

Impact on Trends in Agricultural Growth in Jammu and Kashmir

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ABSTRACT

An attempt has been made in this study to examine the trends in agricultural growth in Jammu and Kashmir. The study is based on secondary data. The period of the study is 2005-06 to 2014-15. The major findings of the study are that from 2005-06 to 2006-07 the percentage growth rate in total production increases by +5.38%, from 2006-07 to 2007-08 it increases by +0.28%, from 2007-08 to 2008-09 it again increases by +7.43%. From 2008-09 to 2009-10 total production decreases by -22.35%. From 2009-10 to 2010-11 it again increases by +14.78% and from 2010-11 to 2011-12 the growth rate in total production was +3.81%. The growth rate again declines during 2011-12 to 2012-13 to -1.27% and again increases by +10.66% during 2012-13 to 2013-14. But during 2013-14 to 2014-15 the growth rate in production decline by -38.10%. The main reason for this decline is the devastating floods in Sep. 2014.

KEYWORDS : agricultural growth, Jammu and Kashmir, production, devastating floods.

INTRODUCTION

Jammu and Kashmir is divided into three agro-climatic zones: Cold arid desert areas of Ladakh, temperate Kashmir Valley and the humid sub-tropical region of Jammu. Each has its own specific geo-climatic condition which determines the cropping pattern and productivity profile. In Jammu province, a small portion of the land lies in the plains along the borders of Punjab while the rest of the area is hilly. As per the Agricultural Census 1994-95, Jammu region dominates both in maize and wheat production. About 67 per cent of the area is under maize and wheat production with the production of 21.25q/ha maize and 15.36 q/ha wheat. This region contributes 79.56 per cent and 95.69 per cent of total production of these two cereals respectively. Even though the yield is not high, the region makes appreciable contribution to the production of groups of cereals classified as 'other cereals and millets'.

The second agro-climatic zone is Kashmir, also known as 'cultivator's paradise'. The region practically depends on irrigation, which is easily available. A large area of level land has alluvial soil. Extensive elevated plateaus of the alluvial or lacustrine material (locally called Karewas) also exist in the Kashmir valley. These Karewas are productive only in the face of sufficient rainfall or adequate irrigation facilities. Rice is the chief crop of this zone, followed by maize, barley and wheat. According to the Census 1994-95, the Kashmir region accounted for 61 per cent of total cultivable land under rice with the highest yield of 26.13 q/ha as compared to approximately 15.96 q/ha in the Jammu region. By and large, the soils are well suited for rice cultivation and 90 per cent of the area under rice is irrigated. This region alone contributes more than 74 per cent of total rice produced in the state.

Ladakh zone is endowed with bare Rocky Mountains and bare gravel slopes. Villages are located near pockets of land with level ground and irrigation facilities, where cultivation is viable. In this

region, barley is the major cereal crop followed by summer wheat. Millets and wheat rank second in importance and are grown in the warmer belt of the region.

The time of sowing in the frontier districts differs from area to area. Generally, it commences early in the spring. In the low-lying areas, where the kharif crop maize follows wheat, the former crop is sown anytime from 15 November to 15 January when the soil is not frosty. Maize is sown in July and August. In the villages, where gram is raised as the Rabi crop instead of wheat, the former is

sown immediately after 15 January to give the cultivators sufficient time for growing and harvesting maize in the Kharif.

BACKGROUND OF THE STUDY

Ali Asghar et.al (2009) attempted to study of productivity growth of agriculture in Pakistan from 1971 to 2006. They estimated the total factor productivity of agricultural sector in Pakistan, annual time series data of output produced and inputs used in the productions process were collected for the period from 1971 to 2006 by them. They found that, total factor productivity of agriculture grew at an average, annual rate of 2.14% during the 1971-2006. Kannan and Sundaram (2011) reveal that the cropping pattern in India has undergone significant changes over time. There is a marked shift from the cultivation of food grains to commercial crops. Among food grains, the area under coarse cereals declined by 13.3 per cent between 1970-71 and 2007-08. Similarly, the performance of pulses in terms of area and output was not impressive during the study period. Shah et.al (2014) shows that the fluctuating trends are mainly contributed to the changing land use /land cover, environmental, irrigational and technological factors. Conversion of agriculture land into built up area which is the main cause of low agricultural production in the state of Jammu and Kashmir. Climatic factors especially variations in temperature, precipitation and humidity trends have also contributed to fluctuating nature of crop production. Kaloo and Choure (2015) finds that the current situation is not satisfactory in terms of food grains as the area under these crops have shown the disturbing trends and the farmers are losing their interest in farming sector because it has become less remunerative as a result the existing population is not able to cover the gap between deficit and requirement which has already gone to 81%. The scope of further increase in the area under these crops is less as they are not found of profitability. Mundhe (2015) has shown the growth and production has significantly increased during the last three decades and the performance of the Indian agriculture growth is also increased over the period of time.

RESEARCH METHODOLOGY

The study is primarily based on secondary data. The data is collected from Digest of Statistics, 2014-15, Directorate of Economics and Statistics, Govt. of J&K. Various economic surveys published by Directorate of Economics and Statistics, Govt. of J&K. Various research papers, working papers, articles, websites etc.

OBJECTIVE:

- To examine the trends in agricultural growth in Jammu and Kashmir.

TOOLS OF ANALYSIS:

GROWTH RATE: The growth rate is calculated by the formula given below:

➤ Growth rate in area: $\frac{\text{area in current year} - \text{area in previous year}}{\text{area in previous year}} \times 100$

➤ Growth rate in production: $\frac{\text{production in current year} - \text{production in previous year}}{\text{production in previous year}} \times 100$

RESULT AND DISCUSSION

The total area of J and K as per census 2011 is 2, 22, 236 sq. Kms consists of three regions; Kashmir valley, Jammu and Ladakh. As per revenue records the total area of the state is 2416000 hectares.

➤ Area under Agricultural Crops

According to digest of statistics, 2014-15, Govt. of J and K, the total area sown under agricultural crops is 1196000 hectares in 2014-15. Out of this area, the area under food crops is 1071000 hectares and the area under non-food crops is 125000 hectares. The area sowed more than once in a year is 438000 hectares. Hence the net area sown is 758000 hectares.

TABLE NO 1
AREA SOWN UNDER TOTAL CROPS (FOOD AND NON-FOOD CROPS) (000 HECTARES)

Year	Total food crops	Total non-food crops	Total area sown	Area sown more than once	Net area Sown
2005-06	980.57	120.36	1100.93	367.24	733.69
2006-07	1002.52	123.89	1126.41	384.85	741.56
2007-08	1006.45	127.49	1133.94	399.93	734.00
2008-09	1014.03	122.76	1136.73	398.11	738.62
2009-10	1023.45	121.12	1144.57	409.26	735.32
2010-11	1018.36	121.74	1139.81	408.17	731.63
2011-12	1037.50	123.62	1161.11	415.03	746.08
2012-13	1039.19	122.91	1162.09	417.10	744.99
2013-14	1033.52	126.79	1160.31	419.16	741.15
2014-15	1071.22	124.92	1196.14	437.69	758.45

Source: Digest of Statistics, 2014-15, Govt. of J and K

Table 1 represents the total area sown and net area sown under total food crops and total non-food crops. From 2005-06 to 2014-15 the area under food crops has increased from 980.57 thousand hectares to 1071.22 thousand hectares. The area under non-food crops has also increased from 120.36 thousand hectares in 2005-06 to 124.92 thousand hectares in 2014-15. The total area sown (total food crops + total non-food crops) has increased from 1100.93 thousand hectares in 2005-06 to 1196.14 thousand hectares in 2014-15. The table also shows the area sown more than once in a year which also increases from 367.24 thousand hectares in 2005-06 to 437.69 thousand hectares in 2014-15. At the end of the table net area sown (total area sown - area sown more than once in a year) is also shown which increases from 733.69 thousand hectares in 2005-06 to 758.45 thousand hectares in 2014-15.

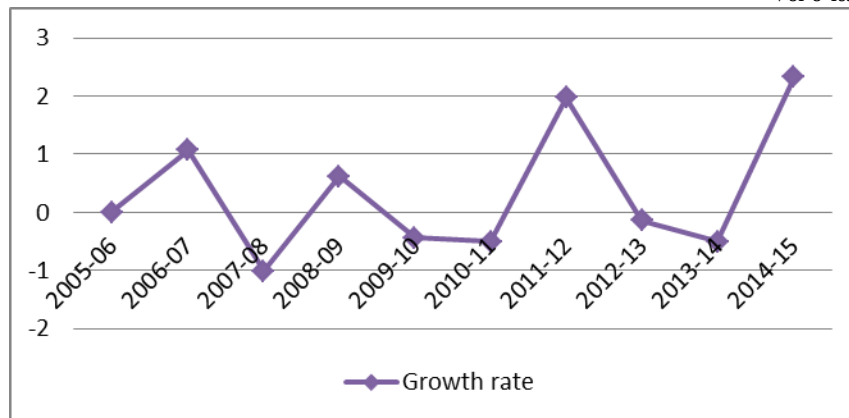
TABLE No 2
PERCENTAGE GROWTH RATE IN NET AREA SOWN

Year	Net area sown (000 hectares)	Growth rate (%)
2005-06	733.69	—
2006-07	741.56	+1.07
2007-08	734.00	-1.01
2008-09	738.62	+0.62
2009-10	735.32	-0.44
2010-11	731.63	-0.50
2011-12	746.08	+1.97
2012-13	744.99	-0.14
2013-14	741.15	-0.51
2014-15	758.45	+2.33

Source: calculated from table 1

Table 2 shows the year wise percentage growth rate in net area sown from 2005-06 to 2014-15. From 2005-06 to 2006-07 the percentage growth rate in net sown area increases by +1.07%, from 2006-07 to 2007-08 it decreases by -1.01%, from 2007-08 to 2008-09 it again increases by +0.62%. From 2008-09 to 2009-10 and 2009-10 to 2010-11, it again decreases by -0.44% and -0.50% respectively. From 2010-11 to 2011-12 the growth rate in net sown area was +1.97%, during 2011-12 to 2012-13 and 2012-13 to 2013-14 the growth rate also declines by -0.14% and -0.51% respectively. But during 2013-14 to 2014-15 the growth rate in net sown area increases by +2.33%, which is highest in all the years from 2005-06.

CHART NO 1
TRENDS IN GROWTH RATE IN NET SOWN AREA



➤ Production of Agricultural Crops

According to digest of statistics, 2014-15, Govt. of J and K, the total production of agricultural crops is 11232000 quintals in 2014-15. Out of this production, the production of food crops is 10481000 quintals in which the production of rice, wheat and maize is 3450000 quintals, 3143000 and 3600000 quintals respectively. The production of non-food crops is 751000 quintals in which the production of oilseeds, potatoes and chilies is 404000 quintals, 344000 quintals and 3000 quintals.

TABLE NO 3
PRODUCTION OF TOTAL CROPS (FOOD AND NON-FOOD CROPS) (000 QUINTALS)

Year	Food crops	Non-food crops	Total production
2005-06	15020	528	15548
2006-07	15777	608	16385
2007-08	15707	725	16432
2008-09	17169	784	17953
2009-10	13185	754	13939
2010-11	15217	783	16000
2011-12	15872	739	16611
2012-13	15619	780	16399
2013-14	17250	898	18148
2014-15	10481	751	11232

Source: Digest of Statistics, 2014-15, Govt. of J and K

Table 2 represents the total production of food crops and non-food crops. In the year 2005-06 the total production was 15548 thousand quintals which increases to 16385 thousand quintals in 2006-07 and again increases slightly to 16432 thousand quintals in 2007-08. Again in 2008-09 the total production increases to 17953 thousand quintals. But in 2009-10 the overall production decreases to 13939 thousand quintals. It again increases to 16000 thousand quintals, 16611 thousand quintals, 16399 thousand quintals and 18148 thousand quintals in 2010-11, 2011-12, 2012-13 and 2013-14 respectively. But in 2014-15 the total production declines up to 11232 thousand quintals. The reason for this much of decline is the devastating flood of Sep. 2014.

TABLE NO 4
PERCENTAGE GROWTH RATE IN TOTAL PRODUCTION

Year	Total production (000 quintals)	Growth rate (%)
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2005-06	15548	—
2006-07	16385	+5.38
2007-08	16432	+0.28
2008-09	17953	+7.43
2009-10	13939	-22.35
2010-11	16000	+14.78
2011-12	16611	+3.81
2012-13	16399	-1.27
2013-14	18148	+10.66
2014-15	11232	-38.10

Source : calculated from table 3

Table 4 shows the year wise percentage growth rate in total production from 2005-06 to 2014-15. From 2005-06 to 2006-07 the percentage growth rate in total production increases by +5.38%, from 2006-07 to 2007-08 it increases by +0.28%, from 2007-08 to 2008-09 it again increases by +7.43%. From 2008-09 to 2009-10 total production decreases by -22.35. from 2009-10 to 2010-11 it again increases by +14.78% and from 2010-11 to 2011-12 the growth rate in total production was +3.81%. The growth rate again declines during 2011-12 to 2012-13 to -1.27% and again increases by +10.66% during 2012-13 to 2013-14. But during 2013-14 to 2014-15 the growth rate in production decline by -38.10%. The main reason for this decline is the devastating floods in Sep. 2014. At that time the harvesting season of rice and maize was at its peak.

CHART NO 2
TRENDS IN GROWTH RATE IN TOTAL PRODUCTION

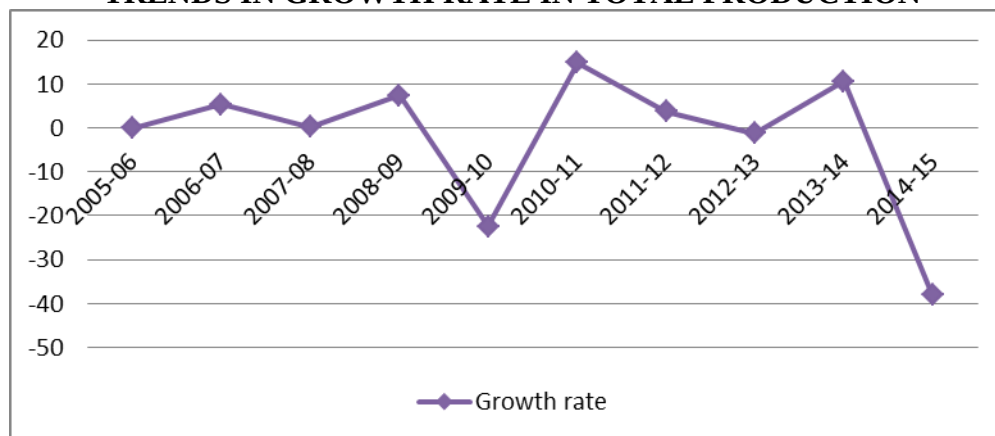


TABLE NO 5
YEAR WISE PRODUCTIVITY OF TOTAL AGRICULTURAL CROPS

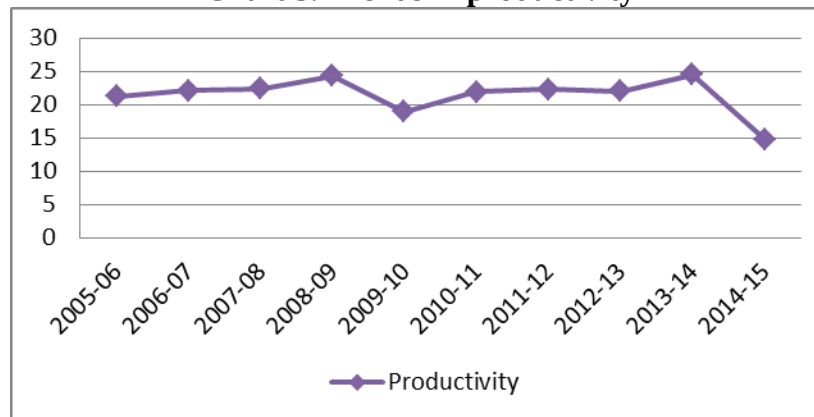
Year	Net area sown (000) hectares	Total production (000) quintals	Productivity Quintals/hectare
2005-06	733.69	15548	21.19
2006-07	741.56	16385	22.09
2007-08	734.00	16432	22.38
2008-09	738.62	17953	24.30
2009-10	735.32	13939	18.95
2010-11	731.63	16000	21.86

2011-12	746.08	16611	22.26
2012-13	744.99	16399	22.01
2013-14	741.15	18148	24.48
2014-15	758.45	11232	14.80

Source: Calculated from table 1 and table 3

Table 5 shows the productivity of total agricultural crops from 2005-06 to 2014-15. The total productivity shows an increasing trend from 2005-06 to 2008-09 from 21.19 to 24.30. In 2009-10 the productivity decreases to 18.95. Then again from 2010-11 to 2011-12 the productivity increases from 21.86 to 22.26. Again in 2012-13 it decreases slightly. In 2013-14 productivity again increases up to 24.48. But at the last in 2014-15 the productivity was lowest at 14.80. The main cause of this decline was the devastating floods in Sep. 2014.

Chart 3. Trends in productivity



CONCLUSION

The year wise percentage growth rate in total production from 2005-06 to 2014-15. From 2005-06 to 2006-07 the percentage growth rate in total production increases by +5.38%, from 2006-07 to 2007-08 it increases by +0.28%, from 2007-08 to 2008-09 it again increases by +7.43%. From 2008-09 to 2009-10 total production decreases by -22.35%. From 2009-10 to 2010-11 it again increases by +14.78% and from 2010-11 to 2011-12 the growth rate in total production was +3.81%. The growth rate again declines during 2011-12 to 2012-13 to -1.27% and again increases by +10.66% during 2012-13 to 2013-14. But during 2013-14 to 2014-15 the growth rate in production decline by -38.10%. The main reason for this decline is the devastating floods in Sep. 2014. At that time the harvesting season of rice and maize was at its peak. Assured irrigation facility, high yield variety (HYV) crops and modern agriculture technologies are to be implemented in order to increase yield per hectare of crops. Besides that there is a need to curb the conversion of agriculture land into built up area so that the state of Jammu and Kashmir will be self-sufficient in food grains and the state will remain on the track of prosperity.

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