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Growth Pattern and Trends in Area, Production and Productivity of Selected Vegetables in India and Haryana Level

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Abstract – Agriculture sector provides not only employment opportunities and food but also supply raw materials to a very large proportion of the major industries. In India agriculture sector contributed more than 14.7 percent of total export earnings. In fact during last decade the performance of agriculture sector in the Indian economy in contradictory year has not been quite satisfactory because of slowdown in growth, this sector has faced a number of challenges. Recent trends that have raised concern regarding food security farmer's income and poverty are slowdown in growth. Economic disparities between irrigated and rain fed area. All these reasons call for change which attracts farmers to shift in the consumption pattern in favour of high value horticulture crops like fruits and vegetables from staple food crops such as rice wheat and coarse cereals.

Key Words: Horticulture Production, Vegetables Trends in Area, Production and Productivity.

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Horticulture is the one of sub sector of agriculture including vegetables, fruits, mushrooms, flowers, plantation crops etc. These sectors have higher employment potential compare to field crops. India's vegetable contribution in the world production is 14 percent (NHB).China's share has been highest with 49.5 percent in world's vegetables production followed by India and Brazil.

REVIEW OF LITERATURE:

Ali, Jabir et al (2009) analysed "efficiency and productivity changes in twelve board segments of food manufacturing industries during pre and post liberalization". The study covered the period of two decades from 1980-81 to 2001-2002. They used DEA (Data Envelopment Analysis) approach to check out total factor productivity. The study also examined the cause of the inefficiency and structural changes in the food processing industry. The study result showed that value addition across the food processing industry has been growing at 11.74 percent during 1980-1990 (Pre reform period) which has slightly declined.

Kumar and Sharma (2016) examined the agricultural value chain in India. The study firstly focused on the total production and productivity of vegetables and fruits in India. The study revealed that India is the largest producer but fail in process, preserve and export them. This is because of structural problem in marketing chain. The study revealed that Indian agricultural value chain system is facing the problem of finance because it is un-organized and local farmers have no facilities to export their products in external market. The study also highlighted on some other problem i.e. tariff, marketing access and capacity building. The study gives some suggestions that Government should organize some training programmers for farmers and entrepreneurs from time to time at village level.

OBJECTIVES:

1. To analyse the growth pattern and trends in area, production and productivity of selected vegetables in at all India and Haryana level.

RESEARCH METHODOLOGY:

Selection of Vegetable Crops: Potato, Tomato and Onion were selected on the basis on highly cultivated vegetable crops. The present paper is based on secondary data collected from various sources from 1998-99 to 2017-18. Simple statistical techniques like linear trend, $R^{2,}$ percentage have been used to check out trends in area, production and productivity at all India and Haryana level.

MAJOR FINDINGS:

Trends in Area, Production and Productivity at India level

- There was an increasing trend in production and annual demand of selected vegetables in India from 2012-13 to 2017-18.
- Almost positive trends were observed in area and production of vegetable crops in India during 1998-99 to 2017-18. There was a fluctuating trend in productivity. It was observed positive trends from 1998-99 to 2010-11 and slightly down to 16.92 percent in 2017-18.
- Almost positive trends and growth were observed during 2001-2018 except a minor decrease in 2010 in productivity of onion and in 2016-17 decrease in area under onion crop.
- Coefficient of determination (R^2) shows that 96 per cent increase in production of onion is due to increase in area under onion.
- In case of tomato increasing trends were observed from 2001 to 2012 in area production and productivity. After 2012, a minor decline was observed in area but due to increase in productivity. Total production increased. Here the value of R^2 shows 91.1 percent variations in production were observed due to increase in area.
- In case of Potato almost positive trends were observed in area, production and productivity from 1999-2000 to 2017-18. The value of coefficient of Determination (R^2) shows percent variations in production were observed due to increase in area.

Trends in Area, production and productivity of selected vegetables in Haryana

- Area in Haryana under onion was observed maximum i.e. 30645 hectare during 2015-16 and production per hectare was maximum during 2017-18 i.e. 23.43 tonne per hectare. Minimum productivity was during 1999-2000 i.e. 10.4 tonne per hectare. Coefficient of determination (R^2) shows 92 percent variation in production was due to variation in area under it on an average growth rate of onion in area was 3.62 percent with 5.99 percent growth in production and 2.29 percent growth in productivity from 1999-2000 to 2017-18.
- In case of tomato, there were observed almost positive trends in area, production and productivity from 1998-99 to 2017-18. The highest growth in productivity was found in 1998-99 i.e. 22.11 per hectare. The value of coefficient of determination (R^2) shows 93 percent variation in production due to increased in area. Growth rate in area under tomato was observed highest in 1999-2003 i.e. 7.76 percent negative growth rate was observed in production and productivity. But overall growth was positive in case of area and production i.e. 7.01 percent and 6.83 percent but minor negative growth was observed in productivity i.e. –0.24 percent.
- Area under potato was observed maximum in 2017-18 i.e. 34718 hectare in Haryana. Productivity was found maximum in 2016-17 i.e. 25.97 per hectare. The value of coefficient of determination (R^2) shows 94 percent variation in production due to increased in area. On an average growth rate of potato in area was 3.85 percent with 6.49 percent in production and 2.57 percent in productivity.

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