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A brief study on marketing channel of paddy in Auraiya district (U.P.)

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Abstract
The study was undertaken in Auraiya district of Uttar Pradesh to examine marketed surplus, disposal pattern, consumer price shared and price spread by the paddy growers in the study area. A sample of 100 farmers of Auraiya district was selected from 10 villages of two blocks for the year 2013-14. The major volume of paddy was sold in Bidhuna, market of Auraiya by the farmers. For the study of marketing aspects, 25 village agents and three marketing channels were randomly selected from the market. Net price received by producer was observed higher in channel-I, followed by channel-II and channel-III which revealed inverse relationship between net price received by producer's and number of intermediaries. The channel-I producers net share in consumer price is a 95.66 per cent, marketing cost of producer 4.34 per cent. Producers net share in consumer price is a 90.34 percent, marketing cost of producer 1.93 percent and village trader 3.48 per cent in channel-II, respectively. The margin of village trader in channel -II was 4.24 per cent. In channel -III producer net price share in consumer rupee is 74.86 per cent, marketing cost of producer 2.14 percent, village trader 3.16 per cent, wholesaler 6.86 per cent, and retailer was 2.99 per cent and margin of different intermediaries like village trader 3.67 per cent, wholesaler 3.56 per cent, and retailer was 2.76 per cent respectively. The marketing efficiency of paddy under Channel-I was found more efficient as compared to Channel-II and Channel III. It was happened due to negligible number of middleman in Channel-I. Paddy crops are profitable enterprise or farming for the farmer's in the study area and can help the farmers in the way of doubling their income and higher profits when they sold their paddy produce through governments' direct procurement centers.

Keywords: Marketing channels, marketing cost, producer's share, price spread, marketing efficiency, paddy marketing

Introduction

India is one of the world's largest producers of paddy, accounting for 22% of all world paddy production. Paddy is India's preeminent crop, and is the staple food of the people of the eastern and southern parts of the country. Production of paddy has increased from 53.6 million tons in FY 1980 to 74.6 million tons in FY 1990, a 39 per cent increase over the decade. By FY 2013-14, rice production had reached 106.29 million tons, second in the world only to China with its 144 million tons. Since 1950 the increase has been more than 350 percent. Most of this increase was the result of an increase in yields; the number of hectares increased only 40 percent during this period. Yields increased from 1,336 kilograms per hectare in FY 1980 to 1,751 kilograms per hectare in FY 1990. The per-hectare yield increased more than 262 percent between 1950 and 1992. (https://en.wikipedia.org).

The India's paddy production reached to a record high of 106.29 million tons in 2013-14 crop years (July–June). In 2018-19 crop year production of rice reached to 116.42 million tonnes, respectively with yield of 2659 kg per hectare 2018-19 (Directorate of Economic Statistics).

Uttar Pradesh is an important paddy growing state in the country. The area and production of paddy in this state is about 5.75 million hectare and 15.54 million tonnes, respectively with yield of 2704 kg per hectare 2018-19, (Directorate of Economic Statistics).

In Auraiya district area, production and productivity of paddy 56935 thousand ha, 25.14 q/ha and 143139 mt, (Arth Evam Sankhya Prabhag, Auraiya, 2014-15).

The producer's surplus of agricultural product plays a significant role in any developing economy like India. This is the quantity which is actually made available to the non-producing population of the country. From the marketing point of view, this surplus is more important than the total production of commodities.

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Research Methodology

The purposive cum random sampling procedure were used for the selection of district, blocks, villages and respondents. Auraiya district were selected purposively to avoid the operational inconvenience of the investigator. Two blocks are namely Bidhuna and Sahar having highest area under paddy were selected randomly. The ten villages were selected randomly from the list according to area cover by the paddy crop. The farm holding categorized into three size groups viz. (1) Marginal: (Below 1.0 ha ;) (2) Small: (1.0-2.0 ha ;) (3) Medium: (2.0 to 4.0 ha). A sample of 100 respondents were selected following the proportionate random sampling procedure. The period of study pertained for the agriculture year 2014-2015.

Analytical Tools

Analytical tools used for the analysis and interpretations of the data are given below.

Tabular analysis

Tabular analysis was used to compare the different parameters among marginal, small and medium size group of the farmers. Family composition, investment pattern; crop-wise costs and returns etc. were computed and presented in tabular forms. In this computation weighted average were used.

$$W.A. = \frac{\sum W_i X_i}{\sum W_i}$$

Where,

W. A. = Weighted average
Xi = Variable
Wi = Weight of variable

Marketable surplus: the quantity of produce which can be made available to the nonfarm population of the country.
The marketable and marketed surplus of paddy generated by different size groups of farms have been worked out as follow:

$$MS = P-C$$

Where,

MS = Marketable surplus
P = Total production of crop
C = Total requirement (family consumption, seeds, payment of wages to labours, cattle feed, payments to service providers persons such as carpenter, blacksmith, barber, washerman etc).

Marketed surplus

The marketed surplus indicates the actual quantity of produce sold by the farmers in the markets has been worked out as follows:

$$MT = MS + PS + D - L$$

Where,

MT = Marketed surplus
MS = Marketable surplus actually sold
D = Distress sale
PS = Post stock sold out, if any
L = Losses during storage and transmit marketable surplus left for sale.

Marketing Efficiency: Marketing efficiency is the ratio of market output (satisfaction) to marketing input (cost of resources). An increase in the ratio represents improved efficiency and a decrease denotes reduced efficiency.

According to Acharya (2011) an ideal measure of marketing efficiency particularly for comparing efficiency of alternative marketing channels should be such which takes in to account the followings

1. Total marketing cost (MC)
2. Net marketing margin (MM)
3. Price received by the farmer (FP)
4. Prices paid by the consumer or retail price (RP)

In this study Acharya's Modified Marketing Efficiency (MME) approach is used to find out marketing efficiency various channels. The formula for MME is given below.

$$MME=FP/(MC+MM)$$

Where,
FP=Price received by the farmer
MC=Total marketing cost
MM=Net marketing margins
Acharya's method of Modified Marketing Efficiency can also be stated as
$$MME = [RP \div (MC+MM)] - 1$$
Because RP=FP+MC+MM,

Where:
MME =Modified measure of marketing efficiency
RP = Retailer's sale price (Rs/qtl) and;
MC = Total Marketing Cost (Rs/qtl)
MM = Total net margins of intermediaries (Rs/qtl)
FP = Net price received by farmers (Rs/qtl)

Price spread

The difference between the price paid by the consumer and the net price received by producer was taken as the concept of price spread. This included not only the actual prices at various stages of marketing channels, but also the costs incurred in the process of the movement of the produce from the farm to the consumer and the margin of the various intermediaries.
The model prices at different levels were obtained to work out the gross margins of various agencies. The deduction of the costs incurred by the concerned agencies from the gross margin gave rise to net margins.

Result Discussion
Disposal pattern of paddy

In the study area, three marketing channels viz (1) Producer-Consumer, (2) Producer - Village trader - Consumer and (3) Producer - Village trader - Wholesaler - Retailer - Consumer and consumer were identified for marketing of Paddy, Table-1 reflects pattern of disposal of paddy through different channels in the study area in Bidhuna market of Auraiya. Total marketing surplus was 1532.00 quintals. The share of marginal, small and medium farms in the total marketed produce accounted 29.63, 31.98 and 38.38 percent, respectively (In fig. A). Pattern of disposal of paddy varied among size-group of farms and also different channels studied. Pattern of disposal of paddy indicated that maximum quantity was marketed through channel -II followed by channel-III and channel-I, in the study area (In fig. A).

Table 1: Disposal pattern of paddy under different channels in Bidhuna market of Auraiya**.** (in Qtl.)

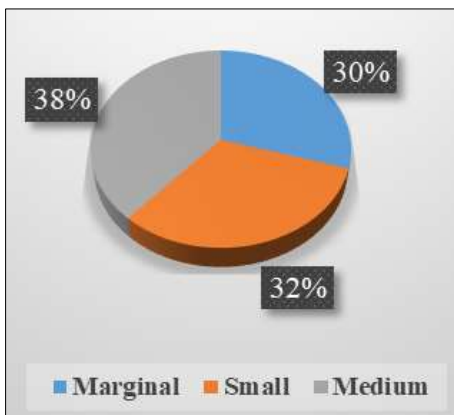| S. N.	Size group of farms	Marketed Surplus	Channel-I	Channel-II	Channel-III
1.	Marginal	454.00 (29.63)	223.00 (47.54)	129.00 (23.62)	102.00 (19.73)
2.	Small	490.00 (31.98)	132.00 (28.14)	196.00 (35.89)	162.00 (31.33)
3.	Medium	588.00 (38.38)	114.00 (24.31)	221.00 (40.48)	253.00 (48.94)
	Total	1532.00 (100.00)	469.00 (100.00)	546.00 (100.00)	517.00 (100.00)

Fig A: Show in Marketed Surplus of paddy under different size group of farms
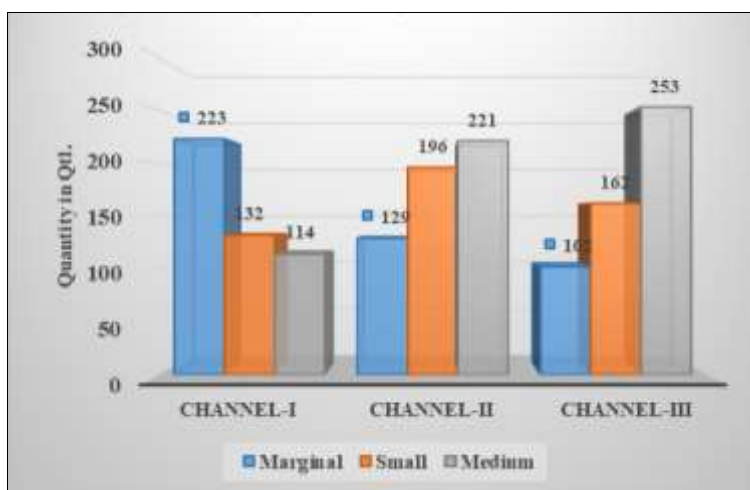

Fig B: Show in Disposal pattern of paddy under different channels

Marketing Channels and Price Spread for Paddy
Marketing Aspects: The marketing cost, margins, and price spread, computed for three important marketing channels are presented in this section.

Marketing channels: Marketing channels are routes through which agricultural products move from producers to consumers. The length of the channel varies from commodity to commodity depending on the quantity to be moved and the form of consumer demand.
There were three marketing channels observed in marketing of paddy in the study area. These were
(1) Producer- Consumer, (2) Producer - Village trader - Consumer and (3) Producer - Village trader - Wholesaler - Retailer - Consumer
The table 02 reveals that marketing Channel-I for disposed paddy was producer - consumer and also indicates that paddy was directly sold to consumer without any middleman. The marketing cost incurred by the producer in Channel-I was Rs. 62.33 pe quintel for paddy. Per quintel price received by the producer was Rs. 1373.33 I channel-I, respectively. In channel-II, it was observed from the sale of paddy was made through producer-village trader-consumer. The cost incurred

by the producer was Rs.28.66 per quintel and by village trader Rs. 51.66 per quintel of consumer rupee. The farmer's net price received was Rs. 1341.00 per quitel in channel-II, which was comparatively lower than channel-I because of one middleman i.e. village trader involved respectively (In fig. A). In channel-III, Table 02 shows that the marketing for paddy was done by producer -village trader- wholesaler-retailer-consumer. Per quintel price received by the producer Rs. 1317.33, which was comparatively lower than channel-I and channel-II because of three middlemen's i.e. village trader, wholesaler and retailer were involved. Expenses incurred on marketing costs at village trader were Rs. 55.65 per quintel. Expenses incurred on marketing costs and margins received by wholesaler were Rs. 182.98 per quintel and Rs 62.66 per quintel, respectively, whereas expenses incurred on marketing costs and margins received by retailer were Rs 52.70 per quintel and Rs 48.60 per quintel, respectively (In fig. B).
The marketing costs, margins and price spreads in paddy witnessed as marketing costs increase due to increase in number of middlemen from Channel-II and Channel-III. By comparing gross marketing margins found maximum under Channel-III, Channel-II and Channel-I respectively.

Table 2: Different marketing channels of paddy in Bidhuna market of Auraiya District **(Rs./q.)**

| S. N.	Particulars	Channel-I	Channel-II	Channel-III
01	Net price received by a producer	**1373.33**	**1341.00**	**1317.33**
02	Expenses incurred by a producer	62.33	28.66	37.66
03	Village trader purchase price/producer's selling price	0	1369.66	1355.00
(A)	Expenses incurred by village trader	0	51.66	55.65
(B)	Village trader margin	0	63.00	64.67
04	Wholesaler's purchase price/ village trader selling price	0	0	1475.32
05	Expenses incurred by a wholesaler	0	0	182.98
(A)	In terms of services rendered by the wholesaler	0	0	21.56
(B)	Expenses incurred on material and go down charge	0	0	28.50
©	Expenses on market fee, trade tax, commission, and brokerage	0	0	70.26
(D)	Wholesale's margin	0	0	62.66
06	Purchase price of the retailer	0	0	1658.3
(A)	Expenses incurred by the retailer	0	0	52.70
(B)	Retailer's margin	0	0	48.60
07	Grass marketing margin's	62.33	143.32	442.27
08	Retailer selling price/consumer's price	1435.66	1484.32	1759.6
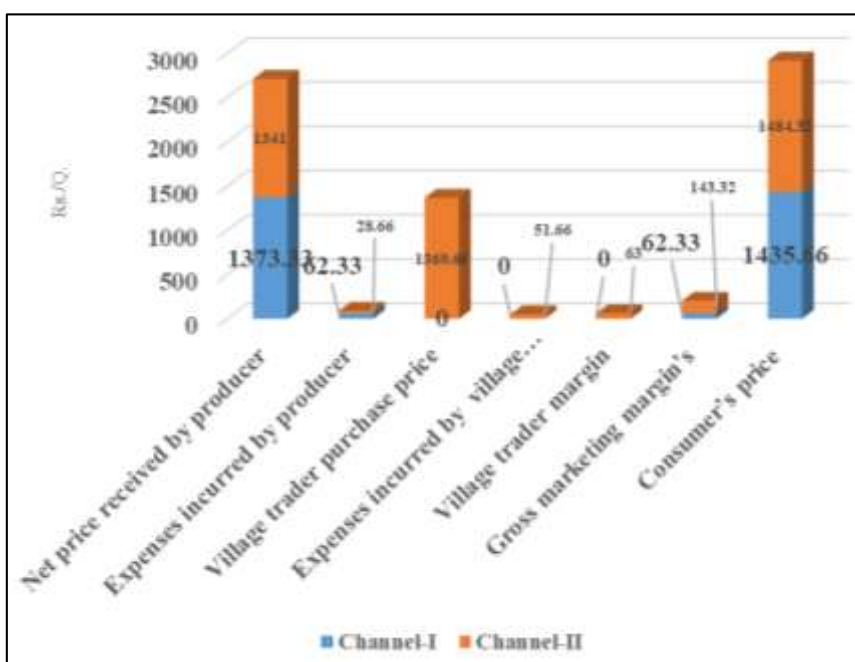
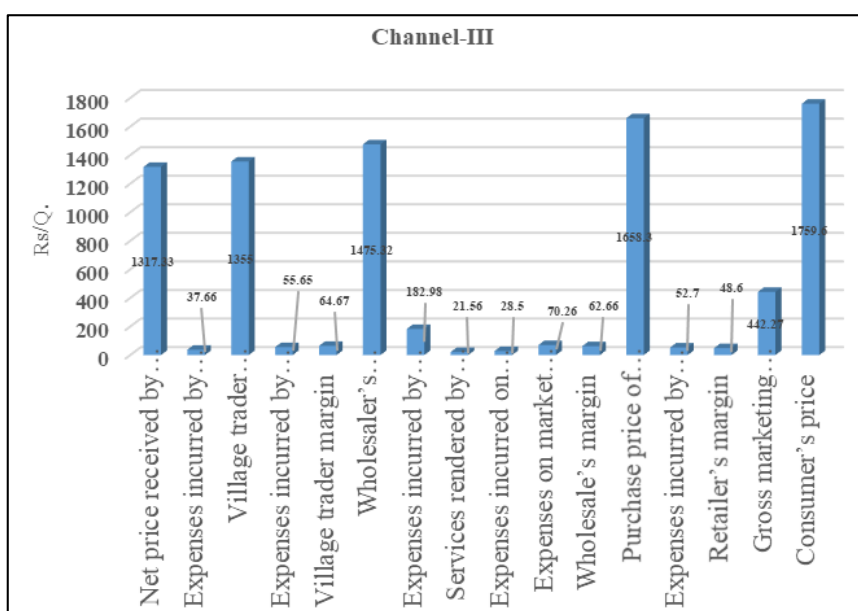**Fig A:** show in Cost incurred by different marketing channel (Rs./q)

Fig B: show in Cost incurred by different marketing channel

Price spread

In respect of marketing costs, margins, and price spread of paddy. The price spread was calculated considering Paddy is not consumed directly. The prices spread in different marketing channels of Paddy are presented in Table 03.

In channel-I, the Producer's share was 95.66 percent in consumer's rupee. The marketing costs and total margins were 4.34 percent in consumer's rupee, respectively. The margins were not shared by the village trader, wholesale, and Retailer respectively of the consumer's rupee.The producer's share was 90.34 percent in consumer's rupee in channel-II. The marketing costs and total margins were 5.41 percent and 4.24 percent in consumer's rupee, respectively. The margins shared by only village trader were 4.24 percent, respectively of the consumer's rupee. In channel-III, the producer's share was 74.86 percent in consumer's rupee. The marketing costs and total margins were 15.15 percent and 10.00 percent in consumer's rupee, respectively. The margins shared by village trader, wholesaler, and retailer were 3.67, 3.56percent, and 2.76 percent, respectively of the consumer's rupees.

Table 3: The price spread of Paddy in Bidhuna Market of Auraiya District through different Channels

No. of channel	Producer's net price (in%)	Cost incurred by (Rs./q)					Margin of (Rs./q)				Sale price for different channels
		Producer	Village trader	Wholesaler	Retailer	Total cost	Village trader	Wholesaler	Retailer	Total margin	
Channel-I	1373.33 (95.66)	62.33 (4.34)	0	0	0	62.33 (4.34)	0	0	0	0.00	1435.66 (100.00)
Channel-II	1341 (90.34)	28.66 (1.931)	51.66 (3.48)	0	0	80.32 (5.41)	63.00 (4.24)	0	0	63.00 (4.24)	1484.32 (100.00)
Channel-III	1317.33 (74.86)	37.66 (2.14)	55.65 (3.16)	120.66 (6.86)	52.57 (2.99)	266.54 (15.15)	64.67 (3.67)	62.66 (3.56)	48.60 (2.76)	175.93 (10.00)	1759.80 (100.00)

Figures in square brackets are the per cent of price spread in marketing of paddy in channel – I, channel-II and channel –III
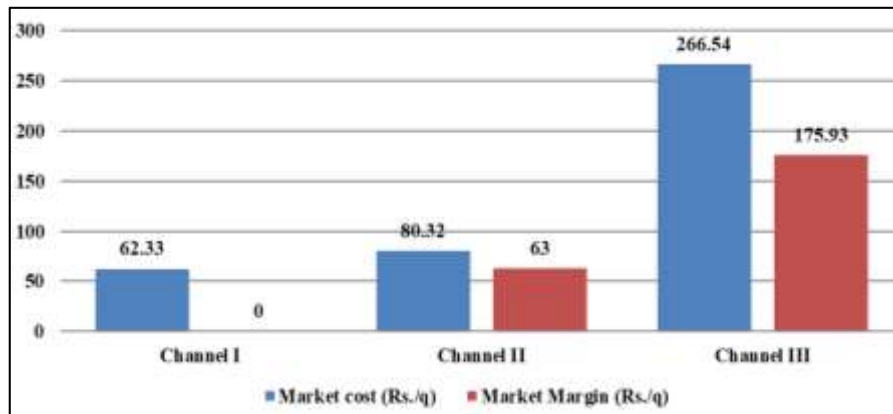

Fig C: Show in Market cost and Margin incoured by intermederies (Rs/q)

Marketing Efficiency

It was calculated by using Acharya's method of Modified Marketing efficiency which is as follows

Table 04 reveals that the Modified Marketing Efficiency (MME) have been computed for all paddy growers, where it has been observed that MME value of 22.03, was highest in case of paddy in channel-I as compared to all channels followed by paddy with a value of 9.36 in channel-II and value of 2.98 in channel-III respectively. There was not any involving intermediaries in channel-I was found to be more efficient as compared to other two marketing channels. The channel-1, where the rice had been marketed directly to the consumer groups did not bear any significance of estimating the MME values as there were no intermediaries involved in the channel. Retailer sale price was Rs. 1435.66 and net price received by farmer was Rs. 1373.33.

Table 4: Marketing Efficiency in different marketing channels of paddy in the Auraiya Districts

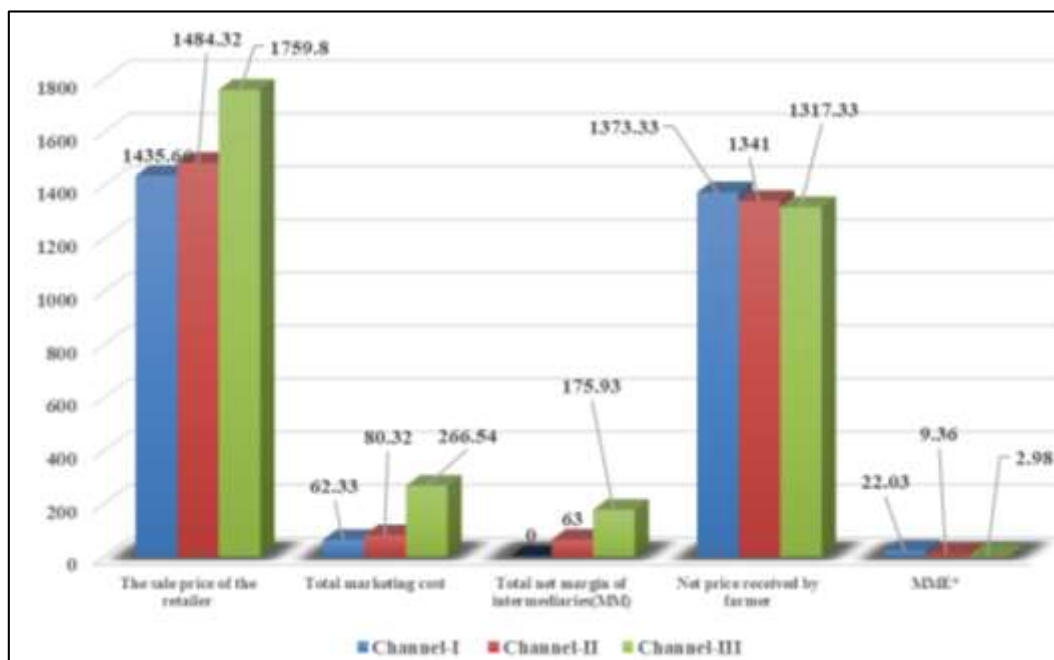| No. of channel	The sale price of the retailer (Rs./q.)	Total marketing cost (Rs./q.)	Total net margin of intermediaries (MM) (Rs./q.)	Net price received by farmer (Rs./q.)	Modified marketing efficiency (MME*)
Channel-I	1435.66	62.33	0	1373.33	22.03
Channel-II	1484.32	80.32	63.00	1341.00	9.36
Channel-III	1759.8	266.54	175.93	1317.33	2.98

* MME =Modified measure of marketing efficiency

Fig D: Marketing efficiency in different marketing channels

Summary and conclusion:
This study reflects that paddy cultivation is appropriate for intensive cultivation and also generate sample opportunity of employment. The study is based on 100 paddy grower of different size group viz. i) marginal, ii) small, and iii) medium. The proportionate random sampling procedure was applied for selection of respondents. Tabular analysis was applied for arriving result. Three marketing channels were prevalent for disposal of paddy in the study area viz; (1) Producer-Consumer, (2) Producer - Village trader - Consumer and (3) Producer - Village trader - Wholesaler - Retailer - Consumer. Net price received by producer was observed higher in channel-I, followed by channel-II and channel-III which revealed inverse relationship between net price received by producer's and number of intermediaries. The channel-I producers net share in consumer price is a 95.66 per cent, marketing cost of producer 4.34 per cent. Producers net share in consumer price is a 90.34 percent, marketing cost of producer 1.93 percent and village trader 3.48 per centin channel-II, respectively. The margin of village trader in channel -II was 4.24 per cent. In channel -III producer net price share in consumer rupee is 74.86 per cent, marketing cost of producer 2.14 percent, village trader 3.16 per cent, wholesaler 6.86 per cent, and retailer was 2.99 per cent and margin of different intermediaries like village trader 3.67 per cent, wholesaler 3.56 per cent, and retailer was 2.76 per cent respectively. The marketing efficiency of paddy under Channel-I was found more efficient as compared to Channel-II and Channel-III. It was happened due to negligible number of middleman in Channel-I. Paddy crops are profitable enterprise or farming for the farmer's in the study area and can help the farmers in the way of doubling their income and higher profits when they sold their paddy produce through governments' direct procurement centers.

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