



# Growth and performance of Agriculture in Jammu and Kashmir From 2010-2020

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## Abstract

The paper has provided insights on the performance of Jammu and Kashmir agricultural productivity trends of major crop yields. About 60 percent of the total population is directly engaged in agriculture and depends on this sector for their livelihood. Hence growth in agriculture is important not only to ensure food security but also for high living standards of the population. The secondary sources of database were collected from the Department of Economics and Statistics, for a period of eleven years from 2010 to 2020 The data has been analysed using statistical techniques. The findings reveal that there is some significant difference among the crop yield. The compound growth rate of yield for the selected crops in Jammu and Kashmir union territory were estimated for the study period using growth model.

**Keywords: Agriculture Productivity, Compound Growth Rate, Growth Major Crops.**

## 1 Introduction

Jammu and Kashmir are predominantly an agrarian economy. Nearly 70% of the population of the union territory is directly/indirectly dependent on the agricultural sector for its livelihood. Agricultural development is instrumental in enhancing farmer's income and employment opportunities. It is imperative to adopt strategies aimed at increasing and diversifying production of crops. This Paper covers the pattern of land utilization and operational holdings, area under different crops, production and yield rate of crops, distribution of fertilizers, number of tractors and other agricultural implements. Jammu & Kashmir is an agrarian among all the agricultural states of India Jammu and Kashmir occupies 15<sup>th</sup> rank in term of agriculture this sector is a predominant sector of J&K economy which provide employment to more than 65% of its population

. The share of agriculture in Jammu & Kashmir economy is 16% in GSDP being a dominant sector among all the sectors of J&K yet is not provide food grain to whole of its population. There a various issues and challenges to Jammu and Kashmir agriculture because lack of the infrastructure, irrigation facilities, marketing facilities as well as the problems of unfavourable climate all these issues and concerns makes the agriculture of Jammu and Kashmir different from rest of Indian state so far as long the occupation and main stay of people is concerned, more than 70% population is directly or indirectly depending upon agriculture for their livelihood. The main source of their income is agriculture and allied activities. Agriculture is the most important industry of the people of Jammu & Kashmir. <sup>1</sup>Even those engaged in other sector also depend upon agriculture for raw

material. About 80% people in the state are cultivators in one form or in other. The union territory is essentially mountainous in which about only 30% of the reporting area is under cultivation. The hilly and mountain areas differ the plains in topography, elevation and physiographic diversity of habitats for flora and fauna. The hilly areas are generally grown with grass, herbs, maize, pulses and wheat to some extent. The plain area is grown with rice, wheat, pulses, oil seeds vegetables, gardens and fruits etc. In context of sustainability, whether agriculture will be able to meet future food demand without adversely affecting the resource base. The sustainable agriculture is also essential to provide sufficient food and also act as an engine of poor growth despite resource constraints. The National Policy on Agriculture gives special emphasis for sustainability of Agriculture as utilization of vast and untapped growth potential of Agriculture; Strengthening the rural infrastructure to support fast agricultural development; Promotion of value addition and to accelerate the growth of agriculture based business; creation of employment in rural areas; Securing fair standard of living for the farmers and agricultural workers including their families; discouraging migration to urban areas; facing the challenges arising out of the Economic Liberalization and Globalization

## 2 Objectives of the Study

The main objectives of the study are:

- 1) To Study the Present Situation of Agriculture in Jammu and Kashmir
- 2) To Study the Changing Patterns of Agriculture in terms of cropping patterns and the production of various crops in Jammu and Kashmir.
- 3) To study a brief profile of agriculture throughout India Jammu and Kashmir in particular.
- 4) To analyse the recent performance of agriculture in Jammu and Kashmir.

## 3 Literature Review

**Kanwar (1971)** defined cropping pattern as the time and space sequence of crops. Land use pattern and cropping pattern change over time due to various reasons. Many studies were undertaken on this aspect at various time periods. Cash crops can help to increase farm income per individual farmer. **Goswami.B. K, (2018)** The performance of agriculture is examined on the basis of indicators of agricultural development like yield of major crops, cropping intensity, irrigation intensity, density of tractors, and consumption of fertilizers. The main findings: the pattern of structural change in Uttarakhand is in tune with the national economy of India and agriculture sector needs more attention on the part of policymakers to provide incentives for new farm innovations. **Verma.S et. al.(2022)** Agriculture scenario of Uttarakhand and the Changing patterns of agriculture in terms of cropping pattern production and the number of holdings. The current situation is not satisfactory in terms of food grains as the area under these crops has shown disturbing trends and the farmers are losing their interest in the farming sector. Landholding size per family and field sizes have both decreased markedly during recent years. Agricultural development has been sluggish and has failed to keep pace with population growth. In recent years the yields of major food crops in Uttarakhand have been lower than in other South Asian countries and Uttarakhand is now dependent on food imports. Crop productivity in the hills has declined due to land degradation.

## 4 Methodology

Looking at the objectives of the present study. We have used secondary data. Which is directly collected from different Government sites such as the Ministry of agriculture and farmers' welfare, the Government of India Directorate of statistics Jammu and Kashmir Etc, The Data were collected regarding the cropping Patterns, Area Under Different crops, Average landholding, and consumption of fertilizer. To fulfil the study's objectives, we used descriptive statistics to analyse the changing pattern of agriculture in the state from 2010 to 2020. The statistical tool such as percentage growth to represent the data we used the bar diagram, line bar Histogram, etc. for the analysis of data we used M.S Word, Excel

## 5 Statistical data analysis

### Land-use Patterns

year	Gross Sown Area	Net Sown Area	Gross Irrigated Area	Net Irrigated Area
2010	1145	735	480	317
2011	1140	732	479	321
2012	1161	746	480	319
2013	1162	745	487	325
2014	1160	741	487	323
2015	1196	758	522	325
2016	1159	754	519	356
2017	1177	757	497	336
2018	1165	752	501	332
2019	1124	713	495	329
2020	1090	720	445	308

Source: Ministry of Agriculture and Farmers Welfare, Government of India 2022

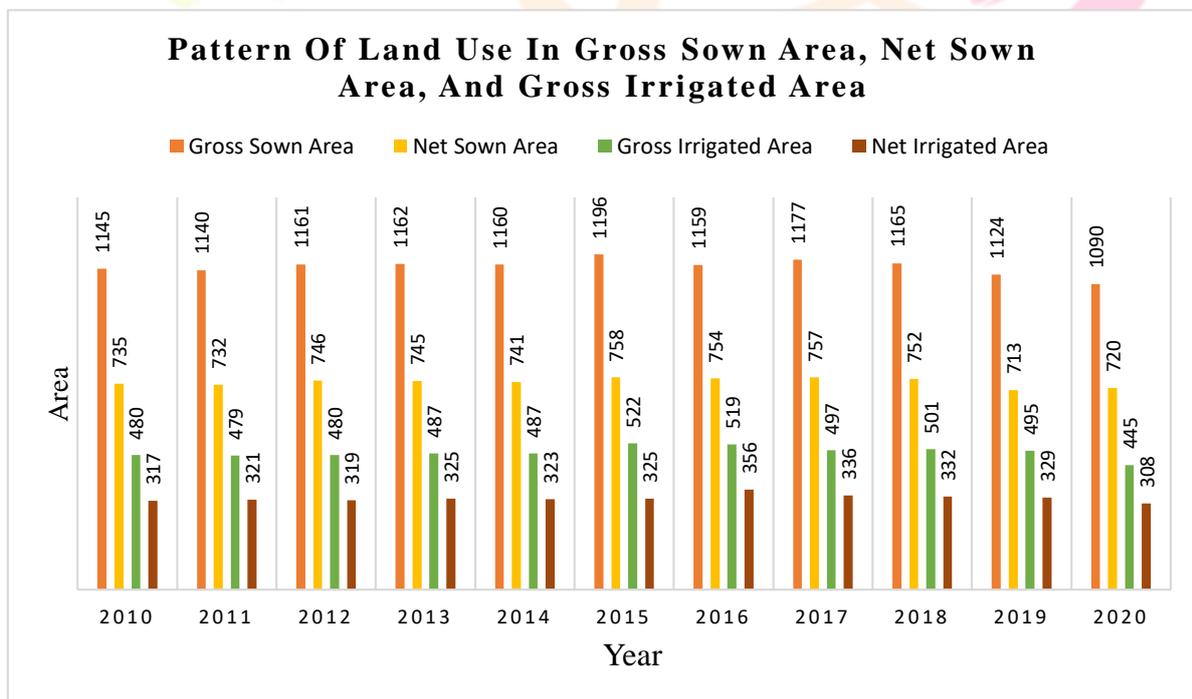


Table 1.1 Shows the pattern of land use in Gross sown area, Net sown area, Gross irrigated area and Net irrigated area in Jammu and Kashmir in Thousand hectares from 2010 to 2020. It is clear from the table that Gross sown area has been increased till 2015 then it has been decreased in the coming years where in 2010 Gross sown area was 1145 thousand hectares in 2013 it has been increased to 1162 thousand hectares, in 2014 it came down to 1160 thousand hectares, then again in 2015 it increased to 1196 after that we can see the sudden downfall in Gross sown area in 2018 it has fallen down to 1165 thousand hectares and in 2020 it has come down to 1090 thousand hectares. Same situation can be seen of Net Sown Area also where it was 735 thousand hectares in 2010, in 2012 it increased to 746 thousand hectares then after little downfall it increased to 758 thousand hectares in 2015 after this Net Sown area has been declined in the state which was 720 thousand hectares in 2020.

Gross Irrigated area which is shown in Table 1.1 shows that from 2010 to 2014 it is near about stable not much difference we can see it is between 480 to 487 thousand hectares. In 2015 it is has been increased to 522 thousand hectares after 2015 there has been a sudden decline in Gross Irrigated area in 2017 it came down to 497 thousand hectares, 495 thousand hectares in 2019 and 445 thousand hectares in 2020. Table 1.1 shows that Net Irrigated area in Jammu And Kashmir has been almost stable not much difference is there as in 2010 it was 317 thousand hectares, in 2012 it was 319 thousand hectares, in 2014 it was 323 thousand hectares, in 2016 it increased to 356 thousand hectares, in 2018 it declined to 332 thousand hectares and in 2020 to 308 thousand hectares.

## Cropping Patterns

Table: 1.2 Production of Food grains – Rice, Wheat, Cereal, and Pulses in Jammu & Kashmir (Million tons)

Year	Rice	Growth	Wheat	Growth	Cereal	Growth	Pulses	Growth
2010	105.9		289.9		513.3		13.6	
2011	128.9	21.7	446.3	53.9	550.9	7.3	16.7	22.7
2012	131.6	2.09	500.3	12.0	528.1	-4.1	13.2	-20.9
2013	818.1	521.6	462.4	-7.5	537.3	1.7	14.2	7.5
2014	610.9	-25.3	601.9	30.1	551.3	2.6	13.8	-2.8
2015	517.2	-15.3	314.3	-47.7	379.5	-31.1	9.2	-33.3
2016	646.4	24.9	541.5	72.2	535.4	41.0	9.3	1.0
2017	572.2	-11.4	475.5	-12.1	561.0	4.7	10.3	10.7
2018	513.1	-10.3	487.4	2.5	559.9	-0.1	10.3	0
2019	615.8	20.0	671.9	37.8	594.2	6.1	10.6	2.9
2020	587	-4.6	488.3	-27.3	551.7	-7.1	44.2	316.9

Source: Ministry of Agriculture and Farmers Welfare, Government of India

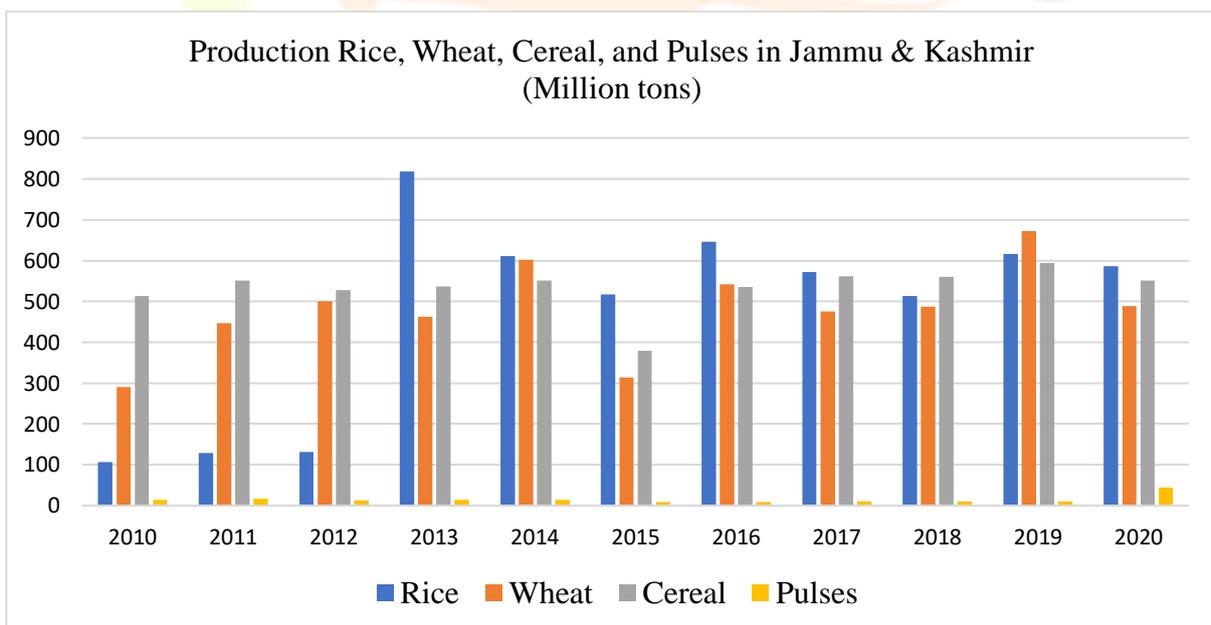


Table 1.2 depicts Rice, Wheat, Cereals and Pulses production in Million tons in Jammu & Kashmir from 2010 to 2020. If we see the Rice production it is clear from the table that from 2010 to 2012 Rice production was almost same i.e., in 2010 it was 105.9 million tons, in 2011 it was 128.9 million tons, in 2012 it was 131.6 million tons respectively. Afterwards it has increased but much increased in 2013 i.e., 818 million tons, then it shows the declining trend as in 2014 it came down to 610.9 million tons in 2014, in 2015 it came down to 517.2 million tons, in 2018 it came down to 513.1 million tons, in 2020 it was 587 million tons. Wheat production has shown increment in the beginning but not shown much difference as the Table and graph shows Wheat production in 2010 was 289.9 million tons, in 2011 it was 446.3 million tons, in 2012 increased to 500.3 million tons, then declined and then again increased in 2014 to 601.9 million tons, in 2016 it came down to 541.5 million tons, in 2018 it was 487.4 million tons, in 2020 it was 488.3 million tons.

As it is clear from the Table 1.2 that Cereal production is almost same from 2010 to 2020. In 2010 it was 513.3 million tons, in 2012 it was 528.1 million tons, in 2014 it was 551.3 million tons, in 2016 it was 534.4 million tons, in 2018 it was 559.9 million tons and 551.7 million tons in 2020. Pulses production was stable from 2010 to 2019 not much difference is there as it was 13.6 million tons in 2010, in 2012 it was 13.2 million tons, in 2014 it was 13.8 million tons, in 2016 it came down to 9.3 million tons, in 2018 it was 10.3 million. Pulse production records an increase in 2020 to 44.2 million tons.

Year	Consumption of Fertiliser (N+P+K)	% Growth
2010	98.5	
2011	105.9	7.51269
2012	86.2	-18.6025
2013	94.4	9.512761
2014	-	----
2015	-	----
2016	63.8	----
2017	61.2	-4.07524
2018	70.7	15.52288
2019	57.2	-19.0948
2020	41.3	-27.7972

Source: Agricultural Statistics at a Glance, Ministry of Agriculture and Farmers Welfare, Government of India

In the table 1.3 we have shown the fertilizer consumption patterns per hectare. In 2010 the consumption of fertilizer was 98.5 kg per hectare of land which increase 105.9 kg in 2011 which shows 7.51 percent of growth. And In 2012 the per hectare consumption is 86.2 kg per hectare Shows negative growth rate and in 2013 it was 94.4 kg per hectare. the consumption of fertilizer decreases continuously from 2013 to 2020 as show in above table if We compare the consumption in 2010 to 2020 was it shaws approximate 50 Percent consumption of fertilizers decreases in the state.

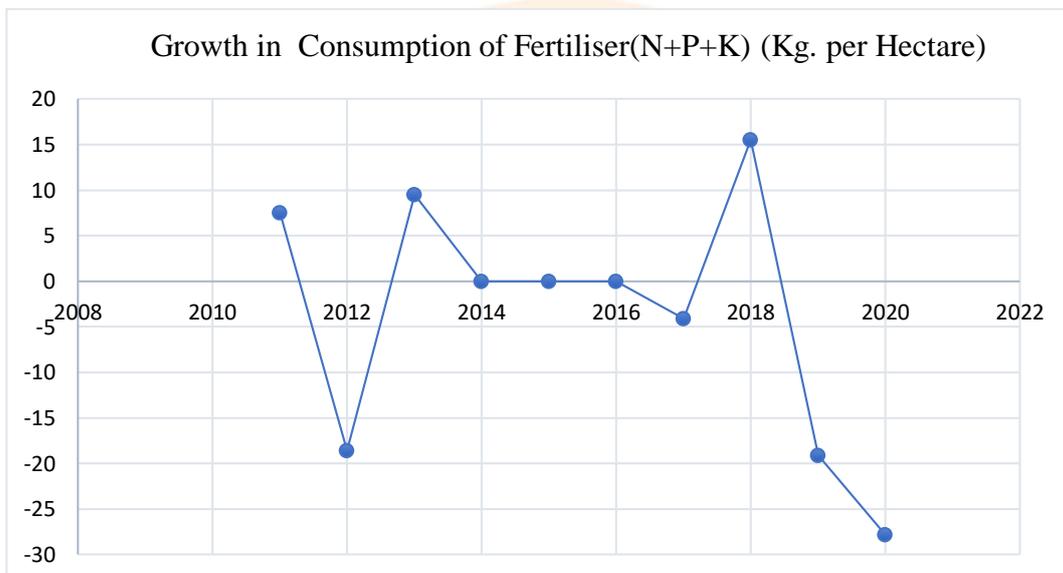
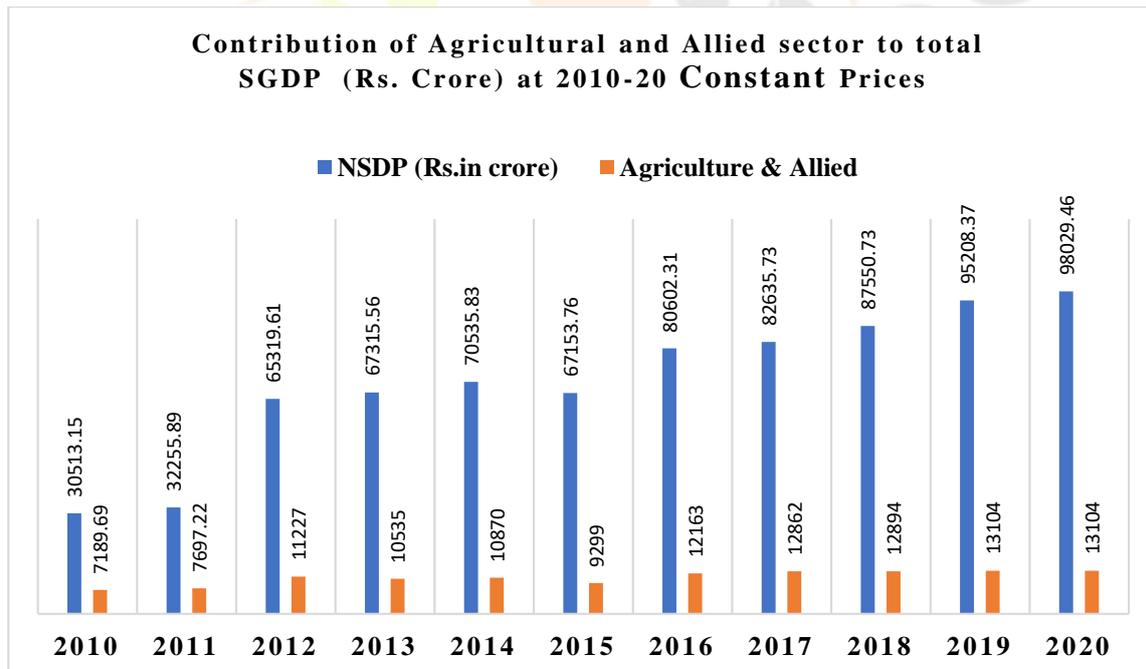


Table: 1.4 Contribution of Agricultural and Allied Sector to Total SGDP (Rs. Crore) At 2010-20 At Constant Prices

Year	NSDP (Rs.in crore)	GDP Agriculture and Allied Sector	
		Value	Percentage to total GDP
2010	30513.15	7189.69	23.56
2011	32255.89	7697.22	23.86
2012	65319.61	11227	17.18
2013	67315.56	10535	15.65
2014	70535.83	10870	15.41
2015	67153.76	9299	13.84
2016	80602.31	12163	15.09
2017	82635.73	12862	15.56
2018	87550.73	12894	14.72
2019	95208.37	13104	13.76
2020	98029.46	13104	13.36
Sum	777120.4	120944.91	
Mean	70647.30	10994.99	
Standard Deviation	21358.26	2041.94	
Coefficient of Variance	46122259.64	18.57	
CAGR	12.37	6.18	

Source: Digest of Statistics 2020-21  
CAGR - Compound Annual Growth rate

It is exhibited from the table 1 that overall value of total GDP and that of agricultural over the period has shown an increased trend. But the contribution of agricultural GDP to the total GDP in the country has decreased over the period of time.



## 6 Conclusion

From the above analysis we can reach the conclusion that the union territory of Jammu and Kashmir is predominately an agrarian near 70 percent of population is directly/indirectly depends upon agriculture but the share of agriculture sector decreases from 23.56 in 2010 to 13.36 2020. The Land use pattern shows the decreasing trends over the period in net shown area gross shown area net shown area gross shown area. The production patterns of major crops rice, wheat, cereals ad pulsus, increase and shows positive growth over the period of time The consumption the fertilizer decreases from 2013 to 2020

## 7 References

1 Kirk, W. and Akhtar, Rais. (2021, March 22). Jammu and Kashmir. Encyclopaedia Britannica.

<https://www.britannica.com/place/Jammu-and-Kashmir>

2 Mehmood, Y. (2020). *Dynamics of agriculture in Jammu & Kashmir Issues and Challenges*. March.

3 Khan, W. H., Jamal, A., & Shah, A. H. (2018). *Sustainable Agricultural Development in India with Special Reference to Jammu and Kashmir: A Macro Analysis*. 7(3), 37–41.

4 Hand Book Of RBI retrieved from

<https://rbi.org.in/Scripts/AnnualPublications.aspx?head=Handbook%20of%20Statistics%20on%20Indian%20>

Economy on 10-02 2023

5 Kanwar, JS. Cropping pattern scope and concept. Proceeding of the National Symposium on Cropping Patterns.

Indian Council of Agricultural Research; 1971

6 Goswami.B. K “Structural change and growth of agriculture in Uttarakhand.” EPRA International Journal of Economic and Business Review Volume - 6, Issue- 12, December 2018

7 Dr. Sarika Verma, et. al. “Changing Patterns of Agriculture in Uttarakhand State from 2010-2020.” IOSR

Journal of Economics and Finance (IOSR-JEF), 13(03), 2022, pp. 01-10.

