



## Research Article

# MARKETING EFFICIENCY IN DIFFERENT GRADE OF REGULATED MARKETS OF WHEAT IN MADHYA PRADESH

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**Abstract-** The present study has been under taken in different grade regulated markets to find out the availability of facilities and services, to analyse the technical and price efficiency of different grade regulated markets of wheat in Madhya Pradesh. The present investigation is restricted to the four different grade of regulated markets (Krishi Upaj Mandi) of wheat i.e., Sehore, MHOW, Kalapipal and Katangi, which have been selected randomly from each grade (A, B, C and D Grade) regulated markets in Madhya Pradesh. A grade (Sehore) regulated market have found to facilitate more than the other markets but this particular market was found less price efficient than the other markets. All the markets have poor market facilities with regards to National e-Agriculture Market (e-market). As e-market has all the facilities like post-harvest, cold chain, well developed marketing infrastructure, efficient marketing system, competitive trade as well as value addition services such as grading and storage, more transparent auction process and increased participation of buyers *etc*, which is the prime need of present market scenario. Thus, these markets must be fined with present needs of era and accomplished with all the facilities so that farmer could be able to trade his product from his home instead of reached in market with several constraints *i.e.* supply chain inefficiency, post- harvest losses, information asymmetry, unavailability of credit, storage and grading, intermediaries, which the farmers faced in the regulated markets.

**Keywords-** Marketing Efficiency, Wheat, Different Grade, Regulated Markets, Madhya Pradesh

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## Introduction

China is leading while India occupies second largest position with about 13.1% share in total world wheat production. [1] Madhya Pradesh has emerged as one of the leading wheat production states in the country in the last five years. [2] The State has also improved its position as the third largest wheat producing state in the country after UP and Punjab with a record-break production of 13.13 million tonnes of wheat in the fiscal year 2012-13 and 13.93 million tonnes in 2013-14. [3] Madhya Pradesh contributes 18.57% of the total wheat produced in the country. Sharbati and Durum Wheat have given an international identity to Madhya Pradesh. [4]

The Agricultural marketing plays an important role not only in stimulating production and consumption, but also in accelerating the pace of economic development. It is dynamic function but of primary importance in promoting economic development. It has been described as the most important multiplier of agricultural development for this reason. India's age-old farming practices have taken a turn in recent years. There has been a technological breakthrough because of the evolution of high yielding variety seeds, increasing consumption of fertilizer, insecticides, pesticides, the installation of pumping sets, and mechanization in crop husbandry. This technological breakthrough has led to a substantial increase in production on the farms as well as to the larger marketable and marketed surplus of crop. The efficient marketing system is of vital importance to an area under all condition and each stage in its development. In areas of dense population living at subsistence level, the seasonal failure of a basic food crop can bring about wide spread famine and suffering, meanwhile other parts of the same country may be holding supplies more than adequate for their needs. Such disaster are lessened by transportation and readily available buffer stock facilities, availabilities of communication between one part to another, availabilities

of information on current stocks and future requirement, and the reliability of the existing trade organization in recognizing and responding to needs of the community.

The proficient performance of markets gives remunerative and fair prices to the producers and consumers. [5] Efficient marketing system should be creating so as to found suitable return to the primary producer. Market information is a way to promoting better price formation and raising the efficiency of market. It is important to the producer to up to date judgment about when should grow and when it should be harvest and must be stored or sold in the market.[6] Agricultural development will remain stunted developed agricultural markets without efficient information system, infrastructure and credit availability. [7]Markets have to create resourceful solutions like e-marketing to overcome challenges such as channel management, communication, promotion and physical distribution represent to the rural situation. The e-marketing not only offers efficient price discovery but at the same time provide transparent and competitive setting in an efficient manner to establish the prices and empowering farmer in a long run. [8] Carrying these reviews in mind the study has been conceded in different grade regulated markets to find out out the availability of facilities and services and analyse the technical and price efficiency of wheat in Madhya Pradesh.

## Objectives

To find out the available in grade regulated markets of wheat in Madhya Pradesh. To analyse the technical and pricing efficiency of different grade regulated markets of wheat in Madhya Pradesh.

## Materials and Methods

The present investigation is restricted to the four different grade of regulated

markets (Krishi Upaj Mandi) of wheat i.e. Sehore, MHOW, Kalapipal and Katangi, which have been selected randomly from each grade (A, B, C and D Grade) regulated markets in Madhya Pradesh. The study is based on secondary data related to different market facilities and expenditure and income generation by these regulated markets. These data were collected from online and offline records of M.P. State Agricultural Marketing Board, Bhopal for the year 2011-12. The marketing efficiency was analysed through following Shepherd's Equation i.e. Ratio of Annual income and the Annual expenditure of the particular regulated market.

$$\text{Shepherd's Equation} = \frac{v}{i} - 1$$

v = Annual income of the particular regulated market

i = Annual expenditure of the particular regulated market

## Results and Discussion

The facilities and services available and market efficiency of different grade of regulated markets have been analysed for the study.

## Facilities and Services

The facilities and services available in the different grade of regulated markets of wheat are presented in [Table-1]. It is observed from the data that in A and B grade (Sehore & MHOW) regulated market have found to be all facilities viz. information notice board / electric display board, public address system, prices are displayed on the notice board and producers able to read the information displayed on the notice board. The facilities of canteen, toilets, internal roads, parking, fencing, bank, input/sundry shops, rest house, drinking water, electricity, auction platform, mechanical graders, sieves, garbage disposal system, sweeping

facilities, information unit, extension unit and audio visual side except restaurant, post office, fire extinguishers, grading and analysing laboratory, market office have also found to be available in the A and B grade regulated market. The farmers' welfare programme is also found operating in that particular grade of regulated markets. The facility of bank, garbage disposal system and extension unit have not been available in the B grade regulated market.

As regards in C grade (Kalapipal) regulated market there have been found facilities of information notice board/electric display board, prices are displayed on the notice board and producers able to read the information displayed on the notice board except public address system. In addition to these facilities of canteen, toilets, internal roads, parking, fencing, input/sundry shops, drinking water, electricity, auction platform, mechanical graders, sieves, garbage disposal system, sweeping facilities, information unit, and market office. But facility of restaurant, post office, bank, fire extinguishers, rest house for farmers, extension unit and audio visual side have not been found in this particular grade regulated market. The farmers' welfare programme has also been found operating in the regulated market. In D grade (Katangi) regulated market there have also been facilities of information notice board/electric display board, prices are displayed on the notice board and producers able to read the information displayed on the notice board except public address system. In addition to these facilities of canteen, toilets, fencing, input/sundry shops, rest house, drinking water, electricity, auction platform, mechanical graders, sieves, garbage disposal system, information unit, extension unit, audio visual side market office and farmers' welfare programme have also been found available in the regulated market. The facilities of restaurant, internal roads, parking, post office, bank, fire extinguishers, rest house for farmers, sweeping facilities and audio visual side have not been available for farmers in this particular grade of regulated market.

**Table-1** Facilities and Services available in different grade regulated markets of wheat in Madhya Pradesh.

S. No	Particulars	Grade A	Grade B	Grade C	Grade D
1	Information Notice Board/Electric Display Board	√	√	√	√
2	Public Address System	√	√	X	X
3	Are the prices displayed on the Notice Board	√	√	√	√
4	Are the producers able to read the information displayed on The Notice Board	√	√	√	√
5	<b>Facilities availability</b>				
a)	Canteen	√	√	√	√
b)	Restaurant	X	√	X	X
c)	Toilets	√	√	√	√
d)	Internal Roads	√	√	√	X
e)	Parking	√	√	√	X
f)	Fencing	√	√	√	√
g)	Post Office	X	X	X	X
h)	Bank	√	X	X	X
i)	Input/Sundry Shops	√	√	√	√
j)	Fire Extinguishers	X	√	X	X
k)	Rest house for farmers	√	√	X	X
l)	Drinking Water	√	√	√	√
m)	Electricity	√	√	√	√
n)	Auction Platform	√	√	√	√
o)	Grading and Analysing Laboratory	X	X	√	√
p)	Mechanical Graders	√	√	√	√
q)	Sieves	√	√	√	√
r)	Garbage Disposal System	√	X	√	√
s)	Sweeping Facilities	√	√	√	X
t)	Information Unit	√	√	√	√
u)	Extension Unit	√	X	X	√
v)	Audio Visual side	√	√	X	X
w)	Market office building	√	√	√	√
6	Name of Welfare scheme for producers	Chief Minister Farmers Welfare Programme			

## Technical Efficiency

The general information, market area, market functionaries, transactional methods, transportation and storage and other facilities and services are analysed and presented in [Table-2].

It is observed from the data that the A grade regulated market (Sehore) was found

operated since 1970 and serving approximately 5 lakh population of 161 villages. The market operated 12 hours, out of which 8 hours are peak operational hours. The number of processing unit was found to be 1 in this particular market area. There are 27 and 28 supervisory and administrative officers working in this regulated market. Market is found only 1 Km away from railway station and 3 Km

away from National/State highway. There are 135 notified commodities arrived in the market. There have been found 8000 metric ton and 20000 metric ton daily dispatches to 6 outside markets viz. Indore, Dewas, Bhopal, Nagpur, Jabalpur and Mumbai during season and peak period. The main modes of transportations are found to be bullock cart, tractor trolley, truck, and tempo. There are 160, 7, 51, 222 and 3 traders, processors, tulawati, hammals and store keepers respectively are working in the regulated market.

As regard in the B grade (MHOW) regulated market was found operated 1990 and serving approximately 3 lakh populations of 177 villages. The market operated 7 hours. There are 39 and 01 supervisory and administrative officers working in this particular regulated market. Market is found 3 Km away from railway station and 4 Km away from National/State highway. The number of processing unit is 2. There are 4 cold storages of 800 metric ton also observed in this market. There are 135 notified commodities arrived in the market. There are 300 metric ton and 1000 metric ton daily dispatches to 4 outside markets viz. Indore, Pithampur, Pune and

Mumbai during season and peak period. The main modes of transportations were found to be bullock cart, tractor, trucks, and tempo. There were 151, 01, 07, 205 and 1 traders, processors, tulawatis, hammals and store keepers respectively working in the regulated market.

The C grade (Kalapipal) regulated market was found operating since 31 years (1985) and serving approximately 1.2 lakh populations of 142 villages. The market operated for 8 hours. There are 20 and 01 supervisory and administrative officers working in this regulated market. Market is found 2 Km away from railway station and 20 Km away from National/State highway. There was not found any processing unit cold storages, ripening chambers found in the market. There are 250 metric ton and 500 metric ton daily dispatches to 4 outside markets viz. Indore, Devas, Bhopal and Nagpur during season and peak period. The main modes of transportations are found to be bullock cart, tractor trolley, and tempo. There are found to be 55, 01, 01 and 195 traders, processors, tulawatis and hammals in the regulated market.

**Table-2** Technical efficiency of different grade regulated markets of wheat in Madhya Pradesh.

S. No	Particulars	Grade A	Grade B	Grade C	Grade D
1	Year of Working	46	26	31	48
2	Population served	500000	300000	120000	80000
3	No. of village served	161	177	142	126
4	Operational hours	12	7	8	7
5	Peak trading hours	8	7	8	3
6	<b>Number of staff members</b>				
a	Supervisory	27	39	20	12
b	Administrative	28	1	1	1
7	Distance of the railway station from the market (Km)	1	3	2	2
8	Distance of the Nearest National /State Highway (Km)	3	4	20	2
9	Processing units in the Market area	1	2	0	0
10	Number of Cold Storages with capacity	0	4 (800 MT)	0	0
11	Number of Ripening Chambers with capacity	0	0	0	1 (2 MT)
12	Number of Commodities notified under regulation	135	135	0	1
13	Average daily dispatches to outside markets during the season (M.T.)	8000	300	250	100
14	Average daily dispatches to outside markets during the peak period(M.T.)	20000	1000	500	300
15	Number of markets (important) to which produce is sent	6	4	3	4
16	Modes of transport generally adopted for the market	Bullock cart Trucks, Tractors, Tempo	Truck, Tractor, Loading Rickshaw	Bullock Carts, Transport Trolley, Tempo	Bullock Carts, Trolley, Tempo
17	<b>Number of Licensed Functionaries</b>				
a	Traders	160	151	55	22
b	Processor	7	1	1	2
c	Tulawati	51	7	1	86
d	Hammal	222	205	195	187
e	Store Keeper	3	1	0	0

The D grade (Katangi) regulated market was found to be operated since 48 years (1968) and serving approximately 0.8 lakh populations of 126 villages. The market operated for only 7 hours, out of which only 3 hours are found peak operational hours. There are 12 and 01 supervisory and administrative officers working in this regulated market. Market is found 2 Km away from railway station as well as National/State highway. There are no processing unit cold storages found in the market, although market have 01 Ripening chamber (02 metric ton) and 01 notified commodity i.e. paddy arrived in the market. There are 100 and 300 metric ton daily dispatches to 4 outside markets viz. Balaghat, Gondiya, Nagpur and Jabalpur. The main modes of transportations are bullock cart, trolley and tempo. There are 22, 02, 86, 187 and 1 traders, processors, tulawati, hammals and store keepers respectively found in the regulated market.

#### Price Efficiency

The price efficiency of different grade of regulated markets of wheat are also

analysed and presented in [Table-3]. It is observed from the data that A grade (Sehore) regulated market obtained an annual income of Rs. 670.25 lakh with the total annual expenditure of Rs. 1670.19 lakh. Hence, there is found a deficit of Rs. 999.93 lakh in the year 2012-12. The total liabilities of the regulated market were found to be Rs. 218.38 lakh. The price efficiency of this particular grade of regulated market is 1:0.60.

The B grade (MHOW) regulated market showed a different picture. Market obtained an annual income of Rs. 565.45 lakh with the total annual expenditure of Rs. 563.61 lakh. There is found surplus of Rs. 1.84 lakh. The total liabilities of the regulated market are only Rs. 396.10 lakh. The price efficiency of this regulated market is 1:0.003.

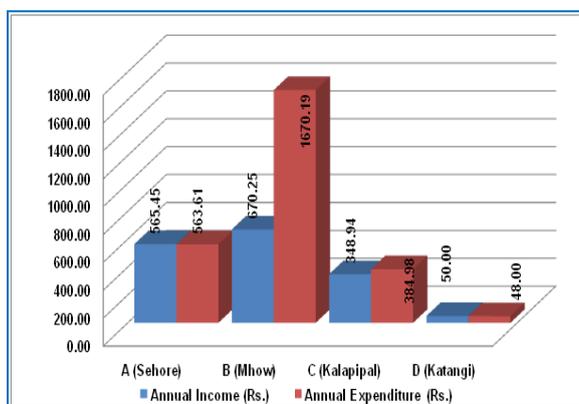
The C grade (Kalapipal) regulated market also obtained an annual income of Rs. 348.94 lakh with the total annual expenditure of Rs. 384.98 lakh. [Fig-1] There is a deficit of Rs. 36.04 lakh. The total liabilities of the regulated market are Rs. 40.98 lakh. The price efficiency of this particular grade of regulated market is 1: 0.094.

The D grade (Katangi) regulated market obtained an annual income of Rs. 50.00 lakh with the total annual expenditure of Rs. 48.00 lakh. There was found surplus of Rs. 2.00 lakh. The total liabilities of the D grade regulated market found more (Rs. 56.86 lakh) as compared to C grade regulated market. The price efficiency of this particular grade of regulated market is 0.042. Hence, it is concluded from the

results that D grade wheat regulated market is found more efficient than B grade, C grade and A grade regulated markets. Although technically B grade regulated market is found more technical efficient than A grade, C grade and D grade regulated market.

**Table-3 Price Efficiency in different grade of regulated markets of wheat in Madhya Pradesh. (Rs.)**

S. No	Particulars	Grade A	Grade B	Grade C	Grade D
1	Annual Income	670.25	565.45	348.94	50.00
2	Annual Expenditure	1670.19	563.61	384.98	48.00
3	Surplus/Deficit	-999.94	1.84	-36.04	2.00
4	Total Reserves with APMC	0.00	381.36	0.00	55.66
5	Total Liabilities	218.38	396.10	40.98	56.86
6	Price Efficiency (Ratio)	-0.60	0.003	-0.094	0.042



**Fig-1 Comparative picture of Annual Income and Expenditure of different grade of regulated markets of wheat in Madhya Pradesh.**

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## Conclusion

A grade (Sehore) regulated market have found to facilitate more than the other market but this particular market was found less price efficient than the other market. All the market has poor market facilities with regards to national e-agriculture market (e-market). As e-market has all the facilities like post-harvest, cold chain, well developed marketing infrastructure, efficient marketing system, competitive trade as well as value addition services such as grading and storage, more transparent auction process and increased participation of buyers etc, which is the prime need of present market scenario. [9] Thus, these markets must be fined with present needs of era and accomplished with all the facilities so that farmer could be able to trade his product from his home instead of reached in market with several constraints i.e. supply chain inefficiency, post- harvest losses, information asymmetry, unavailability of credit, storage and grading, intermediaries which he was faced in the regulated market.

**Conflict of Interest: None declared**

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