CHAPTER-VIII
CONSTRAINTS AND GOVERNMENT POLICY

Introduction:
In spite of the fact that India is blessed with a wide range of soil and climatic conditions for growing a large number of horticultural crops, a reasonable budgetary allocation, a sound network of research and development system, a large number of high yielding varieties / hybrids and proven technologies, there are still several constraints which adversely affect development of a sound horticulture industry. Production of fruits particularly of apple, mango and kinnow, plays an important role in the economy of Himachal Pradesh, Uttar Pradesh and Punjab states. In this chapter, an attempt has been made to highlight the problems faced by the producers and sellers in the production and marketing of fruits. The various policies adopted by the government for improving the production and yield of fruits are also elaborated in this chapter. In the first part, constraints related to production are discussed and in the second part, the marketing problems are highlighted.

Part - I
Production Constraints
From the survey, it has been found that in the selected districts of Punjab, Uttar Pradesh and Himachal Pradesh states, a large number of production related constraints faced by the fruit growers. The common production related constraints found to be high investment and long gestation period, problem of diseases, alternative bearing pattern of fruit orchards, high care and effort required in fruit cultivation etc. In detail, the production related constraints are as follows:

**Ageing and Ill Orchards:** It was observed during the course of investigation that most of the apple, mango and kinnow orchards, particularly small orchards were not in good condition (ill orchards) because of the poor varieties, low yield and ageing plants. As such, majority of farmers have planned to uproot these orchards.
High Investments and Long Gestation Period: The high capital cost involved in establishing an orchard, or rejuvenation of existing old unproductive plantation poses serious constraint in the area expansion under fruit crops. The situation becomes more difficult in view of the large number of small holdings devoted to these crops which are essentially owned by weaker section, who have no means to invest, nor can afford to stand the burden of credit even if available. Added to this, the long gestation period of the horticultural crops like mango plant takes seven to eight years, apple takes ten to eleven years and kinnaw takes four to five years, coming to the economic bearing age. This calls for liberalized credit facilities in easy installments for repayment in the form of soft loans to small and marginal farmers to be introduced if the benefits of the horticulture industry are to be fully exploited. High cost of inputs and lack of enough incentives for the production of high quality varieties, product diversification, value addition, etc., also hinder the fruit crops development.

High Care and Effort: As the interviewed farmers, viewed that wheat and rice require less care and effort to grow than fruits. Fruit orchard needs higher care and effort to develop. An average orchard take four to five years for bearing fruit and required continues look after throughout the year regarding growth and plant protection from the disease. Due to, high efforts farmers are not willing to bring more area under the cultivation of fruits.

Problem of Diseases: The survey found that, infection of hoppers, mealy bug, leaf webber and blight are the common diseases of mango crop which effects the growth of mango trees and production. Citrus canker disease is endemic to India and occurs in all the citrus growing areas. This disease affects leaves, twigs pétioles, branches, fruit- stalks, fruits and other parts including thorns. Greening disease in kinnaw crop is quite common due to this twigs show multiple bud formation and off-season blooming. Root rot is a very serious soil-borne disease infecting temperate fruits especially apple. Fruit drop has been a problem for certain farmers. Farmers viewed that even after careful farming, mangoes were infected with spots (‘Mangu’ disease), which did not fetch remunerative prices. However, in most cases, the farmers tended to take the
advice of the local fertilizer/pesticide dealers for its control, which often failed. Application of recommended doses of plant growth regulators at the appropriate stages of fruit growth, following of proper plant nutrition, plant protection measures and cultural practices, especially irrigation schedule, could greatly reduce the fruit drop. In case of apple, apple scab, sanjose scale and red mite are the major disease which are affecting the apple crop and are meant to apple industry.

**Risk of Crop Failure:** The study observed that cultivation of fruits are more vulnerable from adverse weather and alternate bearing pattern of fruit orchards are leading to higher risk of crop failure. Fruit cannot survive in the adverse weather like wheat and rice, due to which there is high risk of total crop failure. Small and marginal farmers have no risk bearing capacity because financially they are not sound. So, crop insurance is needed.

**Small Size of Land Holding:** The survey identified that the low productivity of the fruits like mango, apple are due to the small and fragmented holdings of land. Apart from holding size the poor condition of trees in most plantations and orchards is another contributing factor to the low yield. Thickly shaded mango orchards in the malihabad area of Uttar Pradesh is also due to small land holdings. They cannot use the farm management properly like, plantation of trees at an appropriate distance, spray of insecticides, etc.

**Alternate Bearing Pattern of Fruit Orchards:** The other major constraint faced by the farmers at production level in the study area is the alternative bearing pattern of fruit orchards. Kinnow trees, generally after attaining an age of 10-12 years show the tendency of alternate bearing. Bearing an economical crop in alternate years is known as alternate or biennial bearing. The year in which the cropping is heavy, is known as 'on' year, and the following years when the crop is lean or there is no crop is known as 'off' year. This tendency is very much associated with vegetative flush and its maturity. During the 'on' year, the size of fruits is smaller comparatively to the few fruits obtained on the lean or off year. Thus the fruit value is decreased. Positive results have been obtained from thinning of fruits, supplying adequate amount of nutrients and
spraying with hormone such as Planofix. Mango does not bear a good crop every year and tends to follow alternate bearing pattern. However, there is no effort to minimize irregular bearing by adopting suitable cultural practices, like open canopy management, pruning, adequate manuring, etc.

**Lack of Proper Orchard Management:** The study also revealed that orchard management is not proper among many of the farmers. The space between fruit plants is not based on soil type, variety, rainfall or irrigation facilities, etc., this contributes to low yield, is not uncommon. Efforts have not been made to rejuvenate the old orchards through new plantations. Certain farmers followed a blanket fertilizer dose and doses are not based on soil type, irrigation and the plant condition. Several mango orchards have been intercropped with paddy, which has resulted in good yield in the beginning, but may result in several orchard problems at a later stage like low yield, declined fruit quality and increased mortality of mango trees.

**Duplicate Pesticides in the Market:** The interviewed farmers are facing the problem of diseases and pests on apple, mango and kinnow crop. As per the study conducted, the common opinion among the farmers is that the fungicides and insecticides available in the market are not effective and liable to rectify the problem. So, it is common conception that the pesticides prevailing in the market are not genuine. The monitoring authorities are also responsible for this grim situation by fruit growers.

**Part - II**

**Marketing constraints**

Marketing is basically the process of movement of goods from producer to consumer at the desired time, place and form. The marketing process consequently involves both mental and physical aspects. In mental aspect, the seller must know what buyers wants, and buyers must know what is for sale and in physical aspect, that goods must be moved to the place where they are demanded by consumers. Marketing has a challenging task and key role to play in the agricultural production, growth, development and the overall success in the years ahead is set in the marketing field and context. Big
economic fortunes are now being made only in marketing which largely determine the volume of production via remunerative prices paid to the farmers. Production technology can only sow the seeds and bring forth the fruit but marketing alone can pluck and deliver the output to the point where it is required after payment of fair prices to the farmers. India will have to rely increasingly on the power of agricultural marketing to realize the full potential of agricultural production, growth, development in order to achieve the intended and required output of various commodities and crops fast with the least cost and wastage. The main problems faced by the producers and sellers during the marketing of fruits in the study are discussed below:

**Lack of Proper Grading and Packaging:** It has been observed in the field survey that well graded and properly packed fruits fetch more prices than ungraded. In the case of mango and apple crop some produce is bring in open or in gunny bags which fetch very low price. Same produce is packed and sorted by retailer who get more price. It was also found that during the peak season of apple and mango there is a huge shortage of wooden and egg tray boxes. Farmers often pay high prices due to shortage of packing material in the peak. Which adversely affect the marketing of these fruits. Some of the small orchardists complained that packing material is not available on credit.

**Storage Problem:** Fruits are generally stored in cold stores in the peak season and are taken out at the time of scarcity which results, the producer get higher prices. But unfortunately, it was found that Kinnow of Punjab state cannot be stored on account of its poor keeping quality. It was observed during the course of study that there are no adequate cold storage facilities in the production area of apple and kinnow crop. Moreover, in the study area farmers do not know how to store the produce and have a fear of spoilage and quantity loss of their produce, if they store the produce themselves. So, farmers sell their produce quickly. The need to sell their produce immediately leaves them at the mercy of current market price, unlike grains that can be hold for a longer time without any spoilage and quantity loss.
**Long Chain of Middlemen and Malpractices:** It has been found during the survey that there is a long chain of middlemen such as pre-harvest contractors, local traders, commission agents, wholesalers, retailers, etc. are involved in the marketing of fruits in Chandigarh fruit market. Huge margins are kept by these middlemen before reaching the produce to the ultimate consumers. During the survey various malpractices have also been found. During the peak season of apple, mango and kinnow main functionary in the markets, the commission agents, are generally in league with the buyers, and cheat the farmers by hidden auction. Malpractices become more frequent when farmers are poor, less educated and have small volumes to sell. Commission agents not only cheat farmers they also cheat the market committee of Chandigarh by not paying the actual market fee on the produce they sell. Hence, both farmer and consumer are suffering due to these practices.

**Transportation Problem:** Transportation plays an important role in the marketing of fruits. Transportation cost is main cost during the marketing of produce to distant markets like Chandigarh. During the study all the discussed farmers reported transportation problem. However roads are pucka, but, due to distance of this market, farmers face many problems. During the peak season farmers are exploited by the transporters due to non-availability of sufficient trucks. The local truck unions are creating false panic amongst the growers who are suffering from the problem of plenty at that time. Transportation is mainly done by trucks and pickup. During the discussion with farmers it was found that in the peak season of apple there are big jams on the roads in Himachal Pradesh. They have to wait for three to four days to reach in Chandigarh.

**No Railway Linkage:** During the study it has been observed and suggested by the farmers and traders that there is no linkage of railway line to Chandigarh fruit market. Railway transportation is easiest and cheapest method of any kind of transportation. After the success of banana train in Azadpur market Delhi which is famous for banana transportation from banana growing areas Jalgaon Maharashtra to Delhi. Many trader and growers area expecting same
type of train from Uttar Pradesh mango growing areas to Chandigarh fruit market.

**Price Volatility:** Fruits experience a much higher degree of price volatility than grains. Part of the reason for this is the high level of mismatch between demand and supply of fruits found during the study. Another reason is the inefficiency of markets in matching supply and demand in different parts of the country. And of course, their inherent perishability and lack of a cold chain is an additional worry. Moreover, there is no minimum support price fixation by the government in case of fruits. Only Himachal Pradesh government have announced a meager, minimum support price for apple, i.e., Rs 6 per Kg.

**Inadequate Post Harvest Infrastructure:** There are lack of proper post harvest infrastructure in all the selected states. Due to which, there are big losses of fruit crops at different stages of picking, waxing grading, packaging, storage, transportation and finally at marketing of fruits. So, these facilities should be properly provided to the farmers by the government.

**Less Price Paid by Fruit Processing Industry:** During the course of study it was found that the two multipurpose juicing centers set up in Hoshiarpur and Ferozepur districts of Punjab to help kinnow farmers are flopped. In the first year the operation of Hoshiarpur unit processed 4000 tonnes kinnow for Tropicana. The next year, Tropicana did not evince interest saying kinnow from Pakistan were cheaper. Farmers did not ready to sell their produce at the lower prices. To the kinnow farmer, the inability of factories to procure the fruit is unexplainable. On the other hand Himachal Pradesh government successfully running the three fruit processing plants in the state with a processing capacity of 20000 MT. H.P government buying apple from growers at minimum support price of Rs. 6 per kg which is very less as compared to market price. In Lucknow and Unnao district there is no fruit processing industry found, which use mango as raw material to make the useful products like pickle, chutney and murabba.

**Poor Marketing Infrastructure:** Big problem of marketing infrastructure is observed in Chandigarh fruit market. There is only one shed for auction of
fruits, for such a big fruit market. Farmers and traders face lots of problem to sell their produce during the peak season of apple, mango and kinnow. Specially during the apple season farmers have to wait in long line of trucks and pickups. They bring only sample of their produce on the rickshaw as there is huge rush of traders, sellers and buyers. Due to small space for auction for huge arrivals results low price and some times rejection of produce after auction. Most of the farmers sit at the commission agents shop instead of near their produce during auction. Commission agents further takes the advantage of this situation.

**Government Policy**

The results showed that the production in the selected districts of different states (Punjab, Uttar Pradesh and Himachal Pradesh) and marketing of fruits in Chandigarh bear from a number of constraints. Time to time, government has taken many measures to improve the production and marketing of fruits like, development of infrastructure, proper allocation of funds in research and development, to invent new varieties of fruit plants and for better orchard management techniques. The main motive of these schemes is to remove constraints in production and marketing of fruits. Firstly the state sponsored schemes are discussed and then centrally funded schemes are elaborated.

**State Funded Schemes**

1. **Subsidy on Domestic Marketing and Export of Fruits and Import of Planting Material:** To encourage the export of fruits from Punjab, PAGREXO has been providing subsidies for various functions during the course of export and import. Subsidy on waxing/grading is 50 percent of the cost of waxing/grading of kinnow, 50 percent on pre-cooling cum cold storage of fruits and 25 percent subsidy on non-wooden packing material of all fruits and vegetables, inland cost of freight for all fruits and inland freight cost of frozen fruits. Subsidy on export of fruits is 30 percent on packing material, 30 percent of inland cost of freight upto airport and/ or sea port for fruits and including
frozen, processed and de-hydrated products. Subsidy for partial load is 30 percent of air freight and sea freight cost, subject to a maximum of Rs. 10/- per kg for Asian countries and 25/- per kg for other countries for all fruits. Subsidy on import of seed and plantation material for horticultural corps is 50 percent of the landed cost in India including cost of planting material and freight. All the above subsidies would be available for produce of Punjab only.

2. **Establishment of Punjab Agro Juices Limited (PAJL):** Punjab Agro Juices Limited was established in February 2006 by the government of Punjab, a special purpose vehicle to implement two multi fruit and vegetables processing units in Punjab. This scheme is launched specially for the kinnow growing belts. One of these plants is located in village Jahankhelan, district Hoshiarpur while the second one is located in village Allamgarh, near abohar, district Ferozepur. The company has been setup with the objective to add value to horticulture crops of Punjab and proved the farmers with an opportunity to sell their produce at competitive rates. The capital outlay of the project is Rs 841.10 million, out of which Rs. 500 million have been contributed by rural development fund, Rs. 101.70 million through government grants and balance Rs. 239.40 millions through long term loans by Indian overseas bank, Ludhiana. PAJL plants set up with cutting edge innovative technology are capable of handling and processing a variety of fruits specially kinnow. The critical plant and machinery of the plant has been procured from CFT SPA, a leading international food engineering company.

3. **National Horticulture Mission (NHM) Schemes Runned by Punjab State Government:** During the financial year 2005-06 NHM was implemented in Punjab to promote holistic growth of the horticulture sector. This centrally sponsored scheme in which government of India had to prove 100 percent assistance to the state mission during the 10th plan and 11th plan. The government of India assistance is 85 percent with 15 percent contribution by the state government. Assistance for programmes under NHM for fruits, establishment of new gardens 75 percent of cost subject to a maximum of Rs. 22,500/hectare limited to 4 hectare per beneficiary in three installment of
50:20:30 subject to survival rate of 75 percent in second year and 90 percent in the third year.

4. **Government of Himachal Pradesh Procure Apple under the Market Intervention Scheme:** To help the farmers during the peak season and during the high production year. Government has announced the ‘Minimum support price’ for the apple crop under the Market Intervention Scheme. Under this scheme Himachal Pradesh Agro Marketing Federation (HIMFED) and Himachal Pradesh Marketing and Processing Corporation (HPMC) would purchase the apple crop from selected market yards. Both agencies would procure apple at a minimum support price of Rs. 6 per Kg from farmers registering an increase of 75 paisa per kg during the year 2012. This scheme can help farmers to dispose of their small size apples.

5. **Fruit Processing Units Under Department of Horticulture Himachal Pradesh:** To encourage the processing of fruit crops government has established 8 fruit canning units, functioning in department of horticulture in different districts viz; Naubahar (Shimla), Nagrota bagwan (Kangra), Shamshi (Kulu), Khaulakuan & Rajgarh (Sirmour), Nihal (Bilaspur), Reckong peo (Kinnaur) and Rajpura (Chamba) of the state. For the manufacture of various kind of products, marketable surplus of fruits is purchase by these units as per the requirement from the designated agencies under MIS and or from the growers at lowest rates quoted by the orchardists. The fruit products prepared at these 8 units are made available at very competitive prices through factory sale outlets. Further to ensure the quality of the products manufactured and sold by the department, a quality control and product standardization laboratory has been established in the directors of horticulture Naubahar and Shimla for testing product for physical, chemical and microbiological analysis.

6. **Creation of Infrastructure Facilities for on Farm Handling:** To improve the post harvest handling, the state government of Uttar Pradesh have sanctioned 202 pack house (on farm handling storage) units have been sanctioned for different districts (Merrut, Saharnpur, Muzaffarnagar, Barabanki, Fatehpur, Allabad, Kanpur, Unnao, Faizabad, Moradabad) during
2007-08 to 2009-10. Under these pack houses various horticulture crops are being handled-harvesting, sorting, grading and packing. 22 functional infrastructure have been sanctioned for different districts (Barabanki, Lucknow, Ghazipur). Under this schemes the various main activities carried out by farmers/traders by applying sorting, grading, packing, semi processing, minimal processing activities for the value addition of various horticulture produce. The creation of these facilities at beneficiaries fields, the handling of produce have been done in better and scientific way which resulted in better marketing management and remunerative prices to the beneficiaries.

7. **Diversified Agriculture Support Project Launched in Uttar Pradesh:** The diversified agriculture support project (DASP) proposes to assist government of Uttar Pradesh with the financial assistance from the world bank to accelerate diversified agriculture growth in the state, in line with regional advantage of different agro-ecological zones. The strategies to pursued under the project are in consonance of government of Uttar Pradesh’s agriculture policy. The project aims to strengthen the delivery of agriculture services to exploit market-led opportunities for growth in horticulture production and agro-processing in a way that ease poverty and support environmentally sustainable development.

8. **Agri-export Zones in Uttar Pradesh:** Four AEZs have been established for promotion of mango and potato exports. MOU for setting up these zones was signed between APEDA and the state government. Farmers have been identifying and training programme were organized on pre and post harvest management. One mango pack house each at Rehmankhera, Lucknow and Saharnpur has been established to facilitate the export of mango and brand promotion of U.P mango with the brand of Nawab with the financial help of APEDA, these AEZs will be further strengthen and export promotion will be facilitated.

9. **Crop Wise Extend of Area Identified for Rejuvenation:** Uttar Pradesh is major mango, guava and aonla producing state. The old and senile/unproductive orchards are being rejuvenated under NHM since 2005-06 and area of 3945 hectare have been rejuvenated since then. The technologies
adopted are as recommended by CISH, Rehmankhera Lucknow. Rejuvenation/Replacement of senile plantation with canopy management is necessary for increasing the productivity of mango crop. During the past years, due to unawareness and unacceptability of this technique at farmers level, the targets could not be achieved. However, during 2010-11 and 2012-13, an area of 4735 hectares in two years will be rejuvenated by way of light, medium and hard pruning and other recommended management practices. Similarly, aonla and guava orchards will also to be rejuvenated on priority basis in old orchards of major districts.

**Centrally Sponsored/Funded Schemes**

1. **Rashtriya Krishi Vikas Yojna (RKVY):** RKVY has been launched by the government of India during the year 2007-08. Under this scheme, the need felt projects for horticulture development, based on the district plans are proposed for approval, by the state level sanctioning committee (SLSC) of RKVY as state horticulture plan for inclusion into RKVY yojna. Under this scheme Rs. 18.25 crores has been sanctioned to setup permanent perishable cargo centre, Amritsar. The most important strategic programme introduced in the 11th five year plan is RKVY with an outlay of Rs. 25000 crores. It gives more flexibility and incentives to the states to spend more on agriculture sector. Funds approved to Punjab state under this scheme to provide financial assistance for horticulture activities in Moga, Barnala, and Ropar district is Rs. 148.65 lakh, strengthening of agriculture research PAU Rs. 2000.00 Lakhs, project for certifying of citrus nurseries against plant pathogens Rs. 61.69 Lakhs, production of disease free fruit and vegetable crops with use of agrochemical Rs. 200 lakh during the year 2011. Funds approved for agriculture diversification to Uttar Pradesh state (DASP) is Rs. 9000 Lakh. Himachal Pradesh state got a funds of Rs. 500 Lakh for water harvesting and minor irrigation. Rs. 30.62 Lakh for strengthening and upgrading of fruit plant nutrition labs.

2. **Horticulture Mission for North East and Himalayan States (HMNEH):** centrally sponsored scheme on technology mission for integrated development
of horticulture in north east and Himalayan states has been as HMNEH. During 2010-11 the scheme was being implemented in mission mode with an end to end approach which includes development and introduction of high yielding varieties and technologies, expansion of area, post harvest handling and management, marketing, value addition and processing of horticulture produce. During the year 2001-02 to 2010-11, an amount of 2264.31 crores has been released under the mission, of which 1640.74 for north east states and Rs. 623.57 crores for Himalayan states. During the year 2010-11, an amount of 400 crore was earmarked and a amount of 399.98 crore was released under the mission, out of which 269.99 crore has been released to north eastern states and 129.99 crore to Himachal Pradesh, Jammu & Kashmir and Uttarakhand.

3. **Ministry of Food Processing Industries (MFPI) has Launched a New Centrally Sponsored Scheme. National Mission on Food Processing (NMFP):** During 12th plan (2012-17) the basic aim of NMFP is decentralization of implementation of ministry schemes, which lead to substantial participation of state governments/UTs. This scheme will be implanted as a new centrally sponsored scheme in all the states, in the ratio of 75:25 (govt. of India and states) except for north eastern states, where the ratio would be 90:10. All the UTs would be funded on 100 percent grant basis. The main objective of the scheme is to increase the level of processing, reduction of wastage, value addition, enhance the income of farmers as well as increase exports, there by resulting in overall development of food processing sector. The scheme envisages financial assistance to food processing units in the form of grant in aid at the rate of 25 percent of the cost of plant and machinery and technical civil works subject to a maximum of Rs. 50.00 Lakhs in general areas and 33.33 percent subject to maximum of 75 lakhs in difficult areas such as Himachal Pradesh and Jammu & Kashmir, etc.

4. **Providing Plastic Crates for Marketing to the Fruit Growers Under RKVY:** Under, this scheme Punjab Mandi board has purchased 2 lakh plastic crates for distribution to the fruit growers at 50 percent subsidy. The cost of
each plastic crate is about Rs. 212 which means the farmers will get this plastic crates at the rate of Rs. 106. Each grower is provided 100 pieces of plastic creates, which will accommodate nearly 30-40 kgs of fruits. This will help the farmers for proper handling of delicate fruits to the markets. In plastic crates fruit remains fresh and consumers prefer to take fruit which is preserved in plastic containers. The plastic crate will last for three years.

All these schemes are implemented by the department of horticulture of Himachal Pradesh, Uttar Pradesh and Punjab to improve the production of fruits, quality, yield, reduce the post harvest losses and to enhance the income of growers.

**Summing up**

To sum up, production constraints includes high investment in fruit orchards, various diseases, post harvest losses, small land holdings of farmers, alternative bearing pattern of fruit orchards, etc. Marketing constraints are poor marketing infrastructure, long distance of prospective markets like Chandigarh, small marketing space, lack of market intelligence, cold storage and large number of middlemen involved in the marketing of fruits etc. State governments and central government has launched many schemes, for the betterment of fruits production and its marketing. The main objective of the schemes are to encourage the growers to grow more fruits and other horticulture crops. But, the success of schemes depends on the proper implementation at ground level. If truth be told, the adequate marketing infrastructure, stoppage of mall practices by middlemen, good transport facilities, linkage of railway line, cold storage facility at production areas and its knowledge to farmers how to store, shift of fruit market to new place proposed by Chandigarh administration is the immediate need of the day for improving the marketing of fruits in Chandigarh and to increase the production of fruits in Uttar Pradesh, Himachal Pradesh and Punjab.