

To study the thematic areas for training needs of apple growers in district Shopian of Jammu and Kashmir India.

ABSTRACT: Nature has endowed the state of Jammu and Kashmir (India) with wide range of agro- climatic conditions which permit the production of varieties of temperate fruits. The district Shopian was purposively selected, because of the potentiality for the development of horticulture, mainly because 90 per cent area of the district was under apple plantation. The major training needs components identified for the study were crop production, plant protection, harvesting and marketing etc. It was observed that integrated disease management receiving highest score in all the three altitudes under study, was the most prioritized thematic area for training need. Soil and water testing received first priority in mid and high altitude areas while it got second level of priority in low altitude. The training need for micro irrigation system in orchard was given lowest priority by the fruit growers in all the three altitudes.

KEYWORDS: Altitude, Apple growers, thematic areas, Shopian, Kashmir.

Introduction:

Agriculture is the back bone of the Indian economy and plays a vital role in the overall development of the nation (Anonymous, 2012). India has achieved self-sufficiency in food grain production and now the major concern is to achieve higher growth rate. The focus has now shifted from agriculture to horticulture sector, which besides imparting nutritional security, offers a great potential for efficient input use, higher returns per unit area, crop diversification, foreign exchange earnings and greater employment generation through post-harvest processing in agro industries. Fruit cultivation in India is one such potential commercial and business sectors for exporting merchandise and shipping from which much of the international revenue is expected (Jadhav and Manjunath, 2011). Millions of farmers rely on land, which is too small and too poor to sustain the living of their families, but still they have to make ends meet on that land. Indian agriculture is facing serious challenges because of its ever-increasing population, limited land and water availability, and degradation of natural resources. It is desirable to increase agricultural productivity in a sustainable manner. The excessive use of agro-chemicals over past decades has deteriorated soil health leading to declines of crop yields and produce quality (Yadav *et al*, 2013).

33 Apple is commercially the most important temperate fruit and occupies the fourth
34 (4th) position in the world in terms of production after banana, orange and grapes. China,
35 USA and Turkey are the top three countries in the world as far as apple production is
36 concerned, followed by Italy, India and Poland (Anonymous, 2016). Indian apple production
37 averaged nearly 1.4 million making it the sixth largest apple producer in the world. Apple alone
38 is the fourth widely produced fruit in the world after Banana, Orange and grapes. India annually
39 exports apple worth of Rs 400 million (Nearly US \$ 10 million) out of which Rs 200 million
40 of apples comes from Jammu and Kashmir North region (Kashmir) and provides job
41 opportunity to 1.2 million people directly, indirectly. Its area is estimated to be the second
42 largest in the world and in Asia it is the second largest producer. Thereby making it the
43 largest contributor to the State GDP (Parrey and Hakim, 2015).

44 Nature has endowed the state of Jammu and Kashmir with a wide range of agro-
45 climatic conditions which permit the production of varieties of temperate fruits. It has varied
46 climatic features, topography and diversity in physiographic features, existence of cold arid,
47 temperate, intermediate and sub-tropical zones within a small geographical area. Though the
48 large diversity in agro climatic conditions of the state is conducive for propagation of
49 diversified farming system, the terrain at the same time is tough and accessibility to a greater
50 part of the region is poor. This causes a lot of hurdles to the inhabitants regarding the
51 knowledge and awareness about the use of inputs, products and other farming practices.

52 There are also certain factors such as alternate bearing, defective pruning and training,
53 use of seedling rootstock of unknown performance, lack of proper nutrient and water
54 management, deficiency of suitable pollinizers/pollinators and ineffective control of pests and
55 diseases which are responsible for low productivity and quality.

56 Since scanty studies have been undertaken so far, related to the assessment of training
57 needs, which have tried to determine the cause for such low productivity and quality of apple
58 in Kashmir. Keeping in view the importance and need of trainings to the farming community
59 in general and apple growers in particular.

60 Training of the farmers is essential to induce motivation, create confidence and
61 inculcate efficiency in an individual (Chawang and Jha, 2010). Training of the farmers is also
62 inevitable for imparting new knowledge and updating the skills of farmers. Training of
63 farmers has assumed further importance and urgency in the context of the high yielding
64 varieties and improved practices in agriculture and allied fields. In order to make any training
65 meaningful and effective, it is imperative on the part of the training organizers to identify the
66 training needs of the farmers based on which suitable training modules can be developed so

67 that the appropriate training is given to the right people, in the right form, at the right time so
68 that higher degree of productivity and profitability can be achieved (Prajapati and Patel,
69 2013). Therefore, training of the farmers is 'an intensive learning activity, assisted by
70 competent trainers to understand and practice the skills required in a deficit situation in the
71 knowledge, skills and attitude level of the practicing farmers as well as the availability of
72 appropriate applicable information, the utilization of which will correct the problems (Okwu
73 and Ejembi 2005).

74 Training is a process of acquisition of new skills, attitude and knowledge in the context
75 of preparing for entry into a vocation or improving ones productivity in an enterprise.
76 Effective training requires a clear picture of how the trainees or farmers will need to use
77 information after training in place of local practices what they have adopted before in their
78 situation. Training of the farmers is carried out so as to be fitted, qualified and proficient. The
79 purpose is to impact knowledge and skills to the farmers so that they can perform some
80 desirable tasks (Halim and Ali, 1988).

81 A Training Needs Assessment is a systematic process for determining and addressing
82 "needs" or "gaps" between the current conditions and desired conditions or "wants". The
83 discrepancy between the current condition and wanted condition must be measured to
84 appropriately identify the need. The need can be desired to improve current performance or to
85 correct a deficiency. The purpose of the training needs assessment is to identify performance
86 requirements and the knowledge, skills, and abilities needed by an individual to achieve the
87 requirements. An effective training needs assessment may help direct resources to areas of
88 greatest demand. The assessment should address resources needed to improve productivity
89 and quality.

90 **Research Methodology:**

91 The present study was conducted in the state of Jammu and Kashmir (India)
92 comprising extreme sector of Himalaya's and occupies a central geographical location in the
93 Asian continent. A multistage sampling procedure was adopted for the selection of districts,
94 tehsils, villages and sample respondents. Kashmir valley consists of 10 districts namely
95 Anantnag, Kulgam, Pulwama, Shopian, Srinagar, Bandipora, Baramulla, Budgam, Ganderbal
96 and Kupwara. Among these, district Shopian was selected purposively. District Shopian was
97 purposively selected because of the potentiality for the development of horticulture, mainly
98 because 90 per cent area of the district was under apple plantation and prevailing agro
99 climatic situations were very good for cultivation of horticultural crops especially fruit crops

and apple in particular. The study was conducted in three types of altitudes viz. high altitude, mid altitude and low altitude in the form of strata which were purposively selected. Each strata consisted of three villages which were randomly selected. A list of apple growers from each village was prepared in consultation with village sarpanches/revenue authorities. The prepared list was stratified properly, taking care that it includes small, marginal and large farmers. Accordingly a sample size of twenty farmers from each village was selected randomly, thus making a sample size of sixty respondents from each strata based on the total number of respondents engaged in apple cultivation. A sample size of 180 respondents from all the three strata's was included in the study. Data collection from randomly selected respondents was made by using pre-tested 'structured schedule' through personal interview method. For this purpose, an interview schedule was constructed for data collection from respondents in the light of the objective of the study. The selected respondents were personally interviewed at their place of residence/ field and their responses were recorded in the schedule. In the present study, training needs of apple growers was taken as dependent variable and other such as age, education, family education, experience, innovative proneness, media exposure etc. as independent variables and analysis of data was done between dependent and independent variables. Utmost care was taken to make the respondents to understand about the objective of the study and clarified their doubts in the interview schedule. For the present study, a list of 30 major components/ thematic areas was prepared. In this regard, the farmers were requested to give a tick (") in one of the three response categories (viz. Very Important, Important and Not Important) provided against the identified specific items under each major component based on their perceived needs for providing training to them for further improvement in their farming system and livelihood. The major training needs components identified for the study were crop production, plant protection, Harvesting and marketing etc. The farmer's responses were collected in a 3 – point continuum scale viz. Very Important (VI), Important (I) and Not Important (NI) by assigning scores 3, 2 and 1 respectively.

Option (Response category)	Score
Very Important (VI)	3
Important (I)	2
Not Important (NI)	1

127

128 The results were calculated as weighted score for each of the thematic t area identified for the
 129 training

$$W.S = \frac{No\ of\ V.I \times 3 + No\ of\ I \times 2 + No\ of\ N.I \times 1}{Total\ No.\ V.I + I + N.I}$$

130 Where:

131 W.S= weighted score

132 V.I= Very Important

133 I= Important

134 N.I= Not Important

(Sajeev, *et al.* 2012a)

135 Result and discussion:

136 Table – 1: Thematic areas for training needs of apple growers in low altitude areas:

S.No.	Thematic areas	V. I Training needs	I Training needs	N.I Training needs	W.S	Rank
1.	Integrated Disease Management.	46	8	6	2.66	I
2.	Soil and water testing.	44	9	7	2.61	II
3.	Training and pruning.	42	13	5	2.61	II
4.	Integrated Pest Management.	42	9	9	2.55	III
5.	Improvement in production and quality.	41	11	8	2.55	III
6.	Pollination.	38	17	5	2.55	III
7.	Marketing.	40	13	07	2.55	III
8.	Pre harvest fruit drop.	37	19	04	2.55	III
9.	Management of Inorganic fertilizers.	39	14	07	2.53	IV
10.	Integrated nutrient Management.	37	18	05	2.53	IV
11.	Nursery raising	38	16	06	2.53	IV
12.	Rejuvenation of unproductive orchards.	37	15	8	2.48	V
13.	Management of young plants/orchards.	36	17	07	2.48	V
14.	Proper grading and packaging technique.	35	19	06	2.48	V
15.	Plant propagation techniques.	37	11	12	2.40	VI
16.	Management of Physiological Disorders.	36	13	11	2.40	VI
17.	Harvesting.	29	21	10	2.31	VII
18.	Not to use chemicals for colouring of apple crop.	31	15	15	2.31	VII
19.	Bio-control of pests and diseases.	32	15	13	2.31	VII
20.	Soil and Water conservation.	31	17	12	2.31	VII
21.	Thinning of flowers.	26	21	13	2.21	VIII
22.	Micro nutrient deficiency in crops.	25	23	12	2.21	VIII

23.	Using hand gloves and masks while spraying.	21	31	8	2.21	VIII
24.	Preparation of orchard layout.	21	27	12	2.15	IX
25.	Selection of site for orchard.	24	21	15	2.15	IX
26.	Nursery Management.	21	26	13	2.13	X
27.	Planting of apple saplings.	18	32	10	2.13	X
28.	Proper cleaning of spraying machinery after each spray.	17	22	21	1.93	XI
29.	Disposal of pesticide and insecticide containers properly.	13	30	17	1.93	XI
30.	Micro Irrigation system of orchards.	8	29	23	1.75	XII

137 V.I=Very Important, I=Important, N.T=Not Important, W.S=Weighted Score.

138 **Thematic areas for training needs of apple growers in low altitude areas:**

139 The data presented in table 1 reveals the thematic areas for training needs of apple
140 growers. Among the thematic areas it is evident from the data that in low altitude integrated
141 disease management got rank I on the basis of weighted score (2.66), followed by soil and
142 water testing, and training and pruning each of them got rank II and weighted score of 2.61,
143 integrated pest management, improvement in production and quality, pollination, marketing
144 and pre harvest fruit drop each got rank III and weighted score of 2.55 each, the thematic
145 areas such as management of inorganic fertilizers, integrated nutrient management and
146 nursery raising got rank IV and weighted score 2.53 each, rejuvenation of unproductive
147 orchards, management of young plants/orchards, proper grading and packaging technique
148 each of them got rank V and weighted score 2.48, plant propagation techniques and
149 management of physiological disorders got rank VI and weighted score 2.40, harvesting, not
150 to use chemicals for colouring of apple crop, bio-control of pests and diseases, soil and water
151 conservation each of them got rank VII and weighted score 2.31, in the same manner thinning
152 of flowers, micro nutrient deficiency in crops, using hand gloves and masks while spraying
153 all of them got rank VIII and weighted score of 2.21, preparation of orchard layout, selection
154 of site for orchard each got rank IX and weighted score 2.15, nursery management, planting
155 of apple saplings got rank X and weighted score 2.13, proper cleaning of spraying machinery
156 after each spray, disposal of pesticide and insecticide containers got rank XI and weighted
157 score 1.93 and among the thematic areas in lower altitude micro irrigation system of orchards
158 got the lowest weighted score of 1.75, hence lowest rank of XII. It is revealed from the data
159 that most of the farmers need immediate training in Integrated Disease Management, Soil and
160 water testing, training and pruning etc. which are the main components where farmers face
161 difficulty.

162 Table – 2: Thematic areas for training needs of apple growers in mid altitude areas:

S.No.	Thematic areas	V. I Train ing needs	I Training needs	N.I Training needs	W.S	Rank
1.	Soil and water testing.	41	15	4	2.61	I
2.	Integrated Disease Management.	40	17	4	2.61	I
3.	Training and pruning.	43	11	6	2.61	I
4.	Integrated Pest Management.	42	12	6	2.61	I
5.	Improvement in production and quality.	41	12	7	2.56	II
6.	Pre harvest fruit drop.	40	14	6	2.56	II
7.	Marketing.	39	14	7	2.53	III
8.	Proper grading and packaging technique.	42	8	10	2.53	III
9.	Pollination.	43	6	11	2.53	III
10.	Management of Inorganic fertilizers.	37	17	6	2.51	IV
11.	Rejuvenation of unproductive orchards.	36	19	05	2.51	IV
12.	Integrated nutrient Management.	33	21	06	2.45	V
13.	Bio-control of pests and diseases.	35	17	8	2.45	V
14.	Harvesting.	34	19	7	2.45	V
15.	Plant propagation techniques.	37	13	10	2.45	V
16.	Management of young plants/orchards.	38	11	11	2.45	V
17.	Thinning of flowers.	32	23	5	2.45	V
18.	Micro nutrient deficiency in crops.	37	13	10	2.45	V
19.	Management of Physiological Disorders.	31	16	13	2.30	VI
20.	Selection of site for orchard.	26	26	8	2.30	VI
21.	Not to use chemicals for colouring of apple crop.	32	14	14	2.30	VI
22.	Preparation of orchard layout.	27	24	9	2.30	VI
23.	Nursery raising.	33	12	15	2.30	VI
24.	Nursery Management.	22	25	13	2.15	VII
25.	Soil and Water conservation.	21	27	12	2.15	VII
26.	Planting of apple saplings.	23	23	14	2.15	VII
27.	Proper cleaning of spraying machinery after each spray.	19	31	10	2.15	VII
28.	Using hand gloves and masks while spraying.	17	22	21	1.93	VIII
29.	Micro Irrigation system of orchards.	16	24	20	1.93	VIII
30.	Disposal of pesticide and insecticide containers properly.	14	28	18	1.93	VIII

163 V.I=Very Important, I=Important, N.T=Not Important, W.S=Weighted Score.

164 **Thematic areas for training needs of apple growers in mid altitude areas:**

165 The data presented in table2 reveals that in middle altitude soil and water testing,
 166 integrated disease management, training and pruning, integrated pest management each of
 167 them got rank I on the basis of weighted score (2.61), followed by improvement in
 168 production and quality, pre harvest fruit drop, each got rank II and weighted score of 2.56,
 169 marketing, proper grading and packaging techniques and pollination, each of them got rank
 170 III and weighted score 2.53, followed by management of inorganic fertilizers, and
 171 rejuvenation of unproductive orchards each of them got rank IV and weighted score of 2.51,
 172 the thematic areas such as integrated nutrient management, bio-control of pests and diseases,
 173 harvesting, plant propagation techniques, management of young plants/orchards, thinning of
 174 flowers, micro nutrient deficiency in crops got rank V and weighted score 2.45 each,
 175 management of physiological disorders, selection of site for orchard, not to use chemicals for
 176 colouring of apple crop, preparation of orchard layout and nursery raising each of them got
 177 rank VI and weighted score 2.30, nursery management, soil and water conservation, planting
 178 of apple saplings, proper cleaning of spraying machinery each of them got rank VII and
 179 weighted score 2.15, using hand gloves and masks while spraying, micro irrigation system of
 180 orchards, disposal of pesticide and insecticide containers each of them got lowest rank VIII
 181 and weighted score 1.93.

182 **Table – 3: Thematic areas for training needs of apple growers in high altitude areas:**

S.No.	Thematic areas	V. I Training needs	I Training needs	N.I Training needs	W.S	Rank
1.	Soil and water testing.	43	16	1	2.70	I
2.	Marketing.	44	14	2	2.70	I
3.	Integrated Disease Management.	46	10	4	2.70	I
4.	Integrated Pest Management.	47	8	5	2.70	I
5.	Training and pruning.	46	7	7	2.65	II
6.	Improvement in production and quality.	43	13	4	2.65	II
7.	Proper grading and packaging technique.	41	15	4	2.61	III
8.	Management of Inorganic fertilizers.	43	11	6	2.61	III
9.	Pollination.	44	09	7	2.61	III
10.	Pre harvest fruit drop.	41	15	4	2.61	III
11.	Rejuvenation of unproductive orchards.	42	13	5	2.61	III
12.	Plant propagation techniques.	41	11	8	2.55	IV
13.	Integrated nutrient Management	40	13	7	2.55	IV

14.	Bio-control of pests and diseases.	37	19	4	2.55	IV
15.	Management of Physiological Disorders.	34	21	5	2.51	V
16.	Thinning of flowers.	33	25	2	2.51	V
17.	Management of young plants/orchards.	37	17	6	2.51	V
18.	Micro nutrient deficiency in crops.	31	19	10	2.35	VI
19.	Harvesting.	35	11	14	2.35	VI
20.	Soil and Water conservation.	26	25	9	2.28	VII
21.	Using hand gloves and masks while spraying.	25	27	8	2.28	VII
22.	Nursery Management.	27	21	12	2.25	VIII
23.	Nursery raising.	24	27	09	2.25	VIII
24.	Not to use chemicals for colouring of apple crop.	28	19	13	2.25	VIII
25.	Preparation of orchard layout.	22	31	7	2.25	VIII
26.	Planting of apple saplings.	25	21	14	2.18	IX
27.	Selection of site for orchard.	22	27	11	2.18	IX
28.	Proper cleaning of spraying machinery after each spray.	19	33	8	2.18	IX
29.	Disposal of pesticide and insecticide containers properly.	21	19	20	2.01	X
30.	Micro Irrigation system of orchards.	19	23	18	2.01	X

183 V.I=Very Important, I=Important, N.T=Not Important, W.S=Weighted Score.

184 **Thematic areas for training needs of apple growers in high altitude areas:**

185 The data presented in table 3 reveals that in high altitude soil and water testing,
186 marketing, integrated disease management, integrated pest management each of them got
187 rank I on the basis of weighted score (2.70), followed by training and pruning, improvement
188 in production and quality both of them got weighted score of 2.65 and hence rank II, proper
189 grading and packaging techniques, management of inorganic fertilizers and pollination, pre
190 harvest fruit drop and rejuvenation of unproductive orchards each of them got rank III and
191 weighted score 2.61, plant propagation techniques integrated nutrient management, bio-
192 control of pests and diseases each of them got rank IV and weighted score of 2.55, the
193 thematic areas such, management of physiological disorders, thinning of flowers,
194 management of young plants/orchards each of them got rank V and weighted score 2.51, ,
195 micro nutrient deficiency in crops and harvesting both of them got rank VI and weighted
196 score of 2.35, soil and water conservation, and using hand gloves and masks while spraying
197 both of them got rank VII and weighted score 2.28, nursery management, nursery raising,
198 not to use chemicals for colouring of apple crop, preparation of orchard layout all of them got

rank VIII and weighted score 2.25, planting of apple saplings, selection of site for orchard, proper cleaning of spraying machinery each of them got rank IX and weighted score 2.18, disposal of pesticide and insecticide containers, micro irrigation system of orchards, each of them got lowest rank X and weighted score 2.01.

Table – 4: Rank wise comparison of Training needs of farmers for the selected altitude:

S.No.	Thematic Areas	Altitude		
		Low	Mid	High
1.	Integrated Disease Management.	I	I	I
2.	Soil and water testing.	II	I	I
3.	Training and pruning.	II	I	II
4.	Integrated Pest Management.	III	I	I
5.	Improvement in production and quality.	III	II	II
6.	Pre harvest fruit drop.	III	II	III
7.	Marketing.	III	III	I
8.	Pollination.	III	III	III
9.	Management of Inorganic fertilizers.	IV	IV	III
10.	Proper grading and packaging techniques.	V	III	III
11.	Rejuvenation of unproductive orchards.	V	IV	III
12.	Integrated nutrient Management.	IV	V	IV
13.	Bio-control of pests and diseases.	VII	V	IV
14.	Harvesting.	VII	V	VI
15.	Plant propagation techniques.	VI	V	IV
16.	Management of young plants/orchards.	V	V	V
17.	Thinning.	VIII	V	V
18.	Micro nutrient deficiency in crops.	VIII	V	VI
19.	Management of Physiological Disorders.	VI	VI	V
20.	Selection of site for orchard.	IX	VI	IX
21.	Not to use chemicals for colouring of apple crop.	VII	VI	VIII
22.	Preparation of orchard layout.	IX	VI	VIII
23.	Nursery raising.	IV	VI	VIII
24.	Nursery Management.	X	VII	VIII
25.	Soil and Water conservation.	VII	VII	VII
26.	Planting of apple saplings.	X	VII	IX
27.	Proper cleaning of spraying machinery after each spray.	XI	VII	IX
28.	Using hand gloves and masks while spraying.	VIII	VIII	VII
29.	Micro Irrigation system of orchards.	XII	VIII	X
30.	Disposal of pesticide and insecticide containers properly.	XI	VIII	X

V.I=Very Important, I=Important, N.T=Not Important, W.S=Weighted Score.

Rank wise comparison of training needs of farmers for the selected altitude:

The data presented in table 4 reveals that in all the three altitudes integrated disease management got rank I, so it indicates that farmers need training on priority basis in disease

209 management, while as in lower altitude training and pruning, soil and water testing both of
210 them got rank II while as soil and water testing got rank I in mid and high altitude, and
211 training and pruning got rank I in mid and rank II in high altitude. In case of lower altitude
212 integrated pest management got rank III, while it got rank I in mid and high altitude,
213 Improvement in production and quality were ranked III in low altitude and II in mid and high
214 altitude, pre harvest fruit drop got rank III in low and high altitude and II in mid altitude,
215 while as marketing got rank III in low and mid altitude and I in high altitude. In all the three
216 altitudes pollination got rank III, while as management of inorganic fertilizers got rank IV in
217 low and mid altitude and rank III in high altitude areas. Proper grading and packaging
218 technique got rank V in lower altitude, while it got rank III in mid and high altitude.
219 Integrates nutrient management got rank IV in low and high altitudes, while it got rank V in
220 mid altitude areas. Plant propagation techniques got rank V in mid altitude and rank VI in
221 low altitude areas and rank IV in high altitude areas. Bio control of pests and diseases got
222 rank IV in high altitudes, rank V in mid attitude, and rank VII in lower altitude. In the same
223 way micro irrigation system of orchards got lowest rank in all the three altitude areas. The
224 highest rank of the components indicate that farmers need immediate training in that
225 particular component and lack of knowledge and training could be the reason of low
226 production and productivity of the apple produce, whereas low rank of the component
227 indicates less training needs.

228 It was seen that majority of the farmers needed training in soil testing, expert
229 guidance, layout planning and pollination in planning skills, pest and disease management,
230 nutritional management and physiological disorder management in management skills and in
231 proper weighing of chemicals for spray, handling of spray equipment's, grading and
232 packaging in practical skills on priority basis. Moreover apple growers had delineated
233 different thematic areas wherever they need trainings, these include integrated disease
234 management which got maximum weighted score as per the response of the apple growers in
235 all the three altitudes, followed by soil and water testing, training and pruning, integrated pest
236 management etc. These findings were in line with the findings of Sajeevet *al.* 2012b.

237 **Conclusion:**

238 More emphasis should be given on practical training instead of lectures and apple
239 growers should be encouraged to learning by doing. In order to achieve stability in apple
240 production, the resources should be fully exploited by encouraging farmers by providing
241 them with the necessary support services, with necessary arrangement of credit and

subsidies as and when required. Individual member of the family should not be the target for imparting the training rather, more number of family members should be the target group. The need based cost effective training programmes and strategies need to be tailored in an effective manner so that human resource be put to effective use for achieving sustainable production of apple. It is to be recommended that both extensive and intensive hand on-training programmes should be emphasized for farmers and rural youth through proper assessment of their training needs in the state. Further much emphasis should be paid on Integrated Disease Management, Soil and water testing, Training and pruning, Integrated Pest Management, Improvement in production and quality, Pre harvest fruit drop while planning and designing training programmes for farmers. The concerned stakeholders should pay relatively higher emphasis and care on those specific most important needs, as identified by this study through concerted efforts while formulating different training strategies and programmes for the farmers in hills and plain areas of Kashmir valley and other similar agro-climatic and farming systems of the country. However certain constraints such as time limitation, limited resources, easy accessibility of the research area etc. cannot be eliminated in the study.

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