

Use of HYV Seeds & Production of Wheat in Haryana: A Temporal - Spatial Analysis of Rohtak District from 1966-67 to 2010-11

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Abstract: Thomas Malthus first time revealed that future of mankind is not safe if ratio of population growth and food production continuous remain same, but it was Norman Burlaug who solved this problem to a certain limit by diffusion of new seeds of cereals i.e. emergence of HYV seeds of wheat (firstly), in 1950 in Mexico. Soon after it India used such type of HYV seeds in 1963-64 in some selected area of Punjab, Haryana and western Uttar Pradesh. The production of wheat in Haryana was 2342000 tons in 1970-71 with a use of 55.8% HYV seeds which goes to 11578000 tons in 2010-2011 with a use of 98.2% HYV seeds. The same result is shown by Rohtak district such production growth revealed the utility of HYV seeds in food grain production.

Key Words: HYV Seeds, Green Revolution, Yield, Employment, Irrigation.

Introduction: Thanks to Norman Burlaug who first time develop new high yielding, varieties of wheat, which later known as HYV seeds. These seeds were used first time in Mexico in 1950's and later on in India. High yielding varieties became bless to developing countries and help them in equalizing the ratio of food grains needed to their production. In 1950-51 production of wheat in India were 9.7 million tones which increased to 18.2 million tons in 1970-71 and further to the level of 82 million tons in 2010-2011. Such a huge increase in production was mainly due to use of HYV seeds. In case of Haryana it shows the real battle success of Green Revolution i.e. implication of HYV seeds. HYV has a lot of merits i.e. they have short life cycle, Economies on irrigation of water, easy to adopt and they generate more employment.

Because of such merits production of wheat in India as well as Haryana respond to a more than double in the production from 1950-51 to 1970-71. In 1970-71 total area under wheat cultivation was 743000 hectare with a use of 55.8% of HYV seeds to the total area and the figure goes to 2504000 hectare area with use of more than 98.2% of HYV seeds.

Objective of Study: The present study unfolds the relationship between use of HYVs seeds of wheat and its production in Haryana.

The specific objective of the study is to find out spatial- temporal trends of HYV seeds utilization and production period.

Data sources and Methodology: The present study is based on the secondary data

taken from various issue of Statistical Abstract of Haryana and Statistical Abstract of India. In the present study the data has been processed by using time series trend method, Graphical Tabulation Method.

Interpretation and Analysis of Data: 1. Trends of use of HYV seeds of Wheat in Haryana.

Table 1 revealed that Haryana was the principle state which used HYV seeds in very beginning phase of Green Revolution in 1963-64.

Table 1

Area Under Wheat Cultivation & Use of HYV Seeds

Year	Area	Production	Yield	Use of HYV seeds	% to total seeds used
1966-67	743	1059	1425	DNA	DNA
1970-71	1129.3	2342	2074	630	55.8
1975-76	1226	2428	1980	1087	88.7
1980-81	1479	3490	2360	1360	92
1985-86	1701.3	5260	3094	1612	94.8
1990-91	1850.1	6436	3479	1829	98.9
1995-96	1972.1	7291	3697	1863	94.5
2000-01	2354.8	9669	4106	2295	97.5
2005-06	2302.7	8853	3844	2289.9	99.4
2010-11	2504	11578	4624	2470	98.2

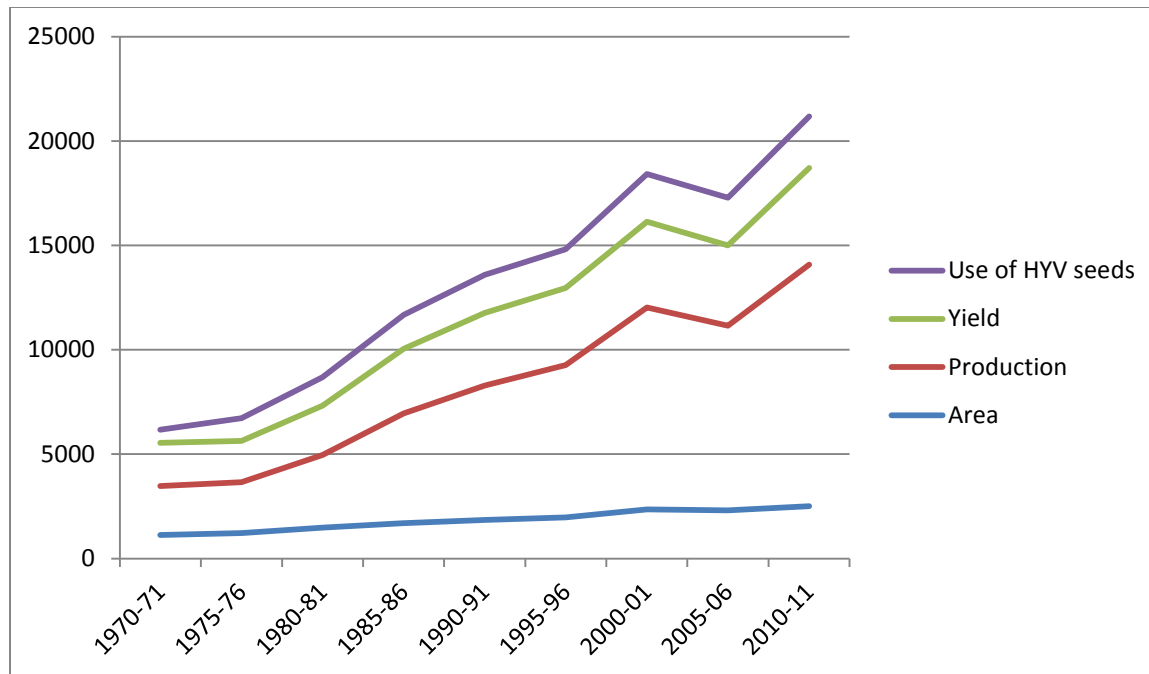
*Data sources: Abstract of Haryana (Different issues)

The above table 1 and Figure 1 shows that from 1970-71 use of HYV seeds of wheat has increased from 55.8% in 1970-71 to 98.9% in 1990-91 means a huge growth of 44.1% within just 20 year but after 1990-91 percentage use of HYV seeds is nearby

static and has attained a critical limit up to 99.4% However yield and production from 1970-71 to 1990-91 but after 1990-91 the increase in production is continuous to till 2010-2011 and shows an increase of approximately 11 times.

Figure 1

Area under wheat cultivation, Production, Yield and use of HYV seeds



It is mainly due to increase in area of wheat cultivation from 1970-71 to 2010-11, while percentage use of HYV seeds to total seeds used and yield Kg/Hectare is fluctuating after attaining maximum limit 99.4% and 4624 Kg/Hectare respectively.

2. Spatio-Temporal trend of Area, Production & use of HYV seeds in Rohtak District.

Table 2

Area under wheat cultivation, production, yield and HYV seeds used in Rohtak(Hr)

Year	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Total Area	87.9	94.7	98.7	103.2	104	102
Production	303	376	347	448	422	464
Yield	3441	3958	3510	4349	4058	4552
Area under HYV seeds	87	92	97	101	103	100
% of HYV seeds total	99	97.1	98.3	97.9	99	98

Table2 revealed that till 2005-06 the total area and wheat cultivation and percentage use of HYV seeds to the total seeds used was 99% i.e. nearby 100%, still production and yield data is continuously increasing

from 303000 tons in 2005-06 to 464000 tons in 2010-11 and 3441 Kg/Hectare in 2005-06 to 4552 Kg/Hectare in 2010-2011 respectively means there are other factor

which also affect the yield and production of wheat besides use of HYV seeds.

Conclusion & Recommendations: It is very true that Green Revolution made a boom in food grain production especially of wheat and rice. The total wheat production in India as well as Haryana increased with more than 45° angle line. In 1970-71 use of HYV seeds in case of wheat cultivation was only 55.8% to the total seeds used which increases from 55.8% to 98.2% in 2010-11. The same growth line is associated with production & yield. But the other side of this system has also some disadvantages like a heavy consumption of fertilizer and pesticides to grow HYV plants, which leads to increase in soil pollution and change the soil chemistry.

As it has been seen from the data that after a certain limit HYV seeds do not affect the production and yield of a crops and if we want to match our food supply with our population growth then we will have to use some other measures like,

1. Use of scientific methods of cultivation.
2. To maintain fertility of land change in crop pattern.
3. Use of bio fertilizers so that soil chemistry could be sustained.
4. Use of such seeds which are feasible according to climate forecasting etc.

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