ASSESSMENT OF PROBLEMS AND PROSPECTS OF APPLE PRODUCTION AND MARKETING IN KASHMIR VALLEY, INDIA

Mohmad Iqbal Reshi, Muzaffer Ahmad Malik and Vijay Kumar

1. Department of Regional Planning and Economic Growth, Barkatullah University, Bhopal, (INDIA)
2. Indian Institute of Forest Management (IIFM), Bhopal, (INDIA)

ABSTRACT

Apple production is the main occupation in the Kashmir valley (India). This study is an effort to assess the potential and problems faced by this sector. It is pertinent to mention that this sector provides, directly or indirectly, employment to a hollowing number of some 30 lac people. Though, this is the main occupation contributing to states GDP up to a considerable level, still it has not been provided industrial status, owing to ignorance from government side, lack of infrastructure and proper marketing channels and research and development. Study highlights the dimensions of supply chain management of apples in the valley.

Key Words: Apple production, Kashmir Valley, Economics, Jammu and Kashmir, Supply chain management, Marketing

INTRODUCTION

Apple is one of the most widely cultivated tree fruits. The tree is small and deciduous, reaching 3 to 12 meters (9.8 to 39 feet) tall with broad, often densely twiggy crown. Blossoms are produced in spring simultaneously with the budding of the leaves. The fruit matures in autumn and is typically 5 to 9 Cm’s (2 to 3.5 inches) in diameter enriched with nutrients; the apple is the fourth widely produced fruit in the world after Banana Orange and Grapes. India is ranked as the sixth largest world’s Apple producing country and second largest country in Area. This fruit grows in the temperate climate to meet these conditions. Nearly all of the Indian Apples are grown in three mountainous states of north India – Himachal Pradesh, Jammu and Kashmir.
and Uttaranchal, where they are typically grown at an altitude of 4000 to 11,000 feet. J and K and Himachal Pradesh have roughly equal area planted to Apple, but J&K has the highest average yield and accounts for 67 percent\(^3\) of total Apple production and 50 percent of its exports in the country, hence a substantial foreign exchange earner and important for economic growth. India annually exports Apple worth Rs. 400 million (Nearly US$ 10 million) out of which Rs. 200 million of Apples comes from J&K’s North region i.e. Kashmir. These figures have given the state the status of.

The fruit culture in Kashmir valley dates back to the times of King Nara (1000 BC), King Lalitaditya (700 AD) and Harsha (1089 AD)\(^4\). This sector occupies an important position in the farming system of the state and has assumed great importance during the last few decades. In Horticulture sector, the largest area of 43.53 percent (133101 ha) is occupied by Apple out of total area under fruit, and 65.46 percent\(^5\) out of fresh fruit area, thereby making it the largest contributor to the state’s GDP among the Horticulture produce. The area under Apple cultivation and production of Apple for last 5 years is as follows:

### Table1: Production and cultivation of apples in Kashmir Valley (India)

<table>
<thead>
<tr>
<th>Year</th>
<th>Apple Cultivation (000 ha)</th>
<th>Apple Production (000 MT’s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004-05</td>
<td>107.93</td>
<td>1093.33</td>
</tr>
<tr>
<td>2005-06</td>
<td>111.88</td>
<td>1151.34</td>
</tr>
<tr>
<td>2006-07</td>
<td>119.04</td>
<td>1222.18</td>
</tr>
<tr>
<td>2007-08</td>
<td>127.80</td>
<td>1311.85</td>
</tr>
<tr>
<td>2008-09</td>
<td>133.10</td>
<td>1332.81@</td>
</tr>
</tbody>
</table>

Source: Directorate of Horticulture, Planning and Marketing, J&K, Agricultural Production Department, J&K (@ provisional)

being the highest growers respectively. There are three groups of varieties of Apple grown in Kashmir which include early maturing (July), mid summer (August-September) and late ripening (September-October).

### Marketing channels

The biggest whole sale market for Apple is Fruit and Vegetable Market Azadpur Delhi, where about 70 percent of the total traded Apple is distributed which is followed by Mumbai, Bangalore, Ahmadabad and others. The season of market arrivals from Kashmir is August to November with a peak in September to October. There are number of marketing channels\(^6\) of which the predominant are:

The sale through pre-harvest contractor is the most important system of marketing. Normally the small orchardists sell their crop at flowering stage to contractor who organizes plant protection, plucking and packaging of fruit. The medium and large orchardists prefer to market their produce through 2nd and 3rd channels respectively.

During the past two decades, characterized by political turmoil, horticulture has emerged as the biggest sector and has left behind even the tourism industry of the state. But it has been an accepted fact that the peculiar geographical conditions and inadequacy of infrastructure particularly in Kashmir region has restricted the development of agriculture product and the possibility of land productivity. The output of the agricultural produce is not increasing in proportion to the cost involved in farming. The horticulture sector is a viable option for nearly 30 lac people who are earning their income directly or indirectly through this sector, covering almost 5 lac families. Still there are certain problems which hinder its growth and need special attention.

Objective
Considering the above discussion, this study has been undertaken with the sole objective of assessing the potential of Apple production, its impact on the standard of living of the local people. It has also been undertaken to provide a possible solution to the problems faced by this sector.

METHODOLOGY
Keeping in view the objective of the study, the data collection was carried out both at primary and secondary level. At primary level, data was collected by face to face interview through a pre-tested questionnaire. Random sampling was done as per the study requirements, hence district Shopian was chosen.

Farmers/fruit growers, forwarding agents, pre-harvest contractors, pesticides and fungicides dealers were taken into consideration.

Secondary data was collected from Department of Horticulture (P&M) J&K, and other allied departments. Various websites, Sheri-Kashmir University of Agriculture Science and Technology (SKUAST), and the relevant material in the form of books and journals were also consulted for the study.

Analytical tools were basically tabular analysis and percentage calculation.

Limitations
- The respondents including farmers/growers, forwarding agents and others were not having exact data records of the past years.
- The study is based on the assessment and recall memory of respondents.
- There was the threat of partiality from all the respondents.
- Investigator of the study has limited resource in terms of time, manpower and money.
- The study does not confirm or deny any previous set norms or facts because of the lack of earlier experience of surveying at the site under study and
because of being the investigative nature of study.

- Respondents were also having the limitation of time.

RESULTS AND DISCUSSION

The various problems at cultivation, harvest, marketing and other levels, as analyzed are:

1. Apple scab disease, outbreak of premature leaf fall and infestation of red spider mite have declined the quantity as well as quality of the fruit.
2. The pre and post harvest practices followed by growers is primitive compared with those followed in USA, China and Australia.
3. Price risk\(^8\) is faced by growers and contractors, since there is no guarantee of increasing trend in the market price of the fruit as it fluctuates. There is no support from government in the home market and perishability of the product also becomes proximate cause of dwindled price.
4. In view of shipment of fruit to the whole sale market by unrefrigerated trucks (vehicles), growers have the option either to sell at prevailing price or paying for storage in the hope of getting higher price in future.
5. There are cold storage problems in producing areas Also, there are no prescribed standards for grading and packaging.
6. Poor integration of domestic markets with those of national markets.
7. No special provisions from government regarding monitoring, finance, precautions, standard pesticides and fungicides, and fertilizers.
8. Although the major contribution in terms of income and employment comes from this sector, yet it is not getting the status of an industry.
9. No provisions have been made to process the fruit so that yield/income of growers and other intermediaries could be increased manifold.

Although Kashmiri apples are rich in taste and nutrient content, compared to those coming from other states, there is also a great potential in the region to increase the per hectare production which is low at 10.27 MT/Ha as compared to other countries, some of the facts are given below:

<table>
<thead>
<tr>
<th>Country</th>
<th>Production (Mt/Ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>46</td>
</tr>
<tr>
<td>Denmark</td>
<td>41</td>
</tr>
<tr>
<td>Netherlands</td>
<td>40</td>
</tr>
<tr>
<td>Brazil</td>
<td>38.2</td>
</tr>
<tr>
<td>India(Kashmir)</td>
<td>10.27</td>
</tr>
</tbody>
</table>

Table 2: Country wise production of apples in MT/Ha.
Suggestions

Taking to the above figures into consideration, if appropriate steps are taken at various levels of production by all the stakeholders, there will definitely be a positive trend in both production and the corresponding revenue. The various suggestions are:

- The only agriculture university (SKUAST) should open its tiny research centers at district level, so that proper care can be taken of pre-mature leaf fall and infestation of red spider mite by organizing class room training programs and giving suggestions and guidelines in the orchards by the experts themself regarding National Standard on Pesticide Residues, as the people related with growing are illiterate and ignorant of what is written in various guideline booklets of these pesticides.
- The yield can be improved both in quality and quantity through the technological use of clonal rootstocks, renewal pruning techniques, micro – nutrient application and improved seed technology.
- Proper cold storage facilities should be provided at the easy reach of growers in order to reduce the carriage costs. The growers can stock their produce in order to avoid the market risk and also to strike a balance between demand and supply.
- Since the market rate of Apple fluctuates, there should be a minimum price fixed (per K. G or per Box) by the government so that growers will at least be sure of the minimum returns as is done in other cases.
- Cost in terms of transportation from the orchard to the respective fruit markets (Azadpur and others) depends upon, the rate at which the fruit is sold in the market, as well as perishability of the fruit. So if any benefit could be realized by the grower or the contractor, it is squeezed by these truckers (transporters). These transporters are under private unions with no invigilation from government. Hence appropriate measures should be taken by the concerned authorities.
- There are the ordinary transportation facilities on one hand and on the other hand the product is perishable which harms the quality of the product. The distance between the source market and the destination market is long, so it is also a hindrance. Hence, the markets should be integrated to avoid this risk by way of refrigerated transportation facilities.
- Concrete steps should be taken by the state government to provide financial assistance to the growers so that they can take the full advantage of the improved technology.
- Since, this sector is one of the major foreign exchange earners of the state; it should be given the status of an industry so that special attention can be diverted to it. Provisions should be made for more exports. The Apple in the region should be uplifted on the lines of SEZs.
- Opportunities of more revenue should be grabbed by establishing processing units at large scale at district level so that the wastage could be reduced to its
minimum. Each year juices of different kinds including Apple juice (acquired from Kashmir itself by certain beverage companies) make its way to Kashmir which worth as high as Rs.100 crores.

**CONCLUSION**

Whatever have been the circumstances, this sector has proved to be an important economic sector and a big chunk of the population thrives on it. Their economic standard gets affected directly by any changes in the corresponding sector. Hence if attention is given upon the suggestions provided in this study, there will definitely be a positive change in the situation which will not only improve the standard of living of the dependant population but of the state as a whole.

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