

# GROWTH OF MAJOR VEGETABLE CROPS IN INDIA

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**Abstract:** In addition to supplying food, nutrition, and financial stability, vegetables also produce greater returns per unit area, which is essential for Indian agriculture. Vegetables also have a better productivity, a quicker maturation cycle, a high value, and a bigger earning potential, all of which contribute to improved livelihoods. All vegetable kinds are readily available thanks to India's varied climate. In terms of global vegetable output, it comes in second place after China. According to the National Horticultural Board's National Horticulture Database, India produced 162.89 million metric tonnes of vegetables in 2013-14. This paper has been attempted to analysed growth of major vegetable crops in India.

**Keywords:** *Vegetable, Growth, and Horticulture*

## Introduction

The horticulture sector encompasses a wide range of crops e.g., fruit crops, vegetable crops, ornamental crops etc. India's diverse temperature and soil make it an ideal place to cultivate a broad variety of horticulture crops. Within agriculture, it is the area with the fastest growth. It aids in reducing poverty, ensuring nutritional security, providing farmers with the opportunity to enhance their income, and supporting several agro-based enterprises that create a significant number of jobs. Nowadays, horticulture makes up 30.4% (ICAR) of the agricultural GDP. Growing horticulture may significantly contribute to the national aim of reaching a 4.0 percent growth in agriculture.

After the Green Revolution in the middle of the 1960s, it became obvious that horticulture, which is well adapted to India's terrain and agroclimatic, is the best choice. India has emerged as the world's top producer of fruits and vegetables as well as cashew, mango, and banana. Horticulture's transition from rural to commercial production is the most important development of the past ten years, and this new environment has spurred private sector investment in production system management. Micro irrigation, precision farming, greenhouse production, and enhanced post-harvest management, among other technical advancements, have had a significant influence on development over the past ten years, but many problems have sprung up in the process.

## Vegetable in India

In common usage, a vegetable is any component of a plant that is eaten by people. The word "vegetable" is fairly arbitrary and is mostly determined by gastronomic and cultural habit. As a plentiful and affordable source of vitamins and minerals, vegetables play a significant role in the diet of Indian consumers, the majority of whom are vegetarians out of choice or access issues. This steadfast vegetarianism, together with increased per capita wealth, is causing vegetable consumption to increase quickly. Increasing vegetable demand is thought to benefit smallholder farmers in India, who make up the majority of the country's agricultural sector. About half of all fruits and vegetables are produced on smallholdings, which make up 78% of all holdings and 33% of the total land (Singh et al., 2002). Vegetable cultivation requires a lot of labour, and smallholders have access to a lot of labour. This gives smallholders a particular edge in the production of vegetables. Also, because most vegetables have short harvest cycles, they offer returns throughout the year.

Notwithstanding these benefits, there are still a number of challenges for smallholders when it comes to growing vegetables. Because of the significant output losses brought on by pests, there are significant dangers to productivity. Around 30% of the total vegetable yield is thought to be produced by them (Alam, 2001). Due to their perishable nature, the post-harvest losses are also fairly substantial. The infrastructure for marketing and processing is lacking. Due to high transportation costs and the scarcity of local markets, trade in far-off marketplaces is unprofitable. Moreover, prices are erratic and frequently plunge precipitously with the harvest of crops grown according to schedule. In terms of consumption, production, marketing, and value-addition, this survey provides a comprehensive picture of the Indian vegetable market. It examines the supply and demand for vegetables in India before outlining the main obstacles to the sector's expansion and moving on to discussions on vegetable processing and export. Finally, the key findings and their political ramifications are presented.

## Review of Literature

Maity and Basu (2009), the introduction of new crops, higher productivity through intercropping, mixed cropping, relay cropping, etc., as well as the amazing effects of vegetable farming and the incursion of vegetable crops into non-traditional locations. Although there are occasionally production gluts, the business has created jobs in farming, marketing, and food processing.

Surabhi Mittal (2007), Both local demand and a sizable amount of export demand from other countries stimulate the growth of horticultural crops in the country. Economic viability, particularly the fruits and vegetable products, has been a major driver of the shift in cropping patterns in India during the past 1.5 decades in favour of horticulture.

Kiranjot Sidhu et al., (2009), Area shifted away from paddy and wheat and towards other crops, particularly vegetables. However, as vegetable production is becoming a popular alternative, the area under vegetable crops expanded by 0.8% and 2.6% during the summer and rabi seasons, respectively

Mondal et al. (2011), depicted the real-world situation of block-level vegetable growing in West Bengal's coastal region, which consists of 96 community development blocks with the most vulnerable agro-ecosystems mostly in the Sundarban region. It was discovered that more than 79.55% of farmers are cultivating vegetables on between 30 and 40 percent of their farmland. It's interesting to note that over 9% of farmers cultivate vegetables on more than 90% of their agricultural acreage.

Prasad Arvind (1993) have examined the costs of four essential vegetables in Ranchi and Jamshedpur and discovered that the price increases were disproportionately high because of the superior marketing expenses and much higher profit margins levied by the middlemen.

Suprakash-Pan, (2013), Such horticulture practises play a significant role in a developing economy by supplying food, nutrition, and economic security. More crucially, they also produce greater returns per unit space and time. Vegetable output, productivity, and area have all increased gradually in West Bengal. According to a demand-supply study, all districts will be able to produce more veggies than are needed.

Pal et al., (2012), High value vegetables may be produced in this region due to favourable agroclimatic conditions, and farmers are increasingly using this cropping method to generate high net returns all year round from cultivating high value vegetables.

## Objective of the Study

The objective of the study is to analyse the growth of cultivable area and production of major vegetable crops in India.

## Data and Method

The secondary data has been used, obtained from the department of agriculture and farmer welfare Govt. of India, has been used to understand the growth of cultivable area and production of major vegetable crops in India.

## Result and Discussion

India comes in behind China as the world's second-largest producer of vegetables. Because to their short growing seasons, high yields, nutritional value, economic viability, and capacity to create both on- and off-farm jobs, vegetables are essential components of Indian agriculture and nutritional safety. Growing per capita income, health awareness, urbanisation, an increase in the number of working women, farmers switching to high-value vegetables due to higher profits, a favourable income elasticity of demand, and the annual growth rate for vegetables are other key factors supporting the growth of vegetables in the nation.

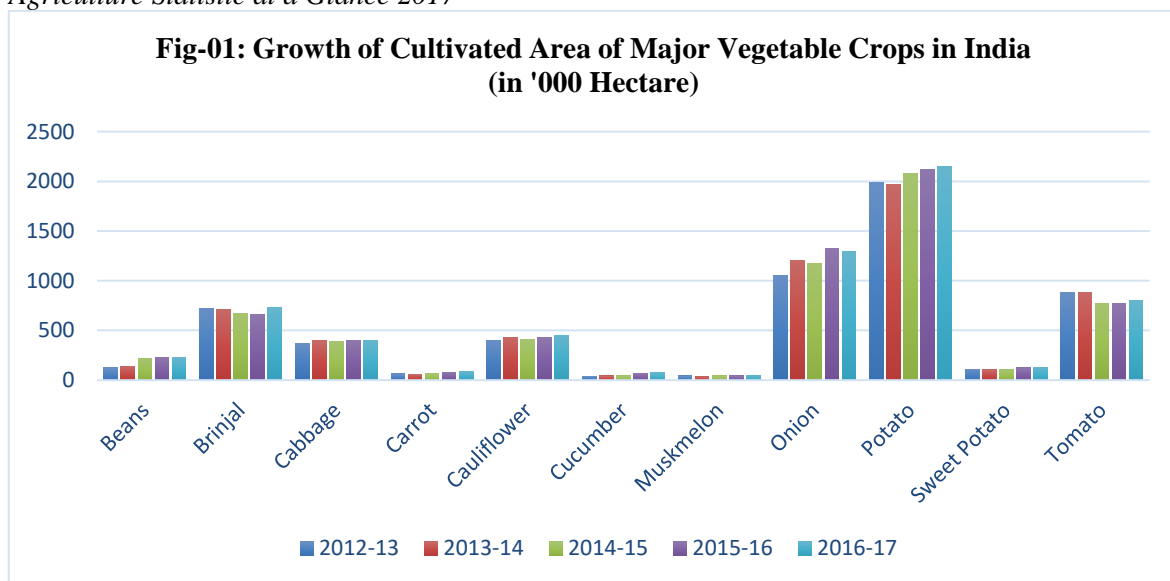
India's diverse climate ensures availability of all varieties of vegetables. In terms of global vegetable output, it comes in second place to China. According to the National Horticultural Board's National Horticulture Database, India produced 162.89 million metric tonnes of vegetables in 2013–14. Vegetables were being grown on 9.396 million hectares of land (NHD 2014).

From temperate to humid tropics, and from sea level to snowline, India produces the most vegetables. Vegetables are a great source of vitamins, including niacin, riboflavin, Thiamine, and vitamins A and C. In addition to proteins and carbs, they also include minerals like calcium and iron. Vegetables are recognised to be the cheapest source of natural defence mechanisms and fight undernutrition. As most vegetables are short-duration crops, they integrate well into intensive cropping systems and may produce extremely high yields and extremely high returns on investment for producers. In India, the most common vegetables planted are potatoes, onions, tomatoes, cauliflower, cabbage, beans, egg plants, cucumber, and okra.

**Table-01: Area of Major Vegetable Crops in India (In '000 Hectare)**

Crops	2012-13	2013-14	2014-15	2015-16	2016-17
Beans	124	138	218	232	230
Brinjal	722	711	673	663	727
Cabbage	372	400	386	394	394
Carrot	64	62	64	82	88
Cauliflower	402	434	411	426	451
Cucumber	41	43	43	71	77
Muskmelon	42	37	42	45	47
Onion	1052	1204	1173	1320	1293
Potato	1992	1973	2076	2117	2151
Sweet Potato	112	106	107	126	132
Tomato	880	882	767	774	799

Sources: Agriculture Statistic at a Glance 2017



Sources: Agriculture Statistic at a Glance 2017

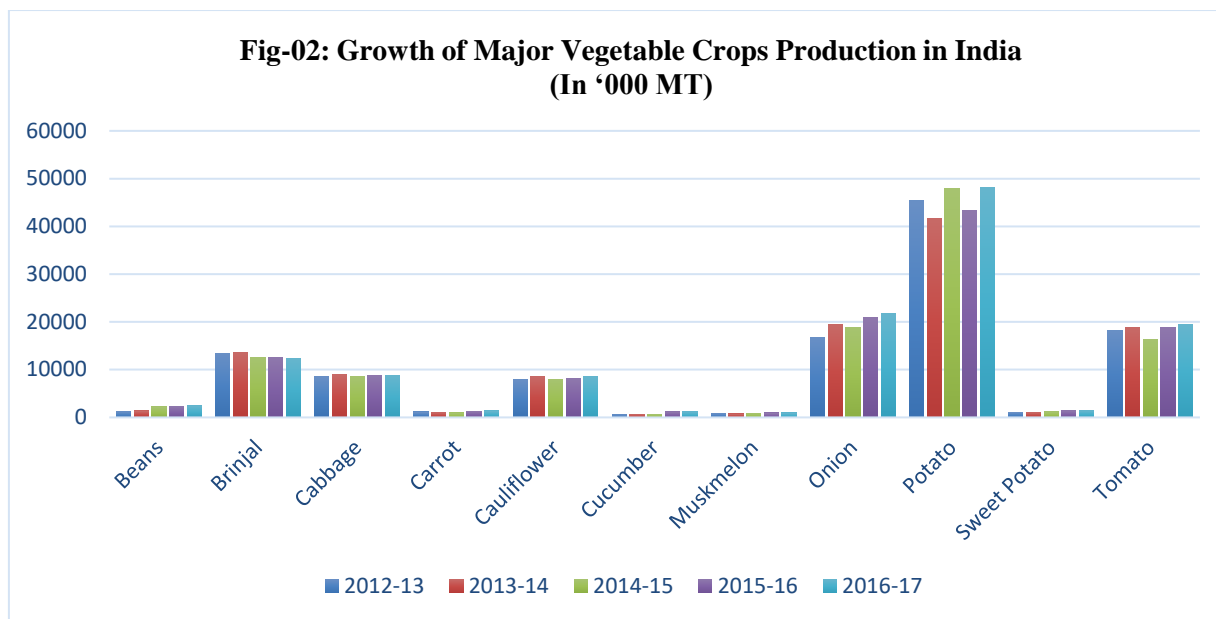
Table 01 and Figure 01 depicted that Cultivable area of major vegetable crops in India. It is clear that major vegetable crops (Beans, Brinjal, Cabbage, Carrot, Cauliflower, Cucumber, Muskmelon, Onion, Potato, and Sweet Potato) cultivable area is increase in 2016-17 from 2012-13 but Tomato has decrease.

If we analyse the cultivable area of major vegetable crops; Beans (124), Brinjal (722), Cabbage (372), Carrot (64), Cauliflower (402), Cucumber (41), Muskmelon (42), Onion (1052), Potato (1992), Sweet Potato (112) and Tomato (880) was thousand hectares in 2012-13 and in 2016-17 Beans (230), Brinjal (727), Cabbage (394), Carrot (88), Cauliflower (451), Cucumber (77), Muskmelon (47), Onion (1293), Potato (2151), Sweet Potato (132) and Tomato (799) have thousand hectares.

**Table-02: Production of Major Vegetable Crops in India (In '000 MT)**

Crops	2012-13	2013-14	2014-15	2015-16	2016-17
Beans	1269	1370	2204	2334	2408
Brinjal	13444	13558	12589	12515	12323
Cabbage	8534	9039	8585	8806	8720
Carrot	1145	1074	968	1338	1379
Cauliflower	7887	8573	7926	8090	8484
Cucumber	641	678	678	1202	1246
Muskmelon	868	761	863	935	987
Onion	16813	19402	18927	20931	21718
Potato	45344	41555	48009	43417	48237
Sweet Potato	1132	1088	1228	1454	1473
Tomato	18227	18736	16385	18732	19542

Sources: Agriculture Statistic at a Glance 2017



Sources: *Agriculture Statistic at a Glance 2017*

Table 02 and Figure 02 shows the major vegetable production in India. It is clear that major vegetable crops (Beans, Cabbage, Carrot, Cauliflower, Cucumber, Muskmelon, Onion, Potato, Sweet Potato and Tomato) production is increase in 2016-17 from 2012-13 but Brinjal has decrease.

If we analyse the cultivable area of major vegetable crops; Beans (1269), Brinjal (13444), Cabbage (8534), Carrot (1145), Cauliflower (7887), Cucumber (641), Muskmelon (868), Onion (16813), Potato (45344), Sweet Potato (1132) and Tomato (18227) was thousand Million Tonnes in 2012-13 and in 2016-17 Beans (2408), Brinjal (12323), Cabbage (8720), Carrot (1379), Cauliflower (8484), Cucumber (1246), Muskmelon (987), Onion (21718), Potato (48237), Sweet Potato (1473) and Tomato (19542) have thousand Million Tonnes.

### Conclusion

Vegetables being a rich and cheap source of vitamins and minerals, occupy an important place in the food basket of Indian consumers, a majority of whom are vegetarian by either choice or lack of access. India's diverse climate ensures availability of all varieties of vegetables. It ranks second in vegetables production in the world, after China. As per National Horticulture Database published by National Horticulture Board, during 2013-14 India produced 162.89 million metric tonnes of vegetables. The area under cultivation of vegetables were at 9.396 million hectares that is why Vegetables play a major role in Indian agriculture by providing food, nutritional and economic security and more importantly, producing higher returns per unit area. In addition, vegetables have higher productivity, shorter maturity cycle, are high in value and provide greater income leading to improved livelihoods.

In India, Major vegetable crops (Beans, Brinjal, Cabbage, Carrot, Cauliflower, Cucumber, Muskmelon, Onion, Potato, and Sweet Potato) cultivable area is increase in 2016-17 from 2012-13 but Tomato has decrease.

Major vegetable crops (Beans, Cabbage, Carrot, Cauliflower, Cucumber, Muskmelon, Onion, Potato, Sweet Potato and Tomato) production is increase in 2016-17 from 2012-13 but Brinjal has decrease in India.

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