



Foodgrain Changing Cropping Pattern in India

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Abstract:

Agriculture plays a key role in the rural economy of India. It contributes nearly 17 percent in the total gross domestic product. The agriculture sector is crucial for achieving India's objective Foodgrain changing cropping pattern in India. The Government of India is aware of that and has adopted an ambitious program that aims to increase agricultural production and reduce rural poverty and rural-urban inequality. Around two-third of the total work force is being engaged in agriculture sector and they are directly and indirectly depending on agriculture for livelihood. The higher-level cash crop production leads into the development and expansion of agro based industries and agro-processing units which contributes income and employment generation in the country. This research paper examines agricultural progress in India with special reference Foodgrain crops. Areas under cultivation the Foodgrain crops trend of also have been analyzed.

Keywords: Agriculture, Foodgrain and Cropping Pattern.

Introduction:

Agriculture plays a key role in the rural economy of India. It contributes nearly 17 percent in the total gross domestic product. Around two-third of the total work force is being engaged in agriculture sector and they are directly and indirectly depending on agriculture for livelihood. The planners did not realize the targeted growth rate of agriculture; it was varied only between 2 percent to 5 percent during last fifty years of planning. During the planning period agriculture production was highly influenced by natural calamities. After independence, the government has introduced several schemes and policies for the development of agriculture sector. A huge public investment has been taken place in the field of agriculture and irrigation during last 65 year. The 1970 decade was a transmission phase of Indian agriculture, in which there was use of new technology and

High Yield Varieties (HYV), famously known as green revolution has increased notably, and as a result of that India becomes exporter of foodgrain. Since the beginning of the 1990s, Indian economy has entered in a new phase, of deregulation, liberalization, privatization and globalization. These policy changes have important implications for agriculture. There are three important directions in which reforms in agricultural sector have been initiated. In the first place, restriction on the movement of foodgrains from one region to other has been removed. An all-India market in agriculture products has emerged. Secondly, agricultural trade policy is liberalized, and exports are being encouraged. Indian agriculture is slowly but progressively getting integrated with global economy. Thirdly, far-reaching reforms have been introduced in the credit delivery system. At the same time important productive and supportive measures e.g. rural poverty alleviation programmes, agricultural price support policies etc. have continued.

Cropping pattern of any region depends upon physical characteristics as soil, climate, weather, rainfall etc. For instance, in a dry area where the rainfall is scanty and where there is high uncertainty of monsoons, there will be a greater dependence on jowar and bajra, as these crops can be managed with a small quantity of rainfall. Water-logging in parts of Ludhiana and Sangrur district in Punjab has led to an increase in area under rice, for rice can stand the extra water better than other crops. In the newly reclaimed lands of Madhya Pradesh, millets are grown for a few years after which rice is cultivated.

Lot of crops are produced in the agriculture sector of India. However, all these crops are not similarly important. Rice, wheat, maize, millets and pulses are the major food crops which are basically used in the daily Indian food. Oilseeds, sugarcane, cotton, jute & mesta, and potatoes are the major cash crops which are mostly used by agro processing units. Tobacco, chillies, ginger, onion, turmeric, tapioca, sweets potatoes, etc. are minor cash crops because it contributes little in individual income as well as in national economy.

The adequate production of foodgrain is essential for the fulfillment of food requirement of the raising population. However, the contribution of foodgrain in economic cycle is less than that of cash crops. Because cash crops provide large number of employment opportunities to the unemployed youth of the country. The higher-level cash crop production leads into the development and expansion of agro based industries and agro-processing units which contributes income and employment generation in the country. In fact, it also helps in improving the condition of balance of trade in particular and balance of payment in general. It means that production of



cash crop is essential for economic development in general and economic empowerment of the farmers in particular. However, it does not mean that foodgrain crops are not contributing in economic development but the contribution of foodgrain in economic development is invisible or it is slightly less than that of cash crop.

Objectives of the Study:

1. Foodgrain changing cropping pattern in India.
2. To study the change of Foodgrain Crop between the period from 2001 to 2014.
3. To suggest measures for improvement if necessary.

Research Methodology:

Only secondary data has been collected from Books, Journals, Gazetteer, Agricultural epitomes, RBI Report, Crop reports published by the department of agriculture (2001 to 2014).

Limitation of the study:

The major limitation of this research is that the present research is related to only Gross Area and Production of Foodgrain selected crops in India. and conclusion of this research may not be applicable to other area.

Gross Area and Production of Food Grain Crops in India

Gross area and production of food grain crops provides the trend of the production and area under the various crops. First of all, researcher has attempted to study the composition of food grain and nonfood grain crop in total sown area. Then after the area and production of food grain has been analyzed at very comprehensive manner.

Table 1

Percentage of Food Grain and Non Food Grain Crops in India since 1951

No.	Crops	1950-51	1970-71	2004-05
1.	All Crops/ Total Sown Area (%)	100	100	100
2.	Food grains crops (%)	74	74	64
3.	Non-foodgrains crops (%)	26	26	36

Source: Directorate of Economics and Statistics, Department of Agriculture and

Cooperation.

Table 1 show that the share of food grain crops and non-food grain crops was 74 and 26 percent respectively in 1950-51. This ratio was constant in 1970-71. It means that the proportion of area under food grain crop is more significant up to 1970-71. With the development of irrigation facility, the cropping pattern in India has gradually changed. It has been clear from the data 2004-05 that the share of food grain in total sown area shows declining trend it was 64 percent.

Data Analysis and Interpretation:

Cropping pattern of any region depends upon physical characteristics as soil, climate, weather, rainfall etc. For instance, in a dry area where the rainfall is scanty and where there is high uncertainty of monsoons, there will be a greater dependence on jowar and bajra, as these crops can be managed with a small quantity of rainfall. Water-logging in parts of Ludhiana and Sangrur district in Punjab has led to an increase in area under rice, for rice can stand the extra water better than other crops. In the newly reclaimed lands of Madhya Pradesh, millets are grown for a few years after which rice is cultivated.

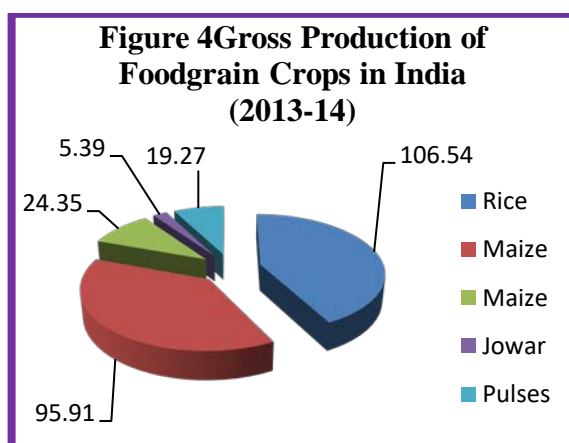
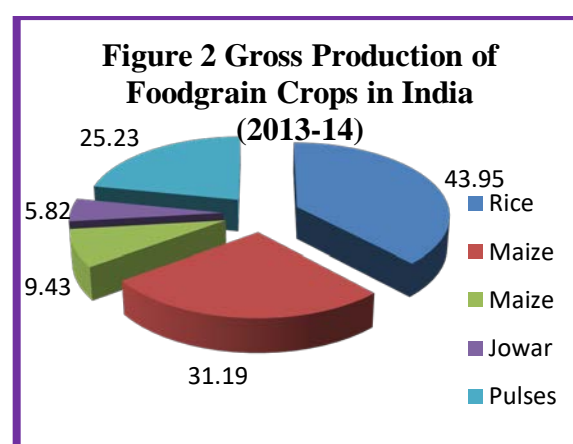
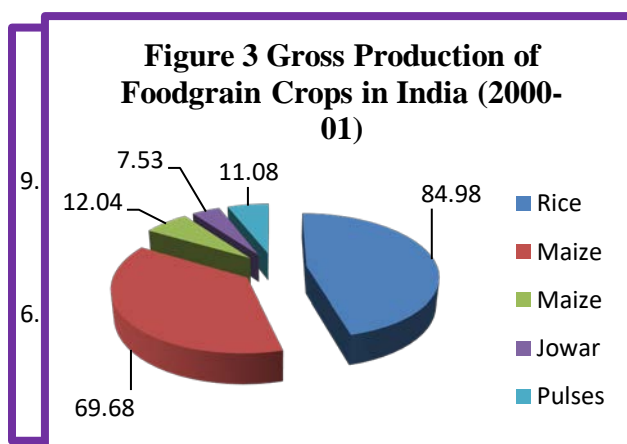
Table 2
Gross Area and Production of Food Grain Crops in India

(Area in million hectares; Production in million tons)

Year	Rice		Wheat		Maize		Jowar		Pulses	
	Area	Prod	Area	Prod	Area	Prod	Area	Prod	Area	Prod
2000-01	44.71	84.98	25.73	69.68	6.61	12.04	9.86	7.53	20.35	11.08
2001-02	44.9	93.34	26.34	72.77	6.58	13.16	9.8	7.56	22.01	13.37
2002-03	41.18	71.82	25.2	65.76	6.64	11.15	9.3	7.01	20.5	11.13
2003-04	42.59	88.53	26.59	72.16	7.34	14.98	9.33	6.68	23.46	14.91
2004-05	41.91	83.13	26.38	68.64	7.43	14.17	9.09	7.24	22.76	13.13
2005-06	43.66	91.79	26.48	69.35	7.59	14.71	8.67	7.63	22.39	13.38
2006-07	43.81	93.36	27.99	75.81	7.89	15.1	8.47	7.15	23.19	14.2
2007-08	43.91	96.69	28.04	78.57	8.12	18.96	7.76	7.93	23.63	14.76
2008-09	45.54	99.18	27.75	80.68	8.17	19.73	7.53	7.25	22.09	14.57
2009-10	41.92	89.09	28.46	80.8	8.26	16.72	7.79	6.7	23.28	14.66
2010-11	42.86	95.98	29.07	86.87	8.55	21.73	7.38	7	26.4	18.24

2011-12	44.01	105.3	29.86	94.88	8.78	21.76	6.25	5.98	24.46	17.09
2012-13	42.75	105.24	30	93.51	8.67	22.26	6.21	5.28	23.26	18.34
2013-14	43.95	106.54	31.19	95.91	9.43	24.35	5.82	5.39	25.23	19.27
Average	43.41	93.21	27.79	78.96	7.86	17.20	8.09	6.88	23.07	14.87
Std	1.25	9.57	1.78	10.29	0.88	4.22	1.35	0.81	1.64	2.54
CV	2.89	10.27	6.40	13.03	11.15	24.56	16.66	11.81	7.10	17.11
Maximum	45.54	106.54	31.19	95.91	9.43	24.35	9.86	7.93	26.40	19.27
Minimum	41.18	71.82	25.20	65.76	6.58	11.15	5.82	5.28	20.35	11.08

Source: Directorate of Economics and Statistics, Department of Agriculture and Cooperation
2013-14.



The table 2 shows the time series data of gross area and production of food grain crops in India right from 2000-01 to 2013-14. Under major food grain crops we have crops like Rice, Maize, Maize, Jowar and Pulses. The production of these crops fulfils the food need of the country; therefore, these crops have special significance in cropping pattern of India. These food grains are usually used by all people of the country. In fact, the self-

reliance in food grain is now prerequisite condition for sustainable growth. Because food dependency is becoming harmful during bad international atmosphere or international emergency.

1. The average area under rice during the period 2000-01 to 2013-14 was 43.41 million hectare which is highest average area in all foodgrain crops. The average production of rice during the considered period is 93.21 million tones which is also highest average production in all foodgrain production. The coefficient of variance of area under rice and production of rice was 2.89 and 10.27 percent respectively. It implies that the production of rice is more fluctuating than area under rice. The maximum area under rice and production of rice has been recorded as 45.54 million hectare and 106.54 million tons in respectively. Whereas the minimum area under rice crop and production of rice has been observed of 41.18 million hectare and 71.82 million tons in respectively. In short the growth of rice production was more than the area under rice crop in India during the period 2000-01 to 2013-14.
2. The average area under Wheat during the period 2000-01 to 2013-14 was 27.79 and the average production of Wheat was 78.96 million tons during the same period. The coefficient of variance of area under Wheat and production of Wheat was 6.40 and 13.03 percent respectively. It implies that the production of Wheat is more fluctuating than area under Wheat. The maximum area under Wheat crop and production of Wheat has been seen as 31.19 million hectare and 95.91 million tons in 2013-14. Whereas the minimum area under Wheat crop and production of Wheat has been observed of 25.20 million hectare and 65.76 million tons. In brief the growth magnitude of Wheat production was more than the area under Wheat crop in India during the period 2000-01 to 2013-14, or production of Wheat is rising more rapidly than the area under Wheat crops.
3. The average area under Maize during the period 2000-01 to 2013-14 was 7.86 and the average production of Maize was 17.20 million tons during the same period. The coefficient of variance of area under Maize and production of Maize was 11.15 and 24.56 percent respectively. It implies that the production of Maize is more fluctuating than area under Maize. The maximum area under Maize crop and production of Maize has been recorded as 9.43 million hectare and 24.35 million tons in 2013-14. Whereas the minimum area under Maize crop and production of Maize has been observed of 6.58 million hectare



and 11.15 million tons. In digest the growth magnitude of Maize production was more than the area under Maize crop in India during the period 2000-01 to 2013-14, or production of Maize is rising more rapidly than the area under Maize crops.

4. The table 2 also reveals that the average area under Jowar during the period 2000-01 to 2013-14 was 8.09 and the average production of Jowar was 6.88 million tons during the same period. The coefficient of variance of area under Jowar and production of Jowar was 16.66 and 11.81 percent respectively. It implies that the area of Jowar is more fluctuating than the production of Jowar. The maximum area under Jowar crop and production of Jowar has been recorded as 9.86 million hectare and 7.93 million tons in 2000-01 and 2013-14 respectively. Whereas the minimum area under Jowar crop and production of Jowar has been observed of 5.82 million hectare and 5.28 million tons in the year 2000-01 and 2013-14 respectively. In short there was decreasing trend in production and area under Jowar in India during the period 2000-01 to 2013-14.
5. The average area under Pulses during the period 2000-01 to 2013-14 was 23.07 and the average production of Pulses was 14.87 million tons during the same period. The coefficient of variance of area under Pulses and production of Pulses was 7.10 and 17.11 percent respectively. It implies that the area of Pulses is less fluctuating than the production of Pulses. The maximum area under Pulses crop and production of Pulses has been observed as 26.40 million hectare and 19.27 million tons in 2010-11 and 2013-14 respectively. On the contrary the minimum area under Pulses crop and production of Pulses has been observed of 20.35 million hectare and 11.08 million tons in the year 2000-01 and 2013-14 respectively. In short there was increasing trend in production and area under Pulses in India during the period 2000-01 to 2013-14.
6. It is seen from pay of matrix table that the production and area of Wheat, Maize and Pulses has increasing trend. On the contrary, the production and area under Jowar crop has decreasing trend in India. It is a pride to note that the area under rice crop has decreased during the period 2001-02 to 2013-14 but the production has increased significantly during the same period. It implies that the productivity of rice is increased notable during the considered period.

Conclusion:

1. The average area under rice during the period 2000-01 to 2013-14 was 43.41 million hectare which is highest average area in all foodgrain crops. The growth of rice production was more than the area under rice crop in India during the period 2000-01 to 2013-14.
2. In brief the growth magnitude of Wheat production was more than the area under Wheat crop in India during the period 2000-01 to 2013-14, or production of Wheat is rising more rapidly than the area under Wheat crops.
3. In digest the growth magnitude of Maize production was more than the area under Maize crop in India during the period 2000-01 to 2013-14, or production of Maize is rising more rapidly than the area under Maize crops.
4. The average area under Jowar during the period 2000-01 to 2013-14 was 8.09 and the average production of Jowar was 6.88 million tons during the same period. In short there was decreasing trend in production and area under Jowar in India during the period 2000-01 to 2013-14.
5. The average area under Pulses during the period 2000-01 to 2013-14 was 23.07 and the average production of Pulses was 14.87 million tons during the same period. In short there was increasing trend in production and area under Pulses in India during the period 2000-01 to 2013-14.
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Suggestions:

1. Introduction of attractive and affordable group farming schemes for small and marginal farmers giving those Tractors and other farm implements in subsidies rates by Government.
2. To overall development, besides the agricultural activity agro-based activities like dairy, poultry, and house hold industries should be started in the study region e.g. Agro-produce processing units – decorticating mills, dal mills etc.



3. The proportion of organic farming system is very meager in study region. Hence it has been strongly suggested to the government that to provide knowledge, organic composts at subsidiaries rate and promotes the organic farming techniques.

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