Horticulture Growth and Development: A Case Study in India

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Abstract: The horticulture has gained importance in recent years as a significant component of agriculture in India. The role of soil in horticultural crop production is to provide physical support and a reservoir of nutrients and moisture for growing plants. Horticultural crops production provides jobs more than twice the number of jobs compare to cereal crops production per hectare of production. In addition, fruits and vegetables constitute the important energy-giving material to the human body. It also improves the economic condition of many farmers, and it has become a means of improving livelihood for many unprivileged classes too. Horticultural crops play a unique role in a country's economy by improving the income of the rural people.

Keywords: Component, Provide, Significant, Produce.

Horticulture is a science, as well as, an art of production, utilization and improvement of horticultural crops, such as fruits and vegetables, spices and condiments, ornamental, plantation, medicinal and aromatic plants. Horticultural crops require intense care in planting, carrying out intercultural operations, manipulation of growth, harvesting, packaging, marketing, storage and processing. India is the second largest producer of fruits and vegetables in the world after China. In India, about 55–60 per cent of the total population depends on agriculture and allied activities.

Horticultural crops constitute a significant portion of the total agricultural produce in India. They cover a wide cultivation area and contribute about 28 per cent of the Gross Domestic Product (GDP). These crops account for 37 per cent of the total exports of agricultural commodities from India.

The term horticulture is derived from two Latin words hortus, meaning 'garden', and cultura meaning ‘cultivation’. It refers to crops cultivated in an enclosure, i.e., garden cultivation. Features and importance Horticulture crops perform a vital role in the Indian economy by generating employment by providing raw material to various food processing industries, and higher farm profitability due to higher production and export earnings from foreign exchange.

(a) Horticulture crops are a source of variability in farm produce and diets.
(b) They are a source of nutrients, vitamins, minerals, flavour, aroma, dietary fibres, etc.
(c) They contain health benefits compounds and medicines.
(d) These crops have aesthetic value and protect the environment.
(e) The comparative production per unit area of horticultural crops is higher than field crops, e.g., paddy crop gives a maximum yield of only 30 q/ha, while banana crop gives 300–450 q/ha and grapes 90–150 q/ha.
(f) Fruit and plantation crops can be cultivated in places where the slope of land is uneven or undulating. Mango and cashew nut are cultivated on a large scale in hilly and hill back area of the Konkan region.
(g) The crops are useful for cultivation in wasteland or poor quality soil.
(h) Such crops are of high value, labour intensive and generate employment throughout the year.
(i) Horticultural produce serves as raw material for various industries, such as processing, pharmaceutical, perfumery and cosmetics, chemical, confectionery, oils and paints, etc.
(j) They have national and international demand and are a good source of foreign exchange. Present status of horticultural crops in India.

Prospects of horticultural crops in India Diverse agro-climatic conditions in India ensure the production of all types of fresh fruits, vegetables and medicinal plants in different parts of the country. Health consciousness among people is increasing. Majority of the population in India is vegetarian. As a result, the demand of fruits and vegetables is also high. The production of horticultural commodities is far less as compared to the existing demand in the country. So, there is a vast scope to produce more horticultural crops. Major areas in the country are suitable only for horticultural crops, like mango, tea, coconut and arecanut, as they are non-arable, rocky, stony, marshy, undulated and sloppy. There has been an increase in irrigation facilities but there are crops, which even with little water, can survive. One only needs to ensure adequate water management. Some dry land horticultural crops, like jamun, ber, tamarind, wood apple, custard apple, ramphal, etc., can be grown on rainfed land also. This leads to the use of intensive methods and improved technology in the production of horticultural crops. Awareness of storage and processing methods also increase the availability of the produce, job opportunity and income generation.
BRANCHES OF HORTICULTURE

- Horticulture is a wide field which includes a great variety and diversity of crops.
- The science of horticulture can be divided into several branches depending upon the crops it deals with. Following are the branches of horticulture.

  . i. **Pomology**: study of fruit crops.
  ii. **Olericulture**: cultivation of vegetables.
  iii. **Floriculture**: cultivation of flower crops.
  iv. **Plantation crops**: cultivation of coconut, arecanut, rubber, coffee, tea, etc.
  v. **Spices crops**: cultivation of cardamom, pepper, nutmeg etc.
  vi. **Medicinal and aromatic crops**: cultivation of medicinal and aromatic crops.
  vii. **Post harvest technology**: deals with post harvest handling, grading, packaging, storage processing, value addition, marketing etc, of horticulture crops.
  viii. **Plant propagation**: deals with propagation of plants.

Importance of Horticultural Crops:

The horticulture has gained importance in recent years as a significant component of agriculture in India. The new impetus is given for the development of the horticulture, particularly for growing fruits and vegetables, which constitute important segment of India Dietary System (IDS). The development of horticulture and also securing of alarger share in the export market are emphasized more during the Five Year Plans. India is one among the many important fruits and vegetables producing countries of the world. It ranks third after China and U.S.A. in the production of horticultural crops. It is the world's largest producer of mangoes and occupies second place among the banana and onion producing countries of the world. The recent breakthrough in technology coupled with the concerted and sustained efforts to augment the food production has transformed India in achieving self-sufficiency in food grains.

However, the problem of malnutrition needs to be overcome. The need for meeting the minimum nutritional level of the diet of a common man is assuming greater significance today. Horticultural crops i.e. fruits and vegetable acquire a place of important as protective food. They provide much needed health supporting vitamins, minerals. Besides, their value in human consumption, horticultural crops play an important role in commerce, particularly in export trade and processing industry. Horticulture is now regarded as the largest subsector of agriculture producing high quality traditional and exotic fruits and vegetables. Employment opportunities provided by this sector to the farm population engaged in production, transportation, processing and marketing operations in addition to the entrepreneurs seeking self employment. Keeping in view its importance much emphasis has been laid to augment the production of horticultural crops in our national plans.
DEVELOPMENT OF HORTICULTURE

Supply and demand for horticulture products are increasing in global market. All countries in the world are trying to produce horticulture products to some extent. For the development of horticulture, many countries are adopted modern techniques like micro irrigation, green house cultivation and improved post harvest management. The production of horticulture moved from rural boundaries to profitable production. America, Africa and European countries have increasing their production of horticulture by establishing horticulture production centers. Horticulture development was started from mid eighties onwards. Government of India placed major importance on efficient land use, optimum utilization of natural resources and digging of skilled employment for the development purposes. India succeeded to get the major as well as largest producer of coconut, areca nut, cashew, ginger, turmeric and black pepper. India is the second largest producer of fruits, vegetables and tea. Kiwi, olive, gherkins, kin now and oil palm are the new crops that are successfully introduced for commercial cultivations in the country.

The Department of Agriculture and Co-operation of the Ministry of Agriculture is nodal department for were-seeing the performance of horticulture development in the country. The Division of Horticulture was separated from the Crop Division in 1981. The position of Horticulture Commissioner was formed in 1985. At national level, the overall development of horticulture was the main responsibility to the Division of Horticulture Department. It is supported by three Boards i.e. National Horticulture Board, Gurgaon, Coconut Development Board, Kochi and National Bee Board, Gurgaon besides, two Directorates i.e. Directorate of Cashew and Cocoa, Kochi and Directorate of Areca nut and Spices. Calicut. A Central Institute of Horticulture for effective dissemination of technologies and capacity building has been established under the Department at Medizhipema, Nagaland. Implements its programmes through the State Departments of Horticulture and provides leadership and co-ordinates activities for the promotion of horticulture.

RESEARCH METHODOLOGY:
Research means “know about new things” sometimes it may refer to scientific and systematic search pertinent information on specific topic. In fact research is an art of scientific investigation

DATA COLLECTION:
The data collections classified into two types are
1 Primary data
2 Secondary data

PRIMARY DATA COLLECTION:
The information collected directly without any reference is primary data in this study it is mainly though conversation with concerned officers and staff number individually

SECONDARY DATA COLLECTION:
The secondary data are collected from information which is used by other it is not direct information this information is already collected and analysis by others information is used by others the secondary data are collected from following
1 Horticultural Department annual reports
2 Horticultural Department website
3 Manuals

Need for the Study
The horticulture sector plays a significant role for economic development in world. It is contributing to Agriculture Gross Domestic Product and mostly through foreign exchange in India. The demand for fruits and vegetables are increasing due to improvement in the quality of lives of the people in rural and urban areas in India and the world. Keeping this view there is a need to know the trends in horticulture sector.

Objectives of the Study
1. To study the environmental conditions for horticulture growth and development in India.
2. To study the importance of horticulture crops in India.
3. To examine the horticulture sector employment generation in India.
4. To analyze the trends in area and production pertaining to the horticulture sector in India.
Review of Literature:

AppaRao and Krishnaiah (2001) while analyzing the cost of production of cashew nut in Srikakulam district of Andhra Pradesh observed that the establishment cost per hectare amounted to Rs.6686.87 and maintenance cost was Rs.5967.92 per hectare gross and net returns stood at Rs.20,953.21 and Rs.7.59.23 for the same.

RangaRaju (2002) in his study on coconut worked out the total maintenance cost varied through the years and was Rs.3487.21, Rs.4093.46 and Rs.4061.98 during second year, fifth year and seventh year respectively in group I. The average yield was 15,750, 19,850 and 18,900 nuts per hectare in group in group I, II and III respectively.

Pandey et al. (2003) estimated the price spread and producers and market intermediaries share in the consumer price in the channel: Producer-commission agent-retailer-consumer in potato marketing at Shimla. For the study samples of 25 potato growers, 10 commission agents and 25 retailers were selected purposively. The result showed that 93 the producer realized around 73 percent share in consumer’s price. The retailer and commission agent earned profit of about 3.5 and 8.0 percent of the consumer’s rupee. The price spread and marketing efficiency was found to be about 27 percent and 3 percent, respectively.

Kumar, Sant, P.K. Joshi and Suresh Pal (2004) Observed that the farm gate prices for vegetables and fruits range between 20-30 percent of the eventual retail prices in India. In developed countries such as U.S.A., U.K. and Japan, the farm gate prices for such products range between 40-55 percent of retail prices. Realizing the importance of the significant growth in the recent years in horticulture (fruits, vegetables, flowers etc.), exclusive horticultural and animal science universities has been opened in several states. They are expected to cater to the needs of the sector in terms of research, extension, and manpower requirements. Further, these universities are expected to also explore ways and means to evolve appropriate policy interventions for the sustainable growth of perishable Agri-foods.

Jairath, M.S. and N.L. Agarwal (2005), Reported that the share of specialized markets like fruits and vegetables in total regulated market is low. Only few states have separate fruits and vegetable wholesale regulated markets. There availability is not even one per thousand sq. km area. Even the horticultural states which account for nearly 20 percent of 94 fruits and vegetable production does not have regulated market per hundred sq.km. area various state governments recently initiated a process of direct marketing by producers to consumers in the country by initiating the concept of Apni Mandi (Punjab, Haryana, Rajasthan), Raythu Bazaar (Andhra Pradesh), Uzhavar Sandies (Tamilnadu), Shetkari Bazaars (Maharashtra), Krushak Bazaars (Odisha). But these markets have been promoted so far only at state headquarter and some district headquarters adjoining the state. These markets are dealing only in fruits and vegetables and other perishables.

Sudha, et al.,( 2006) The use of hybrid seeds in the cultivation of vegetables has a huge impact over the farm incomes of the farmers growing vegetables by the use of commercial hybrid seeds In their study, they have talked about the cultivation of tomato and okra with the use of commercial hybrid seeds. And as a result, the production of tomato and okra has tremendously increased. This has helped the farmers to increase their farm incomes up to a great margin.

Chengappa, et al., (2007) Andhra Pradesh was the second largest state to produce horticulture crops in the year 2006-07 In their study, they have carried out the growth in area, production and productivity of horticulture sector of the state in all the districts from 1998-99 to 2005-06. They have found out that there has been a significant growth in area, production and productivity of almost all the important horticulture crops in the state during the period of their study, i.e. 1998-99 to 2005-06.

Murthy, et al. (2009) has carried out a study on tomatoes production in the state of Karnataka. Technical and scale efficiencies have been helpful in rise in production of tomatoes in Karnataka. They have applied the Data Envelope Analysis (DEA).Proper utilization of chemical fertilizers have been helpful in raising the production of tomatoes across different groups of farmers in Karnataka.

Reddy, et al. (2010) has talked about the value chains and retailing of fresh vegetables and fruits in Andhra Pradesh. They have laid emphasis over the success of the new retailing market emerging in the present times. It has been offering greater opportunities to the farmers who are the growers of vegetables and fruits in Andhra Pradesh. These farmers can reap larger chunks of financial and economic benefits out of the cultivation of vegetables and fruits.

Kumar, et al. (2011) has talked about the potential of economic benefits of the cultivation of brinjal in India. In their study, they have found out that with the adoption of BT brinjal, the yield gains have increase by 37% and on the other hand the total insecticide use has been reduced by around 42% as compared to the non BT brinjal crop in India. They further claim that the gap in vegetables production can work as a stimulator for substantial increase in the production of the same.

Singh, K.P and Thomas, S, (2012) “organized retailing of horticultural commodities” stated the extent of the transformation and its impact brought by the organized retailing of horticultural commodities in India. The study examines the impact of organized retail and benefits of the farmers from the emergence of an efficient and effective horticultural retail venture. It suggested that Government should intensive a special code of conduct to be followed to avail between farmers and retailer and also identify the Indian horticultural sector should be a globally competitive industry.
Rather.A.N, Lone.P.A, Reshi.A.A and Mir.M.M, in their article (2013), “An analytical study on production and export of fresh and dry fruits in Jammu and Kashmir”, stated the issue relating to the relationship between horticultural production and socioeconomic development of the study area. It considers that horticulture cultivator or growers can develop the rural economy and generate income and employment. It also listed some of the positive economic benefits of Jammu and Kashmir such as, raising tax revenues, social effects, impact on environment, generation of foreign exchange etc.

Environmental conditions for horticultural development

Plant growth and development do not occur in a vacuum but in an environment. In other words, one can alter the course of a plant’s growth and development by manipulating its environment. Such manipulation of plants can be advantageous, for humans.

The implication and practical application for horticulture are that the output, in terms of yield and quality of produce of a plant, to some extent is within the control of the grower. Vegetables and fruit crops are delicate and require stable climates for optimal production. They are grown on the leeward side of large lakes; grain crops, which perform well under drier and less-stable climatic conditions, are grown on the windward side. Large bodies of water also store heat in fall and are cold reservoirs in spring.

Air movement is also important to crop production. Strong winds can damage trees in the landscape as well as food crops. Windy conditions, combined with high temperatures, increase moisture loss by transpiration. Strong winds adversely affect the success of pollination involving insects and may damage tender leaves and young fruits and consequently reduce crop yield. The kind of horticultural plants that can be grown in area therefore depends on temperature in conjunction with rainfall, light and air movement. High temperatures may kill plants outright or reduce production when they coincide with flowering and fruiting periods. Light for plant growth comes primarily from the sun. The role of light in the growth and development of horticultural plants depends on its quality, quantity and daily duration. When plants are grown indoors, artificial lighting is required. The most readily recognized role of light is in photosynthesis, but it also has other important functions, such as seed germination in sum horticultural spices.

The role of soil in horticultural crop production is to provide physical support and a reservoir of nutrients and moisture for growing plants. In terms nutrition, soils may be described as fertile, marginal, or infertile. Soil nutrients are depleted with years of use and need to be replenished periodically. The soil may not be rich in native nutrients, but to be useful for crop production, it should at least be capable of holding water and nutrients for some time. If this condition dose not exists, the grower should make provisions to supply supplemental nutrition to prevent deficiency problems. To be of any use for crop production, the soil should be deep enough to permit root development for good anchorage while supplying adequate nutrition.

Horticulture tree works in near semblance to forest trees in maintaining ecosphere. They help in transforming microclimate. Provide shelter to birds, reptiles and other micro-organism and add to the geo-zoological diversity on the land. Provides impetus to the writers, poets, thinkers, and analysts and thus keeps their cultural impulse alive. Adds to the survival of life-spheres of living entity. Fruit crops are more eco-friendly as compared to high input sensitive crops to give their maximum outputs. Modern
day high yielding varieties of different crops are deteriorating the environment due to having higher demand for fertilizers, pesticides, insecticides, and other chemicals. Requirement of fruit crops for these chemicals is comparatively less. A part from this, the fruit trees improve the quality of air by manufacturing sufficient quantity of oxygen. Fruit trees improve the overall environment by improving micro-climate, soil health and controlling soil erosion. The fruit trees have very rich germplasm base which is suited for different agro-climatic conditions, thereby, can be adjusted in various types of soil and climatic zones. The quality of the organic matter in the soils improved with the growing of fruit trees.

**Employment generation**

Fruit crops have the potential to generate more employment opportunities as compare to all other traditional crops in the rural sector. On an average, the wheat and maize generate only 143 man days per hectare per year, while the fruit crops generate in kinnow(710), mango(800), malta(560), lemons(560), guava(460), grapes(250), and 350 man days in papaya per hectare per year. An important point over here is that the cereal and other crops provide employment seasonally, whereas the fruit crops provide employment through-out the year. A shift of only five percent of irrigated land from cereal crops to horticulture can create 50 percent more productive jobs in agriculture sector, as a result will also help to improve the economic level of the rural population. In addition, many agro-based industries like cold storage and refrigeration, processing industries like jam, squash, pickles, preserves, canning, winery, fruit drinks, oil extracts from leaves, flowers and fruit rind, transportation, packaging and curing industries are dependent on horticultural crops which can be stabilized in fruit growing pockets.

Horticulture is a significant contributor to the economy for its encompassing benefits not only in the agriculture sector per se but for its wider applications and benefits in improving the rural livelihood through improved nutrition, sustainable farming, employment generation, etc. The sector is a critical component in the envisaged Evergreen Revolution.

Horticultural crops as high value crops have got an important role to play in revitalizing rural economies. Horticultural crops production provides jobs more than twice the number of jobs compare to cereal crops production per hectare of production. The shifting of cereal production toward high value horticultural crops is increasing employment opportunities in developing countries. Women have the most to benefit from the rising importance of horticulture. Women in general play a much more significant role in horticulture crop production as compare to cereal production. Besides creating jobs on the farm, the horticulture sector generates off farm employment especially for woman. This is the case for export and value added processing industries.

Horticulture forms an integral and important component in the economy of a nation. Horticultural crops constitute a significant segment of the total agricultural production of a country. The importance of horticulture can be substantiated by its benefits like high export value, high per unit area yield, high returns per unit area, best utilization of wasteland, provision of raw materials for industries, whole engagement by a grower/labourer, production of more food energy per unit area than that of field crops, better use of undulating lands, and stabilization of women's empowerment by providing employment opportunities through processing, floriculture, seed production, mushroom cultivation, nursery preparation, etc. In addition, fruits and vegetables constitute the important energy-giving material to the human body. It also improves the economic condition of many farmers, and it has become a means of improving livelihood for many unprivileged classes too. Flower harvesting, nursery maintenance, hybrid seed production and tissue culture, propagation of fruits and flowers, and food processing are highly remunerative employment options for women in rural areas.

Horticulture is one of the main agricultural practices in a nation. It is basically the science of cultivating gardens or orchards, that is, it refers to the process of cultivation of fruits, vegetables, flowers, and ornamental plants. It involves increasing the area and productivity of farming lands, bringing technological aspect in agriculture, raising the farmers' incomes and their standard of living, being a source of employment opportunities, etc. Horticultural crops play a unique role in a country's economy by improving the income of the rural people.

**Trend in Horticulture Development**

The emerging trend worldwide and also in the country is indicative of a paradigm shift in dietary needs of the people with rise in the income, which demand for more horticultural produce. Since growing of horticultural crops is rewarding to the farmers in terms of returns per unit area, the sector is expected to contribute significantly for food and nutritional security, employment opportunity and poverty alleviation. The decade was witnessed the development of horticulture, which has resulted in appreciable growth and laudable achievements, owing to technological advancement and policy environment. Past trend in development has been satisfying in terms of technological adoptions, production, availability and export of horticultural produce, and this trend has been marked as “Golden Revolution”.

There is now major involvement of the private sector and better realization of the potential of these crops on the part of the producers. Great enthusiasm has been shown by the private producers in developing international contacts for importing improved material or technology and for exporting the finished products. In this, floriculture has received much large attention and
is gradually becoming a major component in the export programme. Several private entrepreneurs have established tissue culture facilities for large scale multiplication of new varieties. Similarly, in the concept of protected cultivation, in other words, use of green houses for growing flowers under controlled conditions is fast catching up. The Government plans to provide assistance for setting up green houses and tissue culture units. A few units for post harvest handling of cut flowers have already been sanctioned. Emphasis on high value-low volume crops is gaining momentum in several areas particularly in the South and in the North-Eastern region. Preference is shown for crops like black pepper, cashew nut, cocoa, cardamom, tree spices, etc. which fetch a high price in the domestic as well as international market, and can provide quicker returns.

The country’s total horticulture production is estimated to rise marginally to 314.87 million tonne in the 2018-19 crop year. “The total horticulture production of the country is estimated to be at 314.87 million tonnes which is 1.01 per cent higher than horticulture production in 2017-18,” an official statement said. Horticulture production stood at 311.71 million tonnes in the previous year. The area under horticulture crop also rose to 25.6 million hectare from 25.43 million hectare. The crop year in India is from July-June.

Under the horticulture crops, production of fruits is estimated to be around 97.38 million tonnes in 2018-19 compared to 97.36 million tonnes in the previous year. Vegetables production is estimated to rise 1.6 per cent at around 187.36 million tonnes. Among vegetables, onion Production is estimated to be around 23.28 million tonnes, slightly higher than production in 2017-18. Potato production is estimated to be around 52.96 million tonnes, which is 3.2 per cent higher than 2017-18. Tomato production is estimated to be around 19.66 million tonnes, which is 0.5 per cent lower than 2017-18. As per the data, spices Production is estimated to be around 8.61 million tonnes, which is 6.01 per cent higher than 2017-18.

Table: 1
Area Production of Horticultural Crops during the year 2014-15 to 2018-19 in India

<table>
<thead>
<tr>
<th>Years</th>
<th>Fruits A</th>
<th>P</th>
<th>VEG A</th>
<th>FLO,ARO&amp;ME D A</th>
<th>PLANTATION A</th>
<th>SPICES A</th>
<th>TOTAL A</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-15</td>
<td>6110</td>
<td>8660</td>
<td>2</td>
<td>9542</td>
<td>169478</td>
<td>908</td>
<td>3143</td>
<td>3534</td>
</tr>
<tr>
<td>2015-16</td>
<td>6301</td>
<td>9018</td>
<td>3</td>
<td>1010</td>
<td>6</td>
<td>169064</td>
<td>912</td>
<td>3206</td>
</tr>
<tr>
<td>2016-17</td>
<td>6373</td>
<td>9291</td>
<td>8</td>
<td>1023</td>
<td>8</td>
<td>178172</td>
<td>970</td>
<td>3364</td>
</tr>
<tr>
<td>2017-18</td>
<td>6506</td>
<td>9735</td>
<td>8</td>
<td>1025</td>
<td>9</td>
<td>184394</td>
<td>1044</td>
<td>3651</td>
</tr>
<tr>
<td>2018-19</td>
<td>6647</td>
<td>9857</td>
<td>9</td>
<td>1009</td>
<td>9</td>
<td>185833</td>
<td>967</td>
<td>3682</td>
</tr>
</tbody>
</table>


Table: 2
Percentage Share of Total Horticulture Crops Production during the year 2014-15 to 2018-19 in India

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruits</td>
<td>30.8</td>
<td>31.5</td>
<td>30.9</td>
<td>31.2</td>
<td>31.4</td>
</tr>
<tr>
<td>Vegetables</td>
<td>60.3</td>
<td>59.1</td>
<td>59.3</td>
<td>59.2</td>
<td>59.2</td>
</tr>
<tr>
<td>Flowers and Aromatics</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>1.2</td>
<td>0.1</td>
</tr>
<tr>
<td>Plantation Crop</td>
<td>5.5</td>
<td>5.8</td>
<td>6.0</td>
<td>5.8</td>
<td>5.2</td>
</tr>
<tr>
<td>Spices</td>
<td>2.2</td>
<td>2.4</td>
<td>2.7</td>
<td>2.6</td>
<td>2.9</td>
</tr>
<tr>
<td>Total Horticulture Crops Production</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

### Table 3

**Production of Horticultural Crops and Total Food Grains during the year 2014-15 to 2018-19 in India**

<table>
<thead>
<tr>
<th>Years</th>
<th>Total Horticultural Crops</th>
<th>Total Food Grains</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-15</td>
<td>281.0</td>
<td>252.0</td>
</tr>
<tr>
<td>2015-16</td>
<td>286.2</td>
<td>251.6</td>
</tr>
<tr>
<td>2016-17</td>
<td>300.6</td>
<td>275.1</td>
</tr>
<tr>
<td>2017-18</td>
<td>311.7</td>
<td>284.8</td>
</tr>
<tr>
<td>2018-19</td>
<td>313.8</td>
<td>283.4</td>
</tr>
</tbody>
</table>

Chart showing Production of Horticultural Crops and Total Food Grains during the year 2014-15 to 2018-19 in India

In the above graph total horticulture crops production 281 million tonnes in 2014-15 total food grains 252 million tonnes, the production in 2016-17 300.6 million tonnes total food grains 275.1 million tones. 313.8 Production in million tonnes in 2018-19, total food grains 283.4 million tonnes.

It is observed from Table: 4, that the area under horticulture crops in India increased from 12.8 million hectares in 1991-92 to 25.4 million hectares in 2018-19. The production of horticulture crops had also increased from 96.6 million tonnes in 1991-92 to 313.8 million tonnes in 2018-19. The productivity of horticulture crops increased 7.5 tonnes/hectare in 1991-92 to 12.6 tonnes/hectare in 2018-19.

### Table 4

**Area production and Productivity of Horticultural Crops in India during 1991-92 to 2015-16.**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Year</th>
<th>Area (in million hectares)</th>
<th>Production (in million tonnes)</th>
<th>Productivity (in tonnes/hectares)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1991-1992</td>
<td>12.8</td>
<td>96.6</td>
<td>7.5</td>
</tr>
<tr>
<td>2</td>
<td>1992-1993</td>
<td>12.9</td>
<td>107.4</td>
<td>8.3</td>
</tr>
<tr>
<td>3</td>
<td>1993-1994</td>
<td>13.1</td>
<td>114.6</td>
<td>8.7</td>
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Conclusion

The emerging trend worldwide and also in the country is indicative of a paradigm shift in dietary needs of the people with rise in the income, which demand for more horticultural produce. Economic returns on horticulturists’ fruit crops are many times higher than that of the economic returns on food and non-food crops. The importance of horticulture in improving the productivity of the land, generating employment, improving economic conditions of the farmers and entrepreneurs, enhancing exports and above all, providing nutritional security to the desert dwellers, can hardly be overemphasized. Horticulture has assumed significant importance in the crop diversification in recent years, which has become essential to arrest serious land degradation and enhancing the farm income. In fact, the horticulture has also gained commercial importance with a very significant share in the economy of the in India. Diversification of agriculture from traditional land use with predominantly cereal/legume-based cropping systems to more productive and remunerative one has become a milestone to be achieved. Horticulture provides one of the few viable and most attractive alternative land use system. Apart from their contribution to the total agricultural production, their potential for providing much higher income to the farmers has been another major factor for favouring these crops in this campaign.

References:


**Source:** Indian Horticulture Database, National Horticulture Board, Ministry of Agriculture, Govt. of India.
[17] Indian Horticulture Database 2019, Annual Report 2018-19, Agricultural and Processed Food Products Export Development Authority (APEDA)