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PERFORMANCE OF FOOD GRAIN PRODUCTION IN INDIA

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ABSTRACT

Climate change has emerged as an important determinant, particularly in the recent past. In India before economic reforms government was providing a lot of subsidies over the inputs that made the purchase of inputs affordable for the farmer which helps in fighting against the climate change. But after the economic reforms high rise in the prices of inputs of agricultural production has made it difficult for the farmers to purchase the inputs in right amount and vulnerability of agriculture to climate change has increased and it is expected that agriculture sector in India will be negatively affected. The growth rate in the food grains production and productivity has decelerated when India entered in the era of globalization. The growth rate production of food grains is 2.80 per cent per annum in pre reform period which declined to 1.98 per cent in post reform period. The situation is more worsen in case of growth rate of rice and wheat. The growth rate in productivity of food grains is slightly improved in post reform period over the pre reform period but in case of rice and wheat productivity, the result is quite opposite. In this paper we made a modest attempt to analysis this result by considering the change in growth rate of fertilizer consumption, change in cultivated area, change in irrigated area and change in climate conditions.

INTRODUCTION

Indian economy is mainly agriculture oriented. It provides significant support for economic growth and social transformation of the country. The share of agriculture in national income has come down considerably since the inspection of planning. The contributory share of agriculture sector in India accounted for 14.1 per cent of the cross domestic product in 2012-13 compared to 18.9 per cent in 2004-05. Agriculture sector provides employment around to 58 per cent of country's work force and it is the largest private sector occupation in the country. The country's population has almost tripled in the last five decades and its food grain production has more than quadrupled, significantly enhancing the per capita food grain availability. The food grain production recorded an average annual increase up to 10 million tonnes. The total food grain production in 2012-13 was estimated at 250.14 million tonnes as against 259.32 million tonnes in 2011-12, 244.8 million tonnes in 2010-11. Agriculture sector provides not only food and employment opportunities but also supply of raw materials to a very large proportion of the major industries, sugar, vanaspati handloom spinning etc.

In fact during the last decade, the performance of agriculture sector in the Indian economy in recent years has not been quite satisfactory because of declaration in the growth rate of agriculture output. Also, Indian agriculture has faced a number of severe challenges, superimposed on the long term demographics. Recent trends that have raised concern regarding food security farmer's income and poverty are: slowdown in growth, widening economic disparities between irrigated and rain-fed areas, increased vulnerability to world commodity price volatility following trade liberalization. This had an adverse effect on agricultural economics of regions growing crops, uneven and slow development of technology, inefficient use of available technology and inputs, lack of adequate incentives and appropriate institutions, degradation of natural resource base, rapid and wider spread decline in ground water table, with particularly adverse impact on small and marginal farmers, increased non-agricultural demand for land and water as a result of the higher over all GDP growth and urbanization, and aggravation in social distress as a cumulative impact of the above reflected in an upsurge in farmer's subside etc.

The growth in food grain production is a result of convent rated efforts to increase all the green revolution inputs needed

for higher yield. Better seed, more fertilizer, improved irrigation and education of farmers. The growth performance of the Indian agriculture has decelerated significantly after the opening up of the economy in terms of employment, the deceleration of growth of this sector has serious implications for the living standard of agricultural workers both farmers and agricultural labourers. The growth rate of agriculture production is generally judged by the performance of food grains and non-food grains.

OBJECTIVES OF THE STUDY

The main objective of the present study is to find out the performance of food grain production in India are as follows,

1. To analyse the area under cultivation, production, and yield of rice in India.
2. To analyse the growth pattern of area, production and yield of wheat in India.
3. To examine the total food grain production in India.

METHODOLOGY OF THE STUDY

The study is based on secondary data. The food grains production will be analysed with the statistical data available and approved by the Government of India. Over all India level will be presented in the form of the tables and analysed.

Laishram and Prisilla (2017) in their study noted that the area under food grains showed negative growth whereas production and productivity for milk and egg, both production and per capita availability showed positive growth. In general for food grains, the yield effect was higher than area effect which could be attributed to increased use of high yielding varieties for vegetables and fruits the contribution of area effect was more than that of yield and the interaction effect suggesting that measures should be taken to improve their productivity.

Aveet Kaur (2017) in his study revealed that food grain production in India has grown by 8.1 per cent amounting to 271.98 million tonnes in 2016-17 as per the 2nd advance estimates realised by the ministry of agriculture farmer welfare. The bumper output excepted this year would be 15 per cent higher than the average production of food grain recorded during the last five years (2011-12 to 2015-16).

The first objective of the study is to analyse the area under cultivation, production, and yield of rice in India. It describes the intend to analyse the status of food crops in terms of the area, production and yield in India. It is the most widely consumed staple food grains for a large part of the world's human population, especially in Asia. Rice is one of the most important food crops in India. It is grown all across the nation and is available in umpteen varieties. India is the second largest producer and consumer of rice in the world and accounts for 22.3 per cent of global production. It is considered as the master crop in the coastal regions in India. Rice contributes to more than 40 per cent of total food grain production and is cultivated though out the country. Table 4.1 gives the details of area production and yield of food grains during 2005-06 to 2016-17.

Table No: 1

Area under Cultivation, Production and Yield of Rice from 2005-06 to 2016-17.

Year	Area (million hectares)	Production (million tonnes)	Yield (Kg/hectares)
2005-06	43.66	91.79	2102
2006-07	43.81	93.96	2131
2007-08	43.91	96.69	2202
2008-09	45.54	99.18	2178
2009-10	41.92	89.09	2125
2010-11	42.86	95.98	2239
2011-12	44.01	105.30	2393
2012-13	42.75	105.24	2461
2013-14	43.95	106.65	2424
2014-15	43.86	105.48	2390
2015-16	43.49	104.41	2400
2016-17	43.19	110.15	2500

Source: RBI Statistical Hand Book of Indian Economy, 2016-17.

The data in the above table indicates that the area under cultivation of rice has gradually increased from 43.66 million hectare in 2005-06 to 45.54 million hectare in 2008-09. But it declined to 41.92 million hectare in 2009-10. It sharply increased to 42.86 million hectare and again it increased to 44.01 million hectare in 2011-12, it further declined to 43.19 million hectares in 2016-17.Rice production in India shows a steady upward trend. In the year 2005-06, show that the rice production in India was 91.79 million tonnes. It can be increased to 106.65 million tonnes in 2013-14.But it further increased to 110.15 million tonnes in 2016-17. The total yield of rice increased from 2102kg per hectare in 2005-06 to 2500kg per hectare in 2016-17.

The second objective of the study is to analyse the growth pattern of area, production and yield of wheat in India. Wheat is one of the major Indian food crops. It is main source of energy and nutrition in the Indian diet. India is the second largest wheat producer of wheat in the world. Wheat has played a formative role in the unfolding of India's history. It is the northern region of the country that has conventionally dominated the cultivation of wheat. India exports sufficient quantities of all types of wheat and extensive research efforts

that are underway for improving its cereals and grain output in future. In fact, in the present times, India is the second largest wheat producer in the world.

Table No: 2

Area under Cultivation, Production and Yield of Wheat from 2005-06 to 2016-17.

Year	Area (million hectares)	Production (million tonnes)	Yield (Kg/hectares)
2005-06	26.48	69.35	2619
2006-07	27.99	75.81	2708
2007-08	28.04	78.57	2802
2008-09	27.75	80.68	2907
2009-10	28.46	80.80	2839
2010-11	29.07	86.87	2988
2011-12	29.86	94.88	3177
2012-13	30.00	93.51	3117
2013-14	31.19	95.85	3075
2014-15	30.97	86.53	2872
2015-16	30.41	92.29	3034
2016-17	30.59	98.53	3216

Source: RBI statistical Hand Book of Indian Economy, 2016-17.

The above table indicates the area under cultivation of wheat in India from 2005-06 to 2016-17. During the year 2005-06, the area under cultivation of wheat was 26.48 million hectares. It increased to 30.59 million hectares in 2016-17. Area under wheat cultivation is a significant improvement in the study period. The production of wheat in India was gradually increased from 69.35 million tonnes in 2005-06 to 98.53 million tonnes in 2016-17, except in 2014-2015. The increase in production during these periods was mainly because of increase in productivity. The yield of wheat was 2619 kg hectare in 2005-06 which reached to 3216kg hectare in 2016-17. During this period wheat showed positive trend in terms of area, production and yield.

TOTAL FOOD GRAIN PRODUCTION

The third objective of the study to find out the overall area under cultivation of food grains in India. The total agriculture production of food grains, which was 208.60 million tonnes in 2005-06, it increased to 275.68 million tonnes in 2016-17.

Table No: 3

Area under Cultivation, Production and Yield of Total Food Grain Production in India from 2005-06 to 2016-17.

Year	Area (million hectares)	Production (million tonnes)	Yield (Kg/hectares)
2005-06	121.60	208.60	1715
2006-07	123.70	217.28	1756
2007-08	124.06	230.78	1860
2008-09	122.83	234.47	1909
2009-10	121.33	218.11	1798
2010-11	126.67	244.49	1930
2011-12	124.75	259.29	2078
2012-13	120.70	257.13	2129
2013-14	126.04	265.04	2101
2014-15	122.00	252.02	2070
2015-16	123.21	251.57	2056
2016-17	128.02	275.68	2153

Source: RBI statistical Hand Book of Indian Economy, 2016-17.

The above table shows that the overall the area under cultivation of good grains in India has 121.60 million hectare and steadily increased to reach of 124.02 million hectare in 2007-08. It declined to 121.33 million hectare in 2009-10. It improved sharply to 126.67 million in 2010-11. It decline to 120.70 in 2011-12. Thereafter it increased from 126.04 million hectare in 2013-14 to 128.02 million hectare in 2016-17. The total agriculture production of food grains, which was 208.60 million tonnes in 2005-06, it increased to 275.68 million tonnes in 2016-17. The reason of this tremendous performance in agriculture production is increase in productivity of major crops during this period. The total food grain yield in India was 1715 kg per hectares in 2005-06. It increased to 2153 kg per hectare in 2016-17.

FINDINGS OF THE STUDY

1. The study found that the area under cultivation of rice has gradually increased from 43.66 million hectare in 2005-06 to 45.54 million hectare in 2008-09. The total yield of rice increased from 2102kgs per hectare in 2005-06 to 2500kgs per hectare in 2016-17.
2. The study state that the area under cultivation of wheat in India from 2005-06 to 2016-17. During the year 2005-06, the area under cultivation of wheat was 26.48 million hectares. The yield of wheat was 2619kg hectare in 2005-06 which reached to 3216kg hectare in 2016-17.During this period wheat showed positive trend in terms of area, production and yield

3. The study indicates that overall area under cultivation of food grains in India has 121.60 million hectare and steadily increased to reach of 124.02 million hectare in 2007-08. It declined to 121.33 million hectare in 2009-10. It improved sharply to 126.67 million in 2010-11. It decline to 120.70 in 2011-12. There after it increased from 126.04 million hectare in 2013-14 to 128.02 million hectare in 2016-17. The reason of this tremendous performance in agriculture production is increase in productivity of major crops during this period. The total food grain yield in India was 1715kg per hectares in 2005-06.It increased to 2153kg per hectare in 2016-17.

CONCLUSION

Growth of food grains production is important for sustainable food and nutrition security of the growing population of India. Besides instability of the moderate and high nature needs to the curtailed to reduce uncertainty in the food grains production. The clearly shows that the year 2005 to 2017 is some time increase or decrease the food grains production. This due to the change in climate and whether. The adverse effect on production and productivity of rice, wheat, coarse cereals, and pulses is not only reduction on subsidiary on agricultural inputs but also the overall declined in amounts of rainfall and shifts in the timing of the rainfall. Any change in rainfall patterns poses a serious threat to agriculture and therefore to agriculture a to the economy therefore to the economy and food security.

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