



GROWTH OF AREA, PRODUCTION AND PRODUCTIVITY OF FOOD GRAINS IN INDIA

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INTRODUCTION

Agriculture sector has very a significant role in the development of developing economies like India. Now also, dependency on agriculture in India has the major share. Most of the people are dependent on agriculture for their occupation and livelihood. Change in this sector has effect on the most proportion of the population. Hence, State and Central Governments, through their various policies and programmes, have given much importance to the development of this sector since independence. India was not self-sufficient at the time of independence even for food-grains also. Therefore, importance was given to improve the productivity through the implementation of modernised agricultural practices.

Modernisation in agriculture includes use of – irrigation, HYV seeds, fertilizers, pesticides, support of institutional finance along with the use of tractor and power tillers. Through this, agriculture production in general and food-grains production in particular has increased drastically. It was called as the first green revolution of India (1966-67). There is plethora of studies on green revolution of India. Among them some studies have traced the factors contributed for the higher productivity. The important studies in this regard are Chopra, Kanchari (1990): Westley J.R. 1986, T. R. Hargrove, W. R. Coffman, and V. L. Cabanatuan (1979), Sheila Bhalla (1989), Rudra Ashok (1972) and so on. Some researchers have indicated the challenges for the maintenance of the achieved growth (see among others G Parthasarathy D HaranathaBabu (1970), PunenduSekhar Das (1978) Umali D. 1993. Rao C., Hanumantha H., Ray S.K., and Subbarao K. 1988. critical analysis are also found on green revolution (Patnaik, U (ed) (1990), M L Dantwala (1981) , Bisalaiah (1999), Deshpande (2004) India is self-sufficient in the production of food-grains in recent years. However, from many years in India, production and productivity of the most of the crops are stagnated. Researchers are in the opinion that Productivity of agriculture has reached its optimum level with the existing inputs. Many researchers have found that productivity in India will not change noticeably without the structure change in the present agriculture system. Recently through the economic reforms India has liberalised, globalised and privatised its economy. This may also bring some positive/negative changes in agriculture sector also. Given this background, the present study has the objectives to analyse the area, production and productivity of food-grains in India from 1950 to 2010. Further, inter-state comparison has also been made for productivity of food grains.

AREA UNDER FOOD GRAINS

Area is very important component for the production of any crop. Area will be increased, when formers get proper output. It means formers will go for cultivating the area, where they can get proper returns. During 1950-51, 1,01,196 hectares of area was under the cultivation of food grains, which increased over the period of time and reached its peak of 1,31,423 hectares during 1983-84. After 1990-91 the area under food-grains cultivation started decreasing. In the year 2009-10 it has reached 1,21,334 hectares. Totally area under food-grains has increased 1.2 fold from 1950-51 to 2009-10. Among the food-grains, the present study made four categories namely, Rice, Wheat, Coarse Cereals and Pulses. Between pulses and cereals, cereals has the lion share of around 75 per cent.

Area under rice production was 31,056 hectares in 1950-51, which increased to 44,761 hectares in the year 2000-01, finally it reached to 41,918 hectares in the year 2009-10. Totally, area under rice production has increased 1.35 times in the reference period. Wheat is another very important food-grain, which had the area of 10,010 hectares in the year 1950-51. Area under wheat has not shown any decline in any year. It has shown always an increasing trend. In the year 2009-10, area under wheat was 28,457 hectares, which is 2.84 time higher than the initial year (please see graph 1 and appendix table 1)

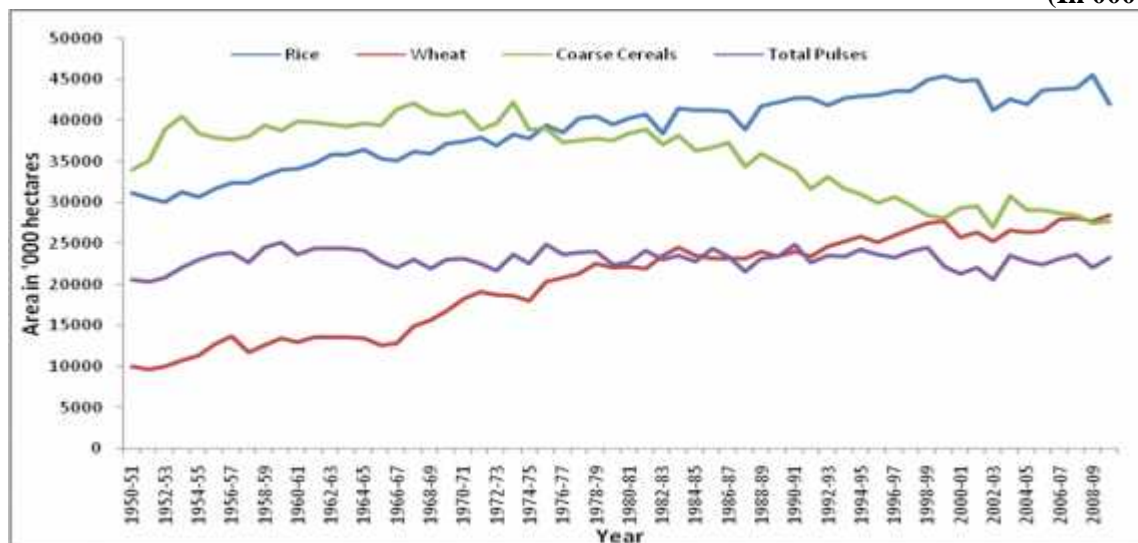


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Area under coarse cereals was 34,000 hectares in 1950-51, which increased to 42,202 hectares in the year 1973-74. Afterwards, the area under coarse cereals has started declining, which reached to 27,676 hectares in 2009-10. Area of coarse cereals has decreased due to increase in the area of rice and wheat. Among the coarse cereals, area of jowar has declined very significantly. It is mainly due to lower success of HYV seed of jowar crop. On the other hand, area under pulses was 20,554 hectares in the year 1950-51. It increased to 23,282 hectares in 2009-10 with the increase of 1.13 times increase.

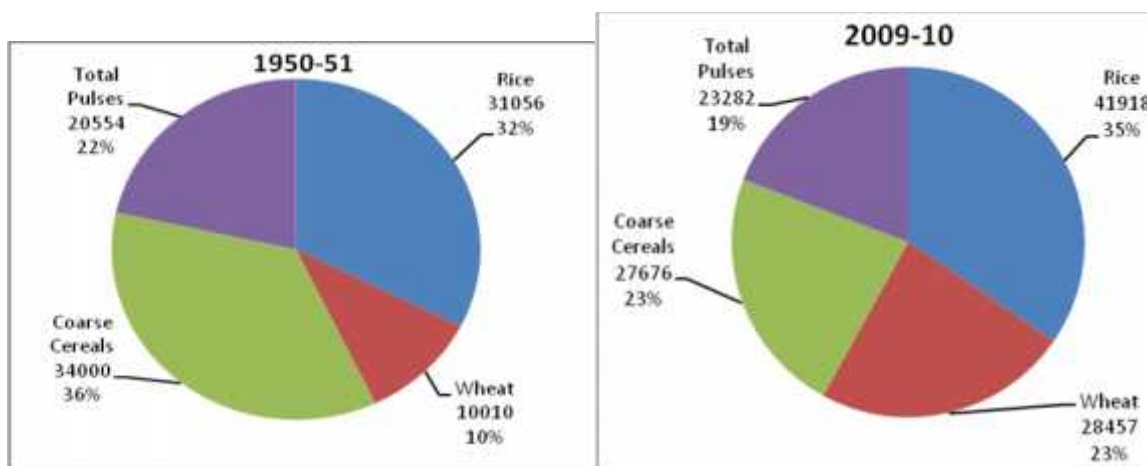
Graph 1: Growth of area under food grains India, 1950-51 to 2009-10

(In 000 Hectare)



Source: Appendix Table 1

Graph 1A Composition of area under food-grains in India



Source: Appendix Table 1

In table 1 decade wise growth rates have been presented. It is found that from 1950-51 to 2009-10 area under food grains has increased with the compound annual growth rate (CAGR) of 0.21 per cent per annum. Among the decades, except, for 1980-90 (0.27%), remaining all decades have shown positive growth rate. The decade 1950-60 has shown the highest growth rate of 1.50 per cent per annum. The lowest is observed for 1990-00 with 0.01 per cent per annum. In case cereals also more or less similar trend of growth rates are observed. Area under cereals has a growth rate of 0.39 per cent per annum from 1950-51 to 2009-10 (60 years).



Table 1: Growth Rate of area under food grains India, 1950-51 to 2009-10

(% per annum)

Year	Rice	Wheat	Coarse Cereals	Total	Pulses	Total Food grains
1950-60	1.16	3.81	1.00	1.45	2.33	1.50
1960-70	0.60	2.18	0.50	0.81	-1.00	0.43
1970-80	0.90	2.44	-1.02	0.45	0.44	0.40
1980-90	0.38	0.53	-1.12	-0.14	-0.19	-0.27
1990-00	0.71	1.75	-1.88	0.17	-0.28	0.01
2000-10	-0.03	1.18	-0.59	0.14	0.90	0.21
1950-10	0.64	1.80	-0.64	0.39	0.01	0.21

Sources: Department of Agriculture & Cooperation, New Delhi.

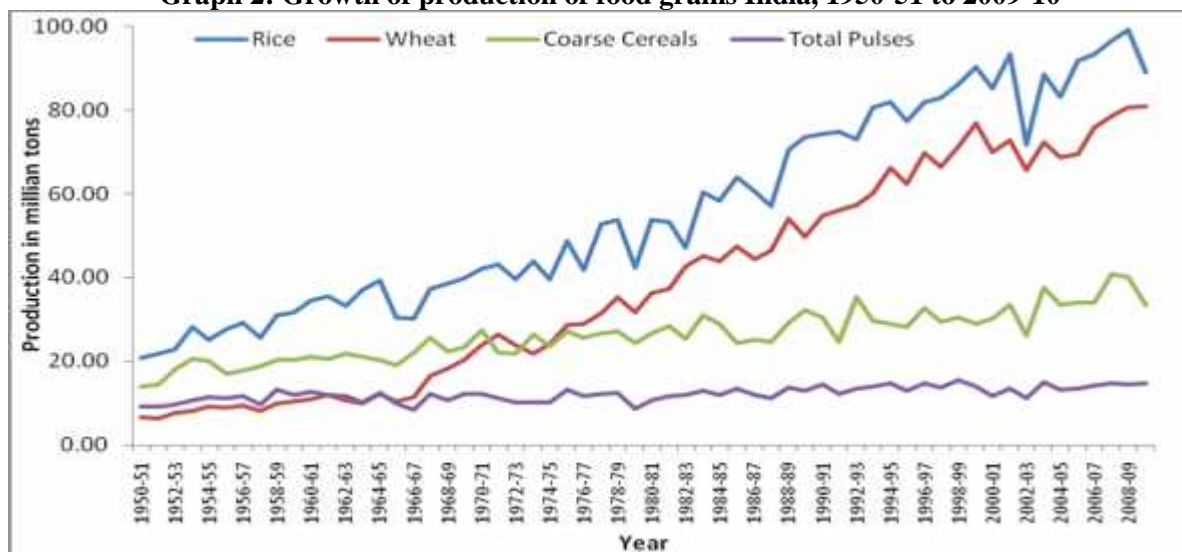
In case of area under rice, except for the sixth decade (2000-10), in remaining all decades the growth rate is found positive. On the other hand, wheat has not experienced any negative growth rate for any decade. For the first decade (1950-60), it was around 4 per cent. With respect to coarse cereals, except for initial two decades, none of the decades have shown any positive growth rate in the reference period. Totally, area under coarse cereals has experienced -0.64 per cent per annum.

Growth rate of area under pluses has shown the mixed performance. The highest growth rate is observed for the first decade (1950-51) and the lowest is observed in the third decade (1970-80). Finally, area under pluses has the negligible growth rate of 0.01 per cent per annum.

PRODUCTION OF FOOD-GRAINS

In graph 2 growth of production of food grains in India from 1950-51 to 2009-10 has been depicted. In appendix table 2 data related to this has been presented. It is found that in 1950-51, India has produced only 52.8 million tons of food grains. It has shown the increasing trend over the period of time. Some fluctuation can be observed in the pattern of production of food grains. However, overall pattern has shown an increasing trend. Production of food-grains has reached to 218.2 million tons in the year 2009-10. Between cereals and pulses, the production of cereals has higher share (77 % in 1950-51 and 93% in 2009-10) than pulses (17% in 1950-51 and 7% in 2009-10).

Graph 2: Growth of production of food grains India, 1950-51 to 2009-10



Source: Appendix Table 2.



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Among the cereals, rice and wheat have the major share as they consists 44 per cent and 40 per cent respectively in the year 2009-10. Production of rice was only 20.7 million tons in 1950-51, which increased significantly over the period of time. In the year 2008-09 the production of rice was 99.2 million tons. Rice production has increased more than 4 times over a 60 years. On the other hand more significant growth in production can be observed in wheat. It was only 6.64 million tons in 1950-51, which increased to 80.8 million tons in 2009-10. This cereal has recorded 12.17 times increase in the study period. Production of coarse cereals has also increased from 13.87 tons in 1950-51 to 33.54 tons in 2009-10. But the increase of coarse cereals is only 2.42 time in the reference period. On the other hand, production of pulses was 9.06 tons in 1950-51, which increased to 14.67 tons in 2009-10. It has shown marginal increase of only 1.62 fold in the same period.

In table 2 growth rates for production of food-grains have been presented. Between cereals and pulses growth rate of cereals (2.81% per annum) is higher than the pulses (0.57% per annum) for the 60 years of study period. A point here is to be noted that growth rate among the decades for cereals has not shown any negative value, whereas for pulses, second and third decades have experienced the negative values, which are -0.97 and -0.55 per cent per annum respectively.

Table 2: Growth Rate of Production of food grains India, 1950-51 to 2013-14

Year	Rice	Wheat	Coarse Cereals	Total	Pulses	Total Food grains
1950-60	4.35	4.94	3.35	4.07	3.28	3.79
1960-70	0.96	6.74	1.42	2.19	-0.97	1.76
1970-80	1.93	4.36	0.97	2.35	-0.55	2.01
1980-90	3.58	3.65	0.57	2.96	1.40	2.69
1990-00	2.06	3.60	0.22	2.33	0.99	2.18
2000-10	1.58	1.88	2.56	1.89	2.46	1.82
1950-10	2.56	4.71	1.22	2.81	0.57	2.46

Source: Appendix Table 2

Among the cereals, the highest growth rate is register for wheat (4.71%) followed by rice (2.56%) and Coarse cereals (1.22) in the entire study period. Interestingly none of these cereals have shown the negative growth rate in any decade from 1950-51 to 2009-10. However, in the recent decades growth rate of rice and wheat are lower than the coarse cereals and pulses. It means production of rice and wheat is not increasing rapidly as compared with the previous years.

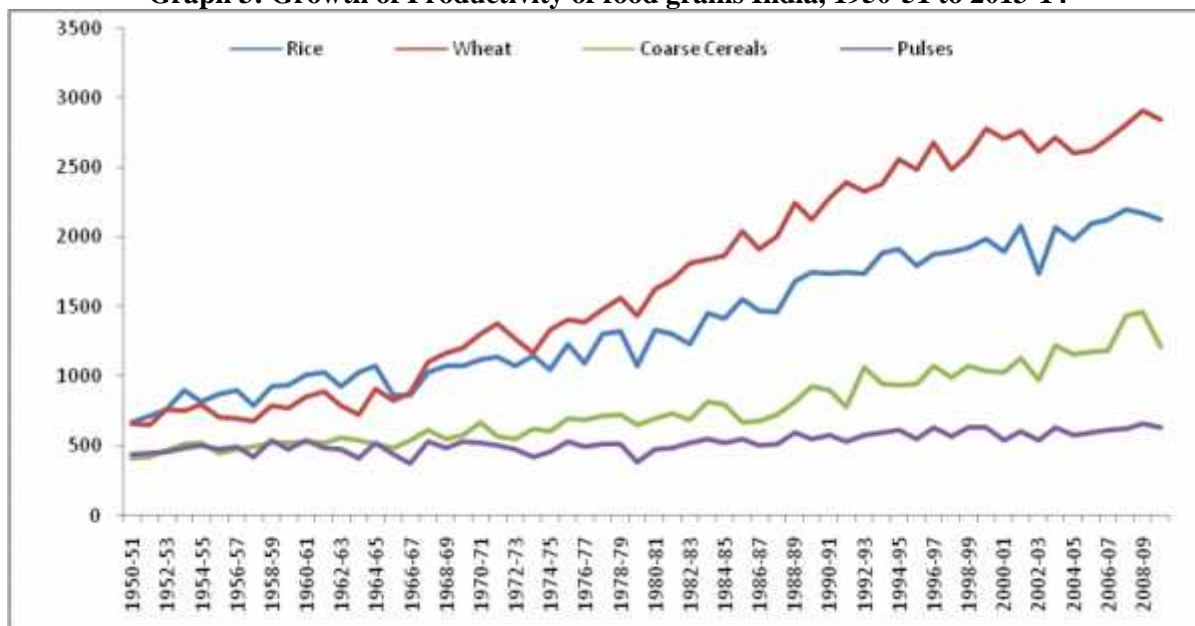
PRODUCTIVITY OF FOOD-GRAINS

Increases in agricultural productivity lead also to agricultural growth and can help to alleviate poverty in poor and developing countries, where agriculture often employs the greatest portion of the population. As farms become more productive, the wages earned by those who work in agriculture increase. At the same time, food prices decrease and food supplies become more stable. Laborers therefore have more money to spend on food as well as other products. This also leads to agricultural growth. People see that there is a greater opportunity earn their living by farming and are attracted to agriculture either as owners of farms themselves or as labourers (OECD, 2006).

Growth of productivity of food grains of India has been presented in graph 3 and appendix table 3. Through the graph one can observe that productivity of selected crops has increased over the period of time. Among them productivity of rice and wheat have increased significantly. In India productivity of food-grains was only 522 Kg per hectares during 1950-51, which increased significantly 2,095 kg per hectares in 2009-10. Productivity of cereals (2,435 Kg per hectare in 2009-10) is always higher than that of pulses (764 Kg per hectare in 2009-10). A point here is to be noted that gap between productivity of cereals and pulses was lower in 1950-51 (20Kg), but in 2009-10 the gap has increased significantly (340 Kg). Productivity per hectare for rice has increased from 668 kg in 1950-51 to 2125 kg (3.23 times) 200-10, while for wheat it increased from 663kg to 28395kg (4.14 times), for coarse cereals it increased from 408 kg to 1212 kg (4.11) in the same period.



Graph 3: Growth of Productivity of food grains India, 1950-51 to 2013-14



Source: Appendix Table 3

In table 3 growth rates of productivity of food grains have been presented. Productivity in cereals is 2.40 per cent per annum, while for pulses it is only 0.65 per cent per annum. Decadal comparison has also made in the table. It is found that in case of cereals none of the decades have shown any negative growth rate, while in pulses the 1970-80 has shown the negative growth rate of -0.98 per cent per annum. Except this decade none of the decades have shown any negative growth. However, growth rate in productivity of rice and wheat have not shown any increase in the recent decades as compared to coarse cereals and pulses.

Table 3: Growth Rate of Productivity of food grains India, 1950-51 to 2013-14

Year	Rice	Wheat	Coarse Cereals	Total	Pulses	Total Food grains
1950-60	3.15	1.08	2.33	2.59	0.94	2.26
1960-70	0.36	4.46	0.91	1.36	0.03	1.32
1970-80	1.01	1.87	2.00	1.89	-0.98	1.60
1980-90	3.19	3.10	1.71	3.10	1.59	2.97
1990-00	1.34	1.82	2.14	2.16	1.27	2.17
2000-10	1.61	0.69	3.17	1.75	1.54	1.60
1950-10	1.90	2.75	1.99	2.40	0.65	2.23

Source: Appendix Table 3

INTER-STATE COMPARISON IN PRODUCTIVITY OF FOOD-GRAINS IN INDIA

In this section an attempt has been made to compare the productivity of food-grains among the major Indian states. For this purpose average productivity of the years 2005-06 and 2011-12 have been taken. Taking only one year productivity will be miss leading as for n all part of the country rain may not be same. Hence, taking the average of three to five years is a common practice done by the researchers. In table 4, information related to the productivity of food grains has been presented for the major Indian states. It is found that productivity of food grains varies between 4,175 kg per hectare and 1,052 kg per hectare.



Table 4: Major State-wise Yield of Total Food grains in India 2005-12

States	Productivity in Kg	Rank
Punjab	4175	1
Haryana	3462	2
Delhi	3371	3
West Bengal	2534	4
Tamil Nadu	2505	5
Kerala	2457	6
Andhra Pradesh	2442	7
Uttar Pradesh	2278	8
Himachal Pradesh	1821	9
Jammu and Kashmir	1820	10
Nagaland	1768	11
Uttarakhand	1747	12
Gujarat	1713	13
Bihar	1705	14
Karnataka	1703	15
Meghalaya	1664	16
Assam	1560	17
Arunachal Pradesh	1490	18
Jharkhand	1436	19
Odisha	1326	20
Madhya Pradesh	1320	21
Chhattisgarh	1248	22
Rajasthan	1134	23
Maharashtra	1052	24

Sources: Department of Agriculture & Cooperation, New Delhi.

Punjab (4175 kg), Haryana (3462 kg), Delhi (3371,) West Bengal (2534 kg) and Tamil Nadu (2505 kg) are in the top five position in productivity of food grains per hectare land. On the other hand, Odisha (1326 kg), Madhya Pradesh (1320 kg), Chhattisgarh (1248kg), Rajasthan (1134 kg) and Maharashtra (1052 kg) are found the bottom position. The state Karnataka is found in the middle position (15th rank) with 1703 kg productivity per hectare. A point here is to be noted that with some exception, more or less, higher the productivity is found in the rich states in the country. It means agricultural productivity has the significant impact on the per capita income of the state.

FINDINGS OF THE STUDY

AREA

- During 1950-51, 1,01,196 hectares of area was under the cultivation of food grains, which increased over the period of time and reached its peak of 1,31,423 hectares during 1983-84. After 1990-91 the area under food-grains cultivation started decreasing.
- Area under food-grains has increased 1.2 fold from 1950-51 to 2009-10.
- Between area of pulses and cereals; cereals has the lion share of around 75 per cent.
- Area under rice production has increased 1.35 times and area under wheat has increased 2.84 times in the reference period.
- After 1973-74 area under coarse cereals has started declining, in 2009-10 it was 27,676 hectares.



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- Among the coarse cereals, area of jowar has declined very significantly. It is mainly due to lower success of HYV seed of jowar crop.
- Area under pulses increased marginally (1.3 times) from 20,554 hectares in 1950-51 to 23,282 hectares in 2009-10.
- Except for 2000-10 decade, remaining all decades have experienced the positive growth rate for area under rice, while, wheat has not experienced any negative growth rate for any decade.
- With respect to coarse cereals, except for initial two decades, none of the decades have shown any positive growth rate in the reference period. Area under coarse cereals has experienced -0.64 per cent per annum.

PRODUCTION

- Between cereals and pulses, the production of cereals has higher share (77 % in 1950-51 and 93% in 2009-10) than pulses (17% in 1950-51 and 7% in 2009-10).
- Production of food-grains has increased from 52.8 million tons in 1950-51 to 218.2 tons in 2009-10.
- Production of rice was only 20.7 million tons in 1950-51, which increased to 99.2 million tons in 2009-10 (4 times over 60 years). Production of wheat increased from 6.64 million tons in 1950-51 to 80.8 million tons in 2009-10.
- Production of coarse cereals has increased from 13.87 tons in 1950-51 to 33.54 tons in 2009-10 (2.42 times). Production of pulses increased from 9.06 tons in 1950-51, to 14.67 tons in 2009-10 (1.62 fold).
- Between cereals and pulses growth rate of cereals (2.81% per annum) is higher than the pulses (0.57% per annum) for the 60 years of study period.
- Among the cereals, the highest growth rate is register for wheat (4.71%) followed by rice (2.56%) and Coarse cereals (1.22) in the entire study period.
- Production of rice and wheat is not increasing rapidly as compared with the earlier years.

PRODUCTIVITY

- In India productivity of food-grains was only 522 Kg per hectares during 1950-51, which increased significantly 2095 kg per hectares in 2009-10.
- Productivity of cereals (2435 Kg per hectare in 2009-10) is always higher than that of pulses (764 Kg per hectare in 2009-10).
- Gap between productivity of cereals and pulses was lower in 1950-51 (20Kg), but in 2009-10 the gap has increased significantly (340 Kg).
- Productivity per hectare for rice has increased from 668 kg in 1950-51 to 2125 kg (3.23 times) 200-10, while for wheat it increased from 663kg to 28395kg (4.14 times), for coarse cereals it increased from 408 kg to 1212 kg (4.11) in the same period.
- Growth rate in productivity of rice and wheat have not shown any increase in the recent decades as compared to coarse cereals and pulses.

INTER-STATE COMPARISON

- Punjab, Haryana, Delhi, West Bengal and Tamil Nadu are in the top five positions in productivity of food grains per hectare land.
- Odisha, Madhya Pradesh, Chhattisgarh, Rajasthan and Maharashtra are found the bottom position. The state Karnataka is found in the middle position (15th rank out of 26 states).
- Higher the productivity is found in rich states, which means agricultural productivity has the significant impact on the per capita income of the states.

CONCLUSION

From the ongoing analysis it is clear that India has achieved significant growth in the production and productivity of food-grains over the period of time. Numerous factors have contributed for this growth. The trend does not



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trace any particular point, where the exact change taken place for different crops. Hence, the present study concludes that *economic reforms* have not made any significant change in the area, production, and productivity of food-grains in India. Further, in the recent years, stagnation can be seen especially for rice and wheat. Hence, structural change is needed for the development of agriculture sector of the country. Through that the dream of second green revolution can be achieved.

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Appendix Table 1: Area under Food-Grains in India, (In 000 Hectare)

Year	Rice	Wheat	Coarse Cereals	Total Cereals	Total Pulses	Total Food-grains
1950-51	31056	10010	34000	75066	20554	101196
1951-52	30434	9624	35091	75149	20308	100853
1952-53	29991	9938	38894	78823	20792	105212
1953-54	31186	10745	40450	82381	21999	110437
1954-55	30660	11344	38445	80449	23007	109355
1955-56	31633	12704	37968	82305	23608	111325
1956-57	32365	13625	37608	83598	23864	112662
1957-58	32292	11758	38056	82106	22629	109768
1958-59	33195	12616	39367	85178	24442	114845
1959-60	33888	13384	38766	86038	25119	116357
1960-61	34056	12931	39915	86902	23665	115564
1961-62	34656	13565	39764	87985	24388	117281
1962-63	35734	13589	39456	88779	24378	118157



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1963-64	35745	13519	39253	88517	24324	117696
1964-65	36359	13453	39641	89453	24163	118419
1965-66	35338	12539	39422	87299	22781	114887
1966-67	35060	12775	41301	89136	22058	115998
1967-68	36108	14926	42104	93138	23017	121254
1968-69	35864	15612	40909	92385	21865	119309
1969-70	37141	16782	40597	94520	23009	122714
1970-71	37381	18293	41148	96822	23126	124910
1971-72	37843	19095	38946	95884	22534	122846
1972-73	36894	18684	39637	95215	21642	121343
1973-74	38215	18641	42202	99058	23667	127383
1974-75	37804	17940	38838	94582	22491	121796
1975-76	39372	20339	39014	98725	24819	128538
1976-77	38477	20876	37270	96623	23654	125077
1977-78	40280	21277	37503	99060	23918	127725
1978-79	40511	22540	37755	100806	23956	129266
1979-80	39542	22098	37544	99184	22347	125598
1980-81	40237	22225	38405	100867	22708	127608
1981-82	40778	21992	38842	101612	24180	129697
1982-83	38424	23523	37056	99003	22974	125562
1983-84	41485	24545	38185	104215	23527	131423
1984-85	41167	23488	36285	100940	22802	127048
1985-86	41220	23179	36722	101121	24437	128756
1986-87	41154	23196	37254	101604	23385	127992
1987-88	38866	23213	34313	96392	21555	120876
1988-89	41756	24065	35911	101732	23119	127573
1989-90	42178	23461	34904	100543	23409	126526
1990-91	42744	24046	33903	100693	24883	127948
1991-92	42661	23378	31700	97739	22679	122520
1992-93	41860	24644	33127	99631	23569	125215
1993-94	42687	25202	31608	99497	23411	124825
1994-95	42894	25887	31074	99855	24283	125949
1995-96	43016	25105	29919	98040	23637	123463
1996-97	43529	25991	30631	100151	23317	125101
1997-98	43581	26741	29742	100064	23998	125716
1998-99	44898	27466	28438	100802	24515	126879
1999-00	45456	27671	28041	101168	22118	124719
2000-01	44761	25797	29347	99905	21325	122680
2001-02	44904	26345	29524	100771	22008	122780
2002-03	41176	25196	26993	93364	20496	113860
2003-04	42593	26595	30800	99988	23458	123446
2004-05	41907	26383	29026	97315	22763	120078
2005-06	43660	26484	29064	99208	22391	121599
2006-07	43814	27995	28708	100516	23192	123708
2007-08	43914	28039	28481	100435	23633	124068
2008-09	45537	27752	27450	100739	22094	122834
2009-10	41918	28457	27676	98051	23282	121334

Sources: Department of Agriculture & Cooperation, New Delhi.

**Appendix Table 2: Production of food grains India, 1950-51 to 2013-14, (In Million ton)**

Year	Rice	Wheat	Coarse Cereals	Total Cereals	Total Pulses	Total Food-grains
1950-51	20.75	6.64	13.87	40.69	9.06	52.82
1951-52	21.73	6.28	14.53	41.86	9.10	54.06
1952-53	22.91	7.58	17.97	47.92	9.63	61.02
1953-54	28.13	8.06	20.47	55.85	10.76	70.68
1954-55	25.14	9.11	19.99	53.42	11.50	69.00
1955-56	27.65	8.99	17.05	52.59	11.24	67.35
1956-57	29.13	9.47	17.79	55.51	11.81	70.86
1957-58	25.51	8.02	18.84	51.73	9.59	64.43
1958-59	30.87	9.95	20.43	60.22	13.22	77.18
1959-60	31.75	10.33	20.24	61.35	11.93	77.03
1960-61	34.50	11.00	21.08	65.44	12.76	82.05
1961-62	35.63	12.07	20.64	67.13	11.83	82.80
1962-63	33.27	10.78	21.94	65.08	11.58	80.35
1963-64	36.92	9.87	21.20	67.01	10.12	80.86
1964-65	39.20	12.28	20.38	73.08	12.56	89.64
1965-66	30.46	10.37	19.04	59.01	9.98	72.26
1966-67	30.26	11.33	22.01	63.02	8.32	74.70
1967-68	37.26	16.46	25.60	78.24	12.29	94.94
1968-69	38.59	18.25	22.30	77.88	10.71	93.18
1969-70	39.85	20.27	23.47	81.76	12.22	98.78
1970-71	41.98	23.91	27.36	91.88	12.12	108.92
1971-72	43.18	26.35	21.97	89.75	11.29	105.40
1972-73	39.48	23.75	21.72	84.36	10.26	98.65
1973-74	43.99	21.85	26.29	90.94	10.11	105.35
1974-75	39.51	24.00	23.54	85.79	10.23	100.36
1975-76	48.62	28.68	27.08	102.77	13.23	121.34
1976-77	41.90	28.96	25.68	95.17	11.69	111.82
1977-78	52.69	31.49	26.63	108.97	12.20	126.58
1978-79	53.80	35.34	27.22	114.52	12.34	132.11
1979-80	42.47	31.73	24.48	97.40	8.60	110.02
1980-81	53.76	36.23	26.69	115.19	10.74	130.54
1981-82	53.34	37.19	28.47	117.57	11.68	133.85
1982-83	47.30	42.72	25.38	113.95	11.92	129.96
1983-84	60.44	45.24	31.04	135.06	12.89	152.71
1984-85	58.33	43.92	28.85	129.71	11.99	145.98
1985-86	63.97	47.42	24.38	133.78	13.37	151.29
1986-87	60.54	44.44	25.15	128.63	11.83	144.37
1987-88	56.94	46.47	24.74	126.76	11.10	141.79
1988-89	70.53	54.00	29.23	151.89	13.83	169.80
1989-90	73.60	49.76	32.18	153.83	12.85	170.68
1990-91	74.37	54.85	30.51	158.19	14.38	176.57
1991-92	74.70	55.97	24.66	153.84	12.09	169.32
1992-93	73.00	57.35	35.21	164.79	13.51	182.44
1993-94	80.59	59.98	29.68	169.24	14.00	187.36
1994-95	81.97	66.24	28.87	176.04	14.81	194.72



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1995-96	77.30	62.34	28.12	166.96	13.05	184.08
1996-97	81.92	69.63	32.84	183.38	14.81	201.91
1997-98	82.80	66.45	29.33	177.61	13.61	195.11
1998-99	86.25	71.14	30.37	187.09	15.54	206.43
1999-00	90.28	76.87	28.99	194.75	14.04	212.52
2000-01	85.09	69.86	30.14	184.22	11.60	199.48
2001-02	93.36	72.76	33.39	199.53	13.36	212.90
2002-03	71.81	65.76	26.08	163.67	11.13	174.78
2003-04	88.47	72.15	37.61	198.28	14.90	213.19
2004-05	83.14	68.65	33.47	185.19	13.13	198.37
2005-06	91.77	69.36	34.06	195.24	13.39	208.54
2006-07	93.37	75.81	33.93	203.14	14.19	217.23
2007-08	96.70	78.57	40.76	216.04	14.77	230.77
2008-09	99.18	80.68	40.05	219.91	14.56	234.49
2009-10	89.08	80.79	33.54	203.46	14.67	218.16

Sources: Department of Agriculture & Cooperation, New Delhi

Appendix Table 3: Productivity of food grains India, 1950-51 to 2013-14, (In Million ton)

Year	Rice	Wheat	Coarse Cereals	Total	Pulses	Total Food grains
1950-51	668	663	408	542	441	522
1951-52	714	653	414	557	448	536
1952-53	764	763	462	608	463	580
1953-54	902	750	506	678	489	640
1954-55	820	803	520	664	500	631
1955-56	874	708	449	639	476	605
1956-57	900	695	473	664	495	629
1957-58	790	682	495	630	424	587
1958-59	930	789	519	707	541	672
1959-60	937	772	522	713	475	662
1960-61	1013	851	528	753	539	710
1961-62	1028	890	519	763	485	706
1962-63	931	793	556	733	475	680
1963-64	1033	730	540	757	416	687
1964-65	1078	913	514	817	520	757
1965-66	862	827	483	676	438	629
1966-67	863	887	533	707	377	644
1967-68	1032	1103	608	840	534	783
1968-69	1076	1169	545	843	490	781
1969-70	1073	1208	578	865	531	805
1970-71	1123	1307	665	949	524	872
1971-72	1141	1380	564	936	501	858
1972-73	1070	1271	548	886	474	813
1973-74	1151	1172	623	918	427	827
1974-75	1045	1338	606	907	455	824
1975-76	1235	1410	694	1041	533	944
1976-77	1089	1387	689	985	494	894
1977-78	1308	1480	710	1100	510	991
1978-79	1328	1568	721	1136	515	1022
1979-80	1074	1436	652	982	385	876



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1980-81	1336	1630	695	1142	473	1023
1981-82	1308	1691	733	1157	483	1032
1982-83	1231	1816	685	1151	519	1035
1983-84	1457	1843	813	1296	548	1162
1984-85	1417	1870	795	1285	526	1149
1985-86	1552	2046	664	1323	547	1175
1986-87	1471	1916	675	1266	506	1128
1987-88	1465	2002	721	1315	515	1173
1988-89	1689	2244	814	1493	598	1331
1989-90	1745	2121	922	1530	549	1349
1990-91	1740	2281	900	1571	578	1380
1991-92	1751	2394	778	1574	533	1382
1992-93	1744	2327	1063	1654	573	1457
1993-94	1888	2380	939	1701	598	1501
1994-95	1911	2559	929	1763	610	1546
1995-96	1797	2483	940	1703	552	1491
1996-97	1882	2679	1072	1831	635	1614
1997-98	1900	2485	986	1775	567	1552
1998-99	1921	2590	1068	1856	634	1627
1999-00	1986	2778	1034	1925	635	1704
2000-01	1901	2708	1027	1844	544	1626
2001-02	2079	2762	1131	1980	607	1734
2002-03	1744	2610	966	1753	543	1535
2003-04	2077	2713	1221	1983	635	1727
2004-05	1984	2602	1153	1903	577	1652
2005-06	2102	2619	1172	1968	598	1715
2006-07	2131	2708	1182	2021	612	1756
2007-08	2202	2802	1431	2151	625	1860
2008-09	2178	2907	1459	2183	659	1909
2009-10	2125	2839	1212	2075	630	1798

Sources: Department of Agriculture & Cooperation, New Delhi.