Chapter II

A Critical Appraisal of Apple Industry
The age old apple cultivation has profusely coloured the serenity and tranquility of Kashmir's landscape. Kashmir apple has lived up to its reputation for being one of the most choicest fruits. Kashmir has for long been considered the home of apples. Hundred and ten varieties of apple are found in Jammu and Kashmir. The chief varieties being Delicious, American, Ambri, Moharaji, Kesari, Hazaratbali. However Ambri or Amri is the most popular and has a large round red and while sweet fruit, ripening in October and keeping its condition for a long time. This variety attracts maximum consumer's attraction due to its sweetness and handsome appearance. Unlike Amri, Mohi Amri has acid and redness. Another species known as Kuddu Sari is longer in shape and possesses more juice rather than acid but has short life. However,

1. Open House Discussion on fruit Processing Industry, p 7, Small Industries Service Institute, Govt. of India, Karanagar, Srinagar, 1981.

the best of the Kashmiri apples so far as flavour goes, is the little trel, which abounds in the neighbourhood of Sopore. This little apple has the most delicious taste — half sour, half sweet.

Though the cultivation of apple in India is concentrated in Jammu and Kashmir, Himachal Pradesh, and Uttar Pradesh yet, Kashmir enjoys the distinction of being still hub of apple industry of the country. This is obviously so because the State has not only superiority over Himachal and Uttar Pradesh in the field of Production but also in marketing.

The production of apple in the State is confined to six districts of the valley viz., Ananthnag, Baramulla, Badgam, Pulwama, Kupwara, and Srinagar. However, in Jammu Division apple cultivation is found in a limited scale in Doda district only. In two districts of the valley namely Baramulla and Kupwara, the apple cultivation is found on a large commercial scale as these have

3. Ibid. p. 349
suitable land for temperate fruits. Apple being state's main fruit has predominant position both in area under plantation and production.

**AREA UNDER APPLE CULTIVATION**

It has already been stated in the foregoing pages that area under horticulture, at present is 3.45 acres out of which 1.55 acres is under apple cultivation which forms 44.93 percent of the total fruit area. During the past few years there has been a remarkable increase in the area, under apple cultivation as is clear from Table 2.1:

<table>
<thead>
<tr>
<th>Year</th>
<th>Area (lakh acres)</th>
<th>Percentage increase (+) or decrease (-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976-77</td>
<td>1.21</td>
<td></td>
</tr>
<tr>
<td>1977-78</td>
<td>1.25</td>
<td>3.30</td>
</tr>
<tr>
<td>1978-79</td>
<td>1.29</td>
<td>3.20</td>
</tr>
<tr>
<td>1979-80</td>
<td>1.31</td>
<td>1.55</td>
</tr>
<tr>
<td>1980-81</td>
<td>1.50</td>
<td>14.50</td>
</tr>
<tr>
<td>1981-82</td>
<td>1.53</td>
<td>2.01</td>
</tr>
<tr>
<td>1982-83</td>
<td>1.55</td>
<td>1.31</td>
</tr>
</tbody>
</table>

Source: Compiled from the information collected from:


The table reveals that the area under apple cultivation has increased from 1.21 lakh acres in 1976-77 to 1.50 lakh acres in 1980-81 which signifies an increase of 23.96 percent at an average annual increase of 5.99 percent. From 1980-81 onwards there has been a significant increase in the area under apple cultivation as the same increases by 3.33 percent upto the year 1982-83. The increase in the area is the result of conversion of land under cereals into orchards, which were not previously yielding a substantial benefit to the growers.

However, it is distressing to note that the percentage of apple cultivation out of total horticulture area is reducing year after year as is reflected by table 2.2.

The results reveal that percentage of area under apple trees out of total horticulture area was 53.49 percent and 53.75 percent in 1977-78 and 1978-79 respectively as against 55.40 percent in the year 1975-76. The same touched a figure of 44.93 percent in 1982-83. The decline has been
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<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple</td>
<td>1.18 (55.40%)</td>
<td>1.21 (54.26%)</td>
<td>1.25 (53.19%)</td>
<td>1.29 (53.75%)</td>
<td>1.31 (50.97%)</td>
<td>1.50 (45.87%)</td>
<td>1.53 (45.54%)</td>
<td>1.55 (44.93%)</td>
</tr>
<tr>
<td>Other fruits</td>
<td>1.95 (44.60%)</td>
<td>1.02 (45.74%)</td>
<td>1.10 (46.81%)</td>
<td>1.11 (46.25%)</td>
<td>1.26 (49.03%)</td>
<td>1.77 (54.12%)</td>
<td>1.83 (54.46%)</td>
<td>1.90 (55.07%)</td>
</tr>
<tr>
<td>Total</td>
<td>2.13 (100%)</td>
<td>2.23 (100%)</td>
<td>2.35 (100%)</td>
<td>2.40 (100%)</td>
<td>2.57 (100%)</td>
<td>3.27 (100%)</td>
<td>3.36 (100%)</td>
<td>3.45 (100%)</td>
</tr>
</tbody>
</table>

Source: Compiled by the author from the information collected:

1. Open House Discussion on Fruit Processing Industry, p. 2, Small Industries Service Institute, Govt. of India, Karan Nagar, Srinagar, 1980.


L.A. = Lakh acres.
marked at 10.47 percent during the years of the study.

It is rather distressing to observe that apple which is the state's main commercial fruit has been allowed to be dominated by other varieties of fruit, which having poor commercial returns and potential in the State.

**PRODUCTION OF APPLE:**

With the increase in area under apple cultivation there has been a spectacular growth in apple production as is clear from the Table 2.3.

Table: 2.3  
<table>
<thead>
<tr>
<th>Year</th>
<th>Production (Lakh tonnes)</th>
<th>Percentage increase(+) or decrease(-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976-77</td>
<td>3.11</td>
<td>-</td>
</tr>
<tr>
<td>1977-78</td>
<td>3.48</td>
<td>+11.89</td>
</tr>
<tr>
<td>1978-79</td>
<td>4.51</td>
<td>+29.59</td>
</tr>
<tr>
<td>1979-80</td>
<td>4.62</td>
<td>+2.44</td>
</tr>
<tr>
<td>1980-81</td>
<td>5.36</td>
<td>+16.02</td>
</tr>
<tr>
<td>1981-82</td>
<td>4.94</td>
<td>-7.84</td>
</tr>
<tr>
<td>1982-83</td>
<td>4.31</td>
<td>-12.76</td>
</tr>
</tbody>
</table>

Source: Compiled from the information collected:


Table 2.3 clearly demonstrates that the apple production increased significantly during the last few years. The production which was 3.11 lakh tonnes in 1976 - 77 touched a record figure of over 5.36 lakh tonnes in 1980 - 81. This indicates an increase of 72.34 percent at an average annual increase of 18.08 percent. However, it is frustrating to note that this figure reduced to 4.94 lakh tonnes and 4.31 lakh tonnes during 1981-82 and 1982 - 83 respectively. This denoted a decrease of 7.84 percent and 12.76 percent during the said period.

The percentage of apple production to the total horticulture produce in the State, as is seen from the table 2.4, has shown a staggering trend as it varied between 90.40 percent to 95.20 percent during the period under study. Apple alone contributed 94.54 percent and 95.20 percent to the total production during the years 1978 - 79 and 1980-81. Another striking disclosure made by the table is rather depressing as it shows a reduction of 2.77 percent during the years 1981 - 82 to 1982 - 83.
Table 2.4  Percentage of apple production in total Horticulture Produce in Jammu & Kashmir

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple</td>
<td>3.48</td>
<td>93.04</td>
<td>3.11</td>
<td>90.40</td>
<td>3.48</td>
<td>91.57</td>
<td>4.51</td>
<td>94.54</td>
</tr>
<tr>
<td>Other fruits</td>
<td>0.26</td>
<td>6.96</td>
<td>0.33</td>
<td>9.60</td>
<td>0.32</td>
<td>8.43</td>
<td>0.26</td>
<td>5.46</td>
</tr>
<tr>
<td>Total</td>
<td>3.74</td>
<td>100</td>
<td>3.44</td>
<td>100</td>
<td>3.80</td>
<td>100</td>
<td>4.77</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Compiled from the information collected from:


L.T. = Lakh tonnes
Following factors are responsible for dominance of apple production over other varieties namely; peer, plum, cherry etc.

- a. higher demand of apple in and outside India;
- b. more remunerative price; and
- c. perishable nature of other fresh fruits compared to apple.

**INCOME GENERATION**

The State exchequre received 121.73 crores of rupee from horticultural sector in the year 1982-83. Out of this income 111.59 crores of rupees were received from the apple industry alone. This formed 91.50 percent of the State's total horticultural income. It amply shows that maximum contribution to horticulture income comes from apple industry. This income has been significantly increasing over the past few years as is clear from Table 2.5.

Table 2.5 shows that share of apple industry to the overall horticulture income has gone up from 84.37 percent in 1976 - 77 to 87.95 percent in 1979 - 80, signifying an increase of 3.58 percent. However, the overall percentage contribution of apple
### Table 2.5

Percentage of apple area, production, and income to total horticulture area, production and income (in acres/ tonnes/ crores)

<table>
<thead>
<tr>
<th>Year</th>
<th>Hort area (lakh acres)</th>
<th>Apple area (lakh acres)</th>
<th>Hort. production (lakh tonnes)</th>
<th>Apple production (Rs. in crores)</th>
<th>Hort. income (Rs. in crores)</th>
<th>Apple income (Rs. in crores)</th>
<th>%age of apple area to total hort. area</th>
<th>%age of apple production to total hort. production</th>
<th>%age of apple income to total hort. income</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976-77</td>
<td>2.23</td>
<td>1.21</td>
<td>3.44</td>
<td>3.11</td>
<td>66.35</td>
<td>55.93</td>
<td>54.26</td>
<td>90.40</td>
<td>84.37</td>
</tr>
<tr>
<td>1977-78</td>
<td>2.35</td>
<td>1.25</td>
<td>3.74</td>
<td>3.48</td>
<td>68.97</td>
<td>58.79</td>
<td>53.19</td>
<td>93.04</td>
<td>85.24</td>
</tr>
<tr>
<td>1978-79</td>
<td>2.40</td>
<td>1.29</td>
<td>4.77</td>
<td>4.51</td>
<td>93.53</td>
<td>80.23</td>
<td>53.75</td>
<td>94.54</td>
<td>85.77</td>
</tr>
<tr>
<td>1979-80</td>
<td>2.57</td>
<td>1.31</td>
<td>4.99</td>
<td>4.62</td>
<td>103.88</td>
<td>94.57</td>
<td>50.97</td>
<td>92.58</td>
<td>87.95</td>
</tr>
<tr>
<td>1980-81</td>
<td>3.27</td>
<td>1.50</td>
<td>5.63</td>
<td>5.58</td>
<td>125.27</td>
<td>115.26</td>
<td>45.87</td>
<td>95.20</td>
<td>92.01</td>
</tr>
<tr>
<td>1981-82</td>
<td>3.56</td>
<td>1.55</td>
<td>5.24</td>
<td>4.94</td>
<td>122.89</td>
<td>114.36</td>
<td>45.54</td>
<td>94.27</td>
<td>93.45</td>
</tr>
<tr>
<td>1982-83</td>
<td>3.45</td>
<td>1.55</td>
<td>4.71</td>
<td>4.31</td>
<td>121.73</td>
<td>111.39</td>
<td>44.93</td>
<td>91.50</td>
<td>91.50</td>
</tr>
</tbody>
</table>

Source: Compiled by the author on the basis of tables 2.1, 2.2, 2.3, 2.4.
trade witnessed a decline from 93.45 percent in 1981 - 82 to 91.50 percent in 1982 - 83. Except for the year 1982 - 83 when the apple crop decreased owing to the natural climaties, there has been a phenomenal increase in the apple trade / income due to higher apple area cultivation and its production.

Though the results reveal that apple industry plays a vital role in the horticulture sector of the State, yet in terms of income, its contribution has not yet attained the optimum level. A survey conducted by Directorate of Horticulture, Jammu and Kashmir in 1974 - 75 observed that even a poorly managed orchard could yield 150 to 175 fruit boxes per acre per season. However, recent field observation gives an impression of higher average yield and it is estimated that a well managed orchard yields 300 to 350 boxes per acre per season; which means an income of Rs. 19000 to 22000 per acre. This fact is also collaborated by a research conducted in 1973.


5. Author's discussion with the Horticulture experts of the State Govt.
The findings of the research study reveal that gross income of more than Rs. 30,000 per hectare\(^*\) is no longer a surprise from well maintained apple orchard\(^6\). A well maintained orchard is one which is properly fenced, irrigated, laid out, fertilized and pruned regularly, and sufficiently protected against diseases and pests. Since most of the apple orchards of the State suffer from multiple defects it seems quite unlikely to get an optimum yield of 300 to 350 boxes per acre. The defects are as under:

i. Rarely fenced;

ii. Poorly laid out;

iii. Lesser use of chemical fertilisers;

iv. Occasionally pruned;

v. Seriously attacked by various pests and diseases; and

vi. Lesser sources of irrigation.

In spite of all these shortcomings it should not be difficult to achieve the yield of 72 to 75 boxes per acre\(^7\).

\(^*\) 1 Hectare = 2.47 acres.


7. Based on the author's discussion and interviews with Horticulture experts / officers of the State Government.
On the basis of above inferences, the income which ought to accrue to the apple industry can be easily estimated. But actual results are quite depressing. There is much disparity between the potential and actual earnings on account of apple trade in Jammu and Kashmir as is evident from Table 2.6.

Table 2.6, thus shows that there was a short fall of 59.13 percent between the actual and the projected earnings on account of apple trade. However, this gap narrowed down to 45.55 percent in 1981-82 but again the gap widened to 54.63 percent in 1982-83.

The low contribution of apple industry is a serious problem and demands an urgent attention of official agencies concerned. At the same time it has been observed that plan measures could not help the industry to grow; as a consequence of which the State's objective of attaining optimum productivity in terms of apple crop could not be achieved. Coupled with it the basic apple growers too did not benefit much. Hence to improve upon this situation it is imperative to launch a suitable scientific programme
Table - 2.6

Analysis of Income from apple cultivation per acre in Jammu and Kashmir

(Rs. in thousands)

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual income</th>
<th>Estimated income</th>
<th>Deviation (+)Increase</th>
<th>Deviation (-)Decrease</th>
<th>Percentage achieved</th>
<th>Percentage not achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976-77</td>
<td>4607</td>
<td>10500</td>
<td>-5893</td>
<td>44.88</td>
<td>56.12</td>
<td></td>
</tr>
<tr>
<td>1977-78</td>
<td>4702</td>
<td>11500</td>
<td>-6798</td>
<td>40.37</td>
<td>59.63</td>
<td></td>
</tr>
<tr>
<td>1978-79</td>
<td>6203</td>
<td>12250</td>
<td>-6047</td>
<td>50.63</td>
<td>49.37</td>
<td></td>
</tr>
<tr>
<td>1979-80</td>
<td>6933</td>
<td>12750</td>
<td>-5817</td>
<td>54.37</td>
<td>45.63</td>
<td></td>
</tr>
<tr>
<td>1980-81</td>
<td>7647</td>
<td>13500</td>
<td>-5853</td>
<td>56.64</td>
<td>43.36</td>
<td></td>
</tr>
<tr>
<td>1981-82</td>
<td>7488</td>
<td>13750</td>
<td>-6262</td>
<td>54.45</td>
<td>45.55</td>
<td></td>
</tr>
<tr>
<td>1982-83</td>
<td>7147</td>
<td>15750</td>
<td>-8603</td>
<td>45.57</td>
<td>54.63</td>
<td></td>
</tr>
</tbody>
</table>

* Calculated on an average yield of 250 boxes per acre.

Source: Compiled by the author on the basis of table 2.5 and information collected from:
for the development of apple cultivation and its efficient distribution. This, therefore, calls for the adoption of series measures which alone can assure better returns to the cultivators and handsome revenue to State exchequer. Measures taken so far have only touched the fringes of the problem. The establishment of two prestigious projects in this context deserve a special mention.

Jammu and Kashmir Integrated Horticultural Development Project

Jammu and Kashmir integrated Horticultural Development Project (JKIHD) was first of its kind in the State and second in India. The project receives financial assistance from the World Bank. It is the outcome of the result of a tripartite agreement made in July, 1978 between the Government of India, State Government and International Development Association in Washington, U.S.A. The total cost of the project is $27.6 million or Rs. 24.22 crores which include Rs. 14 crores from the World Bank and is to be completed by the end of 1984. The purpose of the project is to streamline and improve the marketing of fruits especially,
apples and walnuts. Another objective is to provide adequate remuneration to the growers / producer's for their hardwork. The components of the projects are as under:

a. For apples, 25 apple grading and packing centres, of which ten of 6,000 tonnes of capacity and 15 of 1,000 tonnes; 17,000 tonnes cold storage; ten saw mills attached to larger grading and packing centres to produce fruit containers; a fruit transhipment centre; and a 12,000 tonne per year capacity apple juice processing plant.

b. For walnut, 14 hulling / drying and packing centres of which one 2,000 tonnes capacity, one 1,000 tonnes capacity and twelve 500 tonnes capacity; and a 4,000 tonne a year processing centre to deal mainly with nuts for export.

c. For mushrooms, improved spawn production and research facilities.

d. Rs. 20 million seasonal credit to help growers meet fruit production and harvesting expenses.

e. Specialised cold storage, laboratory and library facilities to enable Department of Horticulture to conduct post-harvest trials with fruit.

f. Three studies to improve apple, walnut and apple juice marketing and a project evaluation study; and

g. 90 men months consultants time and 62 men months of overseas training to support design and operation of project facilities and to help Department of Horticulture and Agriculture to improve fruit and mushroom production.

The executive agency for this project is Jammu and Kashmir Horticultural Produce Marketing and Processing Corporation Ltd. (J&K HPMC). This corporation came into existence on the 10th of April, 1973 with an authorised capital of Rs. 2 crores. The capital is to be shared by Government of Jammu and Kashmir, Government of India and the fruit growers in the ratio of $5:4:1$. The corporation is governed by the Indian Companies Act, 1956 and has been incepted with the following main objectives.

1. "To set up, acquire, establish, purchase, sell and/or manage large scale commercial orchards/farms on modern lines for feeding the canning and preservation units and for other such purposes.

2. To conduct wholesale and/or on retail, the business of sale/purchase of apple and other fruit and vegetable and their processed products and any other agriculture/horticulture produce or products and also to function as an agent of the Government or any other agency as may be approved by the Board of Directors.

3. To design, promote, produce, manufacture and/or install processing plants, equipments and/or units as may be required from time to time for processing of horticulture/agriculture produce.

4. To arrange, promote, and expedite the export of raw and finished horticultural/agricultural produce and equipment in furtherance of the company's principal business.

5. To collect and disseminate market information, set up emporium and/or exhibition and participate in exhibitions and fairs within and outside the country.

6. To promote, aid and finance the research projects on horticultural/agricultural production, market research and processing and publication of suitable literature and organise campaigns, schemes etc in the achievements of the objectives of the corporation.

7. To appoint representatives, contractors, brokers, canvassers, agents and other persons and to establish
and maintain agencies or branches in any part of Jammu and Kashmir or elsewhere within or outside the country for the purpose of carrying on business of the company).

If objectives serve any guide, then it seems that the project is bound to play crucial role in the horticulture sector. Its massive investments offer a hope that processing and marketing of fruit will undergo a revolutionary change once it becomes fully operational by 1985-86 with that it is expected to handle 75,000 tonnes of apples and 9,000 tonnes of walnuts, i.e., 12 and 30 percent respectively of the projected 1987 production in Jammu and Kashmir. Apart from its profitability criteria the corporation will bring the horticulture industry of Jammu and Kashmir to an appreciable standard by the introduction of latest technological devices. This would provide export outlets for the quality fruits of Kashmir besides making them available to the local consumers in rest of the country. This


step would revolutionize the economic condition of the thousands of growers who ineffect form the backbone of the industry.  

The mere inception of the projects provide no answer to the problems unless their aims and objectives are implemented both in letter and spirit. Accordingly, in the discussions that follows an attempt has been made to analyse how far the executive agency (J&K HPMC) has succeeded in giving a practical shape to various measures of this project.

GRADING

Grading stimulates producer to produce and trader to maintain a high level of quality to the benefit of consumer. Grading increases the saleability of a product, once the consumer is sure of the quantity he is paying for, he would like to meet his full demand. To achieve this end the corporation intends to construct 25 packing and

12. Ibid. Opp cit.
grading houses with a capacity of 6,000 and 1,000 tonnes respectively at different places of the State. The corporation has already selected seventh places for the construction of 17 packing and grading houses. The location and capacity of each packing and grading house is given in appendix -1.

At present packing and grading houses with the capacity of 1,000, 6,000 and 1,000 tonnes respectively are operating at Zakroo, Sumbal, Chakahajan (Kulgam) and Chowodrigund. Construction of additional 10 packing and grading houses at Khonmah, Beerwah, Pattan, Doabgah (Sopore), Batakote (Handawara), Rajpora (Pulwama), Beharampora, Kanispora, Rambertpora and Serigufwara with a total installed capacity of 46,000 tonnes of apple has been completed and are expected to be commissioned by the current harvest season. In addition to this the construction of two more grading and packing houses at Chooldra and Boomi is in progress and are expected to go in operation by 1985.
During the current year i.e. 1984-85, 14 packing and grading houses will be available for grading of apples in the State with a total installed capacity of 60,000 tonnes which will cater to 13.91 percent of State's total apple production of 1982-83. This way the corporation on completion of its project by 1984 shall be handling 12 percent of the projected apple production i.e., 6,40,000 tonnes, by 1987.

These facilities will ensure remunerative returns to the growers and high quality graded apples to the consumers. At the same time quality graded fruit will increase the bargaining power of the fruit traders at export marketing centres. Inferior grading has been main reason for less economic returns of the apple production of the State in the past.

There is greater tendency on the part of the growers to grade their fruits as is clear from the fact that mechanical grading of apple which was 3034 boxes in 1981-82 went up to 16,170 boxes in 1982-83. However, the facility of mechanical grading does not cover all growers at present due to limited capacity but with the expansion in its operations it is hoped that a sizeable number of growers will be benefited by it. For providing such facility the corporation charges Rs. 2 per box.

PACKAGING

Efficient marketing needs development and adoption of suitable packaging. A scientifically developed packaging technique will go a long way in maintaining the quality of products and the goods into motion in the channel of distribution. It is a key to sales promotion which should be skillfully used by the wise businessmen to unlock

the store of prosperity in the business.

Packing system is a crucial problem faced by the apple industry of the State. Every year 1.6 million cubic ft. of timber is used for packing of fruit in Jammu and Kashmir State. Present source of packing is not everlasting and at the same time it is also uneconomical one. This situation demands remedial measures to check such imbalances. It is heartening to note that Jammu and Kashmir Horticultural Produce Marketing and Processing Corporation succeeded in developing an alternative arrangement. During the year 1980-81 the corporation despatched apples in card board cartoons to various export marketing centres. The results of shift in the packing system were quite encouraging but it does not seem to be helpful to the small and marginal growers, these growers do not opt for this arrangement because the cost of card board cartoons is comparatively higher than wooden boxes and also are not easily available within the State.
However, with the research and development in packing system the scope for further improvement in packing system is hoped for. The corporation is seized with the urgency of developing an efficient and economical alternative arrangement of packing. The present effort, therefore, assures well for horticulture marketing system in this direction.

**MARKETING CHANNEL:**

Because of scattered nature of horticultural markets, the choice of distribution channel has a great bearing on other elements of the marketing mix. To tap successfully and profitably it is highly essential to frame an effective and appropriate distribution network which seriously affect quality of service to the consumer and the selling cost. As such, the distribution of horticultural produce is a pyramid of fruit growers and consumers.

The main objective of the corporation is to provide the apple growers/traders of the state an alternative, economical and efficient marketing
channel. The main purpose of providing an alternative marketing channel was designed to eliminate the various intermediaries functioning between grower and consumer. These intermediaries have been the main beneficiaries of high returns on apple. The Corporation has failed in its promise of providing an efficient and suitable alternative. The corporation has failed to eliminate the intermediaries which was its primary objective. In fact it has itself become an intermediary in the distribution network.

Although the Corporation has enough potential to mitigate the influence of these intermediaries from apple trade, yet unfortunately it has shown its inability to do so because of political expediency. The moment the Corporation is able to weed out the influence exerted by resourceful people, it might be able to eliminate at least the commission agents at the terminal market. In fact such a scheme is adopted by the Corporation at Delhi fruit market where it has its own market outlet. In other export centres viz., Bombay, Madras, Bangalore, Calcutta, Ahmadabad, etc.; the Corporation adopts age-old channel i.e. commission agents, to dispose off its apple production. Though
the auction of the produce at these markets takes place before the Area Marketing Officers of the Corporation, yet such strategy is not efficient and suitable. The commission agents usually sell this produce to those wholesalers who are known to them and with whom they have mutual understanding. At the same time much depends on the efficiency of these Area Marketing Officers in this system of auction. In addition to this, the Corporation has to pay commission-cum-service charges to these commission agents. As a consequence thereof, it reduces the apple returns.

RISK BEARING

Jammu and Kashmir Horticultural Produce Marketing and Processing Corporation is one of the forwarding agencies of fruits in the State. It has no stake as such the entire burden of production risks are essentially borne by the growers. Risk taking is one of the crucial factors in marketing of apple produce. Since the growers of the State are gripped with traditional inhabitions they do not want to take risk arising out of the market forces, price fluctuations and deterioration in
the products. Because of these basic reasons apple growers are forced to accept less returns for their produce by selling it to pre-harvest contractors, who assure them about the marketing and other risks.

These reasons lend support to the continuance of inefficient and uneconomical marketing channel. The failure on the part of the Corporation to make out-right/ direct purchases from the growers has adversely affected the interests of the small and marginal growers of the State.

**TRANSPORT**

Marketing cannot be conceived in the absence of an efficient transport system. A well knit transport and communication network is a strong lubricant for achieving the marketing goals. Viewed against this background, it is a matter of satisfaction to note that the Corporation has an ambitious plan to acquire a fleet of 60 trucks for transporting the produce from point of production to the point of consumption. In this connection 15
trucks have already been purchased and made available to growers for increasing efficiency in the speed of transportation. Though this number is inadequate yet it will go a long way in improving the quick movement of apple production from the State to the target markets. It will also prove a fruitful measure for marginal growers who are at loss as they are not in a position to book a full truck load because of their individual produce being not substantial. There is no option to these growers except to handover their produce to commission agents for despatch, who book the trucks in advance for the purpose. Now these marginal growers are able to handover their produce to the Corporation even if marketable apple quantity is small enough to be not even equal to half truck load.

With the availability of more trucks in future efficiency in apple marketing is bound to increase. It has been seen that during the peak seasons at least, 300 fruit trucks are despatched every day to Delhi and other terminal markets. Usually unloading is a problem at these
markets as it takes minimum 4 days to unload the trucks and 10 days (3 * 4 * 3) in total to reach back to Srinagar resulting in reducing the plying efficiency of the fruit carriers. However, with 60 trucks the Corporation can make at least two trips to terminal markets within these 10 days as Corporation has its own trucks, drivers and labours who can move expeditiously. In this way Corporation will be able to inject efficiency in the transportation of the produce. As and when the Corporation has its own fleet of trucks sufficient to cater to the peak load seasonal demand for transhipment of fruit outside the State, it would save them from the time consuming and inconvenient efforts to procure the trucks from other transport agencies for the same.

**STORAGE**

In physical distribution, storage facilities have an important role to play. Proper and adequate facilities of storage are all the mere essential in the physical distribution of fruits - a produce which is basically a perishable one.
To enable the apple growers of the State to realise a better price for their produce, the Corporation as an executive agency for Jammu and Kashmir Integrated Horticulture Project has to construct cold stores at different places in the valley with a total installed capacity of 17,000 tonnes. So far the Corporation has constructed 7 cold stores with 1,000 tonnes capacity each, at different places as shown in Table 2.7 given below:

Table: 2.7 Installed capacity of cold stores of the Corporation in Kashmir Division

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Place</th>
<th>Capacity (tonnes)</th>
<th>Year of commission</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Zakroo</td>
<td>1,000</td>
<td>1982</td>
</tr>
<tr>
<td>2.</td>
<td>Dobagah</td>
<td>1,000</td>
<td>1982</td>
</tr>
<tr>
<td>3.</td>
<td>Chakahjan</td>
<td>1,000</td>
<td>1983</td>
</tr>
<tr>
<td>4.</td>
<td>Kanispora</td>
<td>1,000</td>
<td>1984</td>
</tr>
<tr>
<td>5.</td>
<td>Butkott</td>
<td>1,000</td>
<td>1984</td>
</tr>
<tr>
<td>6.</td>
<td>Rajpoor</td>
<td>1,000</td>
<td>1984</td>
</tr>
<tr>
<td>7.</td>
<td>Sumbal</td>
<td>1,000</td>
<td>1984</td>
</tr>
</tbody>
</table>

Total 7,000

The facility of cold storage is offered at present only to those growers who dispose off their produce through this corporation, though limited capacity of cold stores available at present is not even sufficient to meet the requirements of the Corporation itself. In the future with the availability of larger number of cold stores, a good number of growers will be benefited by such facility. The growers will be charged a nominal rate for the same.

In addition to this the Corporation has also constructed a transhipment centre with a total installed capacity of 10,000 fruit boxes at Jammu. With the availability of this facility at Jammu, the apple is booked directly from Jammu to all distributing centres by train.

The facility of providing adequate cold storage will enable the State in the future to earn maximum economic returns from apple trade by adjusting the timing of sales to better market price. It will help in minimising the glut in the terminal market, especially in post harvest period.
by adjusting the apple supply to its market demand. Further, with the help of these facilities supply of quality apples to the export marketing centres will be regularised for eight months irrespective of the time of actual production which is at the most four months duration. It will increase the bargaining power of growers/traders enabling them to have control over the prices for their produce at terminal markets.

**PROCESSING:**

Like other functions of marketing, processing is the one which has a tremendous role to play especially in fruit industry. Through this exercise apples are processed in accordance with their intrinsic worth by mechanical devices.

To make it possible to eke out an income from the average annual 30 percent wastage of the apple crop on account of unmarketable surplus, windfalls and culls, the Corporation is to install a juice processing plant at Parimpore with an off-take of 12,000 tonnes of apple per year. The work for said plant has started and is expected to be
commissioned in the next season.

Moreover, to give a boost to export of walnuts, 7 walnut hulling and drying plants with a capacity of 500 tonnes each have been constructed at different places in the Kashmir Valley. The places are shown in table 2.8 given below.

### Table 2.8 Installed capacity of Walnut hulling and drying plants

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Place</th>
<th>Capacity (tonnes)</th>
<th>Commission year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Bindaza longam</td>
<td>500</td>
<td>1984</td>
</tr>
<tr>
<td>2.</td>
<td>Chowdharigund</td>
<td>500</td>
<td>1984</td>
</tr>
<tr>
<td>3.</td>
<td>Rajpora</td>
<td>500</td>
<td>1984</td>
</tr>
<tr>
<td>4.</td>
<td>Tral</td>
<td>500</td>
<td>1984</td>
</tr>
<tr>
<td>5.</td>
<td>Achabal</td>
<td>500</td>
<td>1984</td>
</tr>
<tr>
<td>6.</td>
<td>Beerush</td>
<td>500</td>
<td>1984</td>
</tr>
<tr>
<td>7.</td>
<td>Magam(Handawara)</td>
<td>500</td>
<td>1984</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>3500</strong></td>
<td></td>
</tr>
</tbody>
</table>

It is refreshing to note that the construction work of 4,000 tonnes walnut export processing centre at Qazi gund, which will bleach, crack and grade 4,000 tonnes of walnut for export annually, has started. The plant is expected to start its processing operation by the end of the current season. All these facilities have been designed in accordance with the modern technological devices.

**FINANCE**

It has been rightly said that finance is the life blood of any commercial activity. Its inadequacy or lack seriously hampers and retards the growth of enterprise. In the case of apple industry, the easy finance is by far the most important input. It gives a go to all the aforesaid functions of the marketing programme. Finance is an essential lubricant which facilitates the operation of the whole distribution network.

Seized with the importance of finance, one of the objective of the project is to give
growers Rs. 20 million seasonal credit which will help them to meet the expenses incurred in the process of production and marketing of their produce. At this front, the Corporation has not yet come forward to help the marginal growers of State as it has not still launched such a programme of credit facility to them. Instead of above programme the Corporation has started another scheme known as "kind advance". Under this scheme the Corporation meets indirectly the cost of marketing for the produce of the growers from the harvest of fruit to its final disposal to the ultimate consumer. Under this scheme cost of marketing includes costs like packing and grading charges, packing material, insurance charges (at the option of the grower), freight, toll, cold storage charges and other marketing charges. These expenses are later on deducted from the apple returns.

However, this facility is available only to those growers who dispose off their produce through this Corporation. Thus the majority of growers, who adopt other marketing channels are deprived of such benefits. Because of this lacuna Corporation has not proved a beneficial marketing agency for the poor growers of the State.

SELLING

Selling is an important function of marketing. It is the culmination of all marketing activities and as such must be carried in accordance with the established norms of modern marketing management. The Corporation did a commendable job in this respect. Following its inception in 1978, it marketed 22,349 boxes of apple. It was its first venture and carried on experimental and promotional bases. Being its maiden activity, the Corporation suffered a loss of Rs. 3.57 lakh in that year. As time rolled on the Corporation gained experience and thus improved its marketing activities and managed to sell large quantities as is evident.
from Table 2.9 given below:

Table 2.9  Sale of apple by the Corporation
at export centres

<table>
<thead>
<tr>
<th>Year</th>
<th>Sale (in boxes)</th>
<th>Percentage increase(+) or decrease (-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1973-79</td>
<td>22349</td>
<td>-</td>
</tr>
<tr>
<td>1979-80</td>
<td>95311</td>
<td>426.46</td>
</tr>
<tr>
<td>1980-81</td>
<td>225575</td>
<td>236.67</td>
</tr>
<tr>
<td>1981-82</td>
<td>139205</td>
<td>-38.23</td>
</tr>
<tr>
<td>1982-83</td>
<td>91384</td>
<td>-34.35</td>
</tr>
</tbody>
</table>


The table reveals that the Corporation by putting in tremendous efforts managed to increase the sales by 426.46 percent and 236.67 percent in the years 1979-80 and 1980-81 respectively. However, it is disturbing to note that the sales decreased by 38.23 percent and 34.35 percent in the years 1981-82 and 1982-83 respectively.
One of the astonishing facts to observe is that instead of minimising the mal-practices of apple trade at export marketing centres it has contrary to the expectations as it encouraged and supported the mal-practices. The Corporation has itself followed the 'Parcha'/Hatha system of selling/auction at various terminal markets. Such a marketing system is an unorganised one and does not satisfy the essentials of efficient marketing. The Corporation has enough potential to avoid such malpractices and it should undertake earnest efforts to do so.

From what follows above it is safe to conclude that Jammu and Kashmir Horticulture Produce Marketing and Processing Corporation Ltd. did serve positive job by providing the facilities of grading, packing, processing, and marketing of apple in and outside the State. But on the overall plain it failed to promote and help the various horticultural units/agencies as well as small apple growers because of the following lapses:
i. Failure to provide financial assistance to the marginal growers to meet the cost of production as well as marketing;

ii. Inability to bear the marketing risk of the grower’s produce;

iii. Failure to establish research and development programmes and facilities in the field of horticulture production and marketing;

iv. Failure to establish Horticulture marketing information system;

v. Failure to develop economic packing system; and

vi. Inability to remove malpractices of horticultural marketing;

INDO AUSTRALIAN APPLE GRADING PROJECT:

In order to enhance marketing of apples and provide fair economic returns to growers, a project namely Indo-Australian Apple Grading and Storage project was established in the year 1981 at Nowpora, Sopore. The initiation of the project is the result of an agreement between Government of India and the Government of Australia which was signed in New Delhi. The total commitments of the State Government and Australian Government
for the project was Rs 48.72 lakhs and 9,00,000 dollars (About 72 lakhs) respectively. The objectives of the project are:

i. To introduce and demonstrate mechanical grading of commercial varieties of apple in order to maintain uniformity in size and grade;

ii. To conduct experiments to establish right time of picking which in turn will help to increase the shelf life of the fruit;

iii. To demonstrate the utility of pre-cooling apples immediately after harvest for improving the quality factors and shelf life;

iv. To study the behaviour of the fruit under longer periods of storage at the producing centres;

v. To establish a base for export of apples to foreign markets provided a well defined transport is available from the producing centres to the place of embankment;


vi. to compare the use of cardboard cartoons with traditional wooden cases and also to fix standard for packing cases; and

vii. to introduce modern techniques of handling and presentation of the fruit for local and international markets.

The executive agency for this project upto 1982 was Department of Horticulture Planning and Marketing, Jammu and Kashmir Government. In the year 1983 the project was handed over to Jammu and Kashmir Horticulture Produce Marketing and Processing Corporation. To give a practical shape to the above stated objectives of the project, the Department of Horticulture, Planning and Marketing undertook the following tasks:

a. Introduction of scientific grading and modernisation of grading system;

b. Introduction of efficient and attractive packing system;

c. Grower's education programme;

d. Establishment of marketing information system;

e. Launching of advertisement and publicity campaigns; and
Introduction of scientific grading, and modernisation of grading system

To maintain the traditional image of Kashmir apple and to meet the increasing competition at terminal markets, the scientific grading, suitable packing and attractive presentation of apple is very essential. It has been observed that the scientifically packed and graded apples fetch 20 to 35 percent more revenue than the traditionally graded and packed apples. So far about 1,448 growers have been trained in mechanical grading and packing. In addition to this under modernisation of grading system, revised grade standards have been prepared with the help of experts from Australia and UNDP for commercial varieties of apple. These grading standards are proposed to be adopted under AGMARK which would


18. Ibid., p. 3.
eventually pave way for the State to enter the international market.

**Introduction of efficient and attractive packing system**

With the help of UNDP card board cartoons have been used for packing of apples as an alternative arrangement in place of traditional wooden cases. This system was used for the first time in 1981 on experimental basis. The results were encouraging as it has great consumer's attraction. The use of card board cartoons increases year after year as more and more growers become familiar of it.

**Grower's education programme**

The publication wing of the Department of Horticulture Planning and Marketing also educated the apple growers of the State about the post harvest techniques of apple, benefits of scientific grading, and organisation of cooperative societies.

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Establishment of marketing information system

To establish elaborate market contacts, economic studies and surveys, inform the growers about day to day rates; demand and sales of different varieties of apple at various terminal markets; the Department of Horticulture, Planning and Marketing has set up marketing offices at Delhi, Bombay, Madras, Calcutta, Hyderabad, Jaipur, Patna, Trivendrum, Bhopal, Amritsar and Bangalore²⁰. The market intelligence communicated by these offices is broadcasted daily from Radio Kashmir, Srinagar to keep growers and traders aware of market trends.²¹

Launching of advertisement and publicity campaigns

To popularise Kashmir apple within and outside the country the information and publicity wing of the department prepares and distributes


²¹. Ibid. p. 23.
attractive handbills, stickers, labels, pamphlets and folders etc, depicting the different varieties of Kashmir apple, their taste, sweetness and keeping quality. In addition to these, cinema slides are being screened in the cinema halls in other parts of the country. Sales cum exhibition counter (permanent display prevalent) at world trade centre, Bombay has also been set up.

Efficiency in transportation of fruit

Since the transport is the important factor in the efficient marketing of horticulture produce, special arrangements were and are being made to carry the fruit from point of production to point of consumption. For this purpose road and railway transport has frequently been utilised. The Department of Horticulture, Planning and Marketing arranged 22,500 truck trips during 1982-83 (upto 15 January, 1983) as against 27,800 truck trips in 1981-82 for the fruit growers and traders to export their produce to the various terminal

22. Ibid., p. 23.
markets of the country. Further, to bring speed in the transportation of apples, ceiling of a truck has also been increased from 390 boxes to 500 boxes. As a consequence thereof the freight has reduced to Rs. 3 per box as against Rs. 4 per box.

Despite of these developmental measures the contribution from apple industry to the State Horticulture has not been quite significant. This is largely due to defective and uneconomical distribution system of apple produce in the State. A sound system of distribution net-work alone is a guarantee for remunerative returns to the growers. Accordingly, therefore, an attempt has been made in the next chapter to examine the distribution mechanism of apple produce in the State.