

Tour Report of Horticulture Commissioner on his visit to Uttarakhand,
during the period 26th – 27th May, 2011

Visited Dehradun to review the performance and achievements of HMNEH since its inception (2001-02) in the state. The thrust areas for 2011-12 including availability of quality planting material were reviewed. Health and vigor and performance of yester years' plantations were also assessed.

Present status and future projection of Horticultural crops in the State of Uttarakhand

About 61.1% area of the State is under forests. The share of net sown are is only 13.5% as against a national average of 43.37%. The total net shown area is 7,66,730 hectares, of which 2,87,000 hectares is under horticultural crops. The average size of land holding in the state is 0.8 hectares. More than 71% farmers fall in the marginal farmer category, where land holding is less than one hectare. The share of small and marginal holdings is 88% higher in Uttarakhand state as compared to National average. Area under Horticulture can be increased particularly if a way is worked out towards utilization of cultivable wastelands and the farms belonging to absentee landowners.

Physical performance

Crops	2001-02			2009-10		
	Area (Ha.)	Prod. (Mt.)	Productivity (Mt/Ha)	Area (Ha.)	Prod. (Mt.)	Productivity (Mt/Ha)
Fruits	190192	345339	1.82	230901	723554.00	3.73
Vegetables	102407	941281	9.19	117267	996517	12.07
Spices	6067	33614	5.54	9650.00	68576.00	7.11
Flowers	278	324	-	1292.91	1041.01 Mt. + 34.14 Cr. Cut flowers / spikes	45% annual growth rate
Total	298944	1320558	4.41	359110.91	1789688.01	11.24

Impact of HMNEH in Uttarakhand

- **Enhancement of productivity & production**

In fruits, productivity has gone up from 1.82 to 3.73 mt /ha and production from 3.45 to 7.23 lakh mt. In vegetables, the productivity went up from 9.19 to 12.04 mt/ha. In spices, productivity has increased from 5.54 to 7.71 mt/ha. Cultivation of flowers have registered an annual growth of 45% in the state.

- **Increase in processing**

The state has registered remarkable growth in processing capacity. It has increased from 0.75 % to 6 % due to increase in processing facilities and Instant Quick Technology (IQF). Fifteen processing units have been set up under MM-IV. Pea Hub has been created in plains of the state. More than 1.0 lakh mt of pea is being processed and Rs 225 crore has so far been invested in the sector by private sector.

- **Introduction and popularization of improved technologies**

During the last two years, the focus shifted from normal density to high density plantation and to increase production from senile orchards. The rejuvenation technology through canopy management has been adopted by the state. There is also greater thrust on the stone crops like peach, pear, nectarine and apricot and pomegranate in the mid hills and guava, aonla and strawberry in the lower regions. Guava and aonla hold great potential in the rainfed areas and a ready market exists locally as well as nationally for these fruits.

- **Mechanization of Horticulture**

More than 2700 power tools have been distributed in the state so far for mechanization of horticulture. This is a priority in the hill state as there are constraints due to uneven and difficult terrain.

- **Development of Floriculture**

The sector has recently emerged as an increasingly attractive commercial activity in the tarai areas of Uttarakhand. Current total area under floriculture is around 1292 hectares with an estimated production of 1,000 mt of produce valued at Rs 100 crores.



- **Crop diversification and increase in crop intensity**

Due to implementation of mission in the state there has been a shift from traditional crops to off season vegetables in hills. Flowers in plains. Pea & tomato in hills and cucumber & capsicum, etc in plains.

- **Adoption of organic farming**

The mission has given momentum to organic cultivation in the state which is organic by 'default'.

- The mission is helpful in reduction in migration because of growth in horticulture. Uttarkashi & Champawat districts have started experiencing economic upliftment of farmers and per capita income of beneficiaries increased from Rs 8000-10000 individually.
- The impact has been tremendous which resulted into paradigm shift from traditional farming to scientific farming in cluster mode.

Priorities

- Ensuring availability of quality planting material.
- Area expansion under HDP in fruit crops with canopy management.
- Rejuvenation of senile orchards to enhance the productivity.
- Protected cultivation to improve the productivity levels.
- Creation of water sources.
- Post harvest infrastructure to match the mammoth production
- Mechanization to bring efficiency and competence.

New Initiatives

- From April, 2011 it has been made mandatory by the state that distribution of various inputs has to be done after recording them in the Horticulture card. Accordingly, subsidies for distribution of inputs is being regulated and targeted through these cards. This is a new initiative for bringing about transparency in the system.
- New Mother blocks of temperate crops (apple, pear, apricot and walnut), subtropical and tropical fruits (mango, guava, litchi) have been established in the state for mass multiplication of quality planting material.

Long term goals in horticulture and strategies to achieve them

- Adoption of a cluster-based approach to create fruit and vegetable belts in each block after due research and studies of location specific farming systems and agro climatic conditions.
- Low chilling apple varieties, fruits like walnut, almonds along with apricot, peaches, nectarines, pears, cherries and plums, etc. are to be given prominence.

- About 8000 hectares of old orchards / year to be rejuvenated to increase production and productivity.
- Emphasis to be laid on production of off-season/ exotic vegetables and flowers through protected cultivation.
- Establishing 20000 unit poly houses in next 4 years for cluster-based cultivation of vegetables / flowers.
- Developing its best 24 State owned gardens and strengthen them into “**centers of excellence**” for supply of quality planting material.
- Providing Market Intervention Support (MIS) to farmers for apple and malta crops since the last three years. Efforts are underway to create a revolving fund so that the scope of the scheme can be widened to cover other crops. Similarly, a safety net has been provided to farmers by way of crop insurance for apple, mango, ginger and potato. This year litchi and tomato have also been included in the insurance scheme.
- In order to better manage the procurement and distribution of services and inputs, the State is aggressively deploying ‘Udyan Cards’ to farmers. This will help to eliminate pilferage and enable better planning of marketing strategies by providing a data base on consumer demands and productivity. In the purchase of seeds and other inputs, farmers associations and progressive farmers have been included in the purchase committees. Similarly, for high value and high demand items, identification of beneficiaries is being done through lottery system. Efforts are also on to organize the State’s farmers into Federations and Co-operatives to meet the demand of farmers in non-orthodox seeds like potatoes, turmeric, ginger and garlic.

Yester years’ plantation

A number of plantations (guava, litchi, aonla, mango) raised in the past were inspected to assess its growth performance. It is seen that they are performing well under the supervision of trained farmers/Horticulture Officials.

- Visited 5 fields in Dhakrani area of Dehradun district where training camps were organized. I was happy to see that the farmers have adopted canopy management practices as per our instructions.
- An orchard of litchi which was rejuvenated about a year back, has gained a good vegetative growth. The neighboring farmers also adopting the practice of rejuvenation in their respective orchards.

- Wedge grafting technique was demonstrated in the past on Govt. farm / farmers field specially in guava, aonla, mango and litchi. Overall progress is found to be satisfactory.
- Horticulture officials have been directed to intensify their efforts particularly in the field of rejuvenation, canopy management and mass multiplication of quality planting material of improved variety of fruit crops to ensure higher production.
- Special attention is required to be paid on high density plantation with canopy management of selected fruit crops to enhance their production and productivity per unit area.



High density planting of guava developed by topping and hedging



Initial canopy management, brings maximum shoots in fruiting, for better harvest of mango



Canopy development after heading back (rejuvenation)



Plant multiplication through wedge method of grafting

Requirement and Availability of planting material during 2011-12

A comprehensive discussion was held with Secretary (Hort.), Director (Hort.), DHOs, etc. with special reference to development of horticulture including quality planting material, canopy management, rejuvenation, protected cultivation and creation of water resources for life saving irrigation in the State. During the review, it was noted that the State of Uttarakhand is short of disease free quality planting material to meet their requirement under area expansion programme of HMNEH for the current year. Accordingly, personal efforts were made to explore the possibility of spareable planting material from J&K, HP and UK states under MM-I component. Similarly, the information regarding availability of planting material was also collected from Vice Chancellors of (i) Y.S.Parmar University of Horticulture and Forestry, Solan, Nouni, HP (ii) Marathwara Agriculture University, Parbani, Maharashtra (iii) Narendra Deva Agriculture University and Technology, Faizabad (iv) Director, CISH, Lucknow, (v) Director, NRC (Pomegranate),

Solapur and the same is reflected in the table below. Efforts will continue to explore the possibilities from SAUs & ICAR institutes in respect of other states.

Table - Showing status of requirement of planting material and its availability in Uttarakhand.

Fruits	Requirement of planting material (in nos)	** Availability of planting material (nos)						
		State Govt. nursery	MMI CITH, YSPAU&T, VPKAP			Certified nurseries	SAUs & ICAR	Total
			J&K	HP	UK			
Mango	225200	73292	5000	-	10000	339663		427955
Litchi	44090	54380	-	-	15000	106044		175424
Apple	442960		1000	10000	19000			30000
Guava	205824	-	5000	-	10000	128952	5000	193952
Aonla	65956	200	-	-	-	27360	24000	51500
Walnut	15840	-	3000	500	21000			24500
Citrus	111850	1915	-	-	4000	141590		147505
Pomegranate	36138	5984	-	-	-	18355	5000	29339
Pear	18944		-	3000	3000			6000
Peach	199529		2000	5000	10000	16200		33200
Plum	12240	950	4000	500	-			5450
Cherry	1250		-	-	-			
Apricot	4170		4000	500	-			4500
Total	1383991	136721	24000	19500	92000	778164	34000	1129325

** Area will be restricted to availability of quality and disease free planting material. Necessary advisories sent to state (copy enclosed).

The horticulture Secretary, Government of Uttarakhand was requested to evolve an effective delivery system for timely utilization of funds sanctioned under the Horticulture Technology Mission. He was also advised to depute a suitable officer from horticulture department to collect planting material from ICARs institutes and SAUs.