

## A Study on Area, Production and Productivity of Apples in J&K from 2006-07 to 2015-16

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### **Abstract: -**

*During the last decade, India has witnessed a rising trend in the area, production and yield of crops in the horticulture sector. Over the last decade, the area under horticulture grew by about 2.7% per annum and annual production increased by 7.0%. During 2013-14, the production of horticultural crops was about 283.5 million tons from an area of 24.2 million hectares (ha). Apple cultivation is highly profitable economic activity in the state of Jammu & Kashmir, which is famous for its quality apple. It is farm-based, labor intensive and commercially attractive economic activity. The income per acre is much higher than any other horticulture crops, if it is done in systematic way. Apple production plays an important role in improving the standard of living, per capita income and employment generation. More than half percentage of the population is engaged in the cultivation of apple directly or indirectly in the state. The present paper has tried to carry on a research on the trends in the area, production and Productivity of apples in the horticulture Sector of Jammu & Kashmir from the year 2006-07 to 2015-16. It has also envisaged on finding out the annual compound growth rates (ACGR) of area, production and Productivity of apples in Jammu & Kashmir for a period of ten years i.e. from the year 2006-07 to the year 2015-16.*

**Keywords: - Apple, Area, Horticulture, Production, Productivity, ACGR.**

**Introduction: -**

The horticulture sector encompasses a wide range of crops e.g., fruit crops, vegetables crops, potato and tuber crops, ornamental crops, medicinal and aromatic crops, spices and plantation crops. While the first few Five Year Plans assigned priority to achieving self sufficiency in food grain production, over the years, horticulture has emerged as an indispensable part of agriculture, offering a wide range of choices to the farmers for crop diversification. It also provides ample opportunities for sustaining large number of agro-industries which generate substantial employment opportunities. The horticulture sector contributes about 24.5% of the GDP from about 8% of the area.

Agriculture sector is considered as backbone of Indian Economy and around 50% work force is still dependent on Agriculture for livelihood, despite of structural changes taking place. Presently Agriculture sector (including livestock) is contributing 14% to the Gross Domestic Product (GDP) at National level, and 20.59% to GSDP (at current prices) but it is still the main source of livelihood for majority of rural population. Therefore, rapid growth of Agriculture is indispensable for faster inclusive and sustainable growth.

Agriculture as we know plays a very prominent role for development of economy of J&K State. The state is ranked 15th in the agriculture. Agriculture contributes around 27% to the J&K state's economy. Almost 70% of its population is dependent on agriculture and about 49% of the

working class is engaged in it. During the last several years, diversification of Agriculture in State towards high value commodities, i.e. fruits, vegetables and livestock products is taking place at a faster pace and is reflected in the high share of High Value Commodities (HVCs) in agricultural production in a number of districts.

Over the years, horticulture emerged as an important and growing sub sector of agriculture, offering a wide range of choices to the farmers for crop diversification. It also provides ample opportunities for sustaining large number of agro industries which generates substantial employment opportunities. J&K State is well known for its horticultural produce both in India and abroad. The state offers good scope for cultivation of horticultural crops, covering a variety of temperate fruits like apple, pear, peach, plum, apricot, almond and cherry. Year after year, there is a significant increase in area and production under horticulture crops. There are around 7 lakh families comprising of about 33 lakh people which are directly or indirectly associated with horticulture. As a result, there is a perceptible change in the concept of horticulture development in the state.

Area under Fruits in J&K State has increased from 85508 hectares in 1975-76 to 205543 hectares in 1995-96 and the production has increased from 375068 MTs in 1975-76 to 968640 MTs in 1995-96, which further increased to 283084 hectares (area) and 1504011 (production) MTs in 2006-07. During 2015-16 the area under fruits in J&K was 337677 hectares and production was 2493999 MTs, recording an increase of 64.28 % in area and

157.47 % in production during the last two decades.

Apple is the most important fruit. As per the horticulture census 1999-2000, about 55% of the area is covered under apple. It is also important in terms of production and provide the maximum marketable surplus. J & K is major apple producing state accounting for more than 70 percent of the total apple production in the country and the production per hectare is 10.25 metric tons, which is higher than the national average (7.98). The area and production of apple in state has increased from 47342 hectares and 348011 metric tons in 1975-76 to 78007 hectares and 714834 metric tons in 1995-96 respectively, which further increased to 161773 hectares and 1966417 metric tons in 2015-16, recording an increase of 107.38 % in area and 175.08 % in production during the last two decades. The cultivation of apple is done in all districts of Kashmir valley. Major contributors to the apple production are Baramulla, Shopian, Pulwama, Budgam, Anantnag, Kulgam etc.

### Review of Literature

**Bhat and Choure (2014)** Apple cultivation is highly profitable economic activity in the state, which is famous for its quality apple. It is farm-based, labor intensive and commercially attractive economic activity. The income per acre is much higher than any other horticulture crops, if it is done in systematic way. Apple production plays an important role in improving the standard of living, per capita income and employment generation. More than half percentage of the population is engaged in the cultivation of apple

directly or indirectly in the state. The improvement in production is quite important, but the marketing has equal importance to develop a commercial crop. It has been found that the farmers face numerous problems like marketing, storage facilities, good quality pesticides, irrigation etc which contributes a lot for low production. It has been suggested that if these facilities are providing sufficiently, productivity could be enhanced just like in China.

**Bhat (2014)**, As a dominant crop of the valley "Apple" proudly represents the fruit industry of Kashmir, representing 98% of the total fruit production. Apple industry is the backbone of the economy of Kashmir valley particular in Shopian district. Due to its good backward and forward linkages it provides employment to about 60% of the population and is the main source of livelihood of many households. But there was no significant increase in the production of this industry during the last few years due to various reasons such as lack of cold storage, large chain of commission agents from the grower to consumers in the Kashmir valley as whole.

**Rajesheri and Ali (2016)**, Horticulture occupies very important position in the predominantly agricultural economy of western Himalaya, among all the fruits grown in the Kashmir. Horticultural sector contributes immensely to strengthen the financial condition of Jammu and Kashmir. Horticulture is the mainstay of the economy in Kashmir with 2.3 million people associated with the sector and 237000 hectares of land in valley under fruit cultivation. This is a core sector of Jammu and Kashmir agriculture.

Around 20 per cent area of the state is under horticultural crops. Horticultural sector contributes around 5000 crores to the annual income of the state of Jammu and Kashmir. Among the horticultural crops in the state apple occupies the predominant position constituting around 45 per cent of the total area under fruit crops. This sector contributes significantly to the economic and ecological development, employment generation, export and nutritional requirement of the people of state. Apples are most widely planted and are commercially the most important fruit crop. The cultivation of apple crop in Jammu and Kashmir shows particular interest for a number of reasons. In terms of both area and production, apple is very beneficial fruit crop. Apple is an extremely important source of nutritive diet, this provides a major source of income and employment in Jammu and Kashmir.

**Zulfiqar Murtaza (2015)**, This paper draws our attention to the fact that the horticulture sector in the valley of Kashmir has lost its glory and pride. Kashmir was once home to a high quality fruit and the industry was booming, helping not only in the employment generation but also in driving the economy. The paper uses empirical study and is one of the first of its kind. The research uses statistical tests (chi-square test) to show what are the factors which are responsible for a fall in the horticulture sector. The paper also uses percentage analysis and rank analysis to come to conclusion.

**Malik (2013)**, Agriculture is the mainstay of Indian economy and Horticulture is a crucial Component, there of Apple production is the main

occupation in the Kashmir Valley (India) and it constitutes 90% of total fruit crop in the valley. The study is an effort to assess the potential and problem faced by this sector. This sector involving about half a million house holds and play a key role in rural economy of the state with an average yearly turn over of Rs 750 cores, still it has not provided industrial status. The improvement in the production is quite important but marketing has also an equal importance to develop a commercial crop, which is purely produced to sell in the market. Though there have been multidimensional efforts to increase the production of apple in the State, but marketing has not received proper attention, also ignorance from government side, lack of infrastructure, research and development leads to negative effects. Study high lights the dimensions of supply chain management of apples in the Kashmir Valley.

### **Prime Objectives of Study**

- » To study the trends in area, production and productivity of apples in J&K.
- » To analyze the annual compound growth rate (ACGR) of area, production and productivity of apples in J&K.

### **Methodology**

To fulfill the mentioned objectives of the present paper “*A Study on Area, Production and Productivity of Apples in J&K from 2006-07 to 2015-16*” the secondary source of the data has been availed from the reliable sources such as National Horticulture Board (NHB), Economic survey, Directorate of Economics and Statistics , J&K, Directorate of Horticulture, J&K,

government official records, Books, journals magazines websites and other active related agencies of the department of horticulture in the state etc. The period of analysis ranged from 2006-07 to 2015-16. In this study simple statistical tools like Tables and Annual Compound Growth Rate (ACGR) were used.

### Data Analysis

Table 1 shows the statistics regarding area, production and productivity of apples from the year 2006-07 to the year 2015-16. In the year 2006-07, the area, production and productivity of apples in J&K was 119041, 1222176 and 10.27 respectively. In the years 2007-08 and 2008-09, the area under apples in J&K was 127795 and 132538 respectively, production was 1311845 and 1332811 respectively and productivity was 10.27 and 10.06 respectively. In the year 2009-10 the area, production and productivity of apples in J&K was 139041, 1367805 and 9.84 respectively. Similar rising trends in area, production and productivity of apples in J&K were witnessed in the following years. In the year 2010-11, the area, production and productivity was 141717, 1852413 and 13.08 respectively in J&K. In the following years 2011-12 and 2012-13, the area under apples in J&K was 154721 and 157280 respectively, production was 1749227 and 1348155 respectively and the productivity was 11.31 and 8.57 respectively.

**Table 1: Area, Production and productivity of Apples in Jammu & Kashmir from 2006-07 to 2015-16 (Area in Hectares, Production in Metric Tones and productivity production/area)**

S.N	YE	ARE	PRODUCT	PRODUCTI
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O.	AR	A	ION	VITY
1.	2006-07	119041	1222176	10.27
2.	2007-08	127795	1311845	10.27
3.	2008-09	132538	1332811	10.06
4.	2009-10	139041	1367805	9.84
5.	2010-11	141717	1852413	13.08
6.	2011-12	154721	1749227	11.31
7.	2012-13	157280	1348155	8.57
8.	2013-14	160865	1647687	10.25
9.	2014-15	163432	1170306	7.16
10.	2015-16	161773	1966417	12.15
ACGR		3.10	32.02	1.69
Source: Directorate of Economics and Statistics (2014-15), Jammu and Kashmir, "Digest of Statistics", Planning and Development				

Department, Govt. of J&K.
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In the year 2013-14, the area under apples in J&K was 160865 whereas the production and productivity of apples in J&K in the same year was 1647687 and 10.25 respectively. In the next year i.e. 2014-15, the area, production and productivity of apples in J&K were 163432, 1170306 and 7.16 respectively. In the last year of our study period i.e. 2015-16, the area under apples in J&K was 161773 whereas the production of apples was 1966417 and the productivity for the same year was 12.15.

Table 1 has also revealed the annual compound growth rates (ACGR) of area, production and productivity of apples in J&K for the time period of ten years (2006-07 to 2015-16). The ACGR of area under apples in J&K during this period was 3.10 whereas the ACGR of production and productivity of apples in J&K during the same period was 32.02 and 1.69 respectively.

### Findings

The present study has worked within the set up of its prime objectives. And it has found that:-

1. There has been a rising trend in the area under apples in the state of J&K during the time period of the study.
2. Similar rising trends have been witnessed in the production and Productivity of apples in the state of J&K during this period.
3. The area under apples has increased from 119.041 (000'HA) in 2006-07 to 161.773 (000' HA) in 2015-16.

4. Similarly, the production of the same has gone up from 1222176 (000'T) in 2006-07 to 1966417 (000' T) in 2015-16 the yield of apples from 2002 to 2011 has gone up from 10.27 (T/HA) to 12.25 (T/HA).

5. The productivity of apples in the state of Jammu and Kashmir has shown a rising trend during the study period except in the years 2009-10, 2012-13 and 2014-15.

6. The highest fall in the productivity can be seen in the year 2014-15 and the reason was low production due to Sep. 2014 floods.

### Recommendations

India ranks 6<sup>TH</sup> in apple production, where as China leads the apple production in the world. But in case of productivity we are far behind. During 2013 the productivity of apple at world level was 15.48, where as it was 6.14 in India , 45.53 in Chile, 43.98 in France, 40.11 in Italy, 31.11 in U.S.A., 18.07 in Turkey and 16.47 in China.

The state as well as central government should provide economic incentives to the farmers to encourage them to cultivate apples not only for self consumption but for commercial purposes. The programmes like National Horticulture Mission (NHM), Technology Mission, Post Harvest Management (PHM), must be strengthen further to assist the apple cultivators in J&K to increase the production as well as productivity of apples and reap financial profits on a wider scale. Apart from these schemes, the governments should provide easy loans, quality fertilizers and insecticides / pest sides and establish apple cultivating and management training centers at block level.

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