

A Critical Analysis of Agricultural Regulated Markets A Case Study of Western Uttar Pradesh

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Abstract

The regulated Mandis working in Uttar Pradesh are supposed to have benefited to producers to a large extent by way of providing proper marketing facilities, reducing marketing cost and margins, consequently providing them higher share in the price paid by the consumers. The marketable surplus of food grains was higher on large farms as compared to marginal and small farms. This trend was due to higher production and comparatively more area under food grain crops on large farms. Amongst different channels of distribution, the bulk of the marketable surplus i.e., more than 52 percent in case of wheat and more than 70 percent in case of paddy passed through the channel having village traders in the marketing system. This channel included producer-village trader-wholesaler/commission agent-miller (in paddy) - retailer-consumer.

Key words: Mandi Samiti Price spread, Marginal farms, Market surplus, Multiple intermediaries

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1. INTRODUCTION

The regulated markets are considered as the responsible institutions in discharging all the functions connected with the sale of the output, keeping in view the overall interests of the farming community, and the ultimate consumers. In order to regulate the marketing practices of agricultural commodities various state in the country passed legislations in early sixties and thereafter. However, this measure has brought little success in some states due to the lack of market infrastructural facilities **Ghose (1988)**. This fact necessitated a big boost in the improvement of agricultural marketing system.

The development activities are supposed to influence the performance of the regulated market with regard to their structure conduct and performance. The little success of the regulatory measures introduced in the sixties brought to light the fact that it is very difficult to improve the marketing system of the agricultural produce without adequate infrastructural facilities. This was the main reason to give a big boost for the improvement of agricultural markets that has taken place under development of agricultural wholesale projects with the financial help from the International Development Agency (IDA) of the World Bank.

Now, the regulated Mandis working in Uttar Pradesh are supposed to have benefited to producers to a large extent by way of providing proper marketing facilities, reducing marketing cost and margins, consequently providing them higher share in the price paid by the consumers. Over the year, several institutional reforms and policy formulations have been tried to ensure an orderly marketing system and to mitigate the marketing problems of farmers. Among the institutional innovation, regulated market, open operations by the state, procurement through levy and support prices etc. have partially successful. Among these measures, regulated market deserves special mention.

The building up of such market complexes would ensure more and more bulk arrivals in the market due to prevalence of pricing effectiveness and efficiency in the marketing of agricultural produce. Efficient agricultural marketing is being increasingly recognized as a powerful force for agricultural development. An efficient form of marketing system is an important means for raising the income levels of farmers and for promoting development. The farmers allocate their resources according to their comparative advantage and invest in modern farm inputs to obtain enhanced production. This in turn contributes to increased market surplus to farm products and increased inter- regional trade, which increases demand for increase in market facilities. Hence, policies to improve the efficiency of agricultural marketing would have a self accelerating effect on productivity. Considering above points in view, this study has been undertaken in four district of Western Uttar Pradesh.

2. OBJECTIVES OF MANDI SAMITI/REGULATED MARKETS

For every Mandi Area, one Mandi Samiti is established. Main objectives of Mandi Samiti are given below:-

1. To ensure not to have impartial behavior between Farmers & Traders.
2. To categorize saleable agricultural produces and to sell the produces by Auction.
3. To get weighing of the produces as per Metric scale & to pay for the produces immediately.
4. To gather information regarding market prices and other useful trends and to publicize them.

5. To ensure the availability of the necessary stuff in Mandi areas.
6. To play the role of negotiator in case of disputes between Farmers & Traders & to resolve their problems.

3. FUNCTIONS OF MANDI SAMITI/ REGULATED MARKETS :

In addition to the functions, duties and power specified in the Act and the bye-laws, the market committee shall also be responsible for:

1. The supply of all such information which the Director or any other Officer not below the rank of Senior Agricultural Marketing Inspector authorized by the State government in this behalf may require;
2. The maintenance of proper checks on all receipts and payments by its officers and servants;
3. The proper execution of all works chargeable to the market committee fund;
4. Keeping a minute book of its proceedings;
5. Maintaining an account for each cart, truck, consignment or load brought into the market yards;
6. Maintaining a register of fees collected;
7. Taking security from its officers & servants;
8. Providing persons authorized to collect fees, a cash box and counterfoil receipts books;
9. Keeping accounts in such forms as may be specified in its bye-laws;
10. Regulating expenditure according to budget;
11. Preparing and adopting budget for the ensuing agricultural year;
12. Arranging for temporary storage or stocking of the specified agricultural produce;
13. Arranging for temporary storage or stocking of the specified agricultural produce;
14. Keeping a copy of the Act and the Rules and notifications issued there under and its bye-laws open to inspection, free of charge, at its office;
15. Doing such other things as may for the efficient working of the market committee, be considered necessary by the market committee or be specified from time to time by the Director or any other officer not below the rank of Senior Agricultural Marketing Inspector authorized by the State government in this behalf.

4. OBJECTIVES OF THE STUDY

The objectives of this research are as follows:

- To study the structure and functions of regulated markets in the study area.
- To examine the flow of marketable surplus of important foodgrain crops marketed through regulated markets.
- To workout the price spread of important channel of foodgrain crops marketed through regulated marketing system.
- To study the attitudes of farmers, traders/wholesalers towards the benefits provided by the marketing system.

- To analyse the problems/constraints of regulated marketing system in the study area and to suggest suitable measures.

5. LIMITATIONS OF THE STUDY

The limitations of the study are as follows:

Though all attempts were made to extract as correct information as possible, the ignorance, illiteracy and keeping not any record by the cultivators were found and the main problems in getting correct information from them. They hesitated in giving the correct information particularly regarding their consumption, marketable surplus etc. However, the data were verified by making cross questions with them. The supplied information hence is based on the memory of the respondents.

6. PLAN OF THE STUDY

The paper has been divided in seven sub-areas. The first area deals with introduction, importance of the study, objectives, and limitations of data. The second area deals with the review of literature. The third area comprises methodology adopted in the study. The fourth area deals with the growth and development of regulated markets in India and Uttar Pradesh. The fifth area discusses with the results and discussion with respondents. The sixth area comprises price spread of selected commodities the finding of the investigation and a brief discussion on them are delt. The seventh area is fully devoted with summary and conclusion.

7. HYPOTHESES

The hypotheses of the study are as under:

1. In the study area Regulated Market Committee has not so far succeeded in building up a suitable infrastructure in relation to marketing of agricultural produce.
2. The marketable surplus is higher on large farms as compared to marginal and small farms.
3. The price spread for agricultural commodities vary from channel to channel. The price spread is low when crops are sold direct to wholesalers and maximum when they sold through the village merchants.
4. The producer's share is higher when the produce is sold in regulated markets as compared to unregulated markets.

8. RESEARCH METHODOLOGY AND ANALYTICAL TECHNIQUES ADOPTED

More specifically the procedure of the selection of the study area, market, villages, respondents, collection of data, analytical techniques are discussed here under:

8.1. Sampling Technique

A multistage stratified random sampling technique was used to select the markets, villages, farmers and functionaries for the present study.

8.1(a) Selection of Mandis/markets:

A list of the regulated markets working in U. P. was obtained from Rajya Krishi Utpadan Mandi Parishad, Uttar Pradesh, Lucknow. From this list four regulated markets, one each from Muzaffarnagar, Meerut, Ghaziabad and Bulandshahre districts were selected randomly. The lists of the selected regulated Mandis are given below:

Table-1: Showing the Name of the Selected Regulated Mandies under Study

S. No	Name of the District	Name of the Selected Mandi
1	Muzaffarnagar	Shamli
2	Meerut	Sardhana
3	Ghaziabad	Muradnagar
4	Bulandshahr	Gulaothi
Total	4	4

8.1(b) Selection of villages

A list of all the villages falling under the jurisdiction of the selected regulated Mandis was prepared and a random sample of 20 populated villages five from each of the selected Mandi service area was drawn.

8.1(c) Selection of farmers/ producers

A list of all producers/farmers for each selected villages was prepared. The farmers were sub-grouped into three size groups *i.e.*, (1) Marginal (0-1 ha), (2) Small (1-2 ha), and (3) Large farmers (2 ha and above). Then 25 farmers from each of the selected Mandis were selected on the basis of the proportion of the farmers falling under each village and size groups. Thus, in all 100 farmers (under three size groups) were selected from 20 villages, falling under four selected Mandis. For analyzing the marketing cost and producer's share in consumer's price in detail, 10 producer/sellers, bringing their produce in the regulated markets, under study, were selected purposively, considering their co-operation and the crops *i.e.*, wheat and paddy/rice under the study.

The number of farmers/producers selected under different size group of farms in each selected regulated Mandi has been given in the following Table 2.

Table - 2: Number of Farmers in each Selected Mandi under Study.

S. No.	Reguated Mandi	No of farmers selected (Size group in hectare)			Total
		0-1 hac	1-2 hac	2 and above hactare	
1	Shamli	7	8	10	25
2	Sardhana	5	7	13	25
3	Murad- nagar	5	8	12	25
4	Gulaothi	8	9	8	25
	Total	25	32	43	100

8.1(d) Selection of market functionaries

The traders, wholesale dealers, brokers, commission agents, millers, pleaders, weigh men and retailers were in chain of market functionaries operating in the regulated Mandis. A random sample of 10 percent market functionaries, from each category of market functionary was drawn from the universe of whole market functionaries.

8.2. Methods of Enquiry and Collection of Data

The study was conducted by survey method. The primary data were collected from the respondents' viz., farmers, market functionaries etc., through direct personal interview on well prepared schedules and questionnaires. The convenience of respondents was considered to be of prime importance for collecting the correct information. During the course of study several visits were made for the collection of information and every possible care was taken to ensure the accuracy and reliability of the data. The schedules and questionnaire used for the data collection of the study covered all the aspect of required information like production, marketable and marketed surplus of wheat and paddy, marketing charges, middlemen margins, prices, attitudes of farmers/producers and market functionaries etc.

The secondary data were obtained from Agricultural Marketing Offices, Rajya Krishi Utpadan Mandi Parishad, U.P., Lucknow, Krishi Utpadan Mandi Samitis Office of the respective selected Regulated Markets, published books, reports and journals etc.

8.3. Period of Enquiry

The present study is related to the agricultural year 2004-2011. The study covered all the marketing activities of Regulated Market for two important food grains, *i.e.*, wheat and paddy.

8.4. Analytical Tools

The data collected by personal interview with the respondents were analyzed and treated with certain statistical tool to the desired results. The various tools used in the present study were as follows:

8.4(a) Tabular Analysis

The collected data were classified and tabulated to compare the production, marketable and marketed surplus of wheat and paddy, marketing charges and margins, arrivals and prices and the attitudes of the farmers and market functionaries etc. towards the regulated marketing system in the study area.

8.4(b) Producer's share in consumer's rupee

The producer's share in consumer's rupee was worked out by the following formula:

The producer's share in consumer's rupee(P):

$$P = \left(\frac{C - M}{M} \right) \times 100$$

Where,

P = Producer's share in consumer' rupee.

C = Consumer's rupee

M = Marketing costs and margins

8.4(c) Shepherd Formula

To judge the efficiency of the markets, shepherd Formula was used. Shepherd has suggested that the ratio of total value of good marketed to the marketing cost may be used as a measure of efficiency. The higher ratio, higher efficiency and vice-versa

A better expression for shepherd's idea is:

$$ME = \left(\frac{V}{I} - 1 \right) \times 100$$

Where,

ME = Index of marketing efficiency.

V = Value of the good sold or price paid by the consumer (Retail price).

I = Total marketing cost of input of Marketing

8.4(d) Fisher's test

't' - test was used to compare the marketing the efficiency of regulated markets over unregulated markets in terms of producer's share in the consumer's price. The significance is tested by the following formula:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\sigma_e^2 (1/n_1 + 1/n_2)}}$$

$$\sigma_e^2 = \frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{(n_1 - 1) + (n_2 - 1)}$$

Where,

s_1^2 and s_2^2 are the estimated variances

σ_e^2 = pooled estimate

$(n_1 - 1) + (n_2 - 1)$ = Degree of freedom

\bar{X}_1 and \bar{X}_2 = Sample mean.

8.4(e) Multiple regression analysis

General linear regression model involving the dependent variable producer's share (Y) and explanatory variables X_1 , X_2 and X_3 .e. price marketing margin and marketing cost, respectively. The equation can be written as:

$$Y_i = \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i}$$

The equation can be set out compactly in matrix notation as:

$$Y = XB + U$$

Where $Y = (Y_1, Y_2, Y_3, \dots, Y_n)$, $U = (U_1, U_2, U_3, \dots, U_n)$, $B = (\beta_1, \beta_2, \beta_3, \dots, \beta_n)$

Where,

$$X = \begin{bmatrix} X_{11} & X_{21} & X_{31} & \dots & X_{n1} \\ X_{12} & X_{22} & X_{32} & \dots & X_{n1} \\ \dots & \dots & \dots & \dots & \dots \\ X_{1n} & X_{2n} & X_{3n} & \dots & X_{nn} \end{bmatrix}$$

8.4(f) Coefficient of range

It was calculated to present the variability with in producer's share, price, marketing margins and marketing costs by following formula.



$$CR = \frac{\text{Highest Value} - \text{Lowest Value}}{\text{Highest Value} + \text{Lowest Value}}$$

The percentage of variability was calculated as: Coefficient of range \times 100

8.4(g) Average

The weighted average was used for the interpretation of facts. It was worked out as follows:

$$\text{Weighted Average} = \frac{X}{W}$$

Where,

X = Variables

W = Weight of X.

9. RESULTS

The available statistics in respect of total arrival, mandi fee and total income during the period 2004-2011 for regulated mandies in U.P., as a whole, indicated that there has been an increasing trend in total arrivals, mandi fees and total income. The total arrivals reached from 106.48 lakh metric tonnes to 273.95 lakh metric tons and total income from Rs. 18.67 crores to 273.33 crores in the above two Periods. To provide storage facilities to the producers/ sellers along with against pledging of their produce, rural godowns of various capacities are also being constructed in the various regulated market yards by the U.P. Rajya Krishi Utpadan Mandi Parishad. Initially the programme of advancing loans to the farmers has been launched in 92 rural Godowns of the 80 regulated market committees in the state. In case of construction of mandi Yard till June, 2000, 196 main mandi yards and 75 sub mandi yards along with 59 fruit & vegetable market yards, 168 rural haat/painth markets and 5 fish markets have been constructed in U.P. in addition, 8 main mandi yards, 3 sub mandi Yards, 3 fruit & vegetable market yards, 3 rural/painth markets and 2 fish markets were under construction.

The Krishi Utpadan Mandi, Shamli and Muradnagar are in operation since 20th September and 27th October, 1965 respectively, whereas Sardhana and Gulaothi regulated mandi are in operation since 28th January, 1969. The elected regulated market committees comprising the representing of various groups were not in power in the mandies. The markets committees have been dissolved and all the power of market committees is presently vested with district magistrates of the respective districts. Mandi secretaries, accountants, mandi inspectors, cashiers, mandi assistants, auction clerks, chaukidars, sweepers *etc.*, were on the working staff of the regulated mandies. The main market functionaries engaged in the marketing of agricultural produce in the selected regulated mandies were commission agents, commission agent-cum wholesalers, traders, retailers, millers, weigh men, palledars etc. All transactions were conducted in the market yards under the rules and regulation framed by the market committees.

In case of regulatory measures, they included licenses to all the market functionaries, checking adulteration and arbitrary deductions, correct weighment and settlement of disputes. The market charge, allowances and deductions levied were fixed and any one charging more is likely to have his license cancelled. To promote the regulatory measures for the use of standard weights,

the regulate market committee officials of these mandies were providing iron weighing seals at the rate of Rs. 1.50 Per quintal as nominal charges. In case of any dispute, the buyers and sellers can make use of this scale.

It was found storage facilities were available in these mandies, but the farmers could not avail opportunity because of their ignorance about the terms and conditions of storage. The storage facilities were mostly utilized by the wholesalers and traders. Similarly, grading and standardization of agricultural produces were not done in the mandi yards. It was noticed that the open auction system of sale was seldom used. It was also observed that there was no organized system for dissemination of market news pertaining to prices and arrivals of agricultural commodities.

On the basis of these observations, it may be concluded that the regulated mandies generally did not provide necessary infrastructural facilities for the benefits of the farmers. Hence, the **first hypothesis** of the present investigation that the regulated market committee has not so far succeeded in building a suitable infrastructure in relation to marketing of agricultural produce was proved. This hypothesis was also supported by the finding of Datta (1988), Bharthwal (1988) and Ali (1988).

This analysis of the data regarding marketing surplus of food grains *i.e.*, wheat and paddy showed that marketable surplus of wheat ranged between 62.76 to 66.39 percent in Shamli, Sardhana, Muradnagar and Gulaothi mandi areas, respectively. The higher marketable surplus, particularly, in Sardhana and Gulaothi may be due to higher production, inadequate storage facilities and cash needs of the farmers. In case of paddy the marketable surplus varied from 72.02 percent to 72.98 percent in Shamli and Gulaothi mandi and 74.63 to 75.62 percent in Muradnagar and Sardhana mandi areas, respectively. The higher marketable surplus of paddy in Sardhana mandi area may be due to change in food habits consuming less of rice as compared to wheat against other selected districts *i.e.*, Muzaffarnagar, Ghaziabad and Bulandshahre, where rice is consumed in greater quantities.

It was also observed that the marketable surplus showed an increasing trend with the increase in farm size in all the selected mandies/ districts. This increasing trend was due to higher production and more under wheat and paddy on large farms as compared to marginal and small farmers. The **Second hypothesis** developed for the present study, that the marketable surplus is higher on large farms as compared to marginal and small farms was proved according to the finding. The hypothesis was also supported by the findings of Mishra, et al. (1988).

An examination of the marketed surplus showed that in case of wheat it varied from 79.82 percent to 88.43 percent in different mandi areas. As regards paddy, it varied from 82.92 percent to 95.86 percent in Shamli, Sardhana, Muradnagar and Gulaothi mandies, respectively. It was also observed that marketed surplus of wheat and paddy was almost 100 percent in case of marginal and small farms as compared to large farms. It may be due to immediate cash needs and inadequate storage facilities on small and marginal farms as compared to large farms.

So far as disposal pattern of different crops under study was concerned it was done through various marketing channel. It was found that channel II in case of wheat and channel I in case of

paddy were highly accepted by the farmers, as the major portion of their produce *i.e.*, more than 52 percent in case of wheat and more than 70 percent in case of paddy was marketed through the respective channels almost in all the mandies under study. This channel consisted of producers – village beopari--wholesaler/commission agent--miller (in paddy)--retailer--consumer. From these observations, it may be concluded that as small and marginal farmers constituted about 80 percent of the total farmers, the bulk of the marketed surplus they have (though in small quantity) was sold in the village market, where village beopari played a dominant role. Apparently being well wisher of the farmers, the village beopari collected the produce from them and then either sold it to the wholesaler/miller directly or brought it to the regulated markets. The farmers being illiterate and unaware about the regulated marketing process were kept themselves away from the botherations like transportation charges, octroi, mandi fees, time, price variations etc.

An analysis of the price spread for different commodities under study showed that the producer's share in consumers' price was different on different channels. The producer's share in channel I for wheat and paddy/rice was worked out at 77.94 and 65.72 percent, respectively, while in channel II the figures for the respective commodities came to 84.43 and 70.91 percent. The lower producer's share in channel I was due to the presence of trader in this channel, who used to purchase food grains at presence of trader in this channel, who used to purchase food grains at village/ village market and obtained higher profit margins. As regards wholesaler's margin, miller's margin, retailer's margin and costs of marketing, these were almost equal in both channels. The producer's share in channel II was higher because of absence of trader's margin. In this case the producer himself brought the producer in the regulated market yard and obtained higher prices than the village markets.

To judge the efficiency of regulated mandies in terms of producer's share', marketing margins' and marketing costs; the respective figures were compared with the figures worked out during pre-regulated period or unregulated mandies. It may be reported that the producer's share for both the commodities was found to be higher in regulated mandies under study as compared to pre-regulated period/unregulated mandies. However, marketing cost did not show much variation. Thus, it may be concluded that regulated mandies were more efficient and beneficial to the producers as compared to unregulated mandies. The marketing efficiency of regulated mandi was also judged by using shepherd's formula. The results showed that channel II was more efficient than channel I because of short chain of middlemen. The efficiency in case of rice was observed to be lesser due to higher margin of the millers, whereas, it was more in wheat.

10. CHANNELS OF MARKETING

1 Producer/seller-village beopari--commission agent--wholesaler-- miller (in paddy)--retailer--consumer.

2 Producer/seller--wholesaler--cum-commission agent--miller (in paddy)--retailer--consumer.

When the marketing efficiency indices of regulated mandies were compared with marketing efficiency indices of unregulated mandies, it was found higher for the regulated mandies in the study areas. It indicates that regulated mandies are more efficient than unregulated mandies.

Besides, Index of marketing efficiency, 't' test was also worked out to compare the marketing efficiency of regulated markets over unregulated markets in terms of producer's share in consumer's price. 't' values for wheat and paddy were worked out at 18.35 and 19.54

respectively, which were highly significant at 1 percent level of significance for 20 degrees of freedom.

The multiple regression models were also fitted, taking producer's share (Y) as dependent variable and price (X_1), marketing margin (X_2) and marketing cost (X_3) as independent variables. In case of wheat, X_1 , X_2 , X_3 independent variables were fixed at zero value, the average value of producer's share came to Rs. 51.92. The partial regression coefficient of 0.8599 indicated that keeping all the other variables constant an increase in price say, a rupee, was accompanied by an increase in the producer's share of Rs. 0.8599. Against this, if the marketing margin increases by one unit, the producer's share will decrease by Rs 1.93. Similarly, in case of marketing cost, a unit change in marketing cost will decrease Rs. 1.06 in the producer's share. As regards paddy, the tolerance level for X_1 (price)/variable was insufficient, so it was not included in the regression equation. Now, if the X_2 and X_3 variable were fixed at zero value, the average producer's share came to Rs. 158.10. The partial regression coefficient of -0.4809 indicated that keeping other variable constant, an increase in the marketing margin, say a rupee, is accompanied by a decrease in the producer's share of Rs. 0.4809. Similarly, an increase in the marketing cost by one unit, decrease the producer's share by Rs. 0.6905.

The coefficient of range with in producer's share, price, marketing margin and marketing cost was also worked out to judge the variability. The variability among crops revealed that producer's share variability had been minimum in case of paddy (4.1 percent), while in case of wheat it was 4.22 percent. The variability in price of paddy was 2.34 percent and for wheat 3.37 percent. The marketing margin remained around 10 percent for both the crops, but the value of variability in case of paddy pertaining to margin remained highest. This highlighted fact may be overcome if the market structure under study is reviewed and the ratio between market and population covered by it brought down so that the marketing margin can be lessened considerably for the benefit of the producers.

As already pointed out, the main economic objective of the introduction of regulated marketing system was to protect the interest of the producers by way of providing maximum share in the price paid by the consumers, through regulation of various functions of market functionaries and reducing marketing cost and marketing margin of the intermediaries. In this context, it will be worth to refer the finding of the study, which revealed that the producer's share in the price paid by the consumer was higher in both the crops under study marketed through different regulated mandis in comparison to those marketed through traditional/local markets.

The **third hypothesis** of the present investigation, that the price spread is minimum when crops are sold through the wholesaler and maximum when it is sold through the village merchants was proved. The hypothesis was also supported by the finding of **Hiranandani et al., (1968)**, **Acharya (1985)** and **Mishra et al., (1987)**.

The **fourth hypothesis**, that the producer's share is higher when the producer is marketed through regulated markets as compared to unregulated markets was also proved. This hypothesis was also supported by the finding of **Chatterjee (1969)**, **Sinha (1979)**, **Ghosh (1988)** and **Sahay (1988)**.

The finding of the opinion survey revealed that about 80 percent producers were having their opinions in favour of regulated mandies. They were of the opinions that there was correct weightment of the produce, fixed and reasonable marketing charges and prompt payment of their produce. Their opinions varied from 90.18 to 99.00 percent and 58.58 to 90.28 percent in these respective cases. In relation to infrastructural facilities, *i.e.*, Post office and police chauki etc. These were established in all the four selected regulated markets. The open and shaded platforms were also present in all the markets but were in use only 80 to 90 percent in these markets 45 percent farmers gave their opinions about availability of civic amenities in Shamli and Gulaothi mandi, whereas it was 56 and 60 percent in Muradnagar and Sardhana mandi. About 62.00 to 71.00 percent producers/farmers gave their opinions in favour of better and fair prices in regulated mandies. They were also of the opinions that there was fair competition in purchase of produce and lower middlemen margins.

In spite of the above favorable opinions towards regulated mandies the farmers did not show much response in marketing of their produce through regulated mandies. The major problems associated with them were unawareness about the functions of RMC and its working procedure and inadequate and higher transportation cost. About 60.00 to 74.00 percent farmers were of the opinions that they did not know the function of RMC and its working procedures. Whereas 60.00 to 85.00 percent farmers were of the opinions that transportation facilities were not easily available and were costlier. Except that of Sardhana regulated mandi area, the farmers of the other mandies area were not happy with the location of main mandi yards on the outskirts of the urban area. About 70 to 85 percent of the farmers gave their adverse opinions about the location of the main market yards. About 88.00 to 96.00 percent of the farmers were of the opinions that their existed no organized system for disseminating price and arrival information and other news about the mandi. Further, almost all the farmers reported that there existed no storage facilities for them. Similarly, there were no input centers in the mandi yards. About 85.00 percent farmers reported that they have to pay higher marketing cost in the market yards. Against this situation, it was found that traders/wholesalers were much benefited by the regulated mandi. About 81.83 to 88.29 percent traders/wholesalers were of the opinion that collecting the produce in the village and selling it in the regulated mandies provided them higher income because of prices differences. They were of the opinion that there existed higher prices in the regulated mandies as compared to villages. They also reported that they can easily get licenses, marketing information, trading shops and facilities like storage etc. Almost all the traders/wholesalers reported that no extra charges were to be paid and they availed all the facilities provided by the mandi Samiti. In their opinion, there is still need to provide grading and standardization more storage and civic amenities etc. in the mandi yards. Except for Sardhana main market yard, the traders/wholesalers were not happy with the location of the market yard, of other mandies. Therefore, they are still hesitating in shifting their entire trade in these markets.

But in spite of getting higher producer's share in the consumer's price, majority of the producers/farmers, particularly small and marginal farmers, did not prefer to sell their produce through regulated mandis. The main reasons in this connection may be mentioned as their small marketable surplus, a long distance of mandi from their villages, ignorance about the advantage of regulate markets, unawareness about the price and arrivals of the mandi yards, failure of

auction sale, lack of storage facilities, higher marketing cost, forced sales etc. Thus, farmers still prefer to sale their produce in the village markets. The findings revealed that about 70 percent of their marketable surplus was marketed through the marketing channel consisting of producer--village trader--wholesaler--/commission agent--miller (in paddy)--retailer-- consumer, while about 30 percent was marketed through producer--wholesaler/commission agent/ miller (in paddy)--retailer--consumer.

Coming to the main problems associated with the farmers in marketing of their produce through regulated mandies, these included long distance of mandies from their villages, lack of publicity about the advantages and function of regulated mandies, lack of supervision and vigilance in market, lesser attention paid to farmers having small marketed surplus, failure of auction sale, lack of grading and standardization, lack of storage facilities, lack of input centers, higher marketing cost, forced sale, problem of shifting transaction in new mandi yards etc. In other words, Indian Agricultural Regulated Market is having the following Constraints:

- Indian farmers are predominantly marginal or small - have small quantities of marketable surplus and limited bargaining power;
- Restriction on sale of produce outside regulated market yards Neglected rural markets, poor availability of regulated markets, long distances from production areas and inadequate infrastructure;
- Multiple intermediaries and exploitation by monopolistic licensees. High cost of transport/ high market fee in regulated markets;
- Fragmented supply chain, poor cold chain and high post-harvest losses;
- Lack of cleaning, grading, packaging and quality certification facilities, and
- Limited access to information on domestic and overseas markets and available marketing opportunities.

11. CORE FACILITIES

11.1 SUPPORT INFRASTRUCTURE

Platforms for Automatic weighing

Auction Platforms

Packaging & Labeling Equipments

Drying Yards

Loading, Unloading & Dispatch Facilities

Grading Facilities

Standardization Facilities

Price Display Mechanism

Information Centres

Storage/Cold Rooms

Ripening Chambers

Public Address System

Extension and Training to Farmers

Water Supply

Power

Veterinary Services

Sanitary Facilities

Posts & Telephones

Banking

Input supply and DailyNecessity Outlet

POL

Repair/Maintenance Service

Office

Computerized Systems

Rain Proofing



11.2. Service Infrastructure

Rest Rooms
Parking
Sheds for Animals
Market Education
Soil Testing Facilities
Drainage

Maintenance Infrastructure

Cleaning and Sanitation
Garbage Collection & Disposal
Waste Utilization
Vermi-Composting
Bio-gas Production/Power

11.3. Inadequacy of Facilities in the Regulated Agricultural Markets

The following inadequacies were found during survey:

- Covered or open auction platforms exist in only 2/3rd of regulated markets;
- Only 1/4th of markets have drying yards;
- Trader modules, viz. shop, godown & platform in front of shops exist in only 63% of markets;
- Cold storage units exist only in 9% of markets;
- Grading facilities in less than 1/3rd of markets;
- Farmers' resting facilities only in half the markets and
- Basic facilities like internal roads, boundary walls, electric lights, loading and unloading facilities, weighing equipments etc. not available in nearly 20% markets.

11.4. Why Market Reforms are necessary?

The reasons for which reforms required are as follows:

- For increasing diversification into higher value crops for better returns;
- Greater farmer-market linkage needed for demand-driven cropping;
- Dynamism & efficiency in markets needed for better price discovery;
- Policies required to facilitate reduction of intermediaries and promotion of direct purchase of agro-commodities/ provide alternative marketing opportunities to farmers;
- Large investments required for development of value addition, marketing and cold chain infrastructure;
- Major portion of investment expected from private sector;
- Appropriate regulatory and policy environment/ fiscal incentives are necessary to facilitate required private investment.

11.5 Various Reform Measures Initiated:

The following Reform measures are initiated:

11.5(a) Reform Measures Initiated

- Suitable amendments in the State APMC Acts to facilitate efficient and alternative marketing channels for farm produce;
- Progressive dismantling of controls and regulations under EC Act;
- Law for implementing Negotiable Warehouse Receipts System passed by the Parliament;
- Enactment of an Integrated Food Law to promote quality and single window regulatory system and

- Allowing futures trading in agricultural commodities for better price risk management and price discovery.

11.5(b) Reforms done through Model APMC Act:

- Setting up of special commodity markets;
- PPP in management & extension activities/ Promotion of e-trading;
- Encouraging professional management in APMCs;
- Provisions for Contract Farming;
- Single point levy of market fee/ Single point registration of Functionaries;
- Establishment of Private markets/ Farmer-consumer markets/Direct marketing;
- Powers to State Government for exemption of market fee;
- Setting up of State Marketing Extension Cells/ State Agricultural and
- Produce Standards Bureaus.

12. SUGGESTIONS TO OVERCOME THE ABOVE PROBLEMS \ CONSTRAINTS

To overcome the above problems/constraints, following suggestions may be put forth:

- 1 It is necessary to open more regulated markets and sub/feeder market yards, preferably a yard for every five village Panchayats. There is an urgent need to link the hinter land village with the regulated mandies.
- 2 The election of RMC should be conducted on democratic lines and there should not be any nominated members. A major share of seats should go to the farmer's representatives.
- 3 A drink link between producers and RMC should be developed to resolve various problems relating to marketing of agricultural commodities.
- 4 There is need to develop marketing information system and provide news regarding various services available in regulated markets and their usefulness to the farmers
- 5 If possible the commission agent may be eliminated to remove commission charges in Mandis, which help in shortening the price spread.
- 6 Entire business transaction related to agricultural produced should be shifted to the new mandi yards.
- 7 The grading and standardization facilities needed to be improved and strengthened.
- 8 The storage facilities should be provided to the farmers in mandi area and proper security of their produce is needed.
- 9 Regulated mandies should function throughout the day, at least in the busy agricultural harvesting season, irrespective of holidays.
- 10 The market committee should provide quality services and adequate facilities to all farmers and equal response to small, marginal and large farms producers should be given.
- 11 RMC should open input centers in mandi yards and provide inputs at subsidized rates to the farmers, particularly to small and marginal farmers, who marketed their produce through regulated mandies. Provision should also be made for domestic necessities in the same

market area for easy purchase by farmers. It will facilitate and attract the farmers to bring their produce in mandi yard.

- 12 RMC should develop rural marketing centers for post harvest technologies, so that farmers may attract to the regulated market.
- 13 Inter-village and intra-village road communication in the market area should be developed.
- 14 An agency should be developed which should take charge of the farmer's produce, advance money for his immediate needs, processed the produce, particularly in case of paddy, arrange for further marketing at the next point and make final payment.
- 15 Proper coordination among the various central and state agencies operating in the regulated markets should be made. These agencies can provide a strong market intervention mechanism which would save the farmers from exploitation.
- 16 Adequate extension efforts should be made in rural area to educate the farmers about improved marketing facilities available at regulated market.

In nut shell, it can be concluded that regulated mandies have still struggling for their efficient working with regards to provision of necessary infrastructural facilities and benefits to the Producers/farmers, for the purpose they were introduced in the state.

13. CONCLUSIONS

From the preset study, the following conclusions may be drawn

- 1 All the four mandies under study were having own newly constructed market yards with various infrastructural facilities. The entire market yard of these mandies is surrounded by walls with separate gates for entrance and exit.
- 2 Though, all the mandies under study have godowns in the market yards but the farmers could not avail benefit of storage due to unawareness about the terms and condition of storage.
- 3 Similarly, the grading and standardization facilities were present in the mandi yards but no grading and standardization was done in the mandies.
- 4 The marketable surplus of food grains was higher on large farms as compared to marginal and small farms. This trend was due to higher production and comparatively more area under food grain crops on large farms.
- 5 Amongst different channels of distribution, the bulk of the marketable surplus *i.e.*, more than 52 percent in case of wheat and more than 70 percent in case of paddy passed through the channel having village traders in the marketing system. This channel included producer--village trader-- wholesaler/commission agent--miller (in paddy)-- retailer-consumer.
- 6 The sale of produce in regulated mandies yielded higher share to the producer, because of higher price and lower marketing margins in comparison to unregulated mandies.
- 7 In spite of the higher benefits of producer's share and higher price per unit of the produce obtained in regulated mandies, the sale of produce in regulated mandies was noted to be much lower being about 48 percent in case of wheat and about 30 percent in case of paddy on the sample farms. It was due to higher transportation cost, small marketable surplus with the bulk of the farmers, forced sale, location of mandies at a long distance, unawareness about the marketing procedures and several other botherations.

- 8 About 80 percent farmers/producers gave their opinions in favour of regulated mandies. They were of the opinions that there was correct weightment of the produce, fixed and reasonable marketing charges and prompt payment of their produce. They were also reported that the facilities regarding dissemination of marketing information, provision of godown and storage, grading and standardization, input centers, construction of more auction platforms need to be provided for making regulated mandies more beneficial to them.
- 9 Though, the mandies provided necessary infrastructural facilities to the producers/farmers but they were highly availed by the traders as compared to producers/farmers.

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Appendix-1

Analysis of Attitudes of Farmers towards Regulated Mandis through questionnaire
(In percentages)

S.No.	Particulars	Respondent's opinions			
		Shamli	Sardhana	Muradnagar	Gulaothi
1		2	3	4	5
1.	Awareness about the existence of Mandi	100.00	100.00	100.00	100.00
2.	Convenience of the location of main Mandi Yard	45.00	85.00	30.00	25.00
3.	Awareness about the function and working procedure of Mandis	80.00	60.00	62.00	70.00
4.	Transportation facilities adequate and at lower cost				
5	Opinion about the functions of Regulated Market Committee	40.00	35.00	30.00	25.00
(a)	Correct weighment & measures				
(b)	Presence of grading and standardization	99.00	95.00	96.00	90.18
(c)	Fixed and reasonable marketing charges	NA	NA	NA	NA
(d)	Awareness about prevailing prices in Mandi	90.00	85.00	86.50	85.00
(e)	Easy transaction and Payment	8.25	05.00	12.00	04.00
(f)	Provision of godowns & storage facilities				
(g)	Settlement of disputes	80.00	85.00	90.28	58.58
6.	Infrastructural facilities				
(a)	Existence of Bank, Post office and police chauki in Mandi Yards	12.00	05.00	08.00	10.00
(b)	Existence of auction on open platform	22.00	18.00	24.00	21.00
(c)	Auction platform is in use	100.00	100.00	100.00	100.00
(d)	Facilities of civic amenities				
7.	Comparatively better and fair prices in Mandi	100.00	100.00	100.00	100.00
8.	Fair competition in purchase of produce	85.00	90.00	82.00	80.00
9.	Availability of input centers	45.00	60.00	56.00	45.00
10.	Lesser number of middle men	62.00	71.00	70.00	68.00
11.	Lower middlemen margin				

12. Proper control on middlemen's working	85.00	60.00	78.42	66.00
13. Higher producer 's share	NA	NA	NA	NA
14. Proper place for cart halting and cattle shed	20.00	25.00	35.00	30.00
	62.00	75.00	63.00	52.00
	40.00	25.00	45.00	30.00
	65.00	80.50	72.60	62.23
	50.00	80.00	65.00	50.00

N.A. → Not available

Source: An examination of the opinion survey through questionnaire.