



# Plant Archives

Journal homepage: <http://www.plantarchives.org>  
DOI Url : <https://doi.org/10.51470/PLANTARCHIVES.2021.v21.no2.051>

## STUDY ON MARKETING PATTERN OF APPLE CULTIVATION IN KASHMIR VALLEY, INDIA

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(Date of Receiving : 03-03-2021; Date of Acceptance : 08-06-2021)

### ABSTRACT

An attempt has been made in this paper to evaluate the price spread of apple in the state of Jammu and Kashmir; the study is confined to Baramulla and Pulwama district with 35 growers, who were selected randomly from six selected villages considered to collect the required information. The primary data were collected from the apple growers through personal interview method with the help of well prepared pre tested schedule for the year 2019-20. For the present study 4 marketing channel were identified for the transaction of apple i.e.; Producer - Aratiya - Wholesale - Retailer - Consumer; Producer - Pre-harvest Contractor - Wholesaler - Retailer - Consumer, Producer - Post-harvest - Contractor -Wholesaler - Retailer - Consumer and Producer - Commission Agent - Wholesaler - Retailer - Consumer. Thus it can be concluded that the apple business in Kashmir is more remunerative. This enterprise is not only profitable and financially viable but also provides employment to large number of people in the valley area. The area and production of the apple is increasing at the fast rate, but the various defects of the existing marketing system results in the least share to the producer. Net return from the apple business can further be increased if the problems and defects of existing marketing system as stated above are taken care of. It can also be concluded that apple growing is more beneficial on all producers.

**Keywords:** Apple, marketing, price, spread, margins.

### INTRODUCTION

Apple is the most important fruit crop comprising about 91.00 per cent of total fruit production (Kaul, 2019). From the dawn of independence the fruit industry in Jammu and Kashmir, the state has indeed become the bull work of rural economy. The Jammu & Kashmir state is India's largest producer of apple, contributing 61.00 per cent of the total production (Baba, 2020).

The economy of Jammu & Kashmir state depends to a great extent on apple industry (Rajagopad, 1991). It is observed that though the area under apple and production is increasing. Yet due to the poor marketing structure to producer is deprived of his benefits, while the middle-men about a major share. Thus it becomes imperative to investigate and analyze the various cost and margins in apple marketing, which will help increasing the marketing efficiency.

#### Objectives of the study

The specific objectives of the present study were to identify the various marketing channels in apple marketing; to work out the cost incurred in the marketing of apple and to work out the price spread and market margins in different marketing channels.

### MATERIALS AND METHODS

The study is confined to Baramulla and Pulwama districts of Jammu and Kashmir state purposively due to

maximum production and productivity of the state. In second stage one block from each district and in third stage three villages from each selected block were purposively selected for the present study. While to fulfill the objectives thirty five apple growers were randomly selected from sample villages for this study. Then fifteen middlemen (wholesaler and retailer) involved in apple marketing, data have been collected through personal inquiry for the agricultural year 2019-2020.

The following channels are used in marketing of apple in Jammu and Kashmir state:

1. Producer - Aratiya - Wholesaler - Retailer - Consumer,
2. Producer - Pre-harvest - Contractor - Wholesaler - Retailer - Consumer,
3. Producer - Post-harvest - Contractor - Wholesaler - Retailer - Consumer,
4. Producer - Commission Agent - Wholesaler - Retailer - Consumer.

### RESULTS AND DISCUSSION

Table 1 reveals that the various stages of marketing and the cost incurred on the estimated of the total cost incurred was Rs 122.80 per box for apple. The different marketing stages and the expenditure incurred there on are discussed as under four sub-headings viz.; pre-packing cost, packing cost, transportation charges and miscellaneous charges. The price spread of four selected marketing channels per box of apple has been depicted from the table 2 to 5.

**Table 1 :** Marketing Cost of Apple in Rupee per box\*

SN.	Cost Components	Amount	Per cent of total
<b>1.</b>	<b>Pre-packing cost:</b>		
	Charges of picking	9.60	7.82
	Charges of assembling	2.00	1.63
	Charges of grading	3.00	2.44
	<b>Total</b>	<b>14.60</b>	<b>11.89</b>
<b>2.</b>	<b>Packing cost:</b>		
	Cost of packing box	42.00	34.20
	Cost of wrapping paper	6.10	4.98
	Cost of paddy straw	2.20	1.79
	Charges of packing	3.00	2.44
	Charges of assembling of boxes	1.50	1.22
	Charges of labeling & stenciling	1.50	1.22
	<b>Total</b>	<b>56.30</b>	<b>45.85</b>
<b>3.</b>	<b>Transport charges:</b>		
	Charges to godown, loading & unloading	4.90	3.99
	Charges of Orchard to road head	14.00	11.38
	Forwarding charges	14.00	11.38
	Charges of Loading at road head	3.00	2.42
	Charges of Unloading at destination	3.00	2.42
	Communication etc. Charges	1.10	0.90
	<b>Total</b>	<b>39.90</b>	<b>32.49</b>
<b>4.</b>	<b>Miscellaneous charges:</b>	<b>22.00</b>	<b>9.77</b>
	<b>Grand Total**</b>	<b>122.80</b>	<b>100.00</b>

(\*Standard box contains 15 kgs of Apple and \*\* its does not include commission of commission agent and market fee paid @ 10% of the total bill).

Table 2 reveals the producer sold his product directly to wholesaler and spent all marketing cost till the produce reaches the wholesaler and spent all marketing cost till the produce reaches the wholesaler and earned Rs 419.44/-, Rs 349.23/-, Rs 328.41/- and Rs 298.82/- for Delicious, Chanmura, American and Maharaji varieties respectively, while transaction it was observed that in case of all varieties the amount received by producer out of consumer's price is more than 50.00 per cent. The wholesaler received the apple produce from the producer directly and made the least expenses of Rs 1.00/- of each variety which accounts only for 11.49 per cent, 11.19 per cent, 11.08 per cent and 10.74 per

cent of consumer's price with corresponding return of Rs 42.72/- (5.40 per cent), Rs 36.82/- (5.36 per cent), Rs 35.07/- (5.35 per cent) and Rs 34.97/- (5.62 per cent) share of consumer's price for Delicious, Chanmura, American and Maharaji varieties of Apple respectively. The proportion for consumer's price retained by the retailer in lieu of his expenses of Rs 100.30/- (12.68 per cent), Rs 91.28/- (13.29 per cent), Rs 88.61/- (13.50 per cent) and Rs 85.05/- (13.68 per cent) of Consumer's price, turned out to be Rs 37.66/- (4.76 per cent), Rs 32.71/- (4.76 per cent), Rs 31.24/- (4.76 per cent) and Rs 36.22/- (5.83 per cent) of Consumer's price for Delicious,

**Table 2 :** Price spread of channel-I (Producer-Aratiya-Wholesaler-Retailer-Consumer)

SN	Particulars	Varieties			
		Delicious	Chanmura	American	Maharaji
<b>Producer:</b>					
(A) Expenses incurred by the producer over marketing :					
1.	Charges of picking	9.60	9.60	9.60	9.60
2.	Charges of assembling	2.00	2.00	2.00	2.00
3.	Charges of grading	3.00	3.00	3.00	3.00
4.	Cost of packing box	42.00	42.00	42.00	42.00
5.	Cost of wrapping paper	6.10	6.10	6.10	6.10
6.	Cost of paddy straw	2.20	2.20	2.20	2.20
7.	Charges of packing	3.00	3.00	3.00	3.00
8.	Charges of assembling boxes	1.50	1.50	1.50	1.50
9.	Charges to godown, loading & unloading	4.90	4.90	4.90	4.90
10.	Charges of labeling and stenciling	1.50	1.50	1.50	1.50
	<b>Total</b>	<b>75.80</b> (9.58)	<b>75.80</b> (11.04)	<b>75.80</b> (11.56)	<b>75.80</b> (12.19)
(B) Expenses incurred by the producer over transport:					
1.	Charges of picking	10.15	10.15	10.15	10.15
2.	Charges of road head to wholesaler	14.00	14.00	14.00	14.00
	<b>Total</b>	<b>24.15</b> (3.06)	<b>24.15</b> (3.52)	<b>24.15</b> (3.68)	<b>24.15</b> (3.88)
	<b>Grand Total</b>	<b>99.95</b> (12.64)	<b>99.95</b> (14.55)	<b>99.95</b> (15.24)	<b>99.95</b> (16.07)

(C) Producer's sale price:	519.39	449.18	428.36	398.77
(D) Producer's share in sale price:	419.44 (53.03)	349.23 (50.85)	328.41 (50.07)	298.82 (48.06)
<b>Wholesaler:</b>				
(A) Expenses incurred by wholesaler : [Association / Mandi Fee & Others (repairing of packing)]	90.89 (11.49)	76.85 (11.19)	72.68 (11.08)	66.76 (10.74)
(B) Total purchase price :	610.28	526.03	501.04	465.53
(C) Sale price :	653.00	562.85	536.11	500.50
(D) Wholesaler's margin :	42.72 (5.40)	36.82 (5.36)	35.07 (5.35)	34.97 (5.62)
<b>Retailer:</b>				
(A) Expenses incurred by retailer:				
1. Transport charges	35.00	35.00	35.00	35.00
2. 10% loss realized by retailer	65.30	56.28	53.61	50.05
<b>Total</b>	100.30 (12.68)	91.28 (13.29)	88.61 (13.50)	85.05 (13.68)
(B) Total purchase price:	753.30	654.13	624.72	585.55
(C) Sale price:	790.96	686.84	655.96	621.77
(D) Retailer's margin:	37.66 (4.76)	32.71 (4.76)	31.24 (4.76)	36.22 (5.83)
<b>Consumer's Purchase Price:</b>	790.96 (100.00)	686.84 (100.00)	655.96 (100.00)	621.77 (100.00)

(\*The figures within the parenthesis indicate the percentage out of consumer price).

Chanmura, American and Maharaji varieties of Apple respectively. The expenses incurred by the producer for each marketing component is not too much but the sum total of all amounts very much, Among his expenses, the expenditure over packing boxes, picking turns and wrapping paper out to be very high for 15 kg box accounting Rs 42.00/-, Rs. 9.60/- and Rs 6.10/- for all varieties of apple i.e.; Delicious, Chanmura, American and Maharaji. The comprehensive detail of each component and corresponding price in first marketing channel Consumer paid Rs 790.96/-, Rs 686.84/-, Rs 655.96/- and Rs 621.77/- for per box of Delicious, Chanmura, American and Maharaji varieties respectively. Similar studies were carried out in the line by Lal *et al.* (2003); Choudhary *et al.* (2017).

Table 3 reveals the price spread for channel-II involving producer, pre-harvest contractor, wholesaler, retailer and consumers, in this channel producer sold his standing crop to pre-harvest contractor and incur no expense over marketing. Producer received Rs 334.18/-, Rs 296.77/-, Rs 291.97/- and Rs 298.82/- that constituted 45.19 per cent, 43.79 per cent, 43.59 per cent and 46.03 per cent of consumer's price for Delicious, Chanmura, American and Maharaji varieties of apple respectively. The Pre-harvest contractor made all expenses till the producer reached the wholesaler. 13.52 per cent, 14.75 per cent, 14.93 per cent and 15.40 per cent of consumer's price has been spent by the pre-harvest contractor over various components of marketing. The margin of

contractor turned out to be Rs 39.71/-, Rs 36.28/-, Rs 35.85/- and Rs 35.62/- that accounted to 5.37 per cent, 5.36 per cent, 5.35 per cent and 5.49 per cent for Delicious, Chanmura, American and Maharaji varieties of apple respectively. Similar study is carried out in the line by Sakhrie and Sharma (2017).

Table 3 also reveals the retailer has spent 10.31 per cent, 10.53 per cent, 10.56 per cent and 9.33 per cent of the consumer's price over transportation and to sustain loss of produce during transit for Delicious, Chanmura, American and Maharaji varieties of apple respectively. The part of the consumer's price retained by the retailer was found out to be Rs 100.94/- (13.65 per cent), Rs 92.52/- (13.65 per cent), Rs 91.44/- (13.66 per cent) and Rs 81.71/- (12.59 per cent) for the different varieties of apple in the same sequence. Consumer paid Rs 739.42/- per box for Delicious variety, Rs 677.71/- per box for Chanmura, Rs 669.80/- per box for American and Rs 649.14/- per box for Maharaji variety. Similar studies were carried out in the line by Sharma and Singh (2001); Yadav *et al.*, (2018).

Table 4 reveals comprehensive price spread of channel-III as shown the producer's share in consumer's price was found to be Rs 493.43/- for Delicious, Rs 430.26/- for Chanmura, Rs 411.52/- for American and Rs 384.89/- for Maharaji variety i.e.; 53.12 per cent, 51.68 per cent, 51.12 per cent, and 50.76 per cent respectively.

**Table 3 :** Price spread of channel-II (Producer-Pre-harvest Contractor-Wholesaler-Retailer-Consumer)

S N	Particulars	Varieties			
		Delicious	Chanmura	American	Maharaji
<b>Producer:</b>					
A.	Producer's Sale Price	334.18	296.77	291.97	298.82
B.	Producer's Share in Consumer's Price	334.18 (45.19)	296.77 (43.79)	291.97 (43.59)	298.82 (46.03)
<b>Pre-harvest Contractor:</b>					
(A) Expenses incurred by the producer over marketing:					

1.	Picking Charges	9.60	9.60	9.60	9.60
2.	Assembling Charges	2.00	2.00	2.00	2.00
3.	Grading Charges	3.00	3.00	3.00	3.00
4.	Cost of Packing Box	42.00	42.00	42.00	42.00
5.	Cost of Wrapping Paper	6.10	6.10	6.10	6.10
6.	Cost of Paddy Straw	2.20	2.20	2.20	2.20
7.	Cost of Packing	3.00	3.00	3.00	3.00
8.	Cost of assembling boxes	1.50	1.50	1.50	1.50
9.	Charges to godown, loading & unloading	4.90	4.90	4.90	4.90
10.	Charges of labeling and stenciling	1.50	1.50	1.50	1.50
<b>(B) Transport Cost:</b>					
1.	Charges of picking	10.15	10.15	10.15	10.15
2.	Charges of road head to wholesaler	14.00	14.00	14.00	14.00
	<b>Total</b>	<b>99.95</b> (13.52)	<b>99.95</b> (14.75)	<b>99.95</b> (14.93)	<b>99.95</b> (15.40)
<b>(C) Total purchase price:</b>		434.13	396.72	391.92	398.77
<b>(D) Sale price:</b>		473.84	433.00	427.77	434.39
<b>(E) Contractor's margin:</b>		39.71 (5.37)	36.28 (5.36)	35.85 (5.35)	35.62 (5.49)
<b>Wholesaler -</b>					
<b>(A) Expenses incurred by wholesaler [Association / Mandi Fee &amp; Others (repairing of packing)]</b>		47.38 (6.41)	43.30 (6.39)	42.77 (6.38)	36.43 (5.61)
<b>(B) Total purchase price:</b>		521.22	476.30	470.54	470.82
<b>(C) Sale price:</b>		562.26	513.81	507.60	506.83
<b>(D) Wholesaler's margin:</b>		41.04 (5.55)	37.51 (5.53)	37.06 (5.53)	36.01 (5.55)
<b>Retailer:</b>					
<b>(A) Expenses incurred by retailer:</b>					
1.	Transport charges	20.00	20.00	20.00	20.00
2.	10 % loss realized by retailer	56.22	51.38	50.76	40.60
	<b>Total</b>	<b>76.22</b> (10.31)	<b>71.38</b> (10.53)	<b>70.76</b> (10.56)	<b>60.60</b> (9.33)
<b>(B) Total purchase price:</b>		638.48	585.19	578.36	567.43
<b>(C) Sale price:</b>		832.48	677.71	669.80	649.14
<b>(D) Retailer's margin:</b>		100.94 (13.65)	92.52 (13.65)	91.44 (13.66)	81.71 (12.59)
<b>Consumer's Purchase Price:</b>		832.48 (100.00)	677.71 (100.00)	669.80 (100.00)	649.14 (100.00)

(\*The figures within the parenthesis indicate the percentage out of consumer price).

**Table 4 :** Price spread of channel-III (Producer-Post-harvest Contractor-Wholesaler-Retailer-Consumer)

S N	Particulars	Varieties			
		Delicious	Chanmura	American	Maharaji
<b>Producer:</b>					
<b>(A) Expenses incurred by the producer over marketing :</b>					
1.	Charges of picking	9.60	9.60	9.60	9.60
2.	Charges of assembling	2.00	2.00	2.00	2.00
3.	Charges of grading	3.00	3.00	3.00	3.00
4.	Cost of packing box	42.00	42.00	42.00	42.00
5.	Cost of wrapping paper	6.10	6.10	6.10	6.10
6.	Cost of paddy straw	2.20	2.20	2.20	2.20
7.	Charges of packing	3.00	3.00	3.00	3.00
8.	Charges of assembling of boxes	1.50	1.50	1.50	1.50
9.	Charges to godown, loading / unloading	4.90	4.90	4.90	4.90
10.	Charges of labeling and stenciling	1.50	1.50	1.50	1.50
	<b>Total</b>	<b>75.80</b>	<b>75.80</b>	<b>75.80</b>	<b>75.80</b>
<b>(B) Producer's sale price:</b>		569.23	506.06	487.32	460.69
<b>(C) Producer's share in Consumer's price:</b>		493.43 (53.12)	430.26 (51.68)	411.52 (51.12)	384.89 (50.76)
<b>Post-harvest contractor:</b>					
<b>(A) Expenses incurred by the Post-harvest contractor over transport :</b>					
1.	Orchard to road head	13.00	13.00	13.00	13.00

2.	Road head to wholesaler	13.00	13.00	13.00	13.00
	<b>Total</b>	26.00	26.00	26.00	26.00
	<b>Grand Total</b>	101.80	101.80	101.80	101.80
		(10.96)	(12.23)	(12.65)	(13.42)
(B) Total purchase price:		569.23	506.06	487.32	460.69
(C) Sale price:		620.46	551.60	531.18	502.15
(D) Contractor's margin:		51.23	45.54	43.86	41.46
		(5.51)	(5.47)	(5.45)	(5.47)
<b>Wholesaler:</b>					
(A) Expenses incurred by wholesaler: [Association / Mandi Fee & Others (repairing of packing)]		47.38	43.30	42.77	36.43
		(5.10)	(5.20)	(5.30)	(4.80)
(B) Total purchase price:		667.84	594.90	573.95	538.58
(C) Sale price :		727.95	648.44	625.60	587.05
(D) Wholesaler's margin:		60.11	53.54	51.65	48.47
		(6.48)	(6.43)	(6.42)	(6.39)
<b>Retailer:</b>					
(A) Expenses incurred by retailer:					
1.	Transport charges	20.00	20.00	20.00	20.00
2.	10% loss realized by retailer	72.79	64.84	62.56	58.70
	<b>Total</b>	92.79	84.84	82.56	78.70
		(9.99)	(10.18)	(10.26)	(10.38)
(B) Total purchase price:		820.74	733.28	708.16	665.75
(C) Sale price:		902.81	806.60	778.97	732.32
(D) Retailer's margin:		82.07	73.32	70.81	66.57
		(8.84)	(8.81)	(8.80)	(8.78)
<b>Consumer's Purchase Price:</b>		928.81	832.60	804.97	758.32
		(100 %)	(100 %)	(100 %)	(100 %)

(\*The figures within the parenthesis indicate the percentage out of consumer price).

**Table 5 :** Price spread of channel-IV [Producer-Commission Agent-Wholesaler (OSS)- Retailer (OSS)-Consumer (OSS)]

S N	Particulars	Varieties		
		Delicious	American	Maharaji
<b>Producer:</b>				
(A) Expenses incurred by the producer over marketing:				
1.	Charges of picking	9.60	9.60	9.60
2.	Charges of assembling	2.00	2.00	2.00
3.	Charges of grading	3.00	3.00	3.00
4.	Cost of packing box	42.00	42.00	42.00
5.	Cost of wrapping paper	6.10	6.10	6.10
6.	Cost of paddy straw	2.20	2.20	2.20
7.	Charges of packing	3.00	3.00	3.00
8.	Charges of assembling of boxes	1.50	1.50	1.50
9.	Charges of labeling and stenciling	1.50	1.50	1.50
	<b>Total</b>	<b>70.90</b>	<b>70.90</b>	<b>70.90</b>
(B) Expenses over transport:				
1.	Charges to go down, loading & unloading	4.90	4.90	4.90
2.	Orchard to road head	14.00	14.00	14.00
3.	Grading forwarding charges	14.00	14.00	14.00
4.	Freight charges	120.00	120.00	120.00
5.	Loading at Road Head	3.00	3.00	3.00
6.	Unloading at Destination	3.00	3.00	3.00
	<b>Total</b>	<b>158.90</b>	<b>158.90</b>	<b>158.90</b>
(C) Other Expenses:				
1.	Commission of Commission Agent (3 %)	15.88	14.05	12.40
2.	Communication etc.	0.11	0.11	0.11
3.	Miscellaneous Charges	1.00	1.00	1.00
	<b>Total</b>	<b>16.99</b>	<b>15.16</b>	<b>13.51</b>
	<b>Grand Total</b>	<b>246.79</b>	<b>244.96</b>	<b>243.11</b>
		(31.23)	(34.91)	(39.10)
(D) Producer's sale price:		529.39	468.39	413.29
(E) Producer's share in Consumer's price:		282.60	223.43	170.18
		(35.76)	(31.84)	(27.37)

<b>Wholesaler:</b>				
(A) Expenses incurred by wholesaler: [Association / Mandi Fee & others (repair of packing)]		42.35 (5.36)	37.47 (5.34)	33.06 (5.32)
(B) Wholesaler's purchaser price:		571.74	505.86	446.35
(C) Wholesaler's sale price:		623.20	551.39	486.52
(D) Wholesaler's margin:		51.46 (6.52)	45.53 (6.49)	40.17 (6.46)
<b>Retailer:</b>				
(A) Expenses incurred by retailer:				
1.	Transport charges	20.00	20.00	20.00
2.	10% loss realized by retailer	62.32	55.13	48.65
<b>Total</b>		82.32 (10.42)	75.13 (10.71)	68.65 (11.04)
(B) Retailer's purchaser price:		705.52	626.52	555.17
(C) Retailer's sale price:		790.18	701.70	621.79
(D) Retailer's margin:		84.66 (10.71)	75.18 (10.71)	66.62 (10.71)
<b>Consumer's Purchase Price:</b>		790.18 (100.00)	701.70 (100.00)	621.79 (100.00)

(\*The figures within the parenthesis indicate the percentage out of consumer price and outside the state).

\*\* OSS : abbreviates

The post-harvest contractor's margin 5.51 per cent, 5.47 per cent, 5.45 per cent and 5.47 per cent per box for different varieties of apple i.e. Delivious, Chamura, American and Maharaji; the wholesaler earned the share of Rs 60.11/- (6.48 per cent), Rs 53.54/- (6.43 per cent), Rs 51.65/- (6.42 per cent) and Rs 48.47/- (6.39 per cent) for per box of Delicious, Chamura, American and Maharaji varieties. This channel was mostly followed by large category orchardists. In this channel the producer spent all expenses from picking till the produce reaches the wholesaler of fruit market. Similar studies were carried out in the line by Sharma and Tungoe (2011); Tangjang and Sharma (2018).

Table 5 reveals 31.23 per cent, 34.91 per cent and 39.10 per cent of the bill paid by the consumer to retailer in retail market has been incurred by the producer to dispose off his produce of Delicious, American and Maharaji varieties to the wholesaler that amounts to Rs 246.79/-, Rs 244.96/- and Rs 243.11/- respectively. The expenses over packing box, commission of commission agents, transportations turned out to be Rs 282.60/- (35.76 per cent), Rs 223.43/- (31.84 per cent) and Rs 170.18/- (27.37 per cent) respectively for per box of Delicious, American and Maharaji varieties of apple. Similar study is carried out in the line by Sharma (2013).

Table 5 reveals that the retailers expenses to be Rs 82.32/- for Delicious, Rs 75.13/- for American and Rs 68.65/- for Maharaji, which constitutes 10.42 per cent, 10.71 per cent and 11.04 per cent of consumer's price. His expenses include the transportation charges and the 10.00 per cent loss suffers during transit. The return to the retailer in lieu of his expenses turned out to be Rs 84.66/-, Rs 75.18/- and Rs 66.62/- (10.71 per cent for each varieties) of the price paid by the consumer. In the channel-IV the consumer paid Rs 790.18/-, Rs 701.70/- and Rs 621.79/- for per box of the Delicious, American and Maharaji varieties. Similar study is carried out in the line by Sharma *et al.* (2017).

### CONCLUSION

It was concluded that the apple business in Kashmir is more remunerative. This enterprise is not only profitable and financially viable but also provides employment to large number of people in the area. The area and production of the

apple is increasing at the fast rate but the various defects of the existing marketing system results in the least share to the producer. Net return from the apple business can further be increased if the problems and defects of existing marketing system as stated above are taken care of. The producer should be assisted and encouraged to sell his produce directly to the wholesaler, for which long term credit at low interest basis should be provided.

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