

TRENDS AND PATTERN OF FOODGRAINS PRODUCTION IN INDIA

Juhi Shamim

Research Scholar, Department of Economics, Faculty of Social Science, Aligarh Muslim University, Aligarh, Uttar Pradesh, India

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ABSTRACT

The present study throws light on trends and pattern of food grains production in India. In this study I have taken into consideration the production of some the main Rabi and Kharif crops namely Rice, Wheat, Jowar, Bajra, Maize, Ragi, Barley and Gram of sixteen agriculturally rich states of India. Also the climatic conditions of growth of these crops are discussed in this paper.

KEYWORDS: *Food Grains Production*

INTRODUCTION

Agriculture assumes a fundamental role in the Indian economy. It contributes around 17 percent to the general GDP of India. Almost 70 percent of the country's rural households principally rely upon agriculture. India is the top producer of numerous crops on the planet. The climate and soil conditions in India are most appropriate for its crops. There are three seasons of crops in India – Kharif, Rabi and Zaid.

Kharif Crops are planted in June-July with the start of the rain, also called monsoon crops, and reaped in September – October. Kharif crops require plenty of water and sweltering climate to grow. It incorporates Rice, Jowar, Bajra, Maize, Cotton, Groundnut, Jute, Sugarcane, Turmeric, Pulses and so forth.

Rabi crops are planted in October – November and reaped in April – May. These crops require a warm climate for the germination of seeds and maturation and a cold atmosphere for the growth. Primary crops of Rabi seasons are Wheat, Oat, Gram, Pea, Barley, Potato, Tomato, Onion, Oilseeds, and so forth.

Zaid crops are grown between March to June between Rabi and Kharif harvest seasons. These crops are early maturing crops. It incorporates Cucumber, Bitter-gourd, Pumpkin, Watermelon, Muskmelon, Moong Dal and so forth.

Crops in India can likewise be isolated into four primary categories relying upon their utilization. First are food grain crops which incorporate Wheat, Maize, Rice, Millets, Jowar, Pulses, and so on. Second are Cash crops which incorporate Sugarcane, Tobacco, Cotton, Jute and Oilseeds and so on. Third are Plantation crops which include Coffee, Coconut, Tea and Rubber and so on. Also, fourth is Horticulture crops which include fruits and vegetables.

Objective of the Study

The objective of this study is to examine the trends and pattern of food grains production in India.

Production of Major Crops in India

In this chapter, we have taken eight major food grain crops of India specifically, Rice, Wheat, Jowar, Bajra, Maize, Ragi, Barley, and Gram. India is the second largest producer of Rice and Wheat on the planet after China. Rice is the primary crop of Kharif season and Wheat in the fundamental crop of Rabi season. The All India Production of these eight crops is shown in **table-1** and graphically portrayal in **figure-1**.

Total production of Rice is assessed at a new record of 110.15 million tonnes in 2016-17 which is higher by 3.28 percent than past record production of 106.65 million tonnes during 2013-14. This record production is likewise higher by 4.5 percent than the five years normal rice production of 105.42 million tonnes in 2014-15. Production of rice has expanded essentially by 5.5 percent than the production of 104.41 million tonnes during 2015-16. The fluctuating trends in the all India production of rice are represented in **figure-1.1 (a)**.

Total production of Wheat is estimated at a record of 98.38 million tonnes in 2016-17 which is higher by 2.64 percent than the past record production of 95.85 million tonnes during 2013-14. The record production of wheat of the year 2016-17 is 6.23 percent higher than the average wheat production of 86.53 million tonnes in 2014-15. The production of wheat during 2015-16 is recorded as 92.29 million tonnes. The all India production of wheat from 1970-71 to 2015-16 is given in table 4.1 and graphically represented in **figure-1.1 (b)**.

The production of Jowar and Bajra in India during 2015-16 is recorded as 4.29 million tonnes and 8.07 million tonnes respectively which is less than the earlier year production of 5.45 million tonnes and 9.18 million tonnes respectively during 2014-15. The production of these two crops during 2013-14 was 5.54 million tonnes and 9.25 million tonnes separately which is somewhat more than that of 2014-15. It is obvious from table 4.1 that the production of Jowar in 1974-75 was 10.41 million tonnes which increased to 12.9 million tonnes during 1989-90 yet after that it began declining as appeared in **figure-1.1 (c)**. Correspondingly the trends in the production of Bajra have appeared in **figure-1.1 (d)**.

The production of Maize and Gram in India has expanded in the span of 45 years from 1970-71 to 2015-16. In 1970-71, the production of these two crops was 7.49 million tonnes and 5.20 million tonnes respectively. This expanded to 22.57 million tonnes and 7.06 million tonnes in 2015-16 dully. It is clearly shown in **figure-1.1 (e)** and **(h)**. Be that as it may, in the event that we see the production of 45 years of Ragi and Barley, it has declined from 2.16 million tonnes and 2.78 million tonnes respectively during 1970-71 to 1.82 million tonnes and 1.44 million tonnes respectively during 2015-16 after various ups and downs clearly represented in **figure.1.1 (f) and (g)**.

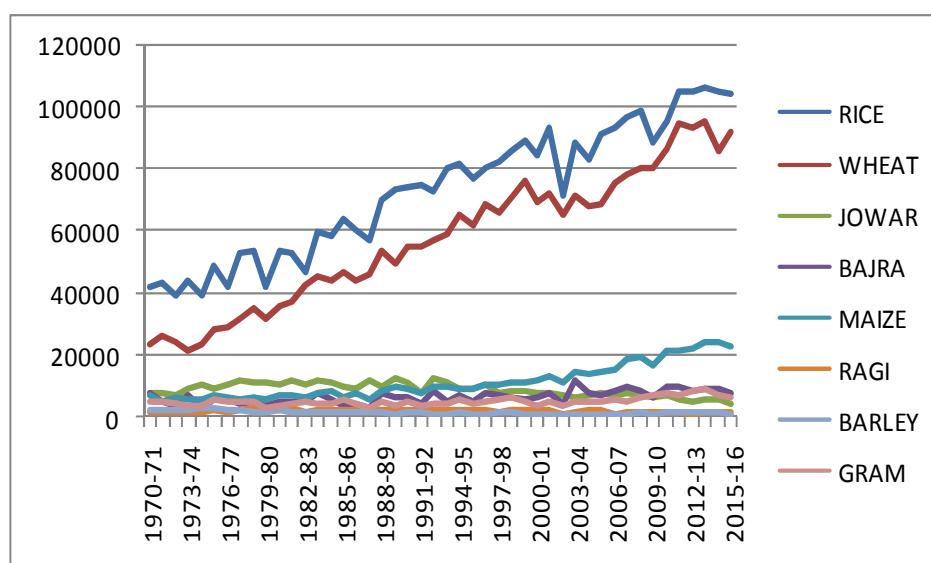


Figure 1

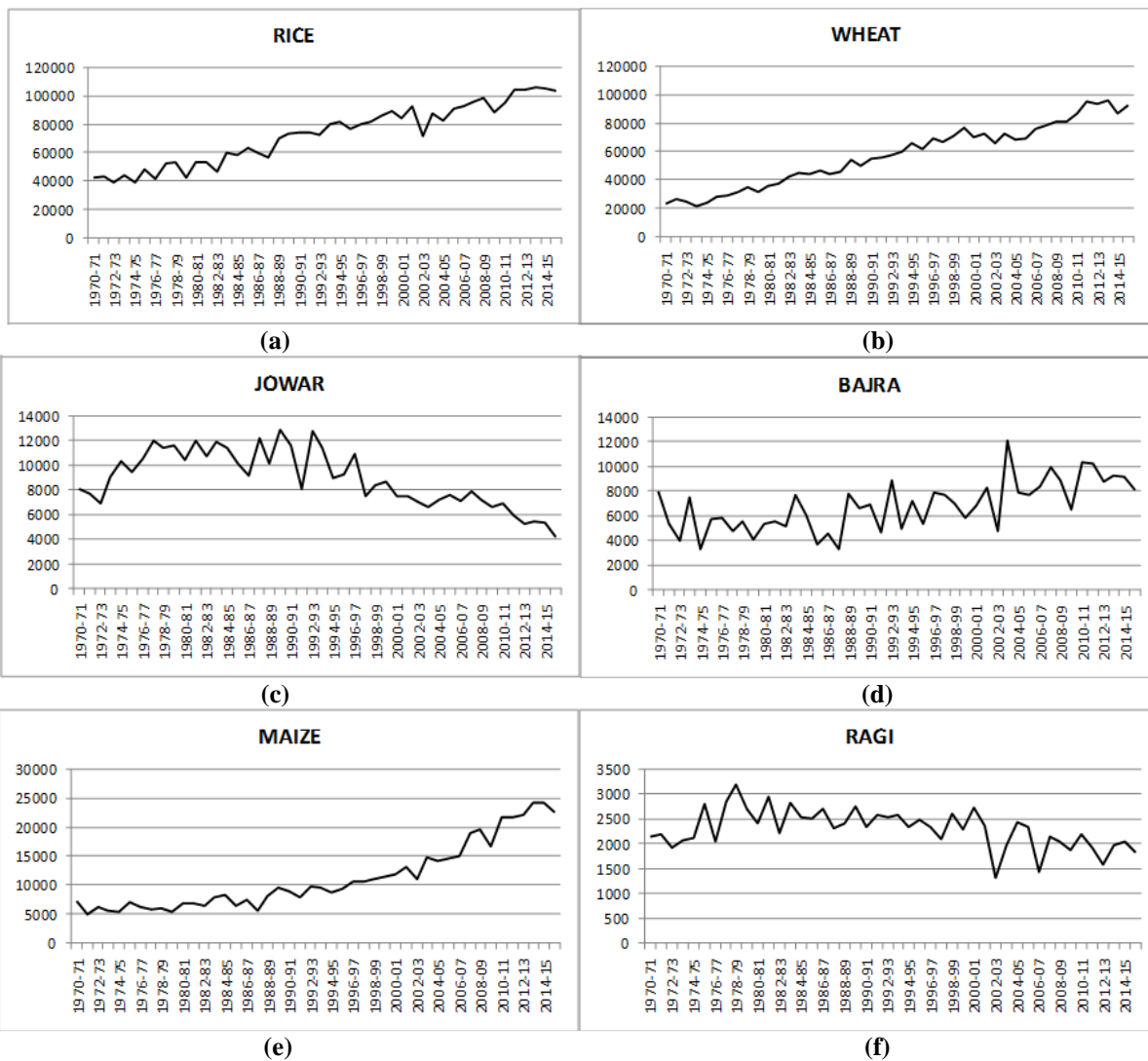
Table 1: All India Production of Eight Crops in Thousand Tonnes from 1970-71 to 2015-16

Year	Rice	Wheat	Jowar	Bajra	Maize	Ragi	Barley	Gram
1970-71	42225	23833	8104	8029	7486	2155	2784	5199
1971-72	43069	26410	7722	5319	5101	2209	2577	5081
1972-73	39245	24735	6968	3929	6389	1923	2379	4537
1973-74	44051	21778	9097	7519	5804	2072	2371	4099
1974-75	39579	24104	10414	3272	5559	2136	3135	4015
1975-76	48740	28846	9504	5736	7256	2797	3192	5880
1976-77	41917	29010	10524	5853	6361	2045	2344	5424
1977-78	52670	31749	12064	4730	5973	2866	2311	5410
1978-79	53773	35508	11431	5566	6199	3200	2142	5739
1979-80	42330	31830	11648	4048	5603	2722	1624	3356
1980-81	53631	36313	10431	5343	6957	2420	2293	4328
1981-82	53248	37452	12062	5537	6897	2961	1993	4642
1982-83	47116	42794	10753	5131	6549	2223	1867	5290
1983-84	60097	45476	11919	7726	7922	2831	1834	4751
1984-85	58337	44069	11402	6046	8442	2530	1556	4561
1985-86	63823	47052	10197	3664	6644	2518	1962	5788
1986-87	60557	44323	9185	4514	7593	2708	1669	4532
1987-88	56863	46169	12196	3298	5721	2319	1577	3626
1988-89	70489	54110	10170	7780	8229	2410	1722	5129
1989-90	73573	49850	12898	6649	9651	2767	1486	4217
1990-91	74291	55135	11681	6894	8962	2340	1632	5356
1991-92	74678	55690	8099	4665	8064	2582	1699	4121
1992-93	72868	57210	12806	8881	9994	2531	1512	4417
1993-94	80298	59840	11415	4974	9601	2597	1313	4981
1994-95	81814	65767	8965	7159	8884	2342	1727	6436
1995-96	76975	62097	9327	5381	9464	2501	1510	4979
1996-97	80736	69350	10939	7870	10770	2340	1462	5570
1997-98	82545	66350	7528	7644	10819	2087	1679	6132
1998-99	86077	71288	8415	6956	11148	2608	1538	6801
99-2000	89683	76369	8685	5782	11510	2290	1447	5118
2000-01	84977	69681	7529	6759	12043	2732	1431	3855
2001-02	93340	72766	7557	8284	13160	2375	1425	5473
2002-03	71820	65761	7012	4719	11152	1316	1407	4237

Table 1: Contd.,

2003-04	88526	72156	6681	12109	14984	1966	1298	5718
2004-05	83132	68637	7244	7931	14172	2432	1207	5469
2005-06	91793	69355	7630	7684	14710	2354	1221	5600
2006-07	93355	75807	7151	8424	15097	1444	1328	6334
2007-08	96693	78570	7926	9970	18955	2152	1196	5749
2008-09	99183	80679	7246	8887	19731	2040	1689	7060
2009-10	89093	80804	6698	6506	16719	1888	1355	7476
2010-11	95980	86874	7003	10370	21726	2193	1663	8221
2011-12	105311	94882	6006	10276	21759	1929	1619	7702
2012-13	105241	93506	5281	8742	22258	1574	1752	8832
2013-14	106646	95850	5542	9250	24260	1983	1831	9526
2014-15	105482	86527	5445	9184	24173	2061	1613	7332
2015-16	104408	92288	4238	8067	22567	1822	1438	7058

Source: Directorate of Economics and Statistics, Dept. Of Agriculture, Cooperation and Farmers Welfare, Ministry of Agriculture and Farmers Welfare, Govt. of India.



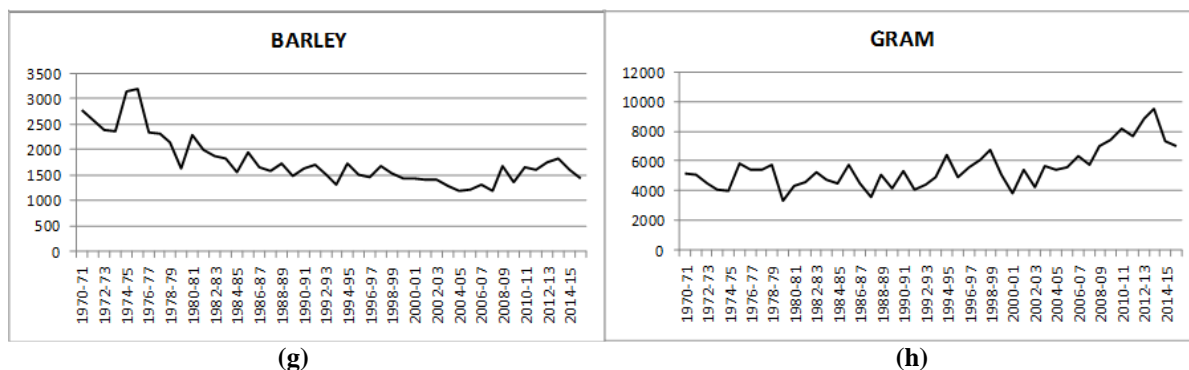


Figure 1.1: Graphical Representation All India Production of Eight Crops in Thousand Tonnes from 1970-71 to 2015-16.

RICE

Rice is the most significant crop in India. It covers around one-fourth of the complete cropped area and gives nourishment to about half of the Indian populace. This is the staple sustenance of the individuals living in the eastern and the southern parts of the nation. Rice is the essential food wellspring of thousands of a large number of individuals. West Bengal, Uttar Pradesh and Punjab are the main rice producing states in India.

Climatic Conditions of Growth of Rice

In India, Rice is grown nearly consistently. The temperature required for the growth of Rice ought to be 20°C-22°C at the time of planting, 23°C-25°C during growth and 25°C to 30°C at the hours of harvesting. It grows best in the zones where yearly rainfall is 150 cm. Appropriate impersonation is required in the territories which get annual rainfall under 100 cm.

Rice is one of a kind in that it can flourish in wet conditions where different crops fizzle. In any case, uncontrolled flooding is an issue since rice can't endure whenever submerged for a significant period of time. Increment in both CO₂ and temperature will likewise influence rice production. Higher CO₂ levels regularly increase biomass production however not really yield. Higher temperature can diminish rice yield as they can make rice blooms sterile, which means no grains is delivered. Indian Rice Research Institute (IRRI) research demonstrates that an ascent in night-time temperature by 1°C may reduce rice yields by 10 percent.

Production of Rice

India is the second largest producer and consumer of rice in the world after China. The production of rice has increased in span of 64 years from 1970-71 to 2014-15.

In India, the largest producer of Rice is West Bengal which produces 14677 thousand tonnes in 2014-15. The second largest producer is Uttar Pradesh with 12168 thousand tonnes productions in 2014-15. Next to Uttar Pradesh is Punjab with 11107 thousand tonnes, Odisha – 8298 thousand tonnes, Andhra Pradesh - 7234 thousand tonnes, Bihar - 6357 thousand tonnes, Tamil Nadu – 5728 thousand tonnes, Assam – 5223 thousand tonnes, Haryana – 4006 thousand tonnes, Madhya Pradesh – 3625 thousand tonnes, Karnataka-3541 thousand tonnes, Maharashtra – 2946 thousand tonnes and Gujarat with 1831 thousand tonnes in 2014-15. Some rice is also produced in Kerala – 562 thousand tonnes, Rajasthan-367 thousand tonnes and Himachal Pradesh – 125 thousand tonnes. The fluctuating trends in the production of rice of sixteen major states can be clearly seen in graphical representation shown in **figure-2**.

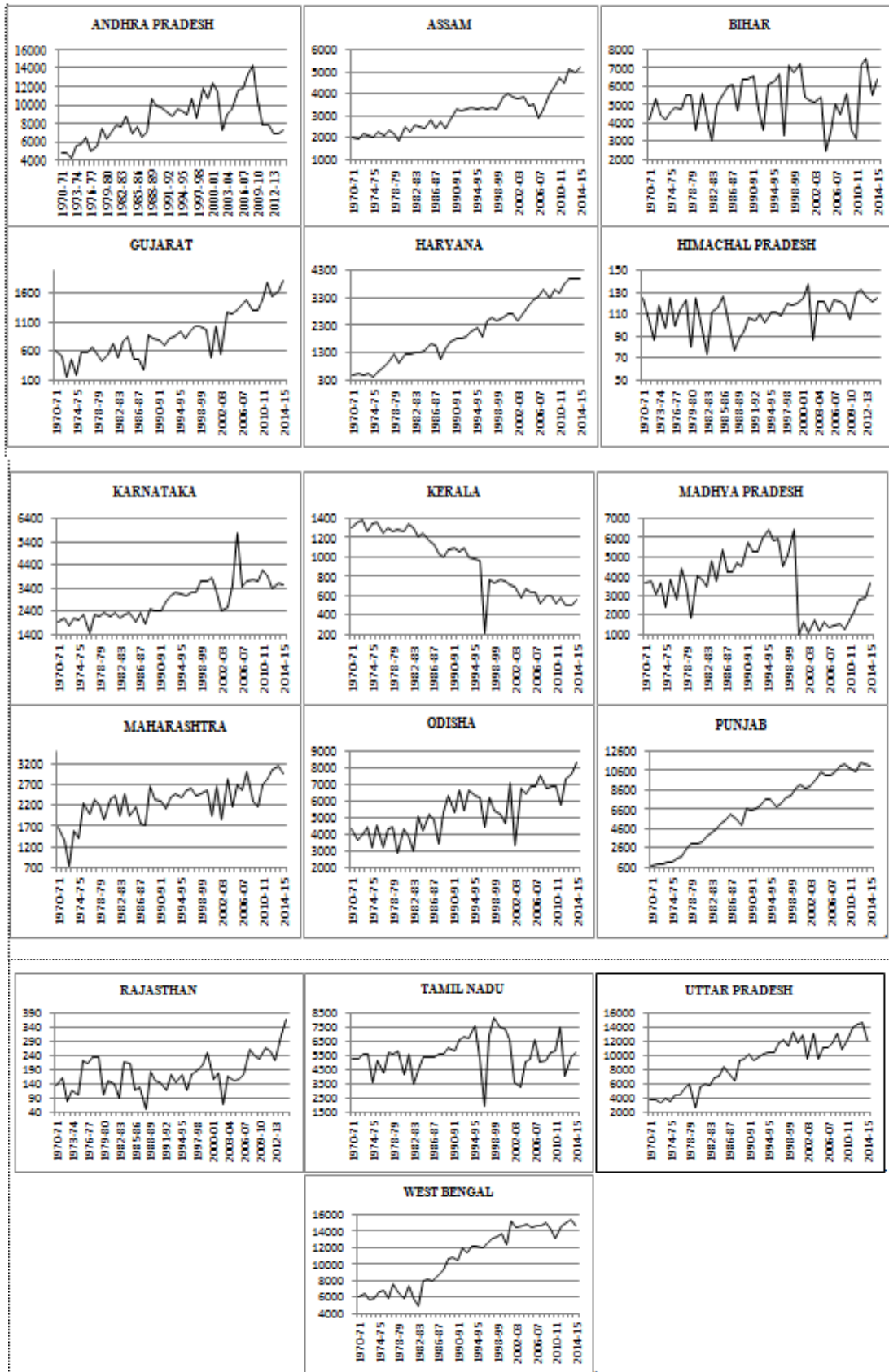


Figure 2: Graphical Representation of Production of Rice in Thousand Tonnes of Sixteen States of India from 1970-71 to 2014-15.

WHEAT

Wheat is another most important Foodgrain of India, next to rice, and is the staple sustenance of millions of Indians, especially in the north-western and northern parts of the nation. Wheat gives a balanced diet as it is rich in proteins, vitamins and carbohydrates. Likewise it is a decent source of fibre and manganese. India represents 8.7 percent of the world's total production of wheat and it is the second-largest producer of wheat on the globe after China. Uttar Pradesh, Punjab, Haryana, and Madhya Pradesh are the main wheat-producing states in India.

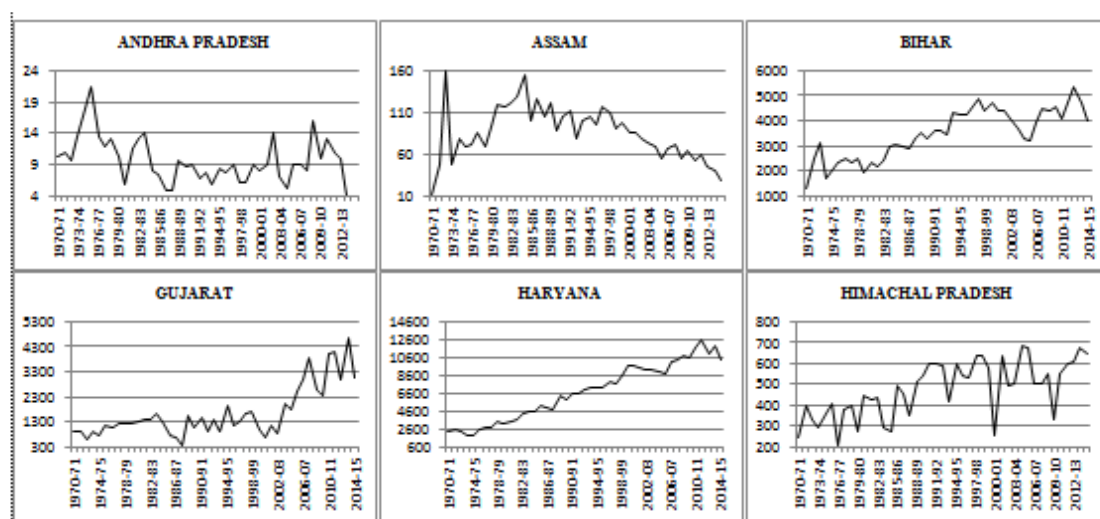
Climatic Conditions of Growth of Wheat

States of growth for wheat are more adaptable than those of rice. Wheat is a Rabi crop which is planted in the start of winter and is reaped in the start of summer. It grows best at temperature differing from 10°C to 15°C during winters and 21°C to 26°C during summer season. The annual rainfall mentioned for its growth differs between 75 cm to 100 cm. The proper water system is required in regions where yearly rainfall is under 50 cm. The wheat crops can be grown in the tropical and sub-tropical zones and furthermore in the temperate zone.

Production of Wheat

Like rice, India is the second largest producer of wheat after china. In India wheat crop is grown mainly in the northern states. The highest contributor of wheat in Uttar Pradesh with a total production of 22417 thousand tonnes in 2014-15, followed by Madhya Pradesh with 17104 thousand tonnes and Punjab with 15050 thousand tonnes in 2014-15. Other major producer of wheat are Haryana – 10354 thousand tonnes, Rajasthan – 9824 thousand tonnes, Bihar – 3987 thousand tonnes, Gujarat – 3059 thousand tonnes and Maharashtra with 1308 thousand tonnes in 2014-15. Some wheat is also produced in West Bengal- 939 thousand tonnes, Himachal Pradesh – 646 thousand tonnes and Karnataka – 261 thousand tonnes in 2014-15.

The production of wheat in Uttar Pradesh in 1970-71 was 7690 thousand tonnes which increased to 13385 thousand tonnes in 1980-81 to 18600 thousand tonnes in 1990-91 and to 25168 thousand tonnes in 2000-01. The production of Madhya Pradesh has increased from 2592 thousand tonnes in 1970-71 to 8685 thousand tonnes in 1999-2000 but then decline to 1153 thousand tonnes in 2011-12 and then again increased to 17104 thousand tonnes in 2014-15. The production of wheat of other states is clearly shown in **figure-3**.



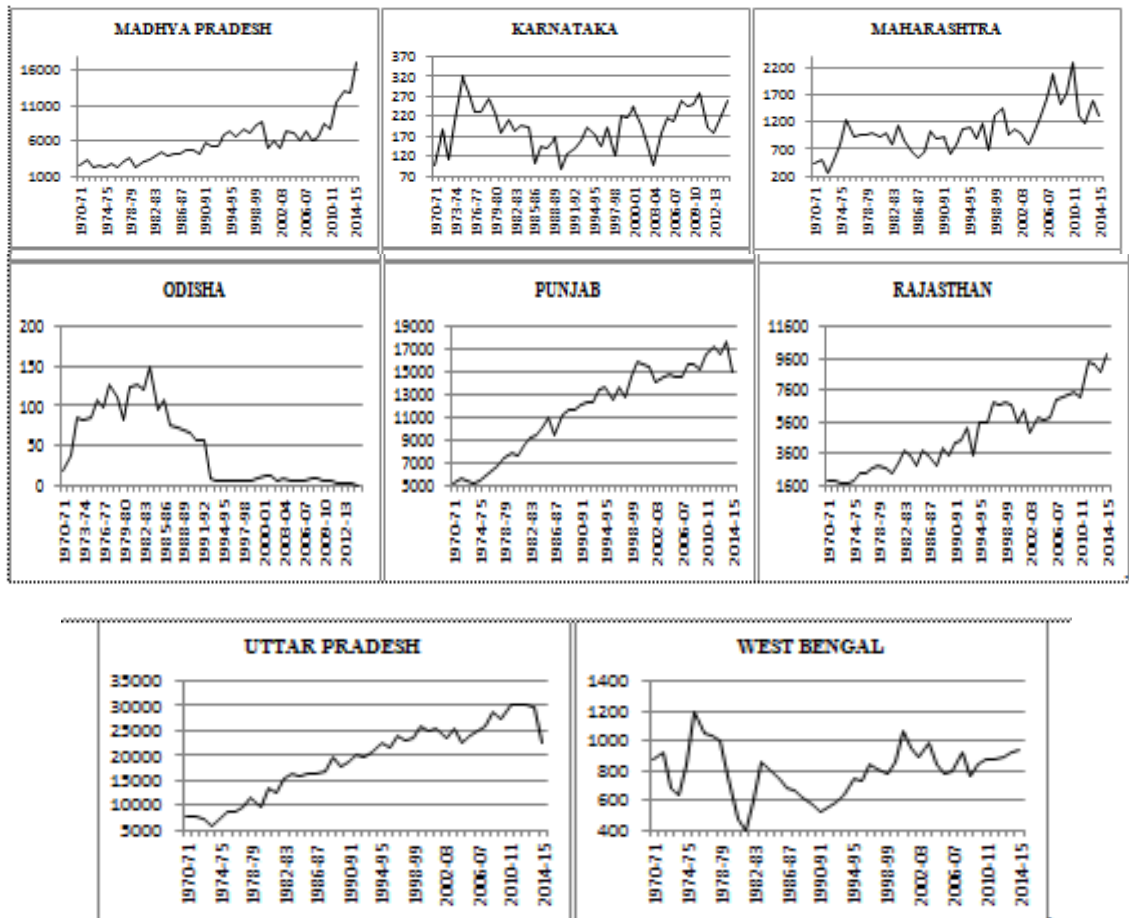


Figure 3: Graphical Representation of Production of Wheat in Thousand Tonnes of Fourteen States of India from 1970-71 to 2014-15.

JOWAR

Jowar is one of the important food and fodder cereal crop cultivated crosswise over India, otherwise called Sorghum. It is the third most significant sustenance crop both as for region and production after rice and wheat. Major Jowar producing states in India are Maharashtra, Karnataka, Madhya Pradesh, Andhra Pradesh, Tamil Nadu, Gujarat, Uttar Pradesh, Rajasthan, and Haryana.

Climatic Conditions of Growth of Jowar

Jowar is harvested in both Kharif and Rabi seasons. As a Kharif crop, the mean monthly temperature of 26°C to 33°C is best for its growth. However, during Rabi season it grows in the territories where the mean monthly temperature does not fall beneath 16°C. During the growing period, it requires in excess of 30 cm rainfall and does not grow in the zones where the rainfall surpasses 100 cm. Jowar is having advantages of enduring extraordinary dry season, however, delayed dry seasons are unsafe for its growth additionally excessive dampness is destructive for its appropriate growth.

Production of Jowar

In India, the highest producer of Jowar is Maharashtra which produces nearly 50 percent of the total Jowar production of India producing 2109 thousand tonnes in 2014-15. Karnataka with 1174 thousand tonnes in 2014-15 of India's Jowar Production is the second largest producer. It grows mainly in the north-eastern parts of the Karnataka plateau. Andhra

Pradesh is the third largest producer producing 849 thousand tonnes of Jowar productions in India in 2014-15. Andhra Pradesh has experienced a decrease in area and production of Jowar during the last few years. Next to Andhra Pradesh is Tamil Nadu with 513 thousand tonnes in 2014-15, Rajasthan with 503 thousand tonnes, Madhya Pradesh - 377 thousand tonnes, Gujarat - 196 thousand tonnes, Uttar Pradesh - 163 thousand tonnes and Haryana with 26 thousand tonnes in 2014-15. The production of Jowar of Eleven states of India from 1970-71 to 2014-15 is graphically represented in figure-4.

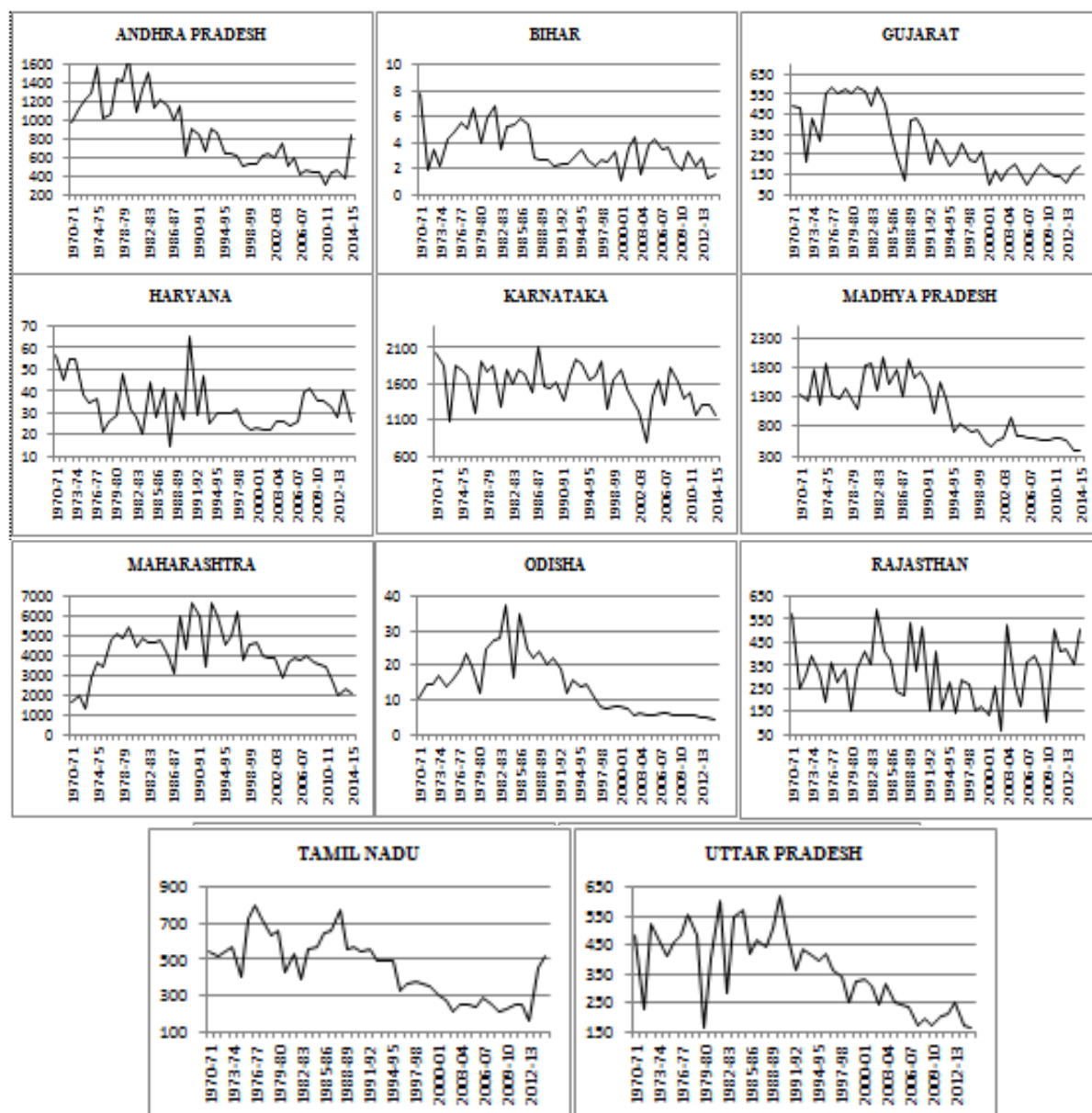


Figure 4: Graphical Representation of Production of Jowar in Thousand Tonnes of Eleven States of India from 1970-71 to 2014-15.

BAJRA

Bajra is the second most significant millet which is utilized as nourishment in drier parts of the nation. It is additionally generally utilized as feed as its stalks are fed to cattle. In specific regions, it is utilized for thatching purposes.

Climatic Conditions of Growth of Bajra

Bajra is a Kharif crop and it is planted between May and September and harvested between October and February. It requires 40-50 cm of yearly rainfall. It grows well in zones where temperature extends between 25°C-30°C. It is a rainfed crop and is only time to time watered.

Production of Bajra

In India, Rajasthan is the largest producer of Bajra. It produced 44.56 thousand tonnes in 2014-15. The second important producer of Bajra is Uttar Pradesh which produces 1808 thousand tonnes in 2014-15. Next is Gujarat with 771 thousand tonnes, Haryana - 670 thousand tonnes, Maharashtra - 538 thousand tonnes, Madhya Pradesh - 445 thousand tonnes, Karnataka - 248 thousand tonnes and Tamil Nadu with 178 thousand tonnes production of Bajra in 2014-15.

Some Bajra is also produced in Andhra Pradesh which is 38 thousand tonnes in 2014-15. However, if we see the production of Andhra Pradesh in 1970-71, it was 290 thousand tonnes which increase to 444 thousand tonnes in 1981-82 but then started declining to 148 thousand tonnes in 2003-04 and very less in 2014-15 just 38 thousand tonnes. The production of Bajra of twelve major states of India can be easily understood through graphical representation shown in figure-5.

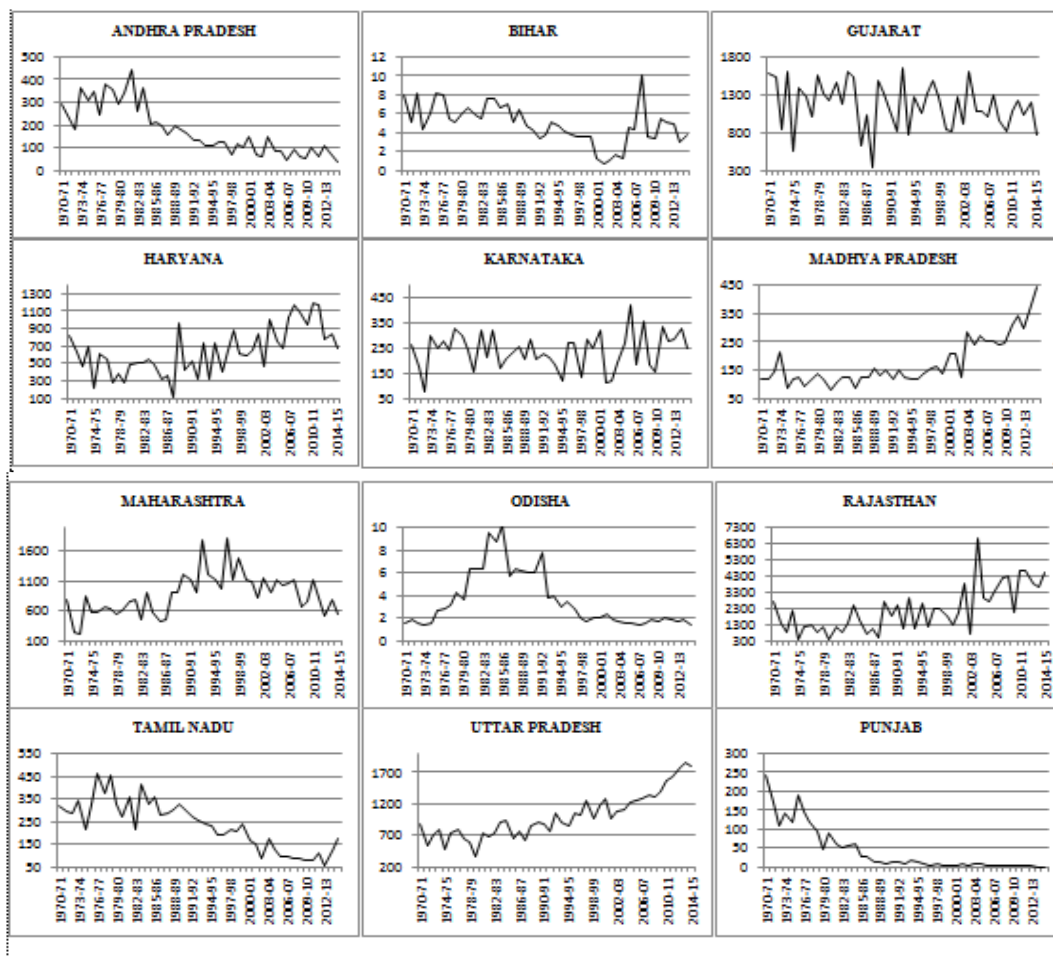


Figure 5: Graphical Representation of Production of Bajra in Thousand Tonnes of Twelve States of India from 1970-71 to 2014-15.

MAIZE

Maize is utilized both as sustenance and feed. It is an inferior grain and is utilized for getting starch and glucose. Its stalk is fed to cattle. Maize is a significant grain of India and is grown over 4 percent of the net area planted of the country. The cultivation of maize in India is described by inter-culture for example alongside and in pulses, vegetables, and oilseeds.

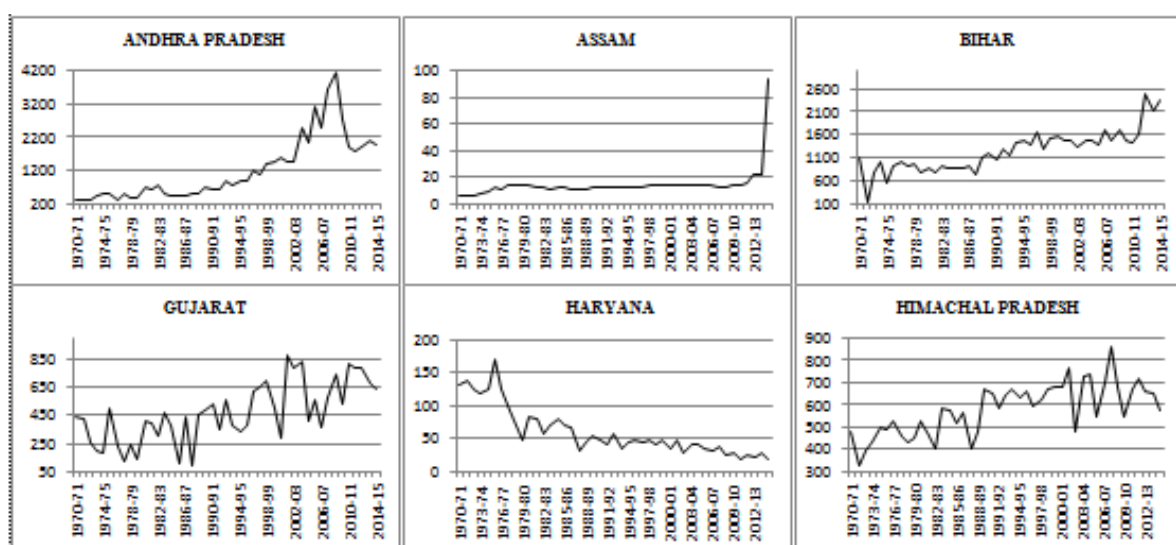
Climatic Conditions of Growth of Maize:

Maize is, for the most part, a rainfed Kharif crop. It is planted just before the beginning of monsoon and is harvested after the retreat of the monsoon. Temperatures ranging from 21°C to 27°C are best for its growth in spite of the fact that it can endure temperatures as high as 35°C. It requires 50-100 cm of rainfall and it can't be grown in zones where rainfall is in excess of 100 cm. In zones of lesser rainfall, the crop is irrigated. Long dry spells are hurtful for its growth.

Production of Maize

In India, most of the maize is produced in states of Madhya Pradesh, Andhra Pradesh, Karnataka, Bihar, Maharashtra, Tamil Nadu, Uttar Pradesh and Rajasthan. **Figure-6** shows that Karnataka is the largest producer of maize in India. It contributed over 4214 thousand tonnes of maize production of the country. Andhra Pradesh and Karnataka are important producers of maize in India. In both the states proper irrigation is provided for maize cultivation. In Uttar Pradesh Maize is grown in as many as 25 districts which produce 1279 thousand tonnes in 2014-15. Second largest producer of maize in 2014-15 was Bihar with 2340 thousand tonnes. Next to Bihar is Maharashtra with 2202 thousand tonnes, Madhya Pradesh – 2128 thousand tonnes, Tamil Nadu – 2068 thousand tonnes, Andhra Pradesh – 1938 thousand tonnes, Rajasthan - 1551 thousand tonnes and Uttar Pradesh with 1279 thousand tonnes in 2014-15.

Nearly two decades back, more than half the maize of India comes from four states of Madhya Pradesh, Andhra Pradesh, Karnataka and Rajasthan. But afterwards Bihar became an important producers of Maize which produces 1566 thousand tonnes in 1999-2000 and its production goes on increasing to 1715 thousand tonnes in 2006-07 and then to 2340 thousand tonnes in 2014-15. These fluctuations in the production of Maize can be easily understood through graphical representation shown in **figure-6**.



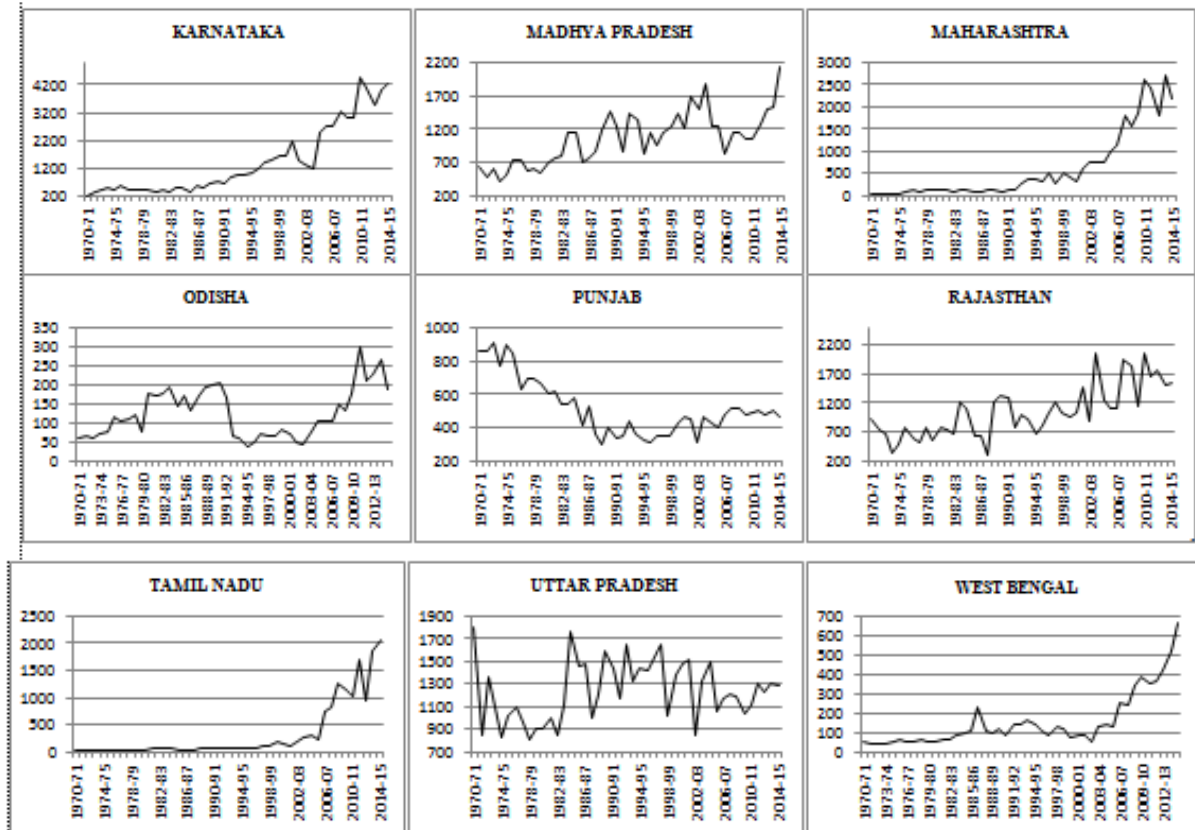


Figure 6: Graphical Representation of Production of Maize in Thousand Tonnes of Fifteen States of India from 1970-71 to 2014-15.

RAGI

Ragi is also called Finger Millet. It is a grain crop next to wheat, maize, and rice. This grain is utilized as staple sustenance. It is a dry land crop and is cultivated in both tropical and sub-tropical districts. In India, it is fundamentally grown in Karnataka, Tamil Nadu, and Maharashtra.

Climatic Conditions of Growth of Ragi

Ragi is a dry land crop. It requires a day temperature of 30°C to 34°C and a night temperature of 22°C to 25°C as well as good daylight for ideal growth. It grows best in the regions where yearly rainfall is around 100 cm.

Production of Ragi

In India, the largest producer of Ragi in 2014-15 was Karnataka which produces 1298 thousand tonnes. Next to Karnataka is Tamil Nadu which produces 350 thousand tonnes in 2014-15 which is the second largest production of Ragi. Maharashtra produces 119 thousand tonnes in 2014-15.

As shown in **figure-7**, the production of Ragi shows many ups and down in the last 50 decades. The production of Ragi in Andhra Pradesh has increased from 231 thousand tonnes in 1970-71 to 353 thousand tonnes in 1977-78 but then decline to 169 thousand tonnes in 1987-88 to 103 thousand tonnes in 2001-02 and finally to 36 thousand tonnes in 2014-15. The production of Karnataka has increased from 919 thousand tonnes in 1970-71 to 1887 thousand tonnes in 2000-01. But then decline to 1298 thousand tonnes in 2014-15. Uttar Pradesh and Odisha were also good producers of Ragi in 1970-

71 producing 196 thousand tonnes and 141 thousand tonnes respectively. But afterwards their production started falling and decline to 1 thousand tonnes and 37 thousand tonnes respectively in 2009-10. Some Ragi is also produced in Bihar, Gujarat and West Bengal.

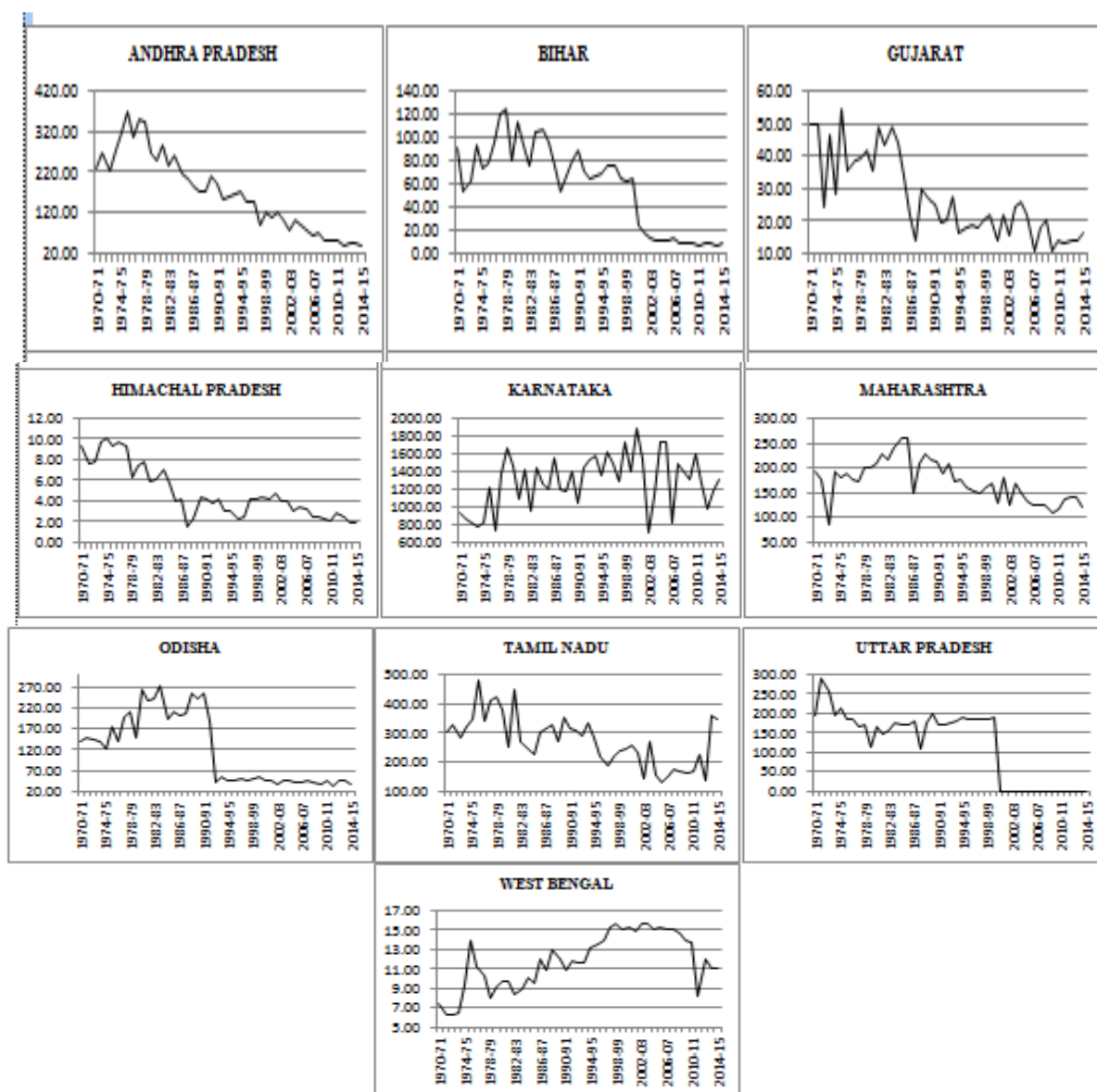


Figure 7: Graphical Representation of Production of Ragi in Thousand Tonnes of Ten States of India from 1970-71 to 2014-15.

BARLEY

Barley, prominently known as "Jau" is considered as an inferior grain. Barley was predominantly utilized as livestock feed however at present it is one of the grains utilized in human consumption. Coarse cereals are made out of this along with other cereal crops like Oats, Bajra, Maize, Ragi, and Jowar. In India, the major barley producing states are Rajasthan, Uttar Pradesh, Madhya Pradesh, Haryana, Punjab, a few districts of Bihar, and Himachal Pradesh.

Climatic Conditions of Growth of Barley

Barley can be grown both as a summer and winter crop. In India, it is grown in temperate regions during the summer season and in tropical areas during the winter season. Barley grows well at temperatures of 11°C to 15°C at a growing stage and about 30°C to 32°C at the time of maturity. It is mostly grown as a Rabi crop which is planted between October and December and harvested from March to May. Barley has excellent resilience to drought conditions. It requires rainfall between 75 cm to 100 cm.

Production of Barley

In India, the largest producer of Barley is Rajasthan. It contributes nearly 962 thousand tonnes in 2014-15. The second largest producer is Uttar Pradesh with 315 thousand tonnes in 2014-15. This clearly shows that approximately 3/4th barley comes from just two states. Some barley is also produced in Madhya Pradesh - 104 thousand tonnes, Haryana - 105 thousand tonnes, Punjab - 39 thousand tonnes, and Himachal Pradesh - 38 thousand tonnes and Bihar - 13 thousand tonnes in 2014-15.

However, if we see the data it clearly shows that the largest producer of Barley in 1970-71 was Uttar Pradesh with 1431 thousand tonnes of production. Afterwards the production started declining but it maintains its production of number one producer till 2003-04 with 485 thousand tonnes. Rajasthan was the second largest producer of Barley from 1970-71 to 2003-04. Afterwards it becomes the largest producer with 418 thousand tonnes in 2004-05 which increase to 962 thousand tonnes in 2014-15. The fluctuating trends in the production of Barley can be clearly understood through graphical representation as shown in **figure-8**.

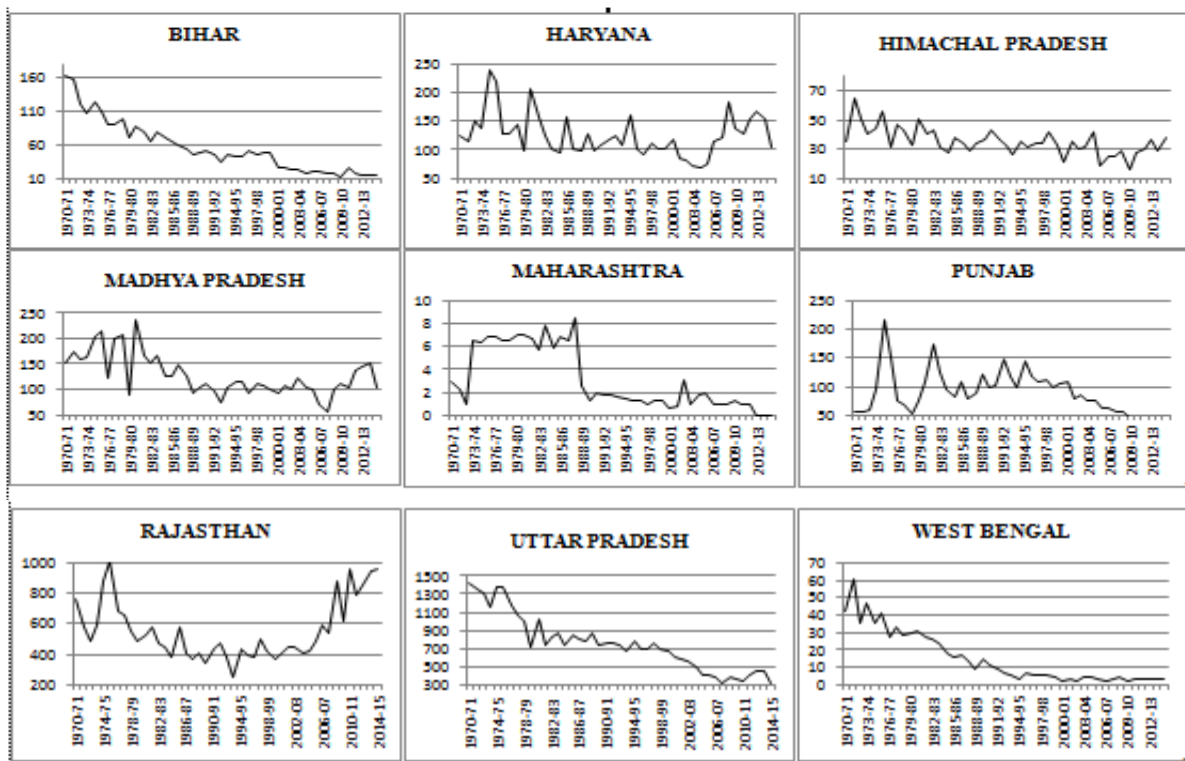


Figure 8: Graphical Representation of Production of Barley in Thousand Tonnes of Nine States of India from 1970-71 to 2014-15.

GRAM

Gram is one of the major pulses also called "Chana" or "Chickpea". It is a noteworthy source of protein. India is the major producer of Gram which contributes about 75 percent of total production on the planet. In India, Gram represents 37 percent of the production of all pulses and roughly 28 percent of the total region of pulses.

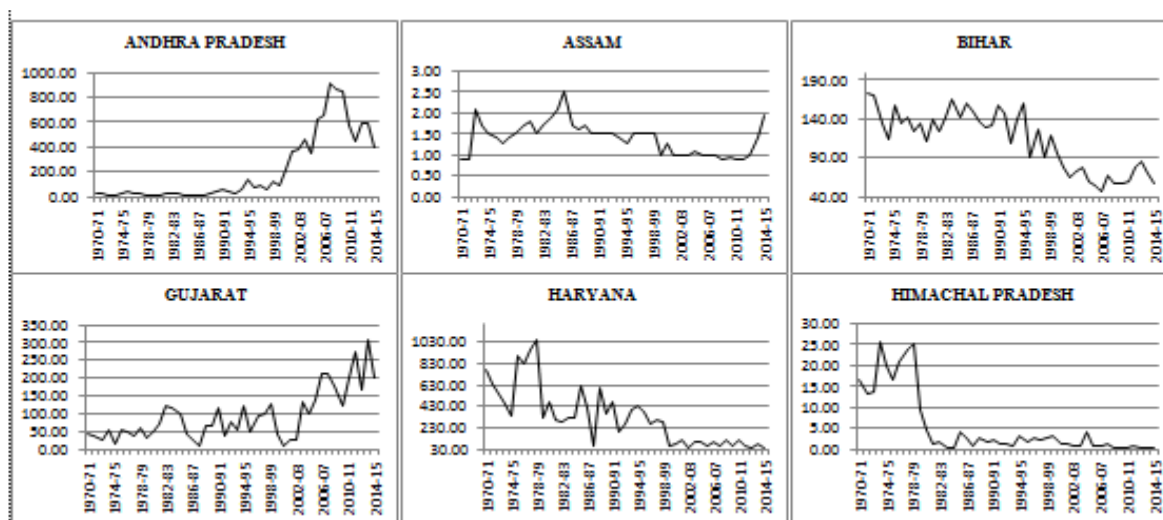
Climatic Conditions of Growth of Gram

Gram is a Rabi crop that is sown essentially between September and November and reaped between February and April. It grows well in territories where the temperature goes between 20°C-25°C. More rainfall is harmful for the yield. Yearly rainfall of 40-50 cm is best for its growth.

Production of Gram

In India, Madhya Pradesh is the largest producer of Gram with 2964 thousand tonnes in 2014-15. However the production is highest in 2012-13 with 3812 thousand tonnes in Madhya Pradesh. Next to Madhya Pradesh, second largest producer of Gram is Maharashtra, which produces 1088 thousand tonnes in 2014-15. Next to Maharashtra is Rajasthan with 911 thousand tonnes production, then Karnakata with 674 thousand tonnes, Andhra Pradesh with 391 thousand tonnes, Uttar Pradesh with 368 thousand tonnes and Gujarat producing 199 thousand tonnes in 2014-15.

However, if we see the data shown in table in 1970-71, the largest producer of gram was Uttar Pradesh with 1544 thousand tonnes but its production declines to 1288 thousand tonnes in 1980-81, then to 1122 thousand tonnes in 1990-91 and to 703 thousand tonnes in 2000-01. The production of Rajasthan has increased from 1195 thousand tonnes in 1970-71 to 1623 thousand tonnes in 1985-86 to 2074 thousand tonnes in 1998-99. But then decline to 1640 thousand tonnes in 2013-14. Production of Maharashtra has increased from 99 thousand tonnes in 1970-71 to 1622 thousand tonnes in 2013-14 but then decline to 1088 thousand tonnes in 2014-15. The production of Madhya Pradesh has increased from 856 thousand tonnes in 1970-71 to 2964 thousand tonnes in 2014-15. Production of Gram in Haryana has decline from 774 thousand tonnes in 1970-71 to 42 thousand tonnes in 2014-15. Gram in small quantity is also produced in Bihar, Gujarat, Karnataka, Andhra Pradesh, Kerala, Odisha and Punjab. The production of Gram of 15 major states is shown in table 4.9 and represented in **figure-9**.



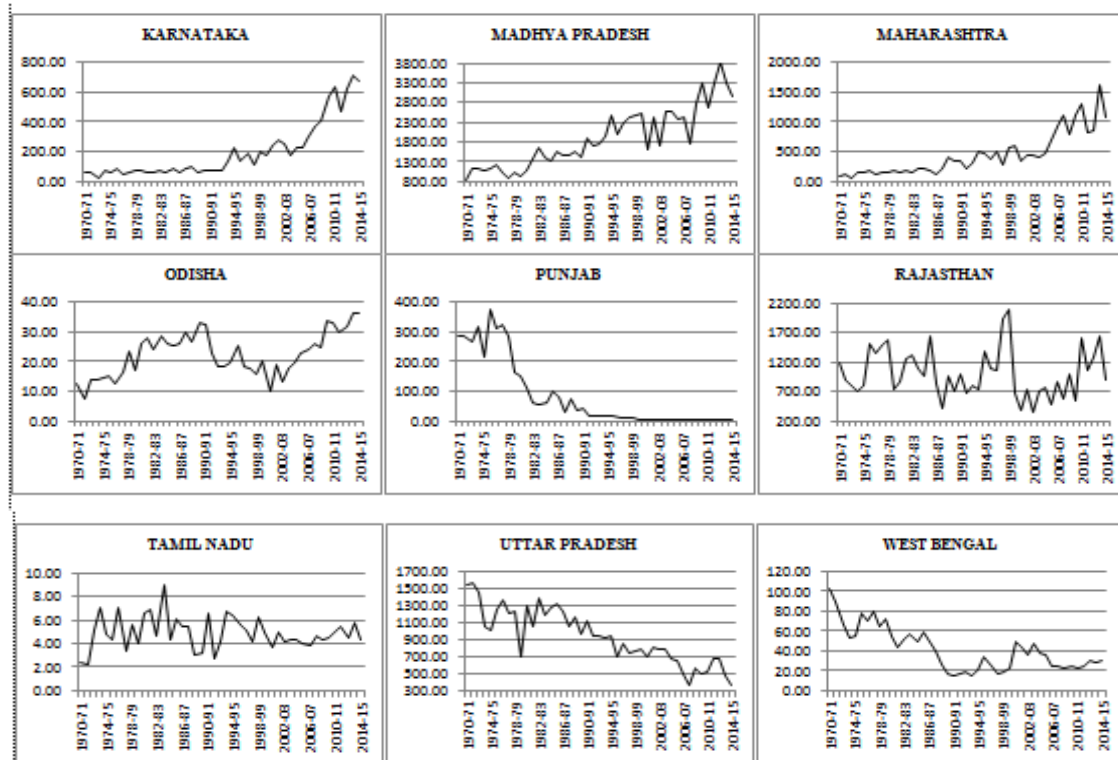


Figure 9: Graphical Representation of Production of Gram in Thousand Tonnes of Fifteen States of India from 1970-71 to 2014-15.

CONCLUSIONS

The present study about the trends and pattern of foodgrains production of India clearly states that there is an increase in the production of crops during the time span of 45 years from 1971 to 2015 both at all India level and state wise production. Thus we can say that there is a significant variation in the production of foodgrains crops in India over the time.

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