

## UNDERSTANDING, CREATING AND DELIVERING VALUE TO BOOST HORTICULTURE INDUSTRY IN JAMMU AND KASHMIR

Farzana Gulzar\*  
Shazia Manzoor\*\*

### ABSTRACT

*The State of J&K is probably known as the "Heaven on Earth" with many potential opportunities which can contribute to Gross Domestic Product. However, the trend of development in the State of J&K has not been so encouraging. There are various impediments to the growth, low productivity in agriculture and allied sector being the one. As the agro-climatic conditions are ideal for production, horticulture forms the core of agriculture economy of the State of J&K. About, five lakh families were involved in growing of fruits in the State. Horticulture contributes about INR400 crore of the states Domestic Product and about 20 per cent of the total cultivated area is under horticulture crops. However, the development of horticulture in the State continues to be characterized by lower productivity despite implementation of various schemes involving an expenditure of Rs.28.26 crore during 2001-02 to 2004-05. However, various initiatives have been undertaken to revive the horticulture sector in the State. Still, there are numerous issues yet to be addressed. Thirty per cent of the total fruits produced get wasted due to poor processing and marketing facilities. The present study is an endeavor to give a strategic model for enhancing horticulture sector in the State of J&K.*

**Key words:** Heaven on Earth; Impediments to Growth, Horticulture, Strategic Model

### Introduction

The review of horticulture industry is very crucial for the development of Jammu and Kashmir State especially to create employment opportunities as well as to provide marketing opportunities for horticulture produce both for local as well as export markets. Jammu and Kashmir is the Indian State popularly known as 'Heaven on Earth' and has its own distinct cultural ethos and natural beauty. It shares its international boundary with Pakistan and china. J&K is enriched with the mesmerizing snow clad mountains; large forests with reach wealth, large natural lakes, rivers and springs. It has three main natural regions-Jammu, Kashmir and Ladakh. The State has indeed rich natural resources and a large pool of entrepreneurial and labor force, but has not been fully utilized. Potential and attractive investment opportunities exist in many areas in J&K, which can contribute to GDP and has employment absorption capacity. However, the trend in the development of J&K is not so encouraging. It has been lagging behind most of the states in regard to the growth of the Net State Domestic Product (NSDP) at current prices. The average annual growth of Per Capita Net State Domestic Product at Current prices during 1980-2000 was estimated as 9.63 per cent for J&K against 12.9 per cent, 11.63 per cent, 11.63 per cent, and 12.86 per cent for Andhra Pradesh, Gujarat, West Bengal and Kerala respectively.

### Impediments to Growth

Jammu and Kashmir has potential in key sectors such as Tourism, Hydel Power etc. Besides Agro-climatic diversity offers extraordinarily good prospects for the development of high value adding Agri business projects. In addition, the knowledge base of its people can be utilized to develop IT service sector. However, this is quite unfortunate that the rich state like ours is experiencing the slow growth. This slow growth can be attributed to various factors:

\*Sr. Assistant Professor, The business school, University of Kashmir, Srinagar.

\*\*Assistant Professor, Department of Social Work, University of Kashmir, Srinagar.

- Misdirected Economic Policies.
- Indo-Pak relations.
- Armed Insurgency.
- Poor infrastructure with poor investment climate.
- Low productivity in Agriculture and allied sectors.
- Political turmoil.
- Lack of Good Governance.
- Lack of sound Fiscal Management etc.

All these factors have been responsible for the poor economic growth of the State.

### **Horticulture Industry**

India is bestowed with a varied agro-climate, which is highly favorable for growing a large number of horticultural crops such as fruits, vegetables, root tuber, aromatic and medicinal plants and species and plantation crops like coconut, cashew and cocoa. Presently horticulture crops occupy around 13 per cent of India's gross cropped area, producing 177.41 million metric tones during 2005-06. India is the second largest producer of fruits and vegetables. The total production of fruits has been estimated at 52.85 million metric tones from an area of 5.34 million hectares and vegetables has been estimated at 108.20 million metric tones from an area of 7.05 million hectares during 2005-06. India is the largest producer of mango, banana, sapota and acid lime. About 39.5 per cent of the world's mangos and 11 per cent of world's bananas are produced in India. The horticulture sector was given boost by enhancing its outlay from Rs.1000 crore in the Eighth Plan to Rs.1454 Crore in the Ninth Plan and further to Rs.2105 crore in the Tenth Plan.

### **Horticulture Industry in the State and its Performance Review:**

#### **General Overview**

The State of Jammu and Kashmir has a high potential in the horticulture sector that contributes INR 400 crore of the states' domestic product. This horticulture sector occupies an important position in the farming system of Jammu and Kashmir. The State has four agro climatic conditions: sub-tropical, temperate, sub-temperate and intermediate arid. Each agro-climatic region has its own potential to grow specific fruits. The area and production of major crops is given in table 1.1:

**Table 1.1: Area and Production of Major Horticultural Crops**

Area and production of major horticultural crops								
<i>(Area-Million hectare, Production-Million tonnes)</i>								
Crops	2002-03		2003-04		2004-05*		2005-06*	
	Area	Production	Area	Production	Area	Production	Area	Production
Fruits	4.8	49.2	5.1	49.8	5.3	52.8	5.9	54.4
Vegetables	5.9	84.8	6.7	101.4	7.1	108.2	7.2	113.5
Spices	2.4	3.8	5.2	4	3.2	4.9	3.2	5.9
Plantation crops	3.1	13.1	3.3	9.4	3.1	10.4	3.2	9.8
Flowers	0.1	0.2	0.2	0.6	0.1	0.7	0.1	0.8
Others	0.09	0.9	0.1	0.3	0.4	0.4	0.4	0.5
Total	16.4	152.0	20.0	165.5	19.2	177.4	20.0	184.9

Source: National Horticultural Board \* Estimates

Temperate fruits like apple, pear, plum, apricot, cherry, walnut etc grown at elevation of 1000 to 3000 meters above sea level are important cash fetching fruits of the State. These fruits not only supplement the diet of the people in the State and country, but also form an important item of exports.

#### **Facts about Apple, Temperate Fruits and Nuts**

- Nearly, 75 % of the country's temperate fruits, mainly apples, are grown in Jammu and Kashmir.
- Apple occupies around 40% of total area under fruit and accounts for 90% of the total production of fruits in the State.
- The area under apple cultivation accounts for 87,000 hectares with an annual production of 9.29 lakh metric tons (2003-04).
- Amri (Ambri Kashmiri), American trel (American Apirogue), Delicious (Red Delicious), Maharaji (White Dotted Red), Hazaratbali (Benoni), Kesri (Cox's Orange Pippin) are some of the choicest varieties of apples in J&K
- Kashmir produces excellent quality of temperate and dry fruits like Pear, Cherries, Walnuts, Almonds, Pine Nuts or Chilgoza and Apricot.
- Pulwama is considered as "crown" of north India in respect of fresh fruit and dry fruits.
- 5 lakh farmers involved in the trade
- Each Hc of orchard generates 400 man-days per year (1.30 man-year).
- State has been declared as an agro-export zone for apple and walnut.
- J&K generates Rs 2100 crore annual income from fresh fruits, Rs 250 crore from dry fruits.
- Share of Indian Walnut in the International Market is 7%.

#### **Productivity**

About 20 per cent of the total cultivated area is under horticulture crops. In physical terms, the area under fruit cultivation was 1.73 lakh hectares by the end of the Seventh Five Year Plan period. The total fruit production in the State was 9-10 lakh tones in 1995-96. Fruit export was to the tune of 7-10 lakh tones in this period. The Ninth Plan (1997-2002) document stressed the need for diversification and zonalisation of fruit cultivation in the State. The position of area under fruit cultivation, actual fruit

production and average yield per hectare in the State during the period 2001 to 2004-05 is given in table 1.2:

**TABLE 1.2: Showing the Position of Area under Fruit Cultivation, Actual Fruit Production and Average Yield per Hectare in the State during the Period 2001 to 2004-05**

Year	Particulars	Apple	Other Fruits	Total
2000-01	(i) Area under fruit cultivation (in lakh hectares)	0.88	1.31	2.19
	(ii) Production (in lakh metric tonnes)	7.51	1.81	9.32
	(iii) Average yield per hectare (In metric tonnes)	8.53	1.38	4.25
2001-02	(i) Area under fruit cultivation (in lakh hectares)	0.90	1.32	2.22
	(ii) Production (in lakh metric tonnes)	9.10	1.88	10.98
	(iii) Average yield per hectare (In metric tonnes)	10.11	1.42	4.94
2002-03	(i) Area under fruit cultivation (in lakh hectares)	0.95	1.37	2.32
	(ii) Production (in lakh metric tonnes)	9.54	1.93	11.47
	(iii) Average yield per hectare (In metric tonnes)	10.04	1.40	4.94
2003-04	(i) Area under fruit cultivation (in lakh hectares)	1.01	1.42	2.43
	(ii) Production (in lakh metric tonnes)	10.42	2.32	12.74
	(iii) Average yield per hectare (In metric tonnes)	10.32	1.63	5.24
2004-05	(i) Area under fruit cultivation (in lakh hectares)	1.08	1.50	2.58
	(ii) Production (in lakh metric tonnes)	10.93	2.39	13.32
	(iii) Average yield per hectare (In metric tonnes)	10.12	1.59	5.16

**Source:** Audit Report, Chapter IV, for the year 2006, of Agriculture Production, Department, Srinagar.

The Ninth Plan (1997-2002) targets for fruit production were fixed as 15.46 lakh metric tonnes. However, against this, the fruit production at the end of 2001-02 was only 10.98 lakh metric tonnes which was far below the targeted level targets for fruit production. Apple continued to occupy predominant position with a share of 81 to 83 per cent of the total production of fruit crop in the State during 2000-01 to 2004-05. The average yield per hectare of apple crop during 2000-01 to 2004-05 ranged between 8.53 metric tonnes and 10.32 metric tonnes. The production of other fruits varied between 1.81 to 2.39 lakh metric tonnes during this period. The area under almond production in the State declined from 0.18 lakh hectares (2000-01) to 0.15 lakh hectares (2004-05). In Budgam and Pulwama districts, which constituted about 97 per cent of the production of almonds in the State during 2000-01, the area under almond cultivation decreased by 13 per cent from 0.15 lakh hectares (2000-01) to 0.13 lakh hectares (2004-05). In Pulwama district the area under dry fruits (walnut and almond) got reduced by 492 hectares during the period from April 2000 (12,464 hectares) to March 2005 (11,972 hectares) and the average yield per hectare had also declined from 1.45 metric tonnes during 2000-01 to one metric tonnes during 2004-05. Similarly in Baramulla and Anantnag districts, the average production per hectare decreased from 16.28 metric tonnes and 5.51 metric tonnes during 2002-03 to 15.80 metric tonnes and 5.09 metric tonnes respectively during 2004-05. Thus the development of horticulture in the State continued to be characterized by lower productivity despite implementation of various schemes and providing incentives for increasing productivity of fruit crop in the State involving an expenditure of Rs. 28.26 crore during 2001-02 to 2004-05. Besides the Departmental nurseries on an area of 19243 (Kashmir Division: 129.43 hectares) was not only unsatisfactory but these were also economically unviable. The year-wise position of availability and mortality of plants in 43 departmental nurseries of five test-checked districts during 2000-01 to 2004-05 was as given in table 1.3.

**TABLE 1.3: Showing the Year-Wise Position of Availability and Mortality of Plants in 43 Departmental Nurseries of Five Test-Checked Districts during 2000-01 to 2004-05**

Name of the district	Number of nurseries	2000-01		2001-02		2002-03		2003-04	
		Total stock of plants <sup>†</sup>	Mortality	Total stock of plants	Mortality	Total stock of plants	Mortality	Total stock of plants	Mortality
Kupwara	8	2.06	0.56	1.70	0.24	1.50	0.24	1.61	0.33
Srinagar	10	0.41	0.15	0.57	0.02	0.59	0.013	0.65	0.016
Pulwama	10	0.91	0.17	0.69	0.11	0.62	0.11	1.36	0.40
Budgam	4	0.41	0.11	0.27	0.07	0.42	0.05	0.44	0.09
Anantnag	11	0.71	0.15	0.74	0.44	0.95	0.26	0.72	0.51

**Source:** Audit Report, Chapter IV, for the year 2006, of Agriculture Production, Department, Srinagar.

Thus, the performance of departmental nurseries was dismal which contributed to non-achievement of the primary objective of providing genetically improved and high quality plant material to the orchards.

#### **Sale Proceeds of Fruit Crop**

Of 101 orchards possessed by Horticulture Department, 56 belong to Kashmir with an area 258.05 hectare (total area 321.35 hectares (Kashmir: 258.05 hectares. The table 1.4 presents the status:

**Table 1.4: Showing the Status of orchards possessed by Horticulture Department in the State of J&K.**

S. No	Year	Targets fixed	Achievements	Percentage shortfall
1.	2000-01	50.00	46.98	6
2.	2001-02	50.00	43.12	14
3.	2002-03	47.00	38.76	18
4.	2003-04	55.00	41.35	25

**Source:** Audit Report, Chapter IV, for the year 2006, of Agriculture Production, Department, Srinagar.

The percentage shortfall in realization of sale proceeds of fruit crop ranged between 6 and 25 during 2000-01 to 2003-04. Further, the sale proceeds of fruit crop in these orchards declined by 12 per cent from Rs. 46.98 lakh (2000-01) to Rs. 41.35 lakh (2003-04). These shortfall in achievement of targets and decline in sale proceeds was attributed by the fixation of targets without considering ground realities.

#### **Initiatives Undertaken to Promote the Horticulture Sector**

The horticulture sector plays a significant role in J&K in providing employment from the stage of tree plantation to the point of its marketing, it has a good potential in employment creation. There is need to explore other options, that too in the field of value added agriculture. However, the State is facing many problems in regard to the development of horticulture. It includes low productivity, great variability in important crops like Walnut and Almond, higher percentage of off grade fruit, poor connectivity with the market place and small and fragmented land holdings. The state Government has undertaken certain initiatives to promote the horticulture sector:

- ✓ Introduction of high-density plantation of apples and soft fruits like strawberry and currants around cities and towns.
- ✓ In cooperation with NABARD, it has developed 19 markets, 17 satellite or rural markets, one terminal market and one gain market.
- ✓ Carton packaging for apple recently revealed in a high level meeting of officers with Minister for horticulture and tourism, M.Dilwar in chair (G.K.Wednesday July, 2007).
- ✓ Agro products to be marketed through Shogni Commercialization Limited, a Himachal based company, to reach world markets ((G.K.Wednesday July 2007).
- ✓ National Horticulture Mission wherein an amount of Rs.771.86 crore was provided to the State Horticulture Mission during 2006-07.
- ✓ Technology Mission for integrated development of horticulture in various North-Eastern States including J&K.The Tenth Plan outlay for the scheme was approved at Rs 845.00 crore for implementation in 11 states. These funds to the States are made available on the basis of yearly action proposals, which are approved by the State-Level Steering Committee under the chairmanship of the Chief Secretary of the State Government concerned.
- ✓ The NHB is involved in the development of high quality horticulture farms in identified belts and in making such areas vibrant with horticulture activity as hubs for developing commercial horticulture, development of post-harvest infrastructure, strengthening of market information systems and horticulture database.
- ✓ Special Economic Zone Act, 2005 has into force from 2006 with SEZ Rules, 2006 being notified. This Act aims to provide duty free environment, single window clearance and significant tax sops to SEZs.SEZ units get special fiscal incentives like deduction of 100% of profits for a period of any 10 consecutive years out of 15 years from the beginning of the year in which the SEZ is notified. Exemption on interest and capital gains, exemption from Minimum Alternate Tax and no dividend distribution tax and other benefits are also provided to horticulture sector.

**Critical Issues:**

- Improvement in the productivity of the fresh and dry fruits.
- Average land holdings size quite less for the commercialization of the horticulture activity.
- Thirty percent of the total fruit produced get wasted due to unavailability of packaging and processing facilities.
- Inadequate marketing facility and lack of investment and integration n the marketing chain and value addition in the supply chain is negligible.

**Recommendation to Revive Horticulture Sector**

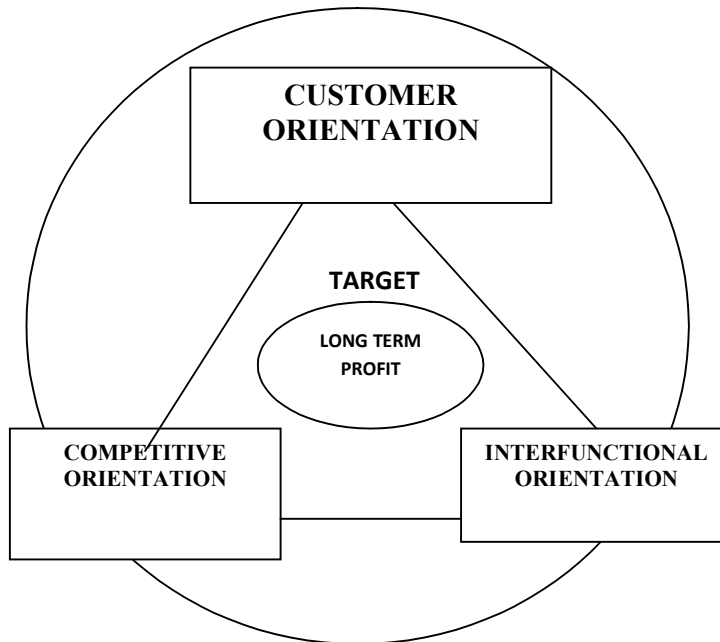
One of the study (Exploring possibilities of achieving 4% growth rate in Indian agriculture, Ramesh Chand, Oct.2005) shows that the, expansion under irrigation, improvement in total factor productivity, resource shift towards high value enterprises and increase in application of fertilizers are the four sources of growth in agriculture. Scope to raise agriculture output through various sources in different states is summarized in table 1.5.

**Output growth towards 2011 through various sources**

State	Diversification	Irrigation	TFP	Fertiliser	Total
Andhra Pradesh	0.25	1.71	0.40	1.14	3.50
Assam	0.27	1.42	0.88	1.33	3.89
Bihar	0.18	3.36	2.24	0.85	6.64
Gujarat	0.78	0.65	0.47	1.79	3.69
Haryana	0.33	0.00	0.65	0.68	1.66
Himachal Pradesh	0.69	3.02	1.08	0.70	5.49
Jammu & Kashmir	0.90	2.88	0.42	2.03	6.23
Karnataka	0.19	1.75	0.86	1.16	3.96
Kerala	0.00	1.54	0.60	1.46	3.60
Madhya Pradesh	0.75	1.62	0.26	0.81	3.44
Maharashtra	0.99	1.95	0.88	1.35	5.18
Orissa	1.05	2.33	0.14	0.92	4.44
Punjab	0.17	0.00	0.36	0.40	0.94
Rajasthan	0.46	0.00	0.25	1.61	2.33
Tamil Nadu	0.40	0.82	0.35	1.60	3.17
Uttar Pradesh	0.37	1.49	0.60	1.45	3.90
West Bengal	0.78	1.22	1.16	2.34	5.49
<b>All India</b>	<b>0.49</b>	<b>1.43</b>	<b>0.72</b>	<b>1.32</b>	<b>3.96</b>

Source: Exploring possibilities of achieving 4% growth rate in Indian agriculture, Ramesh Chand, Oct.2005.)

However, still a lot needs to be done to exploit the huge potential in horticulture sector. The State currently faces the problem of differentiating its produce from the other states or countries and this can be achieved by using Market Orientation.



**Market Orientation to Revive Horticulture Sector**➤ **Customer Orientation**

Understanding customer well enough continuously to create superior value for them and this can be achieved by:

- ✓ Development of sustainable production, value addition and quality control systems for fruits of J&K.
- ✓ Value addition from non-traditional fruits like asparagus, mushroom, broccoli, etc.
- ✓ Low cost fruit processing units.
- ✓ Post harvest management of fruits:
  - On farm storage.
  - Innovative packaging solutions for fresh fruits.
  - Modern grading lines and cold storage
- ✓ Reduction of cycle time from the farmers' field to consumers' plate and suitable infrastructure in case of perishable produce segment.

➤ **Competitive Orientation**

Awareness of the short and long term capabilities of competitors and can be done by:

- ✓ Access to information on prices, policies, trade regulation etc. of apple, temperate fruits and nuts.
- ✓ Strengthening of backward and forward linkages.
- ✓ Export oriented technologies and methodologies for fruit industry.

➤ **Inter functional Coordination**

Using all resources of the State to create value for customer. This can be achieved by:

- ✓ Optimum use of land through high-density plantation of fruit crops.
- ✓ Building the confidence of the private investor in the horticulture development and fruit processing industry.
- ✓ Transport efficiency and working out arrangements with the airlines for the transportation of perishable items to other parts of the country.
- ✓ APEDA should be encouraged to set up an Export Promotion Zone to promote the export of selected fruits.
- ✓ Collaboration with SKAUST in the field of research for developing technology like tissue culture, hybridization, genetic engineering to get improved varieties with better quality and yield.
- ✓ Government to provide fertilizers and pesticides at subsidized rates.
- ✓ Disease forecasting system to regulate the pesticide usage.
- ✓ Farm credit.
- ✓ Modernization of nurseries and rejuvenation of old orchards.
- ✓ Increasing extension efforts in order to facilitate diversification in the portfolio of crops.
- ✓ Consolidation of highly fragmented land holdings in which 90% of the farmers fall.
- ✓ Strengthening the extension infrastructure in order to facilitate transfer of technologies to farmers for better productivity.

➤ **Market**

Certain measures also need to be taken on exploring marketing facilities:

- ✓ Promoting the private initiative in the marketing of products.
- ✓ Reduction in market transaction costs in areas such as freight commission, bulk braking and value loss.



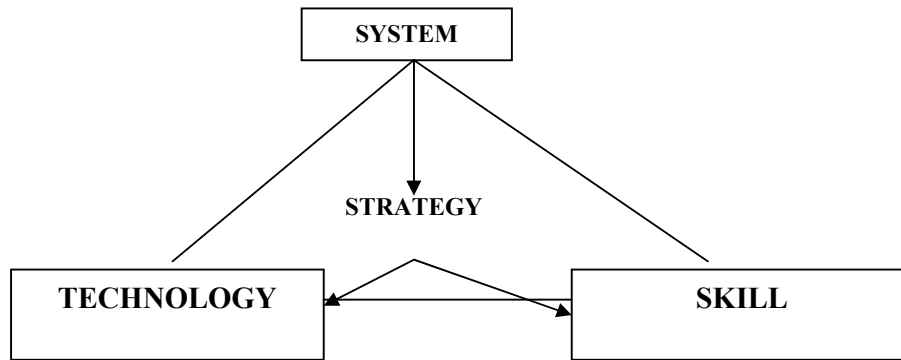
- ✓ Support initiatives to build an umbrella brand name like “Kashmir Produce” for horticulture produce in the outside export market.
- ✓ Trade support services to reach processed food markets and grasp the growth opportunities in international markets.
- ✓ Exploring organic and export market for apple and temperate fruits.
- ✓ Marketing tie-ups between producers and buyers.
- ✓ Display of fruits during exhibition to be enhanced.
- ✓ Cost competitive and efficient marketing system to be developed. For fruit industry.

➤ **Culture**

Existing culture to be transformed to marketing culture to get maximum support for reviving horticulture sector. This requires efforts from all stakeholders of this industry.

➤ **Long Term Profit**

This is important for the value maximization of the industry. given the huge potential of this sector J&K,if managed properly and efficiently can result in decrease in costs and increase in revenue. This orientation is possible only if there is a strategy of making three components skill, system and technology to have a very close coordination between them.



There should be a system to harness skill by using the modern technology. Based on this, enhancing the horticulture sector to ensure the development in the State should be the aim of all concerned.

**References**

Annexure I: [jammukashmir.nic.in/jk.pdf](http://jammukashmir.nic.in/jk.pdf)

Buyer-Seller Meet & Conference On Apple, Temperate Fruits And Nuts ... [www.isapindia.org/Apple.pdf](http://www.isapindia.org/Apple.pdf)

Details of the projects of Horticulture Processing (including ... [mofpi.nic.in/PlanScheme/jnk.pdf](http://mofpi.nic.in/PlanScheme/jnk.pdf)

Executive summary [www.yesbank.in/electioncommissionofindia](http://www.yesbank.in/electioncommissionofindia)

[www.eci.gov.in/Electorallaws/OrdersNotifications/Adv\\_Migrant\\_Voters.pdf](http://www.eci.gov.in/Electorallaws/OrdersNotifications/Adv_Migrant_Voters.pdf)

Long-term Mechanization Strategy Papers for Different Agro... [agricoop.nic.in/STUDY%20Mech.%20pdf/06035-04-ACZ1-15052006.pdf](http://agricoop.nic.in/STUDY%20Mech.%20pdf/06035-04-ACZ1-15052006.pdf)

Horticulture

[agricoop.nic.in/AnnualReport06-07/HORTICULTURE.pdf](http://agricoop.nic.in/AnnualReport06-07/HORTICULTURE.pdf) –Horticulture 1.com [www.horticulture1.com](http://www.horticulture1.com)

[indiabudget.nic.in/es2000-01/chap88.pdf](http://indiabudget.nic.in/es2000-01/chap88.pdf) –

Information technology policy for state of Jammu and Kashmir

[jammukashmir.nic.in/POINT\\_JK.pdf](http://jammukashmir.nic.in/POINT_JK.pdf) Jammu & Kashmir Development Report

[planningcommission.nic.in/plans/stateplan/sdr\\_jandk/sdr\\_jkexecutive.pdf](http://planningcommission.nic.in/plans/stateplan/sdr_jandk/sdr_jkexecutive.pdf)