An Analysis on Problems of Vegetables Marketing in Farmers' Market of Jharkhand: A Case Study in Ranchi District

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An Analysis on Problems of Vegetables Marketing in Farmers' Market of Jharkhand: A Case Study in Ranchi District

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ABSTRACT

The green revolution is one of the greatest successes that the country has observed and resultantly achieved self-sufficiency and a good degree of stability in food grain production. However, the country still faces the challenges of comprehensive food security and malnutrition, Thus, vegetables will play an important role by contributing adequate vitamins, carbohydrates, minerals, fibres etc. but it is a known fact that horticulture sector in India is constrained by low crop productivity, limited irrigation facilities and underdeveloped infrastructure support like cold storages, markets, roads, transportation facilities etc. There are heavy post-harvest and handling losses, resulting in low productivity per unit area and high cost of production. Analysis shows, there is an inverse relation between the farm size of the respondents and their overall problems of marketing vegetables in farmers' market. It could be noted that higher their farm size, lower their overall problems of marketing vegetables in farmers' market and the vice versa. It is noted that there is an inverse relation between the caste status of the respondents and their overall problems of marketing vegetables in farmers' market.

Keywords: Vegetables productivity, farm size, marketing costs, marketing problems

Horticultural development had not been a priority until recent years in India. It was later in the post 1993 period that focused attention was given to horticulture development through an enhancement of plan allocation and knowledge-based technology. All taken together, India's share of the world's vegetable market is 17 per cent. Presently, the horticultural crops cover 13.6 million hectares, i.e. roughly 7 per cent of the gross cropped area and contributes 18-20 per cent of the gross value of India's agricultural output.

India is the second largest producer of fruits and vegetables in the world next only to China and accounts for about 16% of the world's production of vegetables and 10% of world's fruits production. But we are still lagging behind in actual exports of these produce. For example, India produces 65 per cent and 11 per cent of world's mango and banana respectively, ranking first in the production of both the crops.

Yet our exports of the two crops are nearly negligible of the total agricultural exports from India. Vegetables are so common in human diet that a meal without a vegetable is supposed to be incomplete in any part of the world. India is the second largest producer of vegetables in the world, next to China. These are grown in about 6 million hectares forming 3% of the total cropped area. Though the vegetable requirement is 300g/day/person as recommended by dietician, we are able to meet about 1/9th of that requirement only. Therefore, a planned development in the field of vegetable production will not only improve the nutritional requirement for masses but can also meet the challenge of adequate food supply to the growing population in India. The limited cultivable

area can be best utilized for growing vegetables which are known to give higher yields per unit area. Vegetable growing being labour intensive can substantially increase employment avenues too with good returns to its producers, if cultivation and marketing will properly do. Our country is gifted with a wide range of agro-climatic conditions which enables the production of vegetables throughout the year in one part of the country or the other and then maintaining a continuous supply of fresh vegetables. These off season vegetables are in great demand in home market as well as in the neighboring Gulf countries.

It is to be noted here that crop production has now became a big business whereas marketing of vegetable crops is quite complex and risky due to their perishable in nature, seasonal production and bulkiness. Thus, marketing of vegetables is one of the important aspects of agricultural business.

Jharkhand is a fast emerging vegetable growing state in India. The various factors like suitable geo-physical condition of the state, increased area under vegetable cultivation, higher profitability of vegetables etc. has been support to grow vegetables throughout the year. Potato, cauliflower, tomato, Brinjal, lady finger etc are grown throughout the year. The vegetables of the state are not only catered to the demand of the consumers in the local market of Ranchi but also to the regional and extra-regional markets.

Issues

Although the future of vegetable production in the Jharkhand seems very bright with the adaptation of some of the techniques mentioned above, but the issues that hinder a smooth walk for the adaptation of these techniques and also in realizing the full potential of the vegetable sector of Jharkhand, are listed below. Some of these have also been elaborated upon for better understanding:

- Lack of professionalism and small land holding
- Falling water levels and lack of irrigation facilities
- Lack of market knowledge and marketing skills
- Expensive credit
- Poor infrastructure
- Controlled prices

- Many intermediaries who increase cost but do not add much value
- Laws that stifle private investment
- Inappropriate R&D- agriculture is a state subject, and most states have little funds to invest in vegetable R&D.

Infrastructure

Vegetables are an item of daily consumption, they are essential in human diet but they are very perishable in nature. Therefore, the cultivation of vegetables is generally concentrated around towns and cities, so that they can be harvested and transported to the market immediately and in fresh form. With the increase in transport and communication facilities, vegetable cultivation has spread in interior areas where irrigation facilities are available. This is because growing vegetable crops is more profitable than any other seasonal crop particularly the food grain crop. The spread of vegetable cultivation in rural areas has created new problems, particularly of transport, handling, packing and storage which are still in their formative stage.

There is also regional specialization in growing some vegetables. They are grown in one area but marketed in other areas for creating wider market and also to fulfill the demand of some people, who have liking for them. This also involves long distance transport.

For this purpose, good roads in the interior villages are necessary. Fortunately there are good state and national highways, but there are no good roads in the interior. This brings us to the problem of marketing of vegetables grown. The producer cannot go to wholesale market or long distant market and he has to depend on some intermediaries to sell his vegetables. Therefore, in the marketing of vegetables costs are involved for grading, packing, transport, loading/unloading, fees, etc.

In addition, the intermediaries also take some margins for them. These costs and margins determine the final price to be paid by the consumer. After deducting market costs and margins from the final price paid by the consumer, farmer gets his net price, which is referred to "Farmer's share in consumer's price". This determines efficiency of marketing.

DATABASE & METHODOLOGY

This study aims at analyzing the problems of marketing vegetables in farmers' markets of Ranchi District and the farmers are selected in three blocks of Ranchi namely, Kanke, Bero and Mandar. Fromeach block, 50 farmers are selected as sample. The data are collected from them with the help of well-structured interview schedule. The collected data are classified and tabulated with the help of computer programming. The data interpretation is done with the help of average and ANOV Aanalysis. The study related to the year 2008-09 but few of them are current data and then subsequent analysis.

It can be assessed with the help of 25 factors. These include perishability of product, seasonal of production, bulkiness of products, quality variation in production, irregular supply, high storage cost, transportation cost, damage cost, lack of cold storage place, intermediaries exploitative practices, lack of proper-grading, lack of proper quality control, low exports, freight charges, long marketing channel, inadequate post-harvest care, primitive method of selling and price fixation, packing of products, monopoly of middleman, packing and loading problems, delay payment, high carriage and other handling charges, long distance of market access, advance sales agreement and exploitation of growers by market force.

RESULTS AND DISCUSSION

Out of the total chosen 25 problems, the respondents rate first order problem of marketing vegetables in farmers' market in terms of damage cost as it secures mean score 4.21 on a 5 point rating scale. This is the highest level problem of marketing vegetables in farmers' market. The respondents rate second order problem in terms of intermediaries exploitative practices as it secures mean score 4.08 on a 5 point rating scale. The perishability problem of products is rated at third order priority as it secures mean score 4.05 on a 5 point rating scale. The respondents refer fourth order problem towards transportation cost as it secures mean score 4.02 on a 5 point rating scale. The respondents rank the fifth order problem in the form of high storage cost as it secures mean score 4.00 on a 5 point rating scale.

The freight charges problem is rated at sixth order problem as per the perceptions of the respondents.

In this perception, the respondents secured a mean score 3.98 on a 5 point rating scale. The respondents refer seventh order problem with respect to lack of proper grading as it secures mean score 3.96 on a 5 point rating scale. The problem of high carriage and other handling charges are rated at eighth order as per the respondent's secured mean score 3.69 on a 5 point rating scale. The problem of exploitation of growers by market is rated at ninth order as per the respondents secured mean score 3.60 on a 5 point rating scale. The respondents cite tenth order problem in the form of lack of proper quality control as per the respondents secured mean score 3.56 on a 5 point rating scale.

The respondents rate eleventh order problem in terms of long distance of market access as it secures mean score 3.48 on a 5 point rating scale. The respondents rate twelfth order problem in terms of seasonal of production as it secures mean score 3.47 on a 5 point rating scale. The long marketing channel problem is rated at thirteenth order priority as it secures mean score 3.43 on a 5 point rating scale. The respondents refer fourteenth order problem towards delaying payment as it secures mean score 3.29 on a 5 point rating scale. The respondents rank the fifteenth order problem in the form of lack of cold storage place as it secures mean score 3.28 on a 5 point rating scale. The advance sales agreement problem is rated at sixteenth order problem as per the perceptions of the respondents. In this perception, the respondents secured a mean score 3.16 on a 5 point rating scale. The respondents refer seventeenth order problem with respect to inadequate post-harvest care as it secures mean score 3.10 on a 5 point rating scale. The monopoly of middleman problem is rated at eighteenth order as per the respondents secured mean score 3.09 on a 5 point rating scale. The problem of bulkiness of products is rated at nineteenth order as per the respondents secured mean score 3.04 on a 5 point rating scale. The respondents cite twentieth order problem in the form of low exports as per the respondents secured mean score 3.00 on a 5 point rating scale.

The irregular supply of vegetables is rated at twenty first order problem as per the perceptions of the respondents. In this perception, the respondents secured a mean score 2.84 on a 5 point rating scale. The respondents refer twenty second order problem

with respect to primitive method of selling and price fixation as it secures mean score 2.68 on a 5 point rating scale. The packing and loading problems is rated at twenty third order as per the respondents secured mean score 2.42 on a 5 point rating scale. The problem of quality variation in production is rated at twenty fourth order as per the respondents secured mean score 2.41 on a 5 point rating scale. The respondents cite twenty fifth order problem in the form of packing of products as per the

respondents secured mean score 2.22 on a 5 point rating scale.

A study of data in Table 1 indicates the area wise respondents' problems on marketing vegetables in Farmers' market in Ranchi District and the area wise analysis reveals the following facts. The respondents of Kanke block take the first position with respect to their overall problems of marketing vegetables and fruits in farmers' market as they secured a mean score 3.84 on a 5 point rating scale.

Table 1: Area Wise Respondents' Problems on Marketing of Vegetables in Farmers Market

Sl. No.	Problem	Kanke	Bero	Mandar	Total
1	Perishability of product	4.26	3.52	4.1	4.05
2	Seasonalization of production	4.11	2.88	3.96	3.47
3	Bulkiness of products	3.52	2.65	3.44	3.04
4	Quality variation in production	2.76	2.50	2.52	2.41
5	Irregular supply	3.46	3.11	3.52	2.84
6	High storage cost	4.15	4.05	4.05	4.00
7	Transportation cost	4.26	4.10	4.1	4.02
8	Damage cost	4.39	3.98	4.15	4.21
9	Lack of cold storage place	3.89	2.88	3.77	3.28
10	Intermediaries exploitative practices	4.25	3.86	4.1	4.08
11	Lack of proper grading	4.39	3.90	3.95	3.96
12	Lack of proper quality control	3.95	3.42	3.69	3.56
13	Low exports	2.69	3.60	2.52	3.00
14	Freight charges	4.35	3.71	4.1	3.98
15	Long marketing channel	4.22	3.25	3.76	3.43
16	Inadequate post-harvest care	3.79	2.52	3.52	3.10
17	Primitive method of selling and price fixation	3.66	2.11	2.52	2.68
18	Packing of products	2.41	2.26	2.16	2.22
19	Monopoly of middleman	3.31	2.42	3.15	3.09
20	Packing and loading problems	2.69	2.56	2.6	2.42
21	Delay payment	3.52	3.4	2.25	3.29
22	High carriage and other handling charges	3.89	3.25	2.85	3.69
23	Long distance of market access	4.10	3.44	2.97	3.48
24	Advance sales agreement	4.05	2.77	2.52	3.16
25	Exploitation of growers by market force	3.98	3.52	3.14	3.60
	Total	**3.84**	**3.11**	**3.34**	**3.36**

Source: Computed

ANOVA

Source of Variation	SS	df	MS	F	Fcrit
Rows	28.72373	24	1.196822	12.72109	1.669456
Columns	7.161668	3	2.387223	25.37393	2.731807
Error	6.773882	72	0.094082		
Total	**42.65928**	**99**			

The respondents of Mandar block rank the second position with respect to their overall problems of marketing vegetables and fruits in farmers' market as they secured a mean score 3.34 on a 5 point rating scale. The respondents of Bero block hold the third position with respect to their overall problems of marketing vegetables and fruits in farmers' market as they secured a mean score 3.11 on a 5 point rating scale. The Anova two ways model is applied for further discussion. At one point, the computed Anova value is 12.72, which is greater than its tabulated value at 5 per cent level of significance. Hence, there is a significant variation among the chosen areas with respect to respondents' overall problems of marketing vegetables in farmers' market. At another point, the computed Anova value is 25.37, which is greater than its tabulated value at 5 per cent level of significance. Hence, variation among the attributes relating to respondents' overall problems of marketing vegetables in farmers' market is statistically identified as significant.

A study of data in Table 2 indicates the farm size

Table 2: Farm size Wise Respondents' Problems of Marketing Fruits and Vegetables in Farmers' Market

Problems	Marginal	Small	Medium	Large	Total
Perishability of product	3.94	3.96	4.08	4.22	4.05
Seasonalization of production	2.95	2.89	3.94	4.09	3.47
Bulkiness of products	2.69	2.45	3.56	3.46	3.04
Quality variation in production	2.38	1.97	1.51	3.78	2.41
Irregular supply	2.66	1.74	3.48	3.48	2.84
High storage cost	3.77	4.08	4.17	3.98	4.00
Transportation cost	4.1	3.65	4.28	4.05	4.02
Damage cost	4.05	4.32	4.37	4.1	4.21
Lack of cold storage place	3.33	2.16	3.87	3.76	3.28
Intermediaries exploitative practices	3.97	4.05	4.22	4.08	4.08
Lack of proper grading	3.81	3.77	4.33	3.93	3.96
Lack of proper quality control	3.64	2.96	3.97	3.67	3.56
Low exports	2.89	2.86	3.71	2.54	3.00
Freight charges	3.89	3.58	4.33	4.12	3.98
Long marketing channel	3.52	2.22	4.21	3.77	3.43
Inadequate post-harvest care	2.1	2.99	3.54	3.77	3.1
Primitive method of selling and price fixation	1.6	2.87	2.6	3.65	2.68
Packing of products	1.87	2.32	1.26	3.43	2.22
Monopoly of middleman	2.81	3.05	3.17	3.33	3.09
Packing and loading problems	2.2	2.11	1.66	3.71	2.42
Delay payment	2.18	3.79	3.75	3.44	3.29
High carriage and other handling charges	2.45	4.4	4.1	3.81	3.69
Long distance of market access	2.09	4.42	3.9	3.51	3.48
Advance sales agreement	2.4	3.81	2.62	3.81	3.16
Exploitation of growers by market force	2.9	4.1	3.81	3.59	3.6
Total	**2.97**	**3.22**	**3.54**	**3.72**	**3.36**

Source: Computed

ANOVA

Source of Variation	SS	df	MS	F	Fcrit
Rows	31.1445	24	1.297687	4.022461	1.669456
Columns	8.419731	3	2.806577	8.699588	2.731807
Error	23.22794	72	0.32261		
Total	**62.79217**	**99**			

wise respondents' problems of marketing vegetables and fruits in farmers' market. The marginal farmers take the first position with respect to their overall problems of marketing vegetables and fruits in farmers' market as they secured a mean score 3.72 on a 5 point rating scale. The small farmers rank the second position with respect to their overall problems of marketing vegetables and fruits in farmers' market as they secured a mean score 3.54 on a 5 point rating scale. The medium farmers

hold the third position with respect to their overall problems of marketing vegetables and fruits in farmers' market as they secured a mean score 3.22 on a 5 point rating scale. The large farmers are pushed down to the last position with respect to their overall problems of marketing vegetables and fruits in farmers' market as they secured a mean score 2.97 on a 5 point rating scale.

The Anova two ways model is applied for further discussion. At one point, the computed Anova value

Table 3: Caste Wise Respondents' Problems of Marketing Fruits and Vegetables in Farmers' Market

Problems	FC	BC	MBC	ST	Total Caste
Perishability of product	3.96	4.08	3.94	4.22	4.05
Seasonalization of production	2.89	3.94	2.95	4.1	3.47
Bulkiness of products	2.45	3.46	2.69	3.56	3.04
Quality variation in production	1.97	1.51	2.38	3.78	2.41
Irregular supply	1.74	3.48	2.66	3.48	2.84
High storage cost	4.08	3.98	3.77	4.17	4.00
Transportation cost	3.65	4.05	4.1	4.28	4.02
Damage cost	4.32	4.1	4.05	4.37	4.21
Lack of cold storage place	2.16	3.76	3.33	3.87	3.28
Intermediaries exploitative practices	4.05	4.08	3.97	4.22	4.08
Lack of proper grading	3.77	3.93	3.81	4.33	3.96
Lack of proper quality control	2.96	3.67	3.64	3.97	3.56
Low exports	2.86	2.54	2.89	3.71	3.00
Freight charges	3.58	4.12	3.89	4.33	3.98
Long marketing channel	2.22	3.77	3.52	4.21	3.43
Inadequate post harvest care	2.1	3.54	2.99	3.77	3.1
Primitive method of selling and price fixation	1.6	2.6	2.87	3.65	2.68
Packing of products	1.87	1.26	2.32	3.43	2.22
Monopoly of middleman	2.81	3.17	3.05	3.33	3.09
Packing and loading problems	2.2	1.66	2.11	3.71	2.42
Delay payment	2.18	3.75	3.79	3.44	3.29
High carriage and other handling charges	2.45	4.1	4.4	3.81	3.69
Long distance of market access	2.09	3.9	4.42	3.51	3.48
Advance sales agreement	2.4	2.62	3.81	3.81	3.16
Exploitation of growers by market force	2.9	3.81	4.1	3.59	3.6
Total	**2.77**	**3.40**	**3.42**	**3.87**	**3.36**

Source: Computed

ANOVA

Source of Variation	SS	df	MS	F	Fcrit
Rows	31.14662	24	1.297776	5.678821	1.669456
Columns	15.2061	3	5.068701	22.17967	2.731807
Error	16.4541	72	0.228529		
Total	**62.80682**	**99**			

4.02, greater than its tabulated value at 5 per cent level of significance. Hence, there is a significant variation among the chosen problems of marketing vegetables in farmers' market. At another point, the computed Anova value is 8.69, which is greater than its tabulated value at 5 per cent level of significance. Hence, variation among the farm size groups is statistically identified as significant with respect to their overall problems of marketing vegetables and fruits in farmers' market.

A study of data in Table 3 indicates the caste wise respondents' problems of marketing vegetables in farmers' market. The scheduled tribe (ST) respondents take the first position with respect to their overall problems of marketing vegetables in farmers' market as they secured a mean score 3.87 on a 5 point rating scale. The most backward caste respondents rank the second position with respect to their overall problems of marketing vegetables in farmers' market as they secured a mean score 3.42 on a 5 point rating scale.

Table 4: Education Wise Respondents' Perceptions on Problem s Health

Problems	Primary	Secondary	Higher sec	Degree	Total
Perishability of product	4.45	4.12	4.05	3.72	4.05
Seasonalization of production	3.87	3.98	3.47	3.58	3.47
Bulkiness of products	3.44	3.56	3.04	3.16	3.04
Quality variation in production	2.81	2.76	2.41	2.36	2.41
Irregular supply	3.24	3.48	2.84	3.08	2.84
High storage cost	4.4	4.16	4.0	3.76	4.0
Transportation cost	4.42	4.22	4.02	3.82	4.02
Damage cost	4.41	4.31	4.01	3.91	4.21
Lack of cold storage place	3.68	3.84	3.28	3.44	3.28
Intermediaries exploitative practices	4.48	4.11	4.08	3.71	4.08
Lack of proper grading	4.36	4.21	3.96	3.81	3.96
Lack of proper quality control	3.96	3.97	3.56	3.57	3.56
Low exports	3.4	3.69	3	3.29	3
Freight charges	4.38	4.1	3.98	3.7	3.98
Long marketing channel	3.83	3.98	3.43	3.58	3.43
Inadequate post- harvest care	3.5	3.77	3.1	3.37	3.1
Primitive method of selling and price fixation	3.08	3.62	2.68	3.22	2.68
Packing of products	2.62	2.42	2.22	2.02	2.22
Monopoly of middleman	3.49	3.39	3.09	2.99	3.09
Packing and loading problems	2.82	2.69	2.42	2.29	2.42
Delay payment	3.69	3.11	3.29	2.71	3.29
High carriage and other handling charges	4.09	3.52	3.69	3.12	3.69
Long distance of market access	3.88	3.41	3.48	3.01	3.48
Advance sales agreement	3.56	3.1	3.16	2.7	3.16
Exploitation of growers by market force	4	3.51	3.6	3.11	3.6
Total	**3.75**	3.64	3.35	3.24	3.36

Source: Computed

ANOVA

Source of Variation	SS	df	MS	F	Fcrit
Rows	25.57362	24	1.065567	36.22079	1.669456
Columns	4.320356	3	1.440119	48.95255	2.731807
Error	2.118144	72	0.029419		
Total	**32.01212**	**99**			

The backward caste respondents hold the third position with respect to their overall problems of marketing vegetables in farmers' market as they secured a mean score 3.40 on a 5 point rating scale. The forward caste respondents come to the last position with respect to their overall problems of marketing vegetables in farmers' market as they secured a mean score 2.77 on a 5 point rating scale.

The ANOVA two ways model is applied for further discussion. At one point, the computed Anova value 5.67, greater than its tabulated value at 5 per cent level of significance. Hence, there is a significant variation among the chosen problems of marketing vegetables in farmers' market. At another point, the computed ANOVA value is 22.18, which is greater than its tabulated value at 5 per cent level of significance. Hence, variation among the caste groups is statistically identified as significant with respect to their overall problems of marketing vegetables in farmers' market. A study of data in Table 4 indicates the education wise respondents' problems of marketing vegetables in farmers' market. The primary level educated respondents take the first position with respect to their overall problems of marketing vegetables in farmers' market as they secured a mean score 3.75 on a 5 point rating scale. The secondary level educated respondents rank the second position with respect to their overall problems of marketing vegetables in farmers' market as they secured a mean score 3.64 on a 5 point rating scale. The higher secondary level educated respondents hold the third position with respect to their overall problems of marketing vegetables in farmers' market as they secured a mean score 3.35 on a 5 point rating scale. The degree level educated respondents come to the last position with respect to their overall problems of marketing vegetables and fruits in farmers' market as they secured a mean score 3.24 on a 5 point rating scale.

The ANOVA two ways model is applied for further discussion. At one point, the computed Anova value 36.22, greater than its tabulated value at 5 per cent level of significance. Hence, there is a significant variation among the chosen problems of marketing vegetables in farmers' market. At another point, the computed ANOVA value is 48.95, which is greater than its tabulated value at 5 per cent level of significance. Hence, variation among the education groups is statistically identified as significant with

respect to their overall problems of marketing vegetables in farmers' market of Ranchi district..

CONCLUSION

It is concluded that the respondents rate high level problems of marketing vegetables in farmers' market with reference to damage cost, intermediaries exploitative practices, perishability of product, transportation cost and high storage cost. The respondent's rate moderate level problems of marketing vegetables in farmers' market with reference to freight charges, lack of proper grading, high carriage and other handling charges, exploitation of growers by market force, lack of proper quality control, long distance of market access, seasonal production, long marketing channel, delay payment, lack of cold storage place, advance sales agreement, inadequate post-harvest care, monopoly of middleman, bulkiness of products and low exports. The respondents rate low level problems of marketing vegetables in farmers' market with reference to irregular supply, primitive method of selling and price fixation, packing and loading problems, quality variation in production, packing of products. There is an inverse relation between the farm size of the respondents and their overall problems of marketing vegetables and fruits in farmers' market. It could be noted that higher their farm size, lower their overall problems of marketing vegetables in farmers' market and the vice versa.

Thus, the existing system of marketing of vegetables output in Ranchi has not proved to be adequate and efficient. Farmers are not able to sell their surplus produce remuneratively and there are widespread distress sales, particularly by marginal and small farm households. The vegetable markets suffer from some structural weaknesses, such as the existence of unorganized small producers as against organized buyers, weak holding capacity of the small producers, and the absence of any storage infrastructure. The system has undergone several changes during the last five decades owing to increasing commercialization, increase in urbanization and the consequent change in the pattern of demand for marketing services. More than 90 per cent of the vegetable growers sell their produce in villages, mainly to itinerant traders, at much lower prices than the procurement price of

the respective agricultural commodities. There are very few procurement centers and a majority of them do not operate regularly.

In view of the scale and objectives of vegetables growth envisaged in the coming years, the problems afflicting the systems and structures of vegetable marketing have to be addressed on a priority basis. This necessitates the following measures:

- Encouraging the collective organization of farmers with similar economic interests;

- Timely supply of the quality inputs, especially seeds;

- Training on modern methods of production should be provided to the farmers before vegetable sowing/Propagation of appropriate practices suited to small & marginal farms;

- Promotion of contract farming through vertical integration with large marketing and vegetable processing firms;

- Encouraging the organization of genuine cooperative marketing societies, that should be allowed to function without bureaucratic interference and with professional management;

- Strengthening of the marketing infrastructure by increasing the number of Market places, up-grading the facilities at the designated marketplaces, constructing rural godowns and cold storages, and making arrangements with the credit institutions to honour warehouse receipts and pledges;

- Provision of comprehensive and timely information on vegetable prices by establishing IT-enabled village information kiosks all over the state at panchayat/block level;

- Removal of policy hurdles by constantly reviewing legislation and government orders to meet exigencies;

- Launching of an awareness campaign for examining standards and sorting out products according to well-established grades.

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