CHAPTER SEVEN

SUMMARY AND CONCLUSION
The purpose of this chapter is to focus the main findings of the study and suggest measures which may be helpful for the Government and policy markets to promote the interest of the farming community and consumers.

Raipur district is one of the major rice producing district of Chhattisgarh region in Madhya Pradesh. There were fifteen regulated markets in the district during the period 1971-81. Paddy was the principal commodity of arrival in all these markets. During the period of study the average annual arrivals was 241.19 thousand tonnes which formed 25 per cent of the total production. Out of these fifteen regulated markets 7 markets were selected on the basis of their average arrivals. The total contribution of the sample markets in the total arrivals of paddy in all the markets was 60.30 per cent.

**COLLECTION OF DATA AND METHODOLOGY OF STUDY**

The study is primarily based on secondary data. However, in order to ascertain the pattern of disposal of the producers, primary data were also collected from the selected villages. Secondary data were collected with reference to weekly, monthly and annual arrivals of paddy and price prevalent in the selected markets of different periods. The main objective of the study is to examine the temporal and spatial efficiency of the regulated markets.
In the present study the following hypothesis were formulated:

1. That all the selected markets were reasonably integrated to one another in their price formation.
2. That the inter-market price-differences did not tend to be greater than the cost of transfer of produce from one market to another.
3. That the intra-market price fluctuations in the off-season were consistent with the storage cost.
4. That the formation of prices at the local market was less influenced by local arrivals whereas it was in-ordinately influenced by the prices in terminal market.

The statistical tools adopted for the present study were mainly Regression analysis, Kuznet's seasonal indices of prices, and co-relation co-efficients.

MAIN FINDINGS:

A. Time Pattern of Arrivals:

The study of annual pattern of paddy arrivals revealed that in three out of seven markets the compound growth rate was negative, whereas in the remaining markets,
it was positive. The analysis of monthly arrival data further showed that the arrivals were generally highest each year in the month of January. During this month the range of arrivals was between 22.45 to 30.50 per cent of the annual total in the sample markets. On the other hand the arrivals were lowest in the month of August. It ranged between 0.21 to 2.12 per cent of the annual total in the sample markets.

When the monthly arrival figures were broken up according to the intensity of arrivals it reflected four periods in a marketing year i.e., Early Marketing Period (October-November), Peak Marketing Period (December to February), Pre-Lean Marketing Period (March to May) and Lean Marketing Period (June to September). The percentage of arrivals found during these four periods were 14.85, 61.50, 17.26 and 6.40 per cent of the annual total. Thus major portion of the annual total arrivals were recorded during P.M.P.

A minute observation of the pattern of arrivals also revealed that compared to first five years (Oct-71 to Sept.-76) the percentage of arrivals during the last five years (Oct.-76 to Sept.-81) of the decade showed some change in all the four periods of marketing. During P.M.P. the arrivals showed a negative shift by 7.29 per cent
whereas in E.M.P., Pre-L.M.P. and L.M.P. it showed a positive shift by 3.21, 2.41 and 1.67 per cent respectively.

The analysis of weekly arrival data revealed that the average per week rates of arrivals during E.M.P., P.M.P., Pre-L.M.P. and L.M.P. were 1.46, 5.40, 2.00, and 0.42 per cent respectively. The average duration of the four periods came to 7.23 weeks in E.M.P., 11.73 weeks in P.M.P., 8.17 weeks in Pre-L.M.P. and 21.80 weeks in the L.M.P. Thus, the weekly analysis exhibited that the arrivals of paddy were highly seasonal and about 63 per cent \(^1\) of the annual total of arrivals came in the average duration of hardly 11.73 weeks.

The study of disposal pattern according to size of holdings revealed that the average disposal of the sample farmers (all size groups) was 45.80 per cent of their total production. As regards periodwise disposal, it was found that the farmers up to 2 hectares (1st and 2nd size group) had disposed about 83 to 92 per cent of their total marketed production.

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1. As per monthly pattern of arrivals the per cent arrivals during P.M.P. was 61.50 per cent whereas the weekly arrival data revealed it to be at 53.2 per cent. The difference between the two is due to the fact that the monthly pattern gives a broad idea about the percent arrivals whereas the weekly pattern gives us a minute idea about the pattern.
surplus during the same period. In the later two parts of the marketing year, the disposal of the first two size group farmers was hardly between 8 to 18 per cent whereas that of last two size groups was 33 to 41 per cent of their total marketed surplus. Thus, larger the size of holdings lesser was the percentage of disposal in the earlier two periods. In the later two periods higher size of holdings had higher percentage of disposal.

When influence of annual quantity of arrivals was measured on the arrivals of P.M.P. or L.M.P. it was found that the change in the annual quantity influenced more the arrivals in the P.M.P., this was ascertained by fitting simple linear regression equations.

**SEASONALITY IN PRICES**

The analysis of seasonality in prices revealed that in all the three grades of paddy i.e., scented fine, fine and coarse the trough (lowest prices) was reached each year in December whereas the peak occurred generally in July or September. The average number of intervening months between the peak and the trough index were between 5.25 to 6.50 months. As regards the variability in prices the mean deviations were found lower between March to May period and were generally highest either in October-November or in January. The average rise in the index of peak over the trough was between 13.35 to 34.03 per cent. The varietywise position could be summarised as :
<table>
<thead>
<tr>
<th>Paddy Type</th>
<th>Maximum Rise</th>
<th>Minimum Rise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scented fine</td>
<td>34.03%</td>
<td>13.35%</td>
</tr>
<tr>
<td>Fine paddy</td>
<td>22.40%</td>
<td>14.96%</td>
</tr>
<tr>
<td>Coarse paddy</td>
<td>28.06%</td>
<td>19.42%</td>
</tr>
</tbody>
</table>

It could be seen from above summary that the maximum rise in the peak index was greater in Scented paddy, and minimum in fine paddy.

Periodwise study of average seasonal indices revealed that during E.M.P. the prices of Scented fine and fine paddy were above 1.70 and 1.36 per cent of the seasonal mean level. On the contrary, in coarse paddy the average index was 2.65 per cent below the seasonal mean level. During P.M.P. the prices for all the three varieties were below the seasonal mean level. In Pre-L.M.P. the average indices were higher than P.M.P. yet they were below 100 in Scented fine and fine paddy. In coarse paddy the average index was only 0.67 per cent above the seasonal mean level during the same period. As regards L.M.P. the average seasonal index were 3 to 5 per cent higher than the seasonal mean level.

Two regression equations were fitted to examine the influence of average weekly arrivals alongwith the average weekly prices in the terminal markets. The results showed that the prices in the primary-cum-secondary markets were dominantly influenced by terminal market price whereas the influence of local arrivals was negligible. All the
regression equations fitted for the purpose were found statistically significant. Therefore, our hypothesis that the price at local market is dominantly influenced by the terminal market price is accepted.

**Market Integration and Price Differences**

The study of market-integration with the help of co-relation co-efficients suggested that in all the three grades of paddy the sample markets were reasonably integrated with one another in their price formation. All the correlations were statistically significant at 1 per cent level. Thus our hypothesis that all the selected markets are reasonably integrated to one another in their price-formation is accepted. However, the degree of this relationship was different in different grades of paddy. The prices of Scented fine paddy showed relatively lower 'r' than those in the remaining two grades. Generally, the values of correlations were in accordance with the distance involved between the two markets. However, in case of Scented fine paddy the distance was not the sole factor for determining the price-integration among the two markets. Due to lack of homogeneity the value of 'r' even between the closest markets were found relatively lower.

In case of fine paddy we found that the primary-cum-secondary markets were less integrated with one another compared to their integration with the terminal market.
The study of price-differences between the selected market revealed that in Scented paddy the price differences were by and large positive and greater than the cost of transfer. On the contrary in case of fine and coarse paddy the price differences both on average monthly and annual prices did not tend to be greater than the cost of transfer, therefore, in case of scented fine paddy our hypothesis is rejected whereas in coarse and fine paddy it is accepted.

TEMPORAL EFFICIENCY OF THE SELECTED MARKETS:

To study the temporal efficiency of the primary-cum-secondary markets the seasonal fluctuations in the prices of paddy were considered in relation to storage cost. The study suggested that the seasonal variation in paddy prices (all the three grades) at the considered primary-cum-secondary markets were out of line with storage cost in all the years under the study. The off-season prices reflected positive returns in some years and negative in the others but they were never equal to the computed price in any of the markets.

The analysis of individual year's returns to storage, revealed that the prices in the immediate post harvest months were influenced alongwith the other factors by overall production of crops in the immediate past year.
On the contrary, the prices in the off-season were influenced by prospects of crop in the ensuing years along with the other factors.

As regards the profitability in the off-season sales it was found that in cases of fine and coarse paddy the returns to storage during July were generally positive and during September they were generally negative.

In case of Scented paddy the average returns to storage in both the considered off-season months were generally negative excepting Dhamtari. In cases of fine and coarse paddy the returns to storage were generally positive.

**Policy Implications:**

The question may be asked as to how far the regulated markets have achieved the objectives of their establishment? To what extent they have regulated the agricultural produce and brought about stability in agricultural prices in the district. At macro-level we find that more than 60 per cent of the produce is sold during the months of December to February. The big and small farmers' sale of their produce during this period though the disposal of small farmers is more pronounced during this period. This tendency is prevalent despite the fact that prices during this period were the lowest and returns to storage of fine and coarse variety of paddy were positive. These two varieties taken together represented
Prior commitments of the small and marginal farmers and their dire need of cash to meet out the exigencies are some of the major causes of disposal during the Peak Marketing Period. The large and medium sized farmers are also compelled to dispose of their produce in the post-harvest period due to lack of storage facilities with them. Because it was seen that the quantity of arrivals invariably increased during the P.M.P. in the years of good harvest. The problem can be sorted out, on the one hand by increasing storage facilities at the individual and institutional levels. Cheap devices of storage should be found out for the uses of the farmers. At the same time storage facilities at the institutional level should be liberalised and decentralised so that it is within the easy reach of an individual farmer. The nationalised banks, like the warehousing corporation should offer the short term loan on the pledge of produce of the farmers. This will on the one hand reduce the pressure on the regulated markets and on the other disallow the prices to depress. The propaganda regarding warehousing facilities is distressingly poor. As we have seen earlier that there is hardly any awareness on the part of the small and marginal farmers regarding warehousing facilities and even all the larger ones do not know about it.
The regulation of supply at different intervals will narrow down the price-differences existing at P.M.P. and L.M.P.

In order to safeguard the interest of the farmers particularly that of small and marginal farmers remunerative and not support prices be offered during the P.M.P. Invariably, the prices tend to be equivalent to the support prices or marginally higher than that. The support price is never a remunerative price and the bulk of the produce is sold either at support or slightly above the support price. Therefore, we may conclude that bulk of the produce is sold at non-remunerative price. In order to protect the interest of the producers the prices should be at least equal to the average of the prices prevalent in the Pre-lea Marketing Period in the previous year after adding average increase in the cost of agricultural inputs.

In Chapter II we found that there is a shift in the pattern of arrivals from P.M.P. to other periods. This change is no doubt welcome in the interest of the farming community. But, the change is slow and negligible and it needs to be further reinforced in the interest of the farming community. Marginal increase in the arrivals of Pre-L.M.P. merely indicates that by and large the farmers in the district do not have sufficient holding
capacity to postpone their sale for some future date. This is due to the fact that productivity of paddy in the district has been almost stagnant and per capita income of the farmers from the agricultural sector perhaps tended to decline in the last 10 years. Unless the productivity of the land is increased and income of the farmers is enhanced the waiting capacity of the farmers will not improve and distress sale will continue.

Returns to storage are positive in case of fine and coarse paddy. But there were years when negative returns to storage also occurred. This was witnessed in the market years when due to failure of preceding paddy crop the prices during P.M.P. had gone abnormally high and the prices during L.M.P. were depressed due to prospects of better crop. This was witnessed in the marketing years of 1974-75 and 1979-80. The losses to the farmers could be avoided by resorting to two methods. One is short term and another long term. In the short term method government should come out as a major purchaser in the L.M.P. and offer a price equivalent to the support price plus the cost of storage. In the long term wide fluctuations can be avoided by extending irrigation facilities and by reducing the dependence on monsoon.

At micro level we find that the prices of all
sorts of paddy were lower in the markets of Basna, Mahasamund and Kurud compared to the rest of the markets. Whereas, prices at Dhamtari market had been always higher than other markets. Apparently, there is spatial market integration but one thing is sure that the producer-sellers in these three markets received lower prices of their produce than their counterparts elsewhere. In the first two markets the cause of lower prices was unison on the part of the traders to restrict rise in prices. But the cause of lower price at Kurud market was due to small size of the market compared to overall arrivals of the produce.

In order to protect and promote the interest of the producer-sellers the competition among traders may be encouraged and licensing policy should be liberalised. Traders from outside should be informed and encouraged to bid in these markets. The government should keep a close eye on movement of the prices and procurement agencies be always kept in readiness to purchase paddy on prices not equivalent to support price but prices prevalent in the neighbouring markets.

Production of rice is almost stagnant not only in Raipur district but in the entire eastern region of India. Besides the biological factors, economic incentives have a great deal of say in promoting and boosting agricultural production. So far the government has been
banking upon the support price to protect the interest of the producer-sellers as against the exploitation of traders. But the support price is seldom a remunerative price and, therefore, it does not promote the interest of the producer-sellers. Hence, the government should purchase paddy not at support price but at the procurement price which reflects the average of the prices prevalent in the immediate past year.

The erratic trend in the prices of agricultural produce can be further reduced by reducing the dependence of the farmers on the monsoon. The district claims that about 24 per cent of the area is under irrigation but the system of irrigation is protective. What we need is not protective irrigation but productive ones. Water should be made available all the year round. All resources be tapped to meet the water needs of the farmers. When enough is produced that too all the year round erratic fluctuations in prices will be minimised and stability in paddy prices will be established.