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Different Constraints regarding input, production and marketing faced by farmer's towards value addition in horticulture and vegetable crops

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Abstract

The present study was conducted in Haryana state and two districts Hisar from southwest and Sonapat from northeast were selected, purposively. From each district, three blocks were selected randomly. Further, three villages were selected from each block making a total of 18 villages. From each village, ten farmers were selected randomly, making a total sample of 180 farmers. Hence, one hundred eighty farmers were interviewed for the study. It was found that 'Non-availability of skillful labour/high labour charge' was ranked 1st as per weighted mean score of 2.67, 'No support price of produce' was ranked 1st as per weighted mean score of 2.68, 'Attack of insect-pests' was ranked 1st and was found as serious causes according to weighted mean score of 2.68, 'No guidance about post-harvest technology' was ranked 1st as per weighted mean score of 2.77, 'No awareness and knowledge about interest-credit facility' was ranked 1st as per weighted mean score of 2.53 and 'Lack of technical knowledge about the different steps in value addition of fruits and vegetables' was ranked 1st as per weighted mean score of 2.35. To reach the results aggregates total was calculated for each statement separately and on the basis of calculated scores, mean scores and mean score percentage were obtained which were ranked according to their maximum to minimum mean score percentage for assessing the knowledge level of the farmers.

Keywords: Constraints, Farmer and Losses

Introduction

Fresh horticultural produce is highly perishable with some estimates suggesting a post-harvest loss of between (30-50%) in fruits and vegetables. The losses are due to poor preproduction and post-harvest management as well as lack of appropriate processing and marketing facilities. These losses have several adverse impacts on farmer's income, consumer prices and nutritional quality of the produce. Prices of seasonal horticultural crops fluctuate greatly and during the period of maximum availability the prices are not remunerative to the farmer. At other times these commodities are so high priced that the ordinary consumers find them beyond their purchasing power. Another problem is that fruits and vegetables are not uniformly available and some areas suffer from inadequate supply even when there is a glut in other parts. At present, there is considerable gap between the gross production and net availability of fruits and vegetables due to heavy post-harvest losses (Atanda *et. al.* 2011) [1]. Kaur (1990) concluded that major problems were apprehended by 74.81 per cent of the farmers and 92 per cent of officials were in lack of marketing facilities and non-surely of returns following by lack of support price, more credit requirement and more labour requirement. Globally, has been a tremendous increase in the growth of urban population in the recent time. The situation in India is no different. Indian cities are home to an estimated 340 million people, almost equivalent to 30 per cent of the total population. As evident in majority of the industrialized countries, India is experiencing a shift over time from a largely rural and agrarian population residing in villages to urban, non-agriculture centres. Vegetable cultivation has become highly commercialized. But still there is a wide gap between current production and potential productivity. Innovative agricultural technologies that can increase food security in the developing world while conserving environmental resources do exist; yet the global difficulty is getting the appropriate and timely information to farmers. Fruits and vegetables typically constitute an essential part of the daily diet in India and they are in great demand round the year from most sections of the population. The commercial value of fruits and vegetables in terms of direct consumption, processing as well as trade has risen substantially in recent years (Kapoor, 2012) [3].

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The producers and the consumers often get a poor deal and the middlemen control the market, but do not add much value. There is also massive wastage, deterioration in quality as well as frequent mismatch between demand and supply both spatially and over time. Since vegetables are perishable in nature, lack of efficient marketing system and appropriate infrastructure results in huge post-harvest losses. Further, non-availability of improved and good quality seeds reduces the profitability and increases production risk (Subbanarasiah, 1991) [6].

It was found that there exist rate high level problems in marketing vegetables from farmers to consumers. The highly intensive problem faced by the farmers is lack of irrigation facility, higher cost of irrigation, higher cost of storage, lack of marketing channel, lack of regulated market large input cost to small land holding farmers. The moderate level of constraints faced by vegetable growing farmers are transportation, seasonality of produce. And finally the less intensive constrains were perishability of product, seasonality of production, bulkiness of products, price gap between procurement and selling (Yomichan, S. and Mundre, S. 2020) [8].

Materials and Methods

Locale of the Study

The present study was conducted in Haryana state and two districts Hisar from south West and Sonipat from north East were selected purposively. Further, three villages were selected from each block making a total of 18 villages. From each village, 10 farmers were selected randomly, making a total sample of one hundred eighteen farmers. Hence, 180 farmers were interviewed for the study. Three blocks from each district i.e. Hisar and Sonipat were selected, purposively. From Hisar, three blocks namely, Hisar I, Hisar II and Adampur, and from Sonipat, blocks Ganaur, Gohana and Murthal were selected, randomly. Thus, six blocks were selected for the study. Out of the six selected blocks, two villages from each block were selected randomly. Thus, a total number of 18 villages, namely, Dobhi, Dhiranwas and Ladwa from block Hisar I, Saharwa, Chiraud and Talwandi Rukka from block Hisar II and Kherampur, Kohli and Siswal from block Adampur, while Bain, Chirsmi and Mohamadpur Majra from Ganaur, Jagsi, Riwar and Baroda Thuthan from Gohana block and Makimpur, Dipalpur and Paldi from Murthal block were selected randomly also.

Collection of Data

For assessing the knowledge, constraints, prospects, training need and perception impact data were collected by conducting personal interview with the respondent at their home/working center. The interview of every individual was taken separately so that the others did not influence the answers. To find out the probable constraints which hinder the adoption of value addition in horticultural and vegetable crops, an inventory of constraints was prepared on the basis of available literature, personal experience, discussion with experts and farmers growing fruits and vegetable. A list of constraints was prepared and the farmers were asked to speak out their responses against each constraint. Whether it was 'very serious', 'serious', and 'not so serious' weightage given to

these response categories was 3, 2 and 1 respectively. Aggregate total was calculated for each constraint separately and on the basis of calculated scores, mean scores and weighted mean score percentage were obtained which were ranked according to their maximum to minimum mean score percentage for assessing the seriousness of constraints. The maximum weighted mean score percentage so obtained was given the rank 1st and the next subsequent one was given the rank 2nd and so on the descending order.

Analysis of Data

The information collected through the responses of the respondents, was suitably coded, tabulated and analyzed to draw meaningful inferences by using statistical tools such as frequency distribution, percentages, weighted mean scores, rank order, correlation and regression.

Result and Discussion

Constraints Perceived by Respondents Regarding Value Addition in Horticultural and Vegetable produce

Considering the objectives of the study, an effort was made in the present study to find out the constraints faced by the fruit and vegetable growers. According to their frequency, total weighted mean score and after that weighted mean score and constraints per cent were calculated and rank order was assigned. Farmer's perception regarding constraints was marked, analyzed and presented under the following sub-head:

Constraints related to inputs

Table 1 reveals that 'Non-availability of skillful labour/high labour charge' was ranked Ist as per weighted mean score of 2.67 and 'High price of insecticides, fungicides and pesticides' was found serious constraint according to the weighted mean score of 2.57 and it was ranked IInd. 'Lack of finance for purchase of inputs' was ranked IIIrd as per the weighted mean score of 2.53 and 'Non-availability of fertilizers, weedicides and pesticides in required quantity and at proper time' was ranked IVth as per its weighted mean score of 2.52. The data revealed that the cause 'Non-availability of inputs on proper at village level' was ranked Vth according to the weighted mean score of 2.50, while 'Mulching Sheet, (a) costly, (b) quality and (c) availability' was ranked VIth as per weighted mean score of 1.86, 'Inadequate credit facilities for purchase of inputs' and 'Non-availability of quality seed' were considered the major constraints of value addition in horticultural and vegetable crops and they were ranked as VIIth and VIIIth as per their weighted mean score of 1.85 and 1.81, respectively. The data also revealed that 'High cost of runners' was ranked IXth, with weighted mean score of 1.78. The data also revealed that 'Non-availability of quality runners' was ranked Xth, with weighted mean score of 1.75 and 'Proper knowledge of no knowledge tunnel technology' was found one of the serious constraints in value addition of horticultural and vegetable crops and ranked XIth according to weighted mean score of 1.64. 'Unawareness /Non-availability of soluble fertilizers' was found least serious cause was ranked XIIth as per weighted mean score of 1.50.

Table 1: Constraints related to inputs (n=180)

S. No.	Statements	Total Weighted score	Weighted Mean score	Rank order
1.	Non-availability of skillful labour/high labour charge	481	2.67	I
2.	High price of insecticides, fungicides and pesticides	463	2.57	II
3.	Lack of finance for purchase of inputs	457	2.53	III
4.	Non-availability of fertilizers, weedicides and pesticides in required quantity and at proper time	455	2.52	IV
5.	Non-availability of inputs on proper at village level	451	2.50	V
6.	Mulching Sheet (a) costly (b) quality and (c) availability	336	1.86	VI
7.	Inadequate credit facilities for purchase of inputs	334	1.85	VII
8.	Non-availability of quality seed	326	1.81	VIII
9.	High cost of runners	322	1.78	IX
10.	Non-availability of quality runners	315	1.75	X
11.	Proper knowledge of no knowledge tunnel technology	296	1.64	XI
12.	Unawareness /Non availability of soluble fertilizers	270	1.50	XII

Constraints related to marketing

Table 2 reveals that 'No support price of produce' was ranked Ist as per weighted mean score of 2.68 and 'High fruit and vegetables perishability' was found serious constraint according to weighted mean score of 2.63 and it was ranked IInd. The data also revealed that the constraint 'Middle man malpractices' was ranked IIIrd as per its weighted mean score 2.60, 'Honesty of growers association' was ranked IVth according to weighted mean score of 2.43, 'Timely payment' was ranked Vth as per weighted mean score of 2.40, 'Lack of transparency' and 'Packaging material, (a) high cost, (b) size and (c) availability' were considered the major cause of noise

pollution and they were ranked VIth and VIIth as per their weighted mean score of 2.38 and 2.24, respectively. The data also revealed that 'Lack of guidance for proper time and place for marketing' was ranked VIIIth, with the weighted mean score of 2.12. 'Absence/scarcity of agro-processing units' and 'Distress sale' was ranked IXth, with weighted mean score of 2.03. 'No cooperative organization for marketing of produce' was found to be serious constraint in value addition of horticultural and vegetable crops and ranked Xth according to the weighted mean score of 1.98. 'Lack of marketing facilities in village' was found least serious constraint Table 2 and was ranked XIth as per weighted mean score of 1.88.

Table 2: Constraints related to marketing (n=180)

S. No.	Statements	Total weighted score	Weighted mean score	Rank Order
1.	No support price of produce	484	2.68	I
2.	High fruit and vegetables perishability	474	2.63	II
3.	Middle man malpractices	468	2.60	III
4.	Honesty of growers association	438	2.43	IV
5.	Timely payment	433	2.40	V
6.	Lack of transparency	430	2.38	VI
7.	Packaging material (a) high cost, (b) size and (c) availability	404	2.24	VII
8.	Lack of guidance for proper time and place for marketing	383	2.12	VIII
9.	Absence/scarcity of agro-processing units	367	2.03	IX
10.	Distress sale	367	2.03	IX
11.	No cooperative organization for marketing of produce	358	1.98	X
12.	Lack of marketing facilities in village	339	1.88	XI

Constraints related to production

Table 3 reveals that 'Attack of insect-pests' was ranked Ist and was found as serious causes according to weighted mean score of 2.68 and 'Unfavourable agro-climatic conditions, soil type and difficulty to maintain the proper moisture soil' ranked IInd as per the weighted mean score of 2.66. 'Farmers and labours are not skillful in vegetable farming' was ranked IIIrd as per the weighted mean score of 2.16 and 'Attack of plant diseases' was ranked IVth as per its weighted mean score

of 2.00. The data also revealed that the cause 'Use of seeds without treatment and lack of good quality seed' was ranked Vth according to weighted mean score of 1.97, while 'Lack of proper cropping-sequence following' was ranked VIth as per weighted mean score of 1.57 and 'Lack of proper and balanced fertilizer and time of application' were the constraints of losses of value addition in horticultural and vegetable crops and it was ranked VIIth as per weighted mean score of 1.51.

Table 3: Constraints related to production (n=180)

S. No.	Statements	Total weighted score	Weighted mean score	Rank Order
1.	Attack of insect-pests	484	2.68	I
2.	Unfavourable agro-climatic conditions, soil type and difficulty to maintain the proper moisture in soil	480	2.66	II
3.	Farmers and labours are not skillful in horticultural and vegetable farming	389	2.16	III
4.	Attack of plant diseases	360	2.00	IV
5.	Use of seeds without treatment and lack of good quality seed	355	1.97	V
6.	Lack of proper cropping-sequence following	283	1.57	VI
7.	Lack of proper and balanced fertilizer and time of application	272	1.51	VII

Constraints related to technical guidance

It was found from Table 4 that 'No guidance about post-harvest technology' was ranked Ist as per weighted mean score of 2.77 and 'No knowledge of current advances in fruits and vegetable cultivation' was found serious constraint according to weighted mean score of 2.65 and it was ranked IInd. 'No guidance for controlling insect-pests & diseases and application of pesticides and fungicides' was ranked IIIrd as per the weighted mean score of 2.55 and 'Lack of suitable varieties' was ranked IVth as per its weighted mean score of 2.04.

The data revealed that the constraint 'Lack of proper

knowledge about irrigation schedule' was ranked Vth according to weighted mean score of 2.01 and 'Difficulties in following the recommended practices' was ranked VIth as per weighted mean score of 1.86. 'Availability of package of practices' and 'Non-availability of extension workers for technical guidance' were considered the major constraints in value addition of horticultural and vegetable crops and they were ranked as VIIth and VIIIth as per their weighted mean score of 1.82 and 1.64, respectively. The data also revealed that 'Lack of availability of literature' and 'Non-availability of sprayers, dusters' etc. were ranked IXth and Xth with their weighted mean score of 1.45 and 1.42, respectively.

Table 4: Constraints related to technical guidance (n=180)

S. No.	Statements	Total weighted score	Weighted mean score	Rank order
1.	No guidance about post-harvest technology	499	2.77	I
2.	No knowledge of current advances in fruits and vegetable cultivation	477	2.65	II
3.	No guidance for controlling insect-pests & diseases and application of pesticides and fungicides	460	2.55	III
4.	Lack of suitable varieties	368	2.04	IV
5.	Lack of proper knowledge about irrigation schedule	363	2.01	V
6.	Difficulties in following the recommended practices	336	1.86	VI
7.	Availability of package of practices	328	1.82	VII
8.	Non-availability of extension workers for technical guidance	296	1.64	VIII
9.	Lack of availability of literature	262	1.45	IX
10.	Non-availability of sprayers, dusters	256	1.42	X

Constraints related to financial matter

It was found from Table 5 that 'No awareness and knowledge about interest-credit facility' was ranked Ist as per weighted mean score of 2.53. 'An inadequate fund to buy farm implements' was found serious constraint according to

weighted mean score of 2.38 and it was ranked IInd. 'High cost of Hi-Tech green house establishment' was ranked IIIrd as per the weighted mean score of 2.25 and 'Inadequate subsidy' was ranked IVth as per its weighted mean score of 1.15.

Table 5: Constraints related to financial matter (n=180)

S. No.	Statements	Total weighted score	Weighted mean score	Rank order
1.	No awareness and knowledge about interest-credit facility	457	2.53	I
2.	Inadequate funds to buy farm implements	430	2.38	II
3.	High cost of Hi-Tech green house establishment	405	2.25	III
4.	Inadequate subsidy	207	1.15	IV

Constraints related to education and communication

Table 6 reveals that 'Lack of technical knowledge about the different steps in value addition of fruits and vegetables' was ranked Ist as per weighted mean score of 2.35. and 'Lack of knowledge about the precaution in value addition' was found serious constraints according to weighted mean score of 2.27 and it was ranked IInd. 'Government help in the form of credit and subsidy' was ranked IIIrd as per the weighted mean score of 2.22. The data also revealed that the constraint 'No knowledge about radio/T.V. programmes related to fruits and

vegetable cultivation' was ranked IVth according to weighted mean score of 2.04. 'Experts' language was more scientific than local language' was ranked Vth as per weighted mean score of 1.76. 'Agricultural magazines and literature are not timely available in village' was the major constraint of value addition in horticultural and vegetable crops and it was ranked VIth as per its weighted mean score of 1.27.

Table 6: Constraints related to education and communication (n=180)

S. No.	Practices	Total weighted score	Weighted mean Score	Rank Order
1.	Lack of technical knowledge about the different steps in value addition of fruits and vegetables	424	2.35	I
2.	Lack of knowledge about the precaution in value addition	409	2.27	II
3.	Government help in the form of credit and subsidy	400	2.22	III
5.	No knowledge about radio/T.V. programmes related to fruits and vegetable cultivation	404	2.04	IV
6.	Experts' language was more scientific than local language	317	1.76	V
7.	Agricultural magazines and literature are not timely available in village	229	1.27	VI

Conclusion

The present study was conducted in Haryana state and two districts Hisar from southwest and Sonipat from northeast were selected, purposively. From each district, three blocks were selected randomly. Further, three villages were selected from each block making a total of 18 villages. From each village, ten farmers were selected randomly, making a total sample of 180 farmers. Hence, one hundred eighty farmers were interviewed for the study. It was found that 'Non-availability of skillful labour/high labour charge', 'No support price of produce, 'Attack of insect-pests', 'No guidance about post-harvest technology', 'No awareness and knowledge about interest-credit facility' and 'Lack of technical knowledge about the different steps in value addition of fruits and vegetables' was found serious constraints faced by the farmers regarding value addition of horticultural and vegetable crops. To reach the results aggregates total was calculated for each statement separately and on the basis of calculated scores, mean scores and mean score percentage were obtained which were ranked according to their maximum to minimum mean score percentage for assessing the knowledge level of the farmers.

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