

Problems and Prospects of Horticulture Industry in Himachal Pradesh: A Special Reference to Apple Production

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Abstract

Himachal Pradesh is the biggest producer of quality fruits like Apple, Plum, peach and pear etc. But the apple constitutes one of the most important and widely grown fruit of Himachal Pradesh. Horticulture is the mainstay in Himachal Pradesh for the development of majority of population in the state. Due to its comparative advantage, it is proved, the most remunerative and profitable to the number of Himachal farmers as it improves their economic condition. But the production and marketing of horticulture is undergoing continuous changes globally. This is due to the problems arising from lack of infrastructure, lack of good quality planting material, unorganised market structure, large chain of commission agents, labour problems, high transportation cost and lack of commercialisation and competition with other countries. There are future prospects which need to be achieved without increasing the area under cultivation potentially utilizing the scientific, technological and traditional strengths for sustainable production. Introducing exotic varieties of apple, adopting effective marketing strategies, disease free plants also should be introduced. Also emphasis should be given on organic farming. Himachal can hold up the competition only by increasing productivity, reducing cost of production and also farmers need to be skilled regarding new technologies used in production and marketing. Concerted efforts are needed to improve the present status of horticulture industry in the state. The present study focuses on the problems and prospects regarding increase in production and marketing of apple in Himachal Pradesh.

KEYWORDS: Horticulture, Apple, Himachal Pradesh, Problems, prospects

Introduction:

Himachal grow diverse varieties of fruits from tropical to temperate which help in the economic up-liftment of the rural economy by generating employment and revenue to rural population. Himachal Pradesh is bestowed endowed with plenty of natural resources with diverse agro-climatic conditions suitable for horticulture development. Shimla district has occupied a place of pride in the field of horticulture followed by Kullu and Kinnaur district. It is the biggest producer of quality fruits like Apple, Plum, Peach, and Pear etc. but, the apple constitutes one of the most significant and widely grown fruit of the state. Approximately 90 percent of the total apple produce is exported to the distant markets of the country. More importance is given on cultivation of horticulture crop in Himachal Pradesh. Where cultivation is mainly done on narrow terraces and the scope for efficient use of land in these hilly areas is limited. The extraordinary progress in this field is because of the congenial agro-climatic condition of the state. The market structure of these fruits is going through a lot of changes to building marketing linkages in terms of obtaining profitable market. However, it also considered that the high transportation cost, lack of storage facilities, loss of productive soil through urban encroachment, low

productivity, high labour cost, climate changes, diseases in apple trees and exploitation by middle men.

Reviews:

Dayananda, R (2012) revealed in “Production and marketing of horticulture products problems, prospects and livelihood options” that there is an ample opportunities of horticulture production in the region if favourable conditions are created. There is high demand of horticulture products in the region and there is demand and supply gap which shows opportunity for horticulture production and income from the production. Due to the increase in the population and demand for fruits farmer can make use of the potential by involving in horticulture production which contributes in their livelihood. It is suggested that the Government intervention in the area can develop this sector by providing support in terms of construction of storage and transportation facilities. **Mehta Piyush, Thakur Rajesh Kumar & Chauhan Sachin (2013)** revealed in “Production and marketing of apple fruit crop-A study premise to Shimla district of Himachal Pradesh” that the climate of dry temperate region of Himachal Pradesh is suitable for growing fruits like apple, pear, plum, apricot and peach. Royal delicious variety of apple was considered as favourable variety of apple due to its high production and marketing value. **Basannagri, Basavraj& Kala, Chandra Prakash (2013)** revealed in “Climate change and apple farming in Indian Himalayas: A study of local perception and responses” that apple is most significant commercial fruit crop in Himachal Pradesh. Farmers are customised to follow the traditional and age old practices of cultivation. They are less aware about scientific agro-climatic practices, Agri-input and horticulture schemes due to lack of communication facilities at high hills. Due to the change in temperature, precipitation, ground frost, hailstorm, loss of soil fertility, water availability and natural calamities pose serious threats to apple production and also due to continuation of plantation that have crossed their fruit bearing stage. It is suggested that there is need to replant the apple trees in systematic manner on regular basis. **Lokesh, Singh Hira (2014)** revealed in “Horticulture Development in Himachal Pradesh: An Empirical Analysis” that contribution of horticulture with in primary sector has risen from 18.53 per cent in 2000-01 to 26.98 percent in 2009-10. Horticulture sector demonstrates a phenomenal place during the span of ten year. Despite the multi fold increase in production of horticultural crops over the years the productivity continues to be low on account of inadequate quality planting material, lack of validated prescription for high density plantation, canopy management and inefficient plant protection.

Objectives of the study:

1. Problems in apple production and marketing.
2. Future prospects of apple production and marketing.

Need of the study:

Himachal has been endowed with varied agro-climatic conditions, which provide a great scope for the apple growers. The hills of Himachal provide natural zones for production of apples. Horticulture provides new opportunities and has a vast scope in the state. Fruit production is seasonal and the produce is perishable in nature. As the apple is the main cash crop of the state growing in Shimla, Kullu and Kinnaur, etc. Shimla ranks first in horticulture production. It has occupied the significant place

in horticulture sector in Himachal Pradesh followed by Kullu, and Kinnaur districts. Due to the commercialization of agriculture and horticulture in the districts people have become aware of the basic need of education. Because of less education they are not aware about modern marketing techniques. Horticulture produce in Himachal have good marketing demand in the country. The overall picture at the state level would conceal a wide variety of experience. The present study aims at analyzing the existing state of horticulture produce and also identifies the problems faced by the people of the district in marketing practices to improve the existing marketing strategies to the people in order to provide them basic awareness in this regard. As horticulture industry is slowly moving from traditional agriculture enterprise to corporate sector. And the further growth of horticulture industries and its sustainability will largely depends on the marketing strategies; strong supports of basic and strategic marketing research will only enable rapid growth of horticulture produce.

Scope of the study:

The present study is restricted to the three districts of Himachal Pradesh i.e. Shimla, Kullu, and Kinnaur. The district under study is selected by taking into the consideration the largest producers of horticulture produce from 2012 to 2015. The data is collected through structured questionnaire. The major thrust is given to the problems and prospects of apple production and marketing.

Research Methodology:

Keeping in view of the set objectives, the research design for the study is of primary and secondary nature. An emphasis is placed on gathering first hand information with the help of structured questionnaire. And secondary data from different news articles, Books and Web site were used which were enumerated and recorded. The collected data has been presented statistically with the help of three point scale, Anova and Tukey test.

Interpretation:

Problem faced by apple growers: an analysis

It is the well known fact that the horticulture is a biggest growing industry in rural economy of the state; it is by far the largest industry in the state. As far as the apple production is concerned it is the main cash crop of the state. Livelihood the majority of the people in the study area is depending on the apple production. In apple production and marketing there are certain customary problems faced by the apple growers at every level whether production or marketing with which farmers are struggling. There is problems of Tough Competition, Lack of consumer preference, Lack of economic packing material, Lack of Govt. Support, Lack of knowledge among technological, Lack of scientific knowledge, Large chain of commission agents, Lack of organised market, No direct link with potential buyers, Lack of storage facility, High advertisement cost and Less price for produce. These aforesaid problems made researcher to analyze various factors fostering problems towards production and marketing of apple in the study area. There is very tough competition during the peak season plucking, picking timing are almost same that create tough competition, as its well known that apple is perishable in nature it needs very good packing but these packing material is expensive which is also a hindrance for farmers.

It is the fact that growth of horticulture critically depends upon the assistance of government in the form of subsidies. But it is not that much supportive. Along with this there is also lack of awareness among farmers about technological and scientific knowledge farmers are still practising traditional methods of farming. Furthermore, farmers producing apple are scattered in remote villages while consumers are in semi-urban and urban areas. This produce has to reach consumers for its final use and consumption. There are different functionaries and a large chain of commission agents through which this produce passes and reaches the consumers. As exhibited in table 1 when examine the Tough Competition, Lack of economic packing material, Lack of Govt. Support, Lack of scientific & technological knowledge among, Large chain of commission agents, Lack of organised market, No direct link with potential buyers, Lack of storage facility and Less price for produce at all districts confirms that the aforesaid factors posed a major problem in the apple production and marketing. The mean score of above factor arrived at three point likert scale is (2.5300, 2.3280, 2.2520, 2.4680, 2.4080, 2.4480, 2.4260, 2.3160, 2.4060 and 2.4700) respectively which is greater than the standard mean score, which explains that the opinions of respondents are bent towards higher side. Furthermore the negative value of skewness and kurtosis is platykurtic which confirms the above results. Also when test of goodness of fit is applied the chi square value arrived is significant at 5 percent level of significance. It is therefore inferred that state of apple production is in a struggling state. The other hurdles in apple production and marketing are Labour Problem, High transport cost, Lack of proper marketing channel, Lack of commercialisation. It is found that the farmers are also struggling with non availability of skilled or unskilled labour, poor marketing channels more over the lack of commercialisation of apple crop. The result reflects that the calculated mean score of above factor (2.6020, 2.6560, 2.6720 and 2.6580) respectively which is greater than the standard mean score, which show that the opinion of respondent towards higher side. Moreover, kurtosis is leptokurtic while the chi square value is significant at five percent of significance. In nutshell, it is evidently inferred that farmers are facing these problems at large extent.

Table 1 Problem faced by Apple Growers

Statements	Large Extent	Some Extent	Not at all	Total	Mean	sd	sk	Kt	chi	P.value
Tough Competition	331	103	66	500	2.5300	.71703	-1.186	-.057	247.156	.000
Lack of Consumer preference	232	200	68	500	2.3280	.70243	-.557	-.843	90.688	.000
Labour Problem	358	85	57	500	2.6020	.68449	-1.445	.637	331.828	.000
High transport cost	392	44	64	500	2.6560	.69472	-1.723	1.292	458.176	.000
Lack of proper marketing channel	401	34	65	500	2.6720	.69381	-1.807	1.530	497.092	.000

Lack of economic packing material	248	130	122	500	2.2520	.82332	-.497	-1.350	59.728	.000
Lack of commercialisation	398	33	69	500	2.6580	.70855	-1.742	1.271	485.524	.000
Lack of Govt. Support	308	118	74	500	2.4680	.73896	-.996	-.474	185.584	.000
Lack of scientific & technological knowledge	238	138	79	500	2.4080	.74743	-.825	-.750	132.244	.000
Large chain of commission agents	306	112	82	500	2.4480	.75924	-.954	-.617	177.424	.000
Lack of organised market	303	107	90	500	2.4260	.77829	-.905	-.760	168.148	.000
No direct link with potential buyers	262	134	104	500	2.3160	.79587	-.628	-1.145	84.496	.000
Lack of storage facility	267	169	64	500	2.4060	.70580	-.762	-.665	123.676	.000
Less price for produce	290	155	55	500	2.4700	.68559	-.922	-.381	166.900	.000
Total				500						

Note: Figure in parenthesis depicts percentage.

Source: Data collected through questionnaire.

Opportunities in apple production: an analysis

As exhibited in table 2 that there are various opportunities in apple production and marketing while evaluating the different factors indicate that The mean score of above factor Scope for exotic varieties of apple, Training programmes for orchardists, Effective marketing, Technological up gradation, Govt policy and Organic farming (2.0740, 2.4500, 2.3780, 2.4120, 2.5220 and 2.5120) respectively which is greater than the standard mean score, which show that the opinion of respondent are towards higher side. Skewness of above factor are (-.140, -.971, -.796, -.766, -1.179 and -1.148) respectively. The negative value of Skewness and kurtosis shows that the opinion of respondents is not equally dispersed. Whereas, negative value of Kurtosis also reveals that distribution is more on higher side. It reveals that the distribution is platykurtic. And the value of chi square at 5 percent level of significance is significant. It indicates that there are immense opportunities for growers in apple production. The reason identified by researcher for scope for exotic varieties of apple in Himachal Pradesh is more because of its congenial agro-climatic condition to grow new and exotic varieties in the state. Whereas, training programmes for orchardists, effective marketing, technological up gradation and government policies are also huge opportunity to exploit maximum out of apple production and marketing so that Himachal orchardist can compete with completion from other countries with the assistance of government and its grower friendly policies. Furthermore, the scope for organic farming is also there. Today the consumers are more found of organic

products. Consumers are now more health conscious they prefer more organic produce as compare to inorganic fruits.

Table 2 Opportunities in Apple Production

Statements	Large extent	Some extent	Not at all	Total	Mean	sd	sk	Kt	chi	P. value
Scope for exotic varieties of apple	196	145	159	500	2.0740	.84020	-.140	-1.571	8.332	.000
Training programmes for orchardists	312	101	87	500	2.4500	.77246	-.971	-.641	190.684	.000
Effective marketing	297	95	108	500	2.3780	.81759	-.796	-1.040	153.388	.000
Technological up gradation	267	172	61	500	2.4120	.69802	-.766	-.631	127.564	.000
Govt policy	334	93	73	500	2.5220	.73661	-1.179	-.152	253.204	.000
Organic farming	331	94	75	500	2.5120	.74227	-1.148	-.230	244.132	.000
Total				500						

Note: Figure in parenthesis depicts percentage.

Source: Data collected through questionnaire.

After examining and evaluating the various future opportunities in apple production and marketing the researcher extended the analysis ANOVA test. ANOVA was performed to determine the significance under the study area. An attempt has been made to see the future opportunities in apple production and marketing. There are certain opportunities in apple production and marketing i.e. scope for exotic varieties, training programmes for orchardists, effective marketing, technological up-gradation, government policies and organic farming. The perusal of table 3 examines the above mention factors. When examined the significance of government it yielded insignificant value ($p < 0.05$) of significance between groups. When examine the scope for exotic varieties with the help of ANOVA test. The F value is 69.880 which is statistically significant at 5 percent level of significance between groups. Undoubtedly, there is lots of scope for new and exotic varieties in these districts because of its unique agro-climatic conditions which is congenial for these varieties. Therefore, Tukey post hoc test was performed to identify the reason for statistically significant mean differences. The output shows that main source of the statistically significance of the said factor is difference between Shimla with Kullu and Kinnaur and none of other factors are statistically significant. In the same context, training programmes for orchardists was adjudged by applying ANOVA test the test revealed

that there were significant difference in the opinion of farmers in Shimla, Kullu and Kinnaur as F value 5.985. Thus, means are significantly different and the p value is less than 0.05. Further to examine the particular significant differences amongst the mean group Tukey post-hoc test is applied. It is ascertained that the mean difference between opinions of Shimla with Kullu is significant. Further, the researcher examined the responses towards effective marketing. The F value arrived at 12.194 reflects the relative variability of means within the sample and is reported to be significant ($p < 0.05$). This necessitates the application of multiple comparisons among all possible groups with Tukey post hoc test. The results show that the mean difference between the opinions of farmers of Shimla with Kullu is significant. None other pair is significant. Technological up-gradation for apple production and marketing is another focus area. So that farmers could enhance their competence to meet future opportunities of apple production and marketing.

On applying ANOVA, F value arrived is significant at all the districts surveyed which conveys that the means differ more than would be expected by chance alone. It does not explain anything about the nature of effects. The Tukey test shows that the farmers of Shimla with Kullu are significant and Kullu with Shimla is also significant. At last the organic farming is evaluated with the help of ANOVA. The F value is 35.632 which is significant between groups. Further, post hoc test determines the mean difference for the group factor. It identifies a significant relationship with that of Shimla with Kullu and Kinnaur. This means the farmers of these districts are aware of future opportunities in apple production and marketing.

Table 3 Opportunities in Apple Production

Descriptive					F – test						Tukey test			
Statements	Distt	Mean	Std. Deviation	Std. error	Description of variable	Sum of square	df	Mean square	F	Sig.	Distt	Mean difference	Std. error	Sig.
scope for exotic varieties of apple	Shimla	2.4260	.77491	.04656	Between Groups	77.317	2	38.658	69.880	.000	kullu	.77174*	.07028	.000
											kinnaur	.88314*	.13343	.000
	kullu	1.6543	.72587	.05294	Within Groups	274.945	497	.553			shimla	-.77174*	.07028	.000
											kinnaur	.11140	.13693	.695
	Kinnaur	1.5429	.56061	.09476	Total	352.262	499				shimla	-.88314*	.13343	.000
											kullu	-.11140	.13693	.695
Training programmes for	shimla	2.5451	.68811	.04134	Between Groups	7.002	2	3.501	5.985	.003	kullu	.24725*	.07227	.002
											kinnaur	.03084	.1372	.97

orchardists											r		1	3
	kullu	2.2979	.86932	.06340	Within Groups	290.748	497	.585			shimla	-.24725*	.07227	.002
											kinnaur	-.21641	.14081	.275
	Kinnaur	2.5143	.74247	.12550	Total	297.750	499				shimla	-.03084	.13721	.973
											kullu	.21641	.14081	.275
Effective markeing	shimla	2.5343	.74921	.04502	Between Groups	15.603	2	7.801	12.194	.000	kullu	.36940*	.07558	.000
											kinnaur	.24858	.14349	.194
	kullu	2.1649	.86491	.06308	Within Groups	317.955	497	.640			shimla	-.36940*	.07558	.000
											kinnaur	-.12082	.14725	.690
	Kinnaur	2.2857	.82503	.13946	Total	333.558	499				shimla	-.24858	.14349	.194
											kullu	.12082	.14725	.690

Technological up gradation	shimla	2.4874	.65166	.03915	Between Groups	3.804	2	1.902	3.950	.020	kullu	.18417*	.06557	.014
											kinnaur	.08736	.12449	.763
	kullu	2.3032	.73753	.05379	Within Groups	239.324	497	.482			shimla	-.18417*	.06557	.014
											kinnaur	-.09681	.12775	.729
	Kinnaur	2.4000	.77460	.13093	Total	243.128	499				shimla	-.08736	.12449	.763
											kullu	.09681	.12775	.729
Government policies	shimla	2.5523	.67698	.04068	Between Groups	.887	2	.444	.817	.442	kullu	.08426	.06963	.448
											kinnaur	-.01908	.13219	.989
	kullu	2.4681	.81039	.05910	Within Groups	269.871	497	.543			shimla	-.08426	.06963	.448
											kinnaur	-.10334	.13566	.727
	Kinnaur	2.571	.77784	.1314	Total	270.75	49				shimla	.01908	.1321	.98

	r	4		8		8	9						9	9
											kullu	.10334	.13566	.727
Organic farming	shimla	2.7401	.57510	.03455	Between Groups	34.478	2	17.239	35.632	.000	kullu	.46880*	.06573	.000
											kinnaur	.74007*	.12478	.000
	kullu	2.2713	.81813	.05967	Within Groups	240.450	497	.484			shimla	-.46880*	.06573	.000
											kinnaur	.27128	.12805	.087
	Kinnaur	2.0000	.84017	.14201	Total	274.928	499				shimla	-.74007*	.12478	.000
												kullu	-.27128	.12805

Note: Figure in parenthesis depicts percentage.

Source: Data collected through questionnaire.

Conclusion and suggestions:

Horticulture is the extensive industry of the state. It is proved, the most remunerative as well as profitable to the number of Himachal farmers as it improves their economic condition. According to the primary data available production and marketing of horticulture is undergoing continuous changes globally. problems like lack of infrastructure, lack of good quality planting material, unorganised market structure, large chain of commission agents, labour problems, high transportation cost, competition with other countries and diseases in apple trees need to be tackled. The study reveals that growers need to be educated regarding new technologies, innovative methods used in production and marketing and commercialisation of apple so that they can compete with continuous competition from other countries. And also increase productivity without increasing area of production. In overall period of time apple is contributing at large scale to the growers and to the state economy. Government need to support orchardists with friendly policies to develop the best management practices, best marketing practices and good horticulture practices for apple production. Similarly, storage facility should be there in every production area, cost of labour and large chain of commission agents should be curtailed, infrastructure should be developed and emphasis should be given on organic farming and organised markets should be formed by government. So, that hassle free production and marketing can be done.

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