

# A STUDY ON POTATO AND ONION PRODUCTION IN INDIA

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**Abstract:** Horticulture is the branch of agriculture. Horticulture sector is an integral element for food and nutritional security in the country. Horticulture comes from the Latin word "hortus" which means garden and "cultura" it means cultivation. One of the most significant non-cereal, high producing horticultural food crops in the world, the potato is indigenous to Peru and Bolivia in the Andes (South America), and it appears that Portuguese traders brought it to India from Europe in the early 17th century. The most frequently farmed species of the genus *Allium* is the onion (*Allium cepa*), sometimes known as the bulb onion or common onion. It is a vegetable crop and a member of the Amaryllidaceae family. The research of potato and onion production in India is the paper's main goal.

**Keywords:** *Horticulture, Production, Onion and Potato.*

## Introduction

Horticulture is the branch of agriculture. The Latin words "hortus" (garden) and "cultura" (cultivation) are the origin of the word horticulture. The horticulture sector includes all agricultural products, including ornamental, horticultural, and other crops. The unique soil and climate of India make it the perfect location to grow a wide range of horticultural crops. It is the sector of agriculture that is growing the fastest. It helps eradicate poverty, ensure nutritional security, give farmers the chance to increase their income, and support a number of agro-based businesses that generate a sizable amount of jobs (Ekka, V.R.,2013).

One of the most significant non-cereal, high producing horticultural food crops in the world, the potato is indigenous to Peru and Bolivia in the Andes (South America), and it appears that Portuguese traders brought it to India from Europe in the early 17th century. It started out as a significant cool season crop in the lowlands and hills. However, it is presently grown under various agro-climatic conditions in practically all of India's States. Since gaining independence, India's potato output and acreage have increased dramatically. India used to produce 1.54 million tonnes of potatoes from 0.234 million hectares of land at an average productivity level of 6.58 t/ha at the time of the founding of ICAR-CPRI in 1949. According to FAOSTAT, India produced 45.34 million tonnes of potatoes in 2013 from 1.99 million hectares of land at a productivity of 22.76 t/ha. Over the past six decades, there has been a spectacular rise in potato area (8.5 times), production (29.4 times), and productivity (3.5 times). The FAO designated the potato as the crop to address future global food security and poverty alleviation in 2008. The potato has the ability to provide the best nutrition and dry matter per unit area and time among major food crops. In India, the estimated domestic demand for potatoes in 2050 is 122 million tonnes.

The most frequently farmed species of the genus *Allium* is the onion (*Allium cepa*), sometimes known as the bulb onion or common onion. It is a vegetable crop and a member of the Amaryllidaceae family. The onion comes from West Pakistan and central Asia. 5000 years ago, onions were first cultivated in China and India. The city in the Gulf of Swez that ONIA constructed in 1703 B.C. is likely where it got its name. According to the Charaka Samhita, a well-known early medical treatise written in India in 6 B.C., onions have been farmed there since ancient times. Today, onions are still a vital component of our diet. The onion is a significant horticultural product that is cultivated all over the world for both culinary and medicinal uses. Indian onions are available all year long and are renowned for their pungency. One cup of finely chopped onions has around 64 calories, 15 grammes of carbohydrate, 0 grammes of fat, 0 grammes of sugar, 2 grammes of protein, and 10% or more of the recommended daily intake of vitamin C and vitamin B6. The consumption of onions may minimise the risk of heart disease due to its antioxidant and anti-inflammatory properties, which also lower cholesterol and triglyceride levels. Their strong anti-inflammatory effects might also lower blood pressure and prevent blood clots. Anthocyanin has been discovered to offer protection against diabetes and several forms of cancer. Onions are a great source of prebiotics, which promote better gut bacterial balance and digestive health.

The total area of the world under onion cultivation in 2016–17 was 4.96 million ha, with an output total of 93.17 million tonnes and a productivity of 18.80 T/Ha. China, India, Egypt, the United States, Iran, Turkey, the Russian Federation, Pakistan, and Brazil are the world's top onion producers. Out of these nations, Algeria has the smallest area

under cultivation—0.05 million hectares—while India has the most, at 1.20 million ha. However, in terms of output, China leads the globe with a total of 23.91 million tonnes, followed by India and Egypt. The USA has the highest productivity, measuring 56.40 tonnes per hectare, followed by Egypt and Iran. Pakistan has the lowest production, with 12.80 t/ha. (Horticultural statistics at glance 2018)

India had 1267 (thousand ha) acres under onion farming in 2018–19, producing 23284 (thousand MT) overall, with a productivity of 18.3 (MT/Ha). Maharashtra, Karnataka, Madhya Pradesh, Rajasthan, Bihar, and Andhra Pradesh are some of the top onion-producing states in India. Maharashtra has the most land under agriculture among these states, with 507.96 (thousand hectares), followed by Karnataka, Madhya Pradesh, and Rajasthan. However, Maharashtra produces the most, 8854.09 MT, followed by Madhya Pradesh, Karnataka, and Bihar. Madhya Pradesh has the greatest productivity, with 24.53 t/ha, followed by Haryana, Bihar, and Andhra Pradesh.

### Objective of the Study

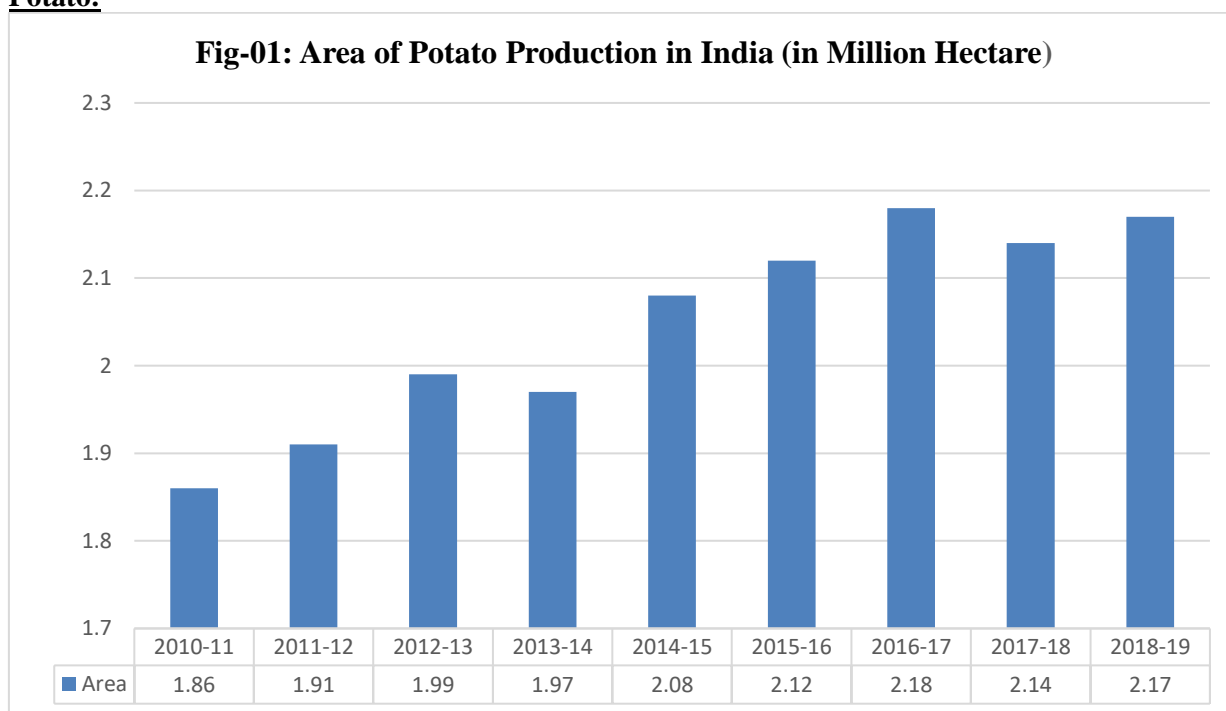
- To study the area, production and productivity of Potato in India.
- To study the area, production and productivity of Onion in India.

### Data and Method

This study is based on the analysis with the help of secondary data on area, production and productivity of Potato and Onion in India. The data consider from 2010-11 to 2018-19 is used to analyze the area production and productivity of Potato and Onion in India.

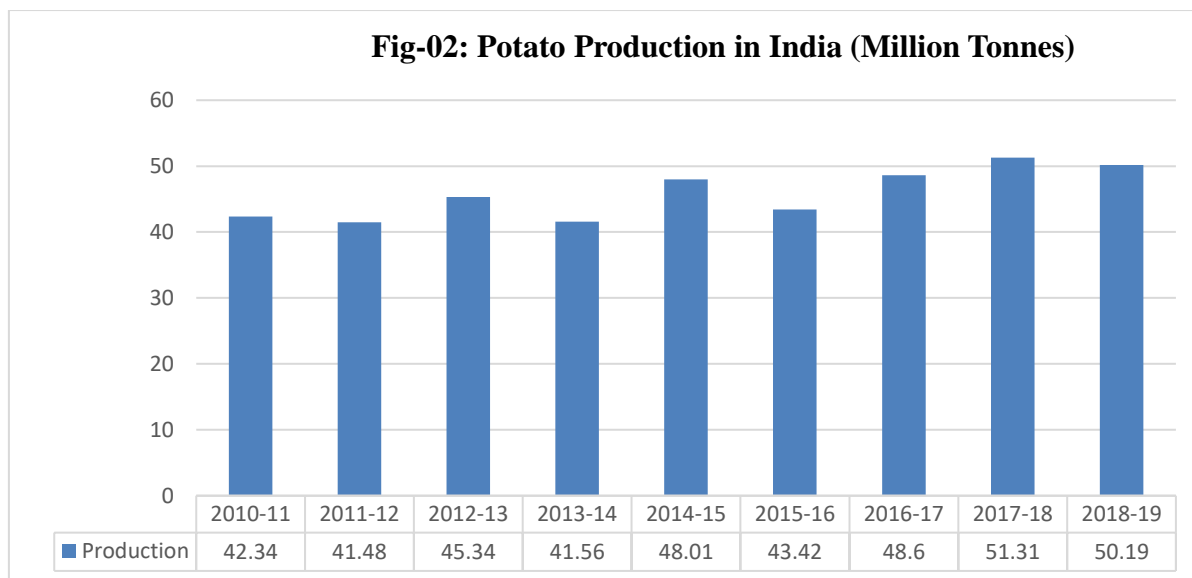
### Result and Discussion

#### Potato:



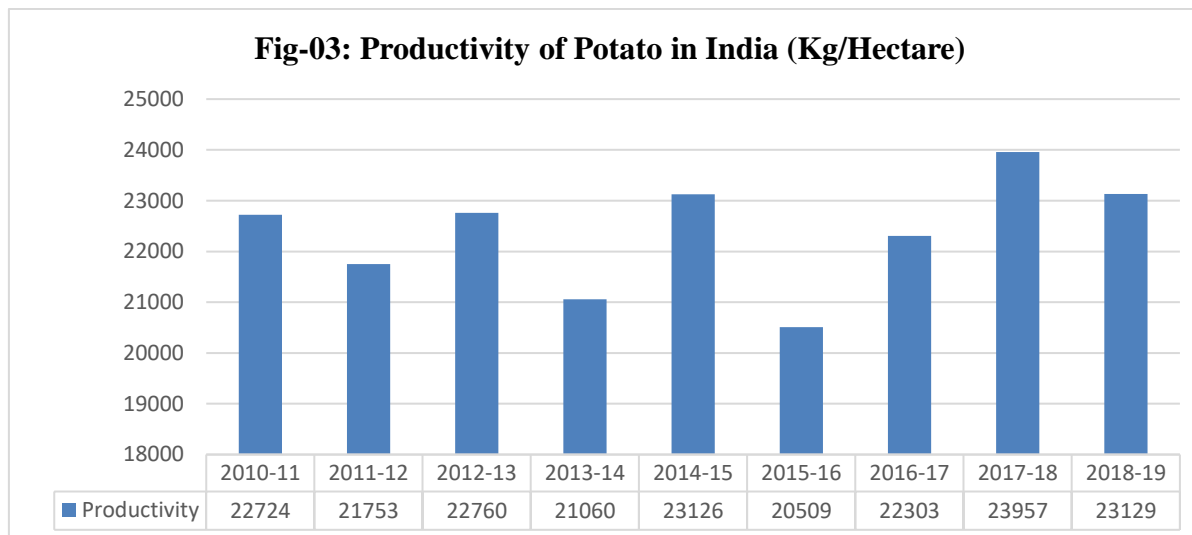
Sources: Agriculture Statistics, Government of India 2020

The above fig 01 shows area of Potato production in India. The total area of potato was 1.86, 1.91, 1.99, 1.97, 2.08, 2.12, 2.18, 2.14, and 2.17 million hectares in the year of 2010-11, 2011-12, 2012-13, 2013-14, 2014-15, 2015-16, 2016-17, 2017-18, and 2018-19 respectively.



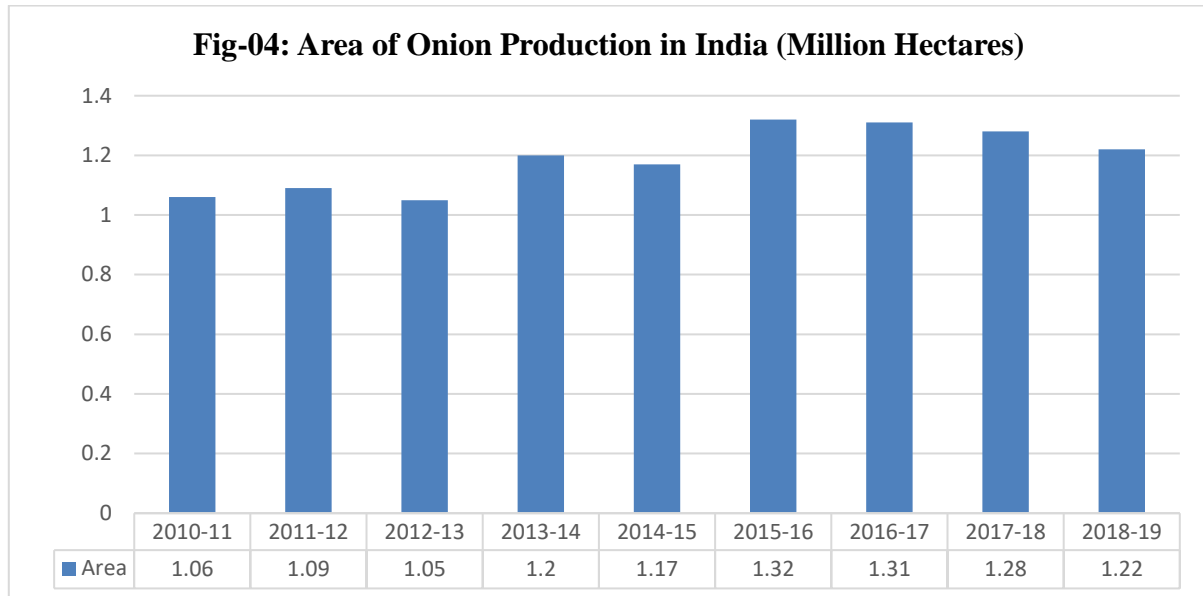
Sources: Agriculture Statistics, Government of India 2020

The above fig 02 shows potato production in India. The total production of potato was 42.34, 41.48, 45.34, 41.56, 48.01, 43.42, 48.6, 51.31, and 50.19 million tonnes in the year of 2010-11, 2011-12, 2012-13, 2013-14, 2014-15, 2015-16, 2016-17, 2017-18, and 2018-19 respectively.



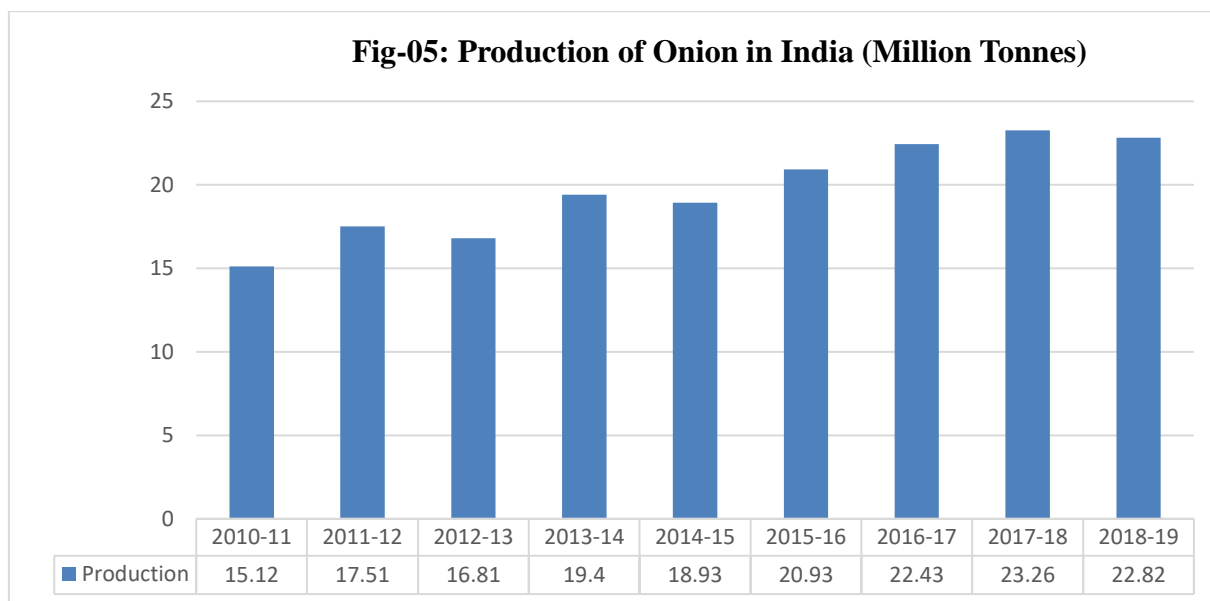
Sources: Agriculture Statistics, Government of India 2020

The above fig 03 shows potato productivity in India. The total productivity of potato was 22724, 21753, 22760, 21060, 23126, 20509, 22303, 23957, and 23129 Kg/Hectares in the year of 2010-11, 2011-12, 2012-13, 2013-14, 2014-15, 2015-16, 2016-17, 2017-18, and 2018-19 respectively.

**Onion:**

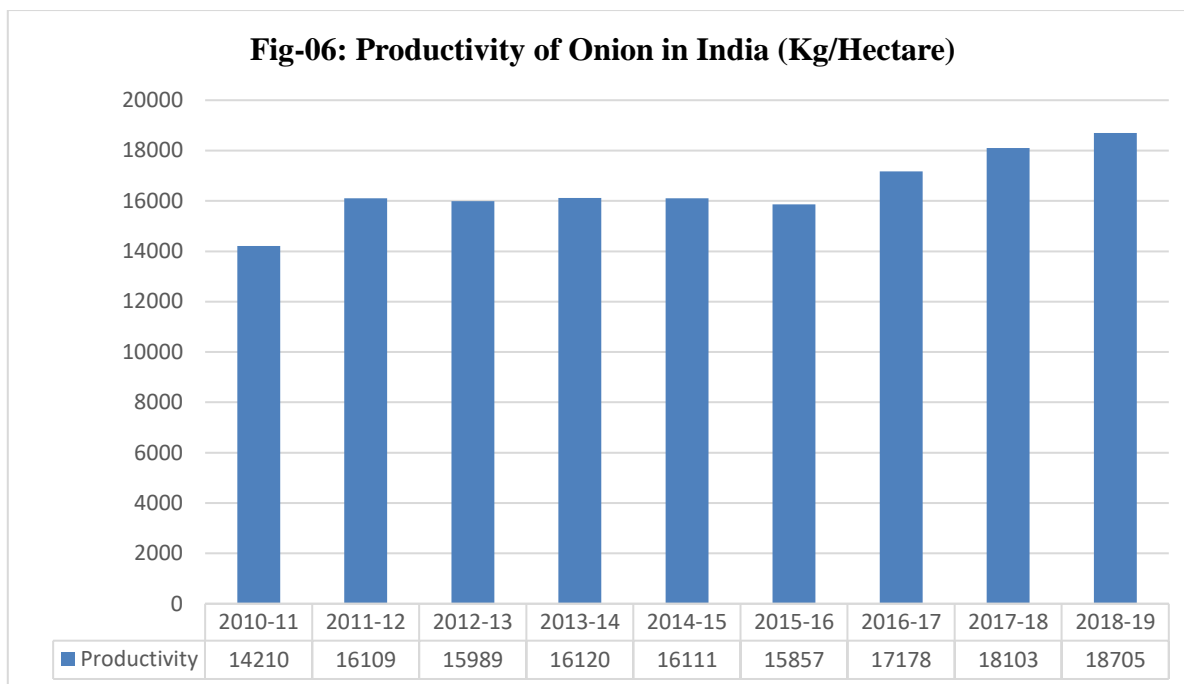
Sources: Agriculture Statistics, Government of India 2020

The above fig 04 shows area of Onion production in India. The total area of onion was 1.06, 1.09, 1.05, 1.2, 1.17, 1.32, 1.31, 1.28, and 1.22 million hectares in the year of 2010-11, 2011-12, 2012-13, 2013-14, 2014-15, 2015-16, 2016-17, 2017-18, and 2018-19 respectively.



Sources: Agriculture Statistics, Government of India 2020

The above fig 05 shows Onion production in India. The total production of onion was 15.12, 17.51, 16.81, 19.4, 18.93, 20.93, 22.43, 23.26, and 22.82 million tonnes in the year of 2010-11, 2011-12, 2012-13, 2013-14, 2014-15, 2015-16, 2016-17, 2017-18, and 2018-19 respectively.



Sources: Agriculture Statistics, Government of India 2020

The above fig 06 shows Onion productivity in India. The total productivity of onion was 14210, 16109, 15989, 16120, 16111, 15857, 17178, 18103, and 18705 Kg/Hectares in the year of 2010-11, 2011-12, 2012-13, 2013-14, 2014-15, 2015-16, 2016-17, 2017-18, and 2018-19 respectively.

### Conclusion

Horticulture is the branch of agriculture. Horticulture comes from the Latin word "hortus" which means garden and "cultura" it means cultivation. Fruit, vegetable, decorative, and other types of crops are all included in the horticulture industry. Potato is one of the world's most important non-cereal, high yielding horticultural food crops which is native of Peru-Bolivia in the Andes (South America) and seems to have been introduced in India from Europe by Portuguese in the early 17<sup>th</sup> century. India has taken a giant leap in terms of potato area and production since independence. At the time of inception of ICAR-CPRI, in the year 1949, India used to produce 1.54 million tons of potatoes from 0.234 million ha area at an average productivity level of 6.58 t/ha. As per FAOSTAT, the potato production in India during 2013 was 45.34 million tons from 1.99 million ha area with a productivity of 22.76 t/ha.

Onion (*Allium cepa*) also known as bulb onion or common onion, is a vegetable crop that belongs to family Amaryllidaceae and the most widely cultivated species of genus *Allium*. In the year 2018-19 India's total area under onion cultivation was 1267 (thousand ha), total production 23284 (thousand MT) and productivity was 18.3(MT/Ha). In India major onion producing states are Maharashtra, Karnataka, Madhya Pradesh, Rajasthan, Bihar, Andhra Pradesh etc. Out of these states Maharashtra has maximum area under cultivation i.e. 507.96 (thousand ha) followed by Karnataka, Madhya Pradesh and Rajasthan. But in production Maharashtra has highest production i.e. 8854.09 MT followed by Madhya Pradesh, Karnataka and Bihar. Productivity is highest in Madhya Pradesh i.e. 24.53 t/ha followed by Haryana, Bihar and Andhra Pradesh.

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