed by small and marginal size respondents. The prices of paddy have not influenced by the arrivals in market. The important constraints faced by the sample paddy cultivators were high cost of plant protection chemicals, high incidence of diseases, high costs of manures and fertilizer, high wages for labour, inadequate credit, high costs of seed, poor soil fertility, high interest rate on loan, uncertain weather, lack of knowledge and improved technology. The long chain of the channels affects the procurement price of the paddy.

Therefore, the government should direct the co-operative and commercial banks in the study area to provide advocate loan facilities at reasonable rates of interest to the farmers without any rigid formalities.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES


1. Ramesh C. Effective Marketing Channels of Paddy in Keerapalayam Block in Cuddalore District, Tamil Nadu. Asian Journal of Managerial Science. 2018; 7(3):7-13.
   ISSN: 2249-6300
2. Nirmala B, Muthuraman P. Economic and Constraint Analysis of Rice Cultivation in Kaithal District of Haryana" Indian Res. J. Ext. Edu. 2009;9(1).
3. Dwarikadhish Churpal AK, Koshta, VK. Choudhary. An Economic Analysis of Rice Cultivation And Constraint In Dhamtari District of Chhattisgarh, India. Plant Archives. 2015;15(2):651-656.
   ISSN 0972-5210
4. Tawale JB, Pawar BR, Maske VS, Jagde SA. Marketing cost, marketing margin and price spread through different channels of rabi jowar in Osmanabad district of Maharashtra International Journal of Commerce and Business Management. 2009;2(1):28-30.
5. Sachchidanand Upadhyay VK, Singh Arjun Prasad Verma, Ashwani Kumar Verma and Kumari Asha. Constraints Analysis in Hybrid Paddy Farming in Eastern Zone of Uttar Pradesh using Garrett Ranking Technique. International Journal of Current Microbiology and Applied Sciences. 2021;10:02.
   ISSN: 2319-7706
6. Satya Prakash, Bhim Singh. Economics and Constraints Analysis of Rice Production in Jhansi District of Uttar Pradesh, India Plant Archives. 2013;13(2): 865-869.
   ISSN 0972-5210
7. Shruti Mohapatra, Upasana Mohapatra, Kimidi Sai Siri Chandana and Raj Kishore Mishra. Economic analysis of paddy production and marketing in Puri, Odisha. Journal of Pharmacognosy and Phytochemistry. 2018;7(4):1858-1861.
8. Dr. Veerendrakumar M. Narasalagi and Dr. Shivashankar K. Analysis of Producer's Share In Consumers Rupee In Marketing of Selected Vegetable through different Supply Chains. International Journal of Innovative Research & Studies. 2018;8(II).
   ISSN NO: 2319-9725
9. Kinhale CP, Kshirsagar PJ, Talathi JM, Torane SR, Dhekale JS. Economic analysis of marketing of paddy in Raigad district (M.S.). International Research Journal of Agricultural Economics and Statistics. 2020;11(1):21-28.
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