

# HORTICULTURE: TOWARDS A SILENT REVOLUTION

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The horticulture sector is the one which can escape the weather shocks, if not the price drops. It has all the potential to help in poverty alleviation, nutritional security and have ample scope for farmers to increase their income and helpful in sustaining large number of agro based industries which generates large number of employment opportunities besides helping to achieve the national goal of 4.0 per cent agricultural growth.

**W**ithin the agriculture sector, the horticulture sector is now widely recognized as the most rapidly growing sector. It has been rightly called a 'Silent Revolution'. The agriculture sector in India has yet achieved another feat. Not many of us know that the production of horticulture including fruits and vegetables has exceeded the food grains production. If we talk of the last decade alone, the horticultural output has increased by nearly 70 per cent from around 167 million tonnes in 2004-05 to over 283 million tonnes in 2014-15. This was higher than the food grains production in that year. The year 2016-17 is the fifth consecutive year when the horticulture production will outstrip that of food grains as per advance estimates. The data further shows that the horticulture crops were planted in an area spanning over 24.4 million hectares in 2016-17, marginally lower than 24.5 million hectares planted in 2015-16. Among the states, Uttar Pradesh tops the list with an estimated horticulture produce of 37 million tonnes followed by West Bengal 27.5 million tonnes, Gujarat 23.4 million tonnes and Madhya Pradesh and Maharashtra (20.7 million tonnes each).

The overall share of horticulture in the agriculture sector's gross domestic product has grown to over 30 per cent, even though it accounts for nearly 17 per cent of the farm land. The country is, in fact, the leader in several horticultural crops including mango, banana, papaya, cashewnut, areca nut etc. According to Agricultural Census 2010-11, over 87 per cent of the total vegetables and 90 per cent of fruits are grown by small holders.

One of the possible reasons for this could be that the cultivation of horticultural crops particularly vegetables is highly labour intensive and the small cultivators easily manage it largely with family labour. Most of the horticultural crops are grown with assured irrigation and are therefore, more immune to monsoon deficits. This varies from 71 per cent of the area irrigated for tomatoes to 86 per cent for potato. Nearly 7 per cent of the land in the country producing the eight main vegetables (onion, potato, tomato, okra, cauliflower, cabbage, brinjal and tapioca) has access to irrigation. In comparison to this, only 50 per cent of area under food grains has access to irrigation. With the exception of wheat, which is an irrigated crop, irrigation access varies from 16 per cent for pulses to 59 per cent for rice. Better incomes, urbanization and a change in consumption pattern in favour of fruits and vegetables seem to be driving the demand for their more production and this is being addressed by small farms. Consumption data from the National Sample Survey Organization (NSSO) shows that while monthly consumption of cereals per person in rural areas declined from 13.4 kg in 1993-94 to 11.2 kg in 2011-12, consumption of vegetables went up from 2.7 kg to 4.3 kg during this period.

## Milestones in the Horticulture Sector:

- The fifth consecutive year horticultural production will outstrip the food grains production is an evidence of structural changes in the Indian agricultural sector.
- The technology led gains in the productivity of horticultural crops have given the farmers

an opportunity to diversify from food and other crops to horticulture which are more remunerative.

- The small and marginal farmers have taken a lead in taking horticulture and also that a considerable chunk of land that has been brought under horticultural crops is irrigated. This is quite encouraging.
- The impact of irrigation, better agronomic practices and improved varieties has been reflected very well in the robust growth of horticultural output which is estimated at around seven per cent a year in the past decade.
- The acreage under horticulture has also grown by around two per cent a year. Significantly, horticulture production has either continued to grow or dip only marginally even during bad monsoon years including the drought years of 2004, 2009, 2014 and 2015.
- Horticulture has also demonstrated its resilience to drought by producing more. It could have been still more, had the constraints faced by the horticulture sector been addressed.

**Table 1: Horticulture Production over the years:**

S. No	Year	Production (metric tonnes)
1	2013-14	268.8
2	2014-15	283.5
3	2015-16	286.2

**Table 2: Leading Fruit producing States in India**

S. No	State	Production (million tonnes)
1	Uttar Pradesh	37.0
2	West Bengal	27.5
3	Gujarat	23.4
4	Maharashtra	20.7
5	Madhya Pradesh	20.7

### Government Efforts for Horticulture:

Keeping in view the importance of the horticulture sector in the Indian economy

, the Government of India has started various schemes for holistic development in the field of horticulture. The National Horticulture Mission (NHM) is now a part of the Mission for Integrated Development of Horticulture (MIDH). It had taken off from 2014-15 and integrates the ongoing schemes of National Horticulture Mission, horticulture mission for North East and Himalayan States, National Bamboo Mission.

**Table 3: Different Schemes for the Development of Horticulture**

S. No	Name of the scheme	Objective
1	National Horticulture Mission under MIDH	Implemented by state horticulture missions in selected districts of 18 states and four union territories for overall development of Horticulture.
2	Horticulture Mission for North East and Himalayan states under MIDH	Implemented for overall development of horticulture in North East and Himalayan states including Sikkim and three Himalayan states of J&K, Himachal Pradesh and Uttarakhand
3	Market Intervention Scheme (MIS) Government of India with state governments	For horticultural produce not covered under price support mechanism to prevent distress sale in the event of bumper crop
4	Pradhan Mantri Fasal Bima Yojana (PMFBY) Ministry of Agriculture and Family welfare	To provide insurance cover to horticultural crops at the rate of 5 per cent of the total sum assured
5	Micro Irrigation (Government of India 80 per cent and State Government 20 per cent)	To promote the use of micro irrigation techniques like Drip and Sprinkler irrigation system. Each beneficiary to be assisted to install micro irrigation systems in their holdings to a maximum extent of 5 hectares.

### Challenges in Horticulture Sector:

- a. **Lack of Good Quality Planting Material:** The yield of the fruit trees in India is far less than in most of other countries. This is being attributed to the lack of quality planting material. For instance, in India, the average Mango production is 3-4 tonnes per acre as against 8-10 tonnes per acre in developed countries.
  - b. **Lack of Post Harvest Produce Management Chain from Farm to Fork:** As most of the horticulture produce is perishable, lack of suitable post harvest structures and value addition facilities at the grass root levels deincestivize the farming community to take on horticulture as a primary profession.
  - c. **Multiplicity of Intermediaries:** Although, consumer prices of the fruits remain higher, but the hard reality is that most of the fruit growers do not get reasonable returns for their produce. This is perhaps because of the lack of regulated markets and in their absence, the multiplicity of intermediaries in marketing which consumes a large chunk of their income from the produce.
  - d. **Distress Sale and Mass Destruction:** Due to lack of post harvest structures and an institutional framework for marketing of the produce, at times when there is excess production, the farmer, in an attempt to contain losses, goes for distress selling and sometimes for mass destruction of the produce. There are several instances where the producers do not turn up to reclaim their stocks kept in cold stores because the storage charges would have exceeded the amount they would have got from sale of their produce.
- a. The government has also started the National Agricultural Market which will address the marketing aspect of the growers. Farmers will have access to country wide markets without being physically present there and a choice to sell their produce in the market which gives them the highest returns.
  - b. Drought prone and climate resilient fruit plants should be developed and supplied to the growers that should overcome the climate change and give good yields.
  - c. The private players should also be encouraged to invest in the horticulture sector by setting up more and more post harvest and cold chain structures and providing value addition facilities. One of the leading Industry which grows 127 varieties of Mango in a 600 acre green belt at its Jamnagar Refinery Complex looks to beat Israel and Brazil in productivity.
  - d. Rejuvenation of old orchards is also going on and it should be done on a large scale.
  - e. Insurance and price support are also vital factors. Insurance against weather risks like hail storms and other natural calamities which result in fruit drop must be compensated suitable. Similarly, the growers should also get a minimum price support for the produce.

### Overcoming Constraints in Horticulture:

- Provision of quality planting material to the growers will help in raising the yields. More produce will come with more income for farmers and farmers will be motivated to grow more of these crops ultimately reducing the pressure from the cereal crops.
- Expansion of fruits and vegetables processing industry with backward linkages with farmers can help in value addition and waste reduction

of the horticultural produce thus, ensuring higher returns to the growers. The Central Government has also recently created a price stabilization fund. This fund can go a long way in preventing wide price fluctuations.

It would not be wrong to say that the horticulture sector is the one which can escape the weather shocks, if not the price drops. It has all the potential to help in poverty alleviation, nutritional security and have ample scope for farmers to increase their income and helpful in sustaining large number of agro based industries which generates large number of employment opportunities besides helping to achieve the national goal of 4.0 per cent agricultural growth.

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