A REVIEW OF HORTICULTURE SECTOR IN INDIA WITH SPECIAL REFERNCE TO HARYANA

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ABSTRACT

In our daily lives, we rely on horticulture more than any other discipline. Horticultural crops contain critical nutrients for human health, such as vitamins, minerals, proteins, and energy. The expansion of research is a reliable sign of the relevance of a field. Our goal was to learn more about horticulture-related theses authored by students in the Haryana region, with a concentrationon a few specific theses from the Sonipat and Rohtak districts. To collect data for analysis, the study used a questionnaire survey with 700 participants. The data for this inquiry was compiled using both primary and secondary sources. A detailed survey of a representative sample of farmersand exporters using in-person visits and standardized questionnaires would be used to collect primary data. The main reliance of the will be on primary data. The secondary data will be collected from various published sources like survey of Indian Agriculture by The Hindu, publications of Indian agriculture statistics research institute , New Delhi, publication of National Horticulture Board , Gurugram Statistical abstract of Haryana .Economic survey and export statistics for Agro. and food products published by APEDA. The present study restricted to 7 major vegetables crops. i.e., Pea, Carrots, Potato, Onion, Tomato, Cauliflower and Garlic were selected for study.

1. Introduction

A variety of technical and regulatory initiatives have been implemented to help India's horticultureindustry grow. The most important technology packages are those that contain everything from production through post-harvest, and those are the most recent. Biotechnology, protected culture,and precision technologies such as automation are all examples of how this may be doneeffectively. Other recent initiatives in the infrastructure domain have included the establishment of cold storage facilities, the certification of quality, the simplification of the exporting process, and the provision of assistance to companies looking to enter international markets.

In addition, by establishing contract farming, the government has made it easier for new organizations to emerge. Another crucial factor is to make advantage of the collective strength of the group or organization. According to the government, the formation of Farmer Producer Companies, whichhas the potential to bring about a paradigm change in the delivery of input and service systems, should be encouraged. According to the available research, horticultural crops provide a higher netprofit than other crops. Farmers' earnings would more than quadruple by 2022, according to a proposal put out by the Indian government. It is becoming clearer that horticulture will play a critical role in the implementation of this agenda. Several aspects of horticulture

development arediscussed in this article, including development patterns and trends, as well as lessons gained from the growth story so far. Finally, policy proposals are made for promoting horticultural growth inorder to keep pace with evolving demands.

1.2 Agriculture Status in India

When it comes to farming, everything is intertwined and interdependent. The weather and climate, as well as agriculture and its associated industries, as well as the price of agricultural products, areall directly influenced by changes in the weather and climate. It follows that farmers must be safeguarded against the vagaries of nature while yet using ecologically acceptable farmingpractices. Men are increasingly relocating from rural to urban areas in search of better work opportunities and living circumstances, as a result of the increasing urbanization of society. In partas a result, women are choosing to stay in rural regions, where they are contributing significantlyto the growth of agriculture and allied professions.

Women in agriculture include cultivators, entrepreneurs, farmers, and laborers, all of whom come under the category of "women in agriculture." It is critical that concerns of uneven access to resources, like as land, money, water, seeds, and the market, be addressed as quickly as possible. Women in agriculture have been encouraged to work by the Indian government, which has provided them with financial help. In order to improve the rights of women farmers, the government has put in place a number of programs and legislation. The following measures have been put in place to help women become more involved in agriculture:

- In all current schemes, programs, and development initiatives, 30% of the budget isdedicated to women.
- All programmers and initiatives will help women if they are implemented in a women-centric manner.
- Self-help organizations may connect women to micro-credit for capacity-buildinginitiatives.

Over the years, India's foodgrain output has grown significantly. In 2010-11, food grain outputreached 244.5 million metric tons, up from 50.8 million metric tons in 1950-51.

Table no 1. Over the Years, India's Grain Production (Million tons)

S.no	year	%
1	1950-51	**50.8**
2	1960-61	**108.4**
3	1970-71	**108.4**
4	1980-81	**129.6**
5	1990-91	**182.5**
6	2000-01	**196.8**
7	2010-11	**244.5**

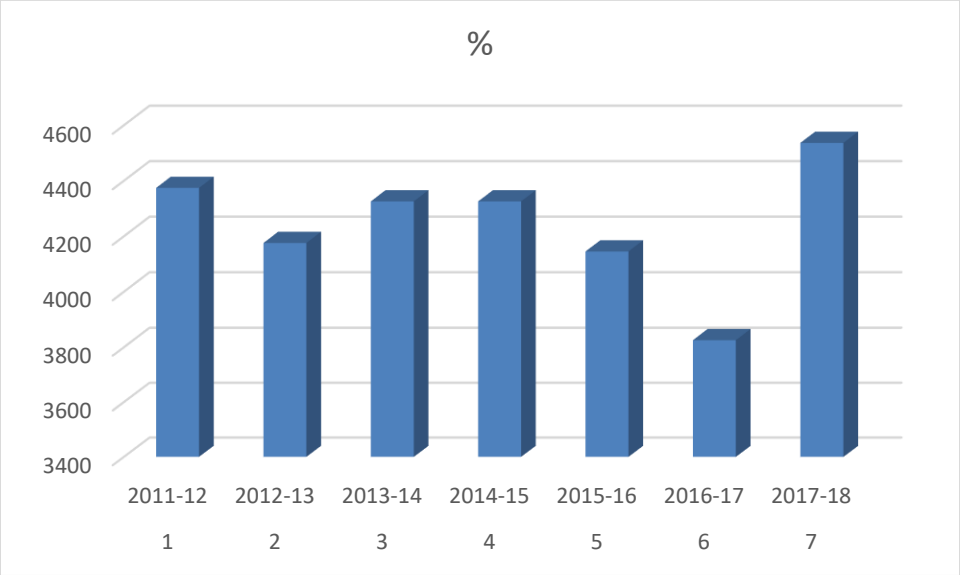

Fig no 1. Over the Years, India's Grain Production (Million tons)

In recent years, India's overall food grain output has shown an upward trend. As of 2017-18 (4thAE), India produced a record 284.8 million tons of cereal grain.

Table no 2. A Look at India's Grain Production in the Last Decade (Million tons)

S.no	year	%
1	2011-12	**259.3**
2	2012-13	**257.1**
3	2013-14	**265**
4	2014-15	**252**
5	2015-16	**251.6**
6	2016-17	**275.7**
7	2017-18	**284.8**
8	2018-19	**283.7**

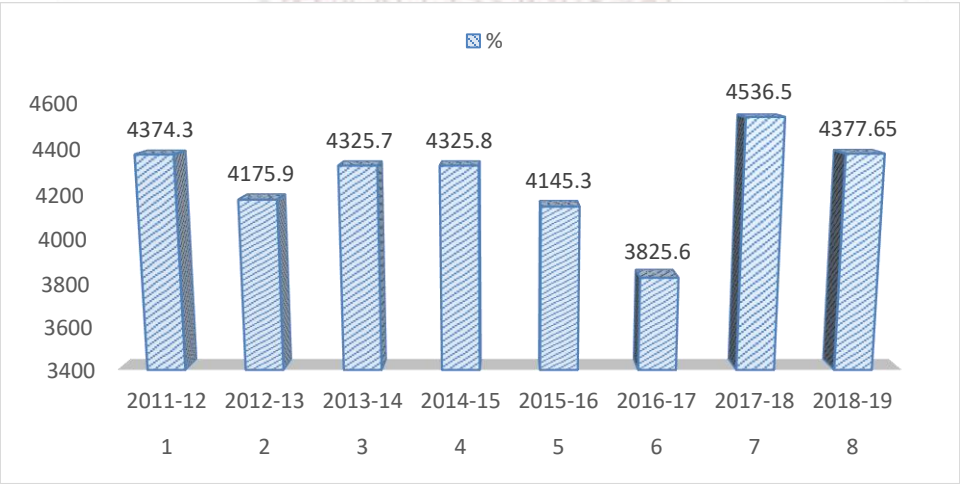

Fig no 2. A Look at India's Grain Production in the Last Decade (Million tonnes)

In India, crop diversification represents a big potential. Crop diversification has the potential to increase the sustainability and profitability of agriculture. A more varied farming approach mighthelp farmers reduce harvest losses and price shocks, which would be beneficial in the long run. Crop varieties in India have the potential to increase soil health, productivity, and profitability. Indian authorities consider diversification of agriculture into high-value crops to be a high-prioritytask. A direct consequence of this development, India's dairy and mixed crop-livestock farming systems have grown to become a key source of supplemental income for millions of rural families,particularly for marginal and female farmers. Smallholders in India have chosen to maintain livestock and poultry as a method of producing extra revenue streams to supplement their income. This may be used to increase income, provide an alternative to physical labor, supplement dietaryneeds, and even serve as collateral in the case of financial hardship.

- **Contribution of India in GDP**

Table no 3. Contribution of GDP by the horticulture department of India

Year	% of GDP
1960	41.74
1970	40.29
1980	34.41
1990	27.58
2000	21.61
2010	17.03
2011	17.19
2012	16.85
2013	17.15
2014	16.79
2015	16.17
2016	16.36
2017	16.56
2018	16.03
2019	16.73
2020	18.23

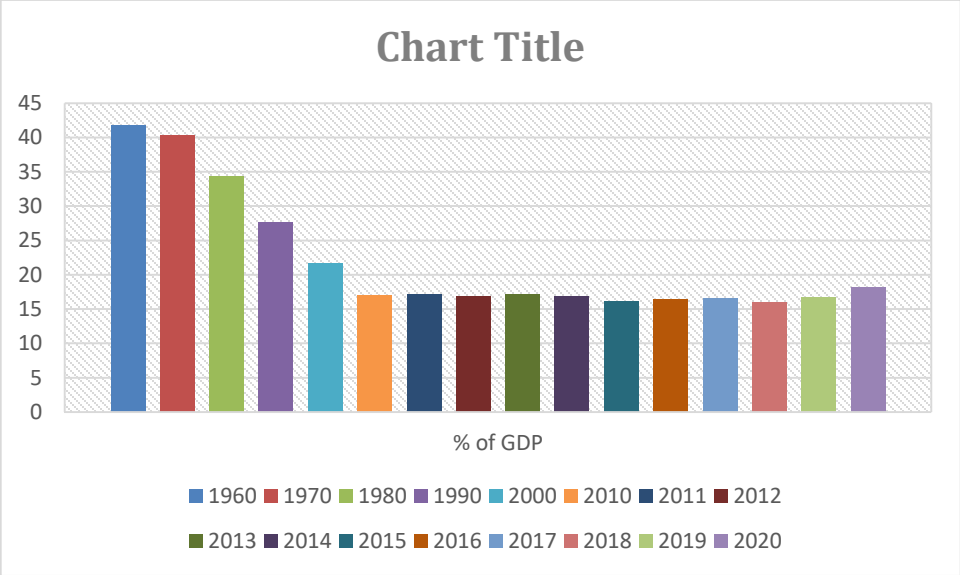

Fig no 3. Contribution of GDP by the horticulture department of India

Table no 4. States of India and the mango cultivars grown there

States	Varieties
Andhra Pradesh	Banganapalli, Suvarnarekha, Neelum and Totapuri
Bihar	Chausa, Kishen Bhog, Dashehari, Fazli, Himsagar, Zardalu, Gulabkhas, Langra and Bombay Green
Gujarat	Kesar, Alphonso, Rajapuri, Jamadar, Totapuri, Neelum, Dashehari and Langra
Haryana	Chausa, Dashehari, Langra and Fazli
Himachal Pradesh	Chausa, Dashehari and Langra
Karnataka	Alphonso, Totapuri, Banganapalli, Pairi, Neelum and Mulgoa
Madhya Pradesh	Dashehari, Fazli, Langra, Neelum, Alphonso and Bombay Green
Maharashtra	Alphonso, Kesar and Pairi
Punjab	Chausa, Dashehari and Malda
Rajasthan	Bombay Green, Chausa, Dashehari and Langra
Tamil Nadu	Alphonso, Totapuri, Banganapalli and Neelum
Uttar Pradesh	Bombay Green, Chausa, Dashehari and Langra
West Bengal	Gulabkhas, Kishenbhog, Alphonso, Bombay Green, Himsagar, Dashehari, Fazli, Langra and Neelum

In terms of dairy production, India still ranks first worldwide. The Indian government is making efforts to better the lives of small-scale dairy farmers through programs including the National Program for Bovine Breeding and Dairy Development, the National Dairy Plan, and the Dairy Entrepreneurship Development Scheme.

Whether as farmers, members of women's cooperatives,or in marketing, women have played an important part in the expansion of the dairy industry. Indian chicken farming has developed from a traditional agricultural method to a modern industrialone that makes use of cutting-edge technology. According to the United Nations Food

and Agriculture Organization, India is the world's second-largest producer of fish and the second- largest producer of freshwater fish. The management of agricultural inputs is a critical branch of the river. A precise balance of inputs may be accomplished to increase agricultural production while maintaining soil fertility and minimizing environmental impact on soil fertility and the environment. As a consequence, agricultural organizations in India are pushing farmers to employ cutting-edge technology and supplies in order to increase production and productivity.

In this situation, the degree of education of farmers is crucial. The capacity of farmers to adapt to new agricultural technology is highly impacted by the level of education attained by the farmers in question. Because of the large number of small and marginal farmers, a variety of educational programs are being implemented on farms. Ample irrigation coverage in Indian agriculture might have a significant positive impact. The Prime Minister's Krishi Sinchai Yojana, which was launched in 2015 with the purpose of increasing irrigation coverage, was introduced by the government. In the 2016-17 season, more than 8.4 million hectares of land were submerged in micro-irrigation systems. A higher quantity of money is being allocated to the Per Drop More Crop program. India's farmers have embracedagricultural mechanization, which saves them time and labor while also reducing post-harvest losses and increasing crop output and farm income, among other benefits.

The agricultural industryis adopting a proactive approach to talent development. Farmers may take advantage of a variety of outreach initiatives, which include instructional materials, hands-on training, and field excursions, among other things. Farmers are being provided post-harvest management training that is geared at women and adolescents. Massive investments in automation and skill developmenthave enabled India's tractor sector to expand to become one of the world's largest, to its credit. Tomake agriculture sustainable in the face of increasing urbanization and rural flight, farm mechanization is now an absolute need. The yield of commercial crops in India has increased steadily throughout the years as a consequence of the country's adaptability in adopting the most recent agricultural technologies. In 2017-18, a record 4532.4 lakh tons of commercial crops were produced, representing an increase above the previous year's production.

Table no 5. The total amount of commercial crops grown (Lakh tonne)

S.no	year	%
1	2011-12	**4374.3**
2	2012-13	**4175.9**
3	2013-14	**4325.7**
4	2014-15	**4325.8**
5	2015-16	**4145.3**
6	2016-17	**3825.6**
7	2017-18	**4536.5**
8	2018-19	**4377.65**

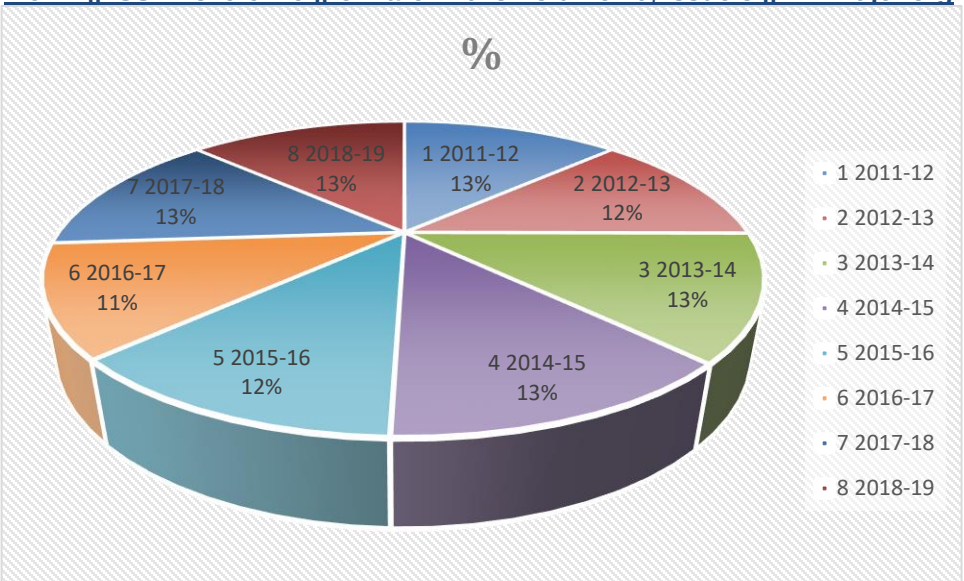

Fig no 4. The total amount of commercial crops grown (Lakh ton)

The consolidation of land ownership is yet another important component of Indian agriculture today. In order to reap the benefits of agricultural mechanization, the government has taken stepsto bring together small and marginal landholdings in order to combine their resources. Increasingagricultural productivity requires the use of credit in order to be successful. Agriculture credit enables farmers to obtain inputs on a cash-flow basis until they get payment from the sale of theircrops as well as to make investments in their companies that will allow them to expand their production. Agricultural sector loans have witnessed a large growth over the previous few years, according to the Federal Reserve.

Despite this, the prominence of farmers' informal sources of finance is a source of concern for policymakers. In India, farmers are being pushed to break free from their hesitance and insure their crops. In terms of crop insurance coverage, agricultural families and farmers constitute a minuscule percentage of those who are eligible. There are a variety of reasons why crop insurance isn't as popular as it could be in the agricultural industry. Amajor reason for crop insurance's underutilization is that most farmers are unaware that it exists, are unaware of the facilities available to store the harvested crop, and are only aware of its limitedgeographic reach.

1.3 Current Status of Horticulture in Haryana

Haryana is known as the 'Green Land of India' because of its rich soil and plenty of water. The total land area of Haryana is 43,71,000 hectares, of which 64,11,000 hectares are cultivated. 80 percent of the land is under cultivation, with 84 percent of that area receiving irrigation and 182 percent cropping intensity. Approximately 8.17 percent of the farmed land is dedicated tohorticultural crops, which span 5,28,940 hectares. Haryana is mostly an agricultural economy, hence the agriculture industry plays an important part in the state's economy. Indirectly or directly,more than half of the state's population relies on this industry for their living. Currently, horticulture crops like as fruits, vegetables, flowers, and mushrooms account for 6.4% of Haryana'stotal agricultural area.

We're doing all we can to meet our 10% goal. Spice, medicinal, and aromaticplants are also grown on a modest scale throughout the state. The state of Haryana has become a major producer of mushrooms in the United States. As a result, the future strategy should includemarketing of mushroom with other types of medicinal mushrooms. Increased profits have led to an increase in the cultivation of fragrant plants. The perceptions of excellent achievements up to this point are based on changes in the efficiencyof important horticulture crops throughout years. Horticulture will be expanded as part of the mission. Each step shall be taken to make horticulture a valuable suggestion for Haryana's farmersby employing cutting-edge innovation.

Increased acreage under hybrids and the adoption of protected agriculture in greater regions with a soft credit facility coupled with enhanced agro methods will be given more attention in the future. Farmers' concerns and wants will be addressedvia a shift in the focus of innovative work efforts. Value seeds and planting materials will be given a lot of attention in the near future. As a result of this new research, fruit and vegetable crops and indigenous flora will be used to generate new functional foods and nutraceuticals. Raising bees aspollinators will be encouraged together with perennial fruit trees for agro-horticulture and tree species for agro-forestry employing micro irrigation to ensure increased yields of numerous crops.

Table no 6. Data of horticulture department of Haryana production 2015 to 2019

Year	2015-16	2016-17	2017-18	2018-19
Fruits	Production	Production	Production	Production
Grapes	36.9	39.6	42.36	44.59
Guava	69.3	72.63	75.96	77.89
Jackfruit	156.2	146.8	159.63	161.2
Litchi	55.2	68.53	69.85	73.69
Mango	153.2	169.5	145.2	156.32
Papaya	96.5	105.63	126.59	139.56
Pomegranate	121.56	118.56	136.95	148.59
Watermelon	48.56	49.63	47.89	52.63
Total - Fruits	737.42	770.88	804.43	854.5
Vegetables	6129.36	6180.43	7151.6	7121.2
Medicinal	1.06	0.33	1.17	3.211
Flowers	5.39	3.51	10.12	11.948
Plantation	0	0	0	0
Spices	82.82	77.8	78.19	107.23
Total	6956.05	7032.95	8045.51	8098.089

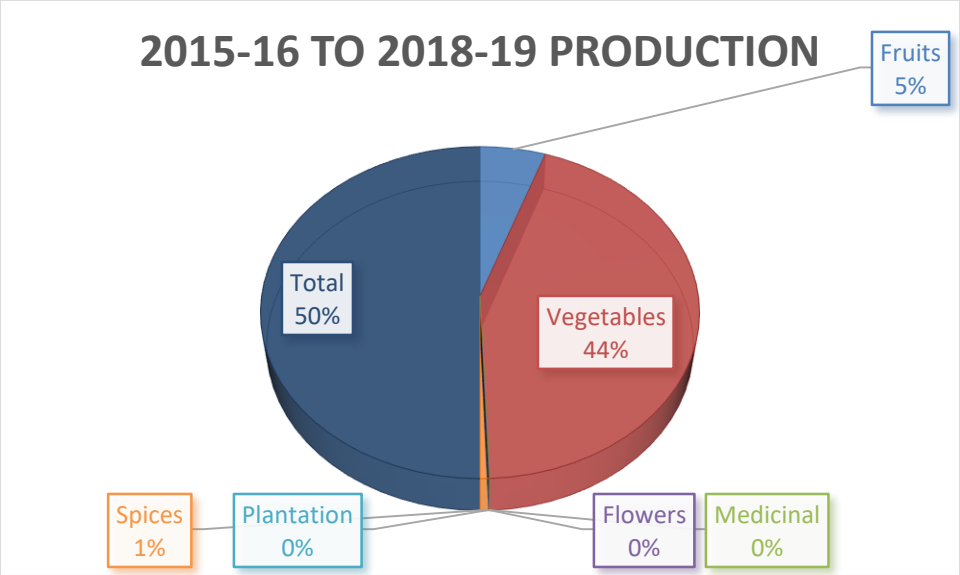

Fig no 5. Data of horticulture department of Haryana production 2015 to 2019

2. Literature Review

Ghosh, Chinanshuk & Biswas (2022) Land conversion to non-farm uses, a scarcity of cultivableland, and labor constraints because of urbanization all play a part in ensuring the sustainability ofhorticulture production. The only way to keep up with the present demands is via mechanization and service that can be maintained indefinitely. Horticulture automation nowadays comprises a broad variety of growth methods and production processes, as well as working activities, technicalprocedures, appropriate soil management techniques and equipment, as well as harvesting and processing the output. **Bisht, Anand (2022)** Despite India's emergence as a large producer of these items, the contributionof horticulture to the economy has increased in recent years. However, the sector's full potential has not been realized. The agro-climatic characteristics of the hilly terrain provide horticulture a competitive advantage. Because of the state's diversified geography and temperature, it is possibleto find a wide variety of vegetables in abundance in Uttarakhand. In addition, there is a diverse selection of vegetable crops from which to pick.

While certain regions are producing high-qualityand large quantities of vegetables, they are not producing enough to fulfil the demands of those living in favorable geo-environmental conditions, according to the USDA. The export of vegetables, particularly potatoes, from the highland settlements is a significant source of money for the region. Contrary to this, the agro-ecological conditions found in the mid-slopes are ideallyadapted for the production of high-quality products by subsistence farmers. **Ahmad, Burhan & Anwar (2021)** To profit from international commerce, countries must have athorough grasp of their comparative advantage. Pakistan has a history of running trade deficits, and its main exports have always been food products. Using Balassa's RCA and its modifications,this study analyzes the competitiveness of exports of Pakistan's major fruits and vegetables from 2001 to 2018. Among the fruits that performed best were mangoes, citrus, and dates, according toresults. According to the estimates of numerous RCA indicators for onions and potatoes, there was both a comparative advantage and a disadvantage. Pakistan's fruits and vegetables have a lot of export potential because of the country's comparative

advantage. A considerable increase in exports and foreign currency gains, as well as the creation of new jobs and a reduction in the country's trade imbalance, may all result from unlocking this potential.

O.P. Singh (2020) The agricultural sector of the nation has contributed significantly to the country's economic development as a consequence of the export of agricultural products. Exporting agricultural products may help a nation lower its current account deficit since the valueof agricultural commodities exported exceeds the value of agricultural commodities imported. Theadvantages of comparative advantage in the global economy are being demonstrated by the movement of agricultural goods from one country to another following an agreement under the World Trade Organization. This research examines the growth trends, variability, and trade specification coefficient indices of agricultural commodities, and the comparative advantage of spices exported from India by utilizing the revealed comparative advantage, trade specification coefficient, and revealed symmetric comparative advantage indices. Secondary information for this study was culled from a wide range of official publications and online resources.

Ravi Kumar, Reetika (2020) Haryana's economy is primarily reliant on agriculture due to the fact that the state is mostly agrarian. More over half of the state's population, whether indirectly ordirectly, is dependent on this division for their livelihoods. There are several opportunities for cultivating horticultural crops in the state, which has a significant positive impact on the state's economy. The purpose of the research is to examine the particular horticultural crop issues that exist in Haryana. Planting a variety of crops is important, and the state's horticulture business provides a viable path for doing so. **Girish K Jha (2019)** The horticulture industry has long been recognized for its ability to boostagricultural revenue, ensure farm workers' livelihoods, and generate foreign currency. However, to fully realize the sector's potential, certain governmental actions are required. Indian horticulturepatterns and future development potential are examined in this research. There has been an 18- 23% increase in the intake of selected fruits and vegetables from 1993-94 to 2011-2012, howeverthe amount eaten is still below than the recommended nutritional needs. As a percentage of the total agricultural growth rate between 2000 and 2011, fruits and vegetables contributed for 19.2 percent. In both absolute numbers and in terms of agriculture sector production, the value of high-value crops is on the rise.

Abraham, Vincent (2019) India is largely a food crop producing country, with pulses accountingfor 25 percent of global production, rice accounting for 22 percent, wheat accounting for 13 percent, and cotton accounting for 6 percent (25 percent). Indian vegetables and fruits accountedfor 12.40 percent and 13.30 percent of worldwide production, respectively, in 2013-14, making the country the world's second-largest producer in both sectors. **Ghanghas, Bharat & Malik (2018)** With a rapidly growing population, India is the world's second-largest producer of vegetables, and the country's demand for vegetables is likely to continue to grow. Shielded farming is becoming more popular for a variety of reasons, including a scarcity of available land, adverse weather conditions, and a rising demand for fresh vegetablesof the finest possible quality. The majority of poly house farmers (94 percent) expected that the product will have moderate to excellent prospects in the future.

Sharma, Akriti & Ojha (2017) India's agriculture-based economy contributes to the country's ability to retain a dominant position in international trade. This is shown by the international tradein food grains and some horticultural items, such as onions. This article sought to investigate the global trade potential of Indian onions by evaluating the factors of change in onion production using Hazell's decomposition technique, which was used in this study. The research also used thestationary version of the first order Markov chain model to estimate the direction of onion exportsand recommended that trade marketplaces be more diverse. **Leua, Alpesh & Gamit, Pooja (2017)** The study looked at India's comparative advantage in the categories of cereals, horticulture crops and products, livestock and products, and the trade in processed goods.

A comparative advantage index (CAI) is used to assess India's level of competitiveness (RCA). With the help of the author's calculations, which are based on data from the USDA's assessment of international agricultural services, the United States was able to calculate its position. When examining comparative advantages in different sectors, the completeworld agricultural export was utilized rather than the total global export in order to provide a moreunderstandable picture of the situation.

3. Horticultural Sector

Agriculture is essential to the growth of every economy. It makes a substantial contribution to theprocess by providing the necessary raw materials for manufacturing, paying wages to employees in other industries, employing people, creating investable surplus, and opening up markets for industrial goods. All living things can eat because of agriculture. It is crucial that environmentally,socially, and economically sustainable agriculture become the cornerstone of the nation's development process. So that land, water, and other natural resources, as well as biodiversity, areutilized effectively and fairly, agriculture should be sustainable. Economically, it should increase job opportunities; socially, it should boost the roles of women and other underrepresented groupsof the population. For a community to actively participate in the preservation and improvement ofnatural resources, rewards must be shared fairly.

Horticulture, which includes the act of preparing soil for the planting of seeds, tubers, or cuttings,is the business and science of cultivating plants. Plant breeding and genetic engineering, crop production, plant biochemistry, and plant physiology are all fields in which horticulturists work and do study. Fruits, berries, nuts, vegetables, flowers, trees, bushes, and grass are all part of the labor. Crop output, quality, nutritional value, and resistance to insects, diseases, and environmental pressures are all goals of horticulturists (Ghosh, 1999).1 The history of horticulture is fairly extensive. Horticulture is a field of study and research that has existed since the reign of Cyrus the Great, a king of ancient Persia. Nomadic hunter-gatherers,who produced a variety of crops on a modest scale around their houses or in specialized plots visited periodically during migrations from one area to another, were the ancestors of sedentary orsemi-sedentary horticultural cultures.

Communities with a strong emphasis on horticulture are distinguished by their widespread practice of planting and protecting trees for their practical benefits. Agriculture and horticulture diverge essentially in two respects. First of all, it usually involves a more compact scale of production, using small plots of mixed crops as opposed to big fields of one kind of crop. Second, horticultural cultivations often incorporate a broad range of plants, including fruit trees with ground plants. However, agricultural cultivations often concentrate on asingle main crop. The nomadic hunter-gatherer societies of the Plains people contrasted sharply with the semi-sedentary horticulture communities of the Eastern Woodlands in pre-contact NorthAmerica (producing maize, squash, and sunflower). Horticulture in Central America includes enhancing the forest with fruit trees including papaya, avocado, cocoa, ceiba, and sapodilla. Eight research areas make up horticulture, which may be divided into two categories: edibles andornamentals:

- Arboriculture is the study of individual trees, shrubs, vines, and other perennial woody plants as well as their selection, planting, maintenance, and removal.
- The cultivation and sale of flowering plants are both aspects of floriculture.
- Production, marketing, and upkeep of landscape plants are all included in landscape horticulture.
- Vegetable production and marketing are included in olericulture.
- The cultivation and commercialization of fruits are both a part of pomology or fruticulture.
- The cultivation and distribution of grapes are both a part of viticulture.
- All elements of wine and winemaking are covered by oenology.
- Horticultural crops' postharvest physiology focuses on preserving their quality and avoiding deterioration.

3.1 Development of Horticulture

The Indian Council for Agricultural Research's Division of Horticulture is playing a crucial role in technology-led development as horticulture has emerged as a major economic development engine in several states throughout the nation, contributing 30.4% of agriculture's GDP. The use of genetic resources, improving production efficiency, and lowering losses in an environmentallyappropriate way are the research priority. The creation of enhanced agriculture with high quality attributes, productivity, resilience to pests and diseases, and tolerance to abiotic stressors has beenmade possible by effective management, improvement, assessment, and value of genetic resources. Technologies have been created to increase the effectiveness of breeding to create growers that match market demands for flavor, freshness, health benefits, and convenience in addition to beingresistant to biotic and abiotic stress.

Through the development of site-specific technology for various horticulture crops, the government has also made initiatives to boost the value of output by lowering variability in yield,quality, minimizing crop loss, and enhancing marketability. It is also important to develop systemsfor managing fertilizers and water productively as well as to lessen the effects of pests and diseases by applying cutting-edge diagnostic methods. Furthermore, it is important to create best practicesto protect biodiversity and ensure sustainable resource use, as well as to better understand how natural ecosystems and agricultural systems interact. In a similar vein, it has been decided to create a production system that maximizes waste re-use while minimizing waste production; to extend the shelf life of

perishable fruits, vegetables, and flowers; to diversify product offerings and add value; to comprehend community needs; and to develop the skills necessary to put these needs, as well as biotechnology needs, into practice.

3.2 Importance and Scope Of Horticulture In India

India has plenty of chance to cultivate a range of horticulture crops due to its diversified soil and climate, which includes numerous agro-ecological areas. The whole agricultural output of the nation, which also includes fruits, vegetables, root and tuber crops, flowers, decorative plants, medicinal and aromatic plants, spices, condiments, plantation crops, and mushrooms, is significantly made up of these crops. The combined area of all horticultural crops is anticipated tobe close to 23.69 million hectares, with a yield of 268 million tons in 2012–13. Even though they only make up around 12% of the total cultivated land, these crops provide more than 30% ofthe nation's overall agricultural production.

4. Profile of Haryana

There was a critical need for local data for sub-micro administration and planning purposes and academic study when the District Census Handbook was drafted. Census and non-census data formunicipalities from the village and town level up to the district level are available in the District Census Handbook published by the United States Census Bureau. Originally released for the firsttime during the 1951 Census, the District Census Handbook. There contains information on urbanand rural areas from the most recent census, as well as information from non-census sources for each district, in addition to information from the most recent census. Many demographic and socioeconomic characteristics pertaining to the district's smallest administrative unit are covered in this census. On the town and village level, there is a portion of the DCHB called the Village Directory and Town Directory, which offers non-census data on the availability of municipal amenities and infrastructural facilities at the local level. The data compiled by the DCHB are essential in the planning and development process at the grassroots level of government.

There were additional descriptive and administrative statistics, as well as census tables and a village and town directory, included in the collection. The Primary Census Abstract was also included in the 1961 census conducted by the DCHB. The DCHB was divided into three parts afterthe 1971 Census, which marked a reversal of this trend. Additionally, Part-A contained village andtown PCA, Part-B included village and town PCA, and Part-C included an analytical report, administrative statistics, district census tables, and certain analytical tables based on PCA and amenity data in respect of villages, towns, and villages and towns; It all started with a census doneby the DCHB in 1981, which was separated into two parts: The village and town directories in Part-A were augmented with a PCA of villages and towns up to tahsil/town levels, which also contained a PCA of SCs and STs. New features were added to the village and town directory forms,in addition to reorganizing the existing ones. If an amenity such as electricity was not available inthe relevant village, the distance to the next place having such an amenity was given in broad ranges if it was not available in the relevant village.

4.1 Status of Horticultural Crops in Haryana

According to an analysis of the state's horticulture crops' condition, the state's output of fruits andvegetables has grown, even though the state's horticulture crops only covered 1.4 percent of GCAin 2019-20. The GCA allocation to these crops was around 5 percent in Ambala, which was the highest in the state. Horticulture crops were also granted land in Kurukshetra and Sonipat, where they accounted for around 3 percent of the total land area. Due to a scarcity of natural resources, horticulture crops are not given the same attention as other crops. Horticulture crops grew on 82.37percent of the area in Haryana, while fruits and vegetables were planted on 11.38 percent of the land.

Non-food crops such as spices, floriculture, medicinal and aromatic plants, and ornamentalsaccounted for more than six percent of the acreage dedicated to these crops. Among the most significant fruit crops in the state were mangos, guavas, citrus, and beer, while the most important vegetable crops were cucurbits, cauliflower, potato, and tomato, among others. Obstacle crops were the most widely planted crops in the state of Uttar Pradesh, with the districts of Yamunangarand Sirsa accounting for about one-third of the state's total cultivable acreage. Because of the popularity of vegetable farming in these areas, about half of the state's total vegetable output was created in Karnal, Sonipat, Gurgaon, Ambala, and Yamunanagar, according to the USDA. In Haryana, there has been a considerable growth in the number of acres planted and the amount of produce produced in recent years. In Rohtak and Kurukshetra, there has been a considerable rise in the number of fruits and vegetables that are being produced.

5. Conclusion

Being primarily an agrarian economy, the agriculture industry plays a notable role in Haryana's economy. More over 50% of the state's population depends directly or indirectly on this division for their livelihood. The state's horticulture crops have a significant possibility of developing due to favorable agroclimatic conditions. The study's goal is to investigate the unique issues with Haryana's horticulture crops. By expanding the state's horticulture industry, crop diversification is both necessary and possible. In the current study, an effort has been made to examine the status and limitations of protected cultivation and agro-processing industries. This is because, in order to reduce post-harvest losses, a comprehensive strategy that includes development of physical, functional, and market infrastructure as well as the provision of single window systems, tax rebates, and export subsidies must be developed in order to increase agro-processing in the state.

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