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CHANGES IN THE CROPPING PATTERN IN INDIA DURING POST LIBERALIZATION PERIOD

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ABSTRACT—

The present study attempts to analyse the change in the cropping pattern that have taken place in India during post-liberalization period. India being an agriculturally rich country with various physiographic dimensions, presents variations in agro-climatic conditions. Such variations have led to the evolution of regional niches for various crops. With the advent of liberalization and changing economic policies, there have been significant transformations in the cropping pattern in different parts of the country. The present study attempts to explore the pattern of cropping in different parts of the country based on state level secondary data. The study reveals spatial and temporal change in the cropping pattern during 1990-93 and 2009-12. Changes in the cropping pattern have been examined in term of changes in percent share of individual crops in total cropped area. At each point of time, triennium average of data on area under individual crops have been taken and used for working out share in total cropped area.

The study found that cropping pattern in the country is largely dominated by rice and wheat which together account for 36.11 percent of total cropped area. A considerable proportion of area under coarse cereals, pulses and oilseeds crops has decreased by 4.64, 6.4 and 3.2 percentage points respectively. There is remarkable shift from the cultivation of coarse cereals and pulses to spices and cash crops. There are also significant spatial variations in the cropping pattern during both periods. Area under rice has increased in north-western plain while decreased in north-eastern states except Tripura. The black soil region has experienced cultivation of area under cotton. Area under soyabean crop has expanded rapidly in particular two states Maharashtra and Madhya Pradesh by 11.6 and 9.5 percentage points respectively. The overall analysis of data shows that there are signs of shift in area under food grains towards remunerative crops such as spices, cotton, sugarcane, soyabean, fruits and vegetables.

KEY WORDS: *physiographic dimensions , cropping pattern , cotton, sugarcane.*

INTRODUCTION :

Agriculture is a complex and dynamic phenomena which directly effect to economic growth of an area. It is also the core sector of Indian economy. Agriculture is viewed as the engine of economic development and is the only activity capable of generating a surplus large enough to stimulate growth in other sectors of the economy (William, 1970). India's geographical condition is unique for agriculture because it provides many favorable conditions for different crops. . The change in cropping pattern in particular span of time clearly indicates the changes that have taken place in the agricultural development. Cropping patterns simply means the proportion of area under different crops at a point of time. Change in cropping patterns refers to change in proportion of area under the different crops at two different point of time. The cropping pattern differs from macro to micro region, both in space and time.

Changes in cropping pattern are determined by factors like agro-climatic conditions, technological, infrastructural and institutional environment and profitability signals. Cropping pattern is also depending on terrain, topography, slope, soils and availability of water for irrigation, use of pesticides, fertilizers and mechanization. The natural, social, economic and historical factors which determine the cropping pattern of a region, the cropping pattern also changes in consonance with the government policies and technological innovations especially in agriculture. The cropping pattern is a function of several variables like climatic conditions, nature of soil, availability of irrigation facilities, agricultural technology, development of transportation, marketing and agro-based industries. A change in some or all of these variables lead to a change in the cropping pattern.

The cropping patterns of a region are closely influenced by the geo-climatic, socio-economic, historical and political factors (Hussain, M. 1996). Patterns of crop land use of a region are manifestation of combined influence of physical and human environment. Cropping pattern must ensure the greatest efficiency of man, fertilizers, irrigation and other inputs. It is a dynamic concept as no cropping pattern can be suitable for all times to come. A successful cropping pattern implies the most efficient use of arable land, consequent upon application of water resources, bio-chemical inputs and the like. In addition, it must offer the cultivators the possibility to maximize agricultural productivity per unit area per unit of time.

Cropping pattern is the proportion of area under various crops at a point of time as it changes over space and time.

No cropping pattern can be good for all times to come. But there is often a tendency for the cropping pattern to stabilize over a period of time in different agro-climatically homogeneous farming areas (Singh and Sharma, 1985). Krishna (1972) in his studies has also stressed that cropping pattern of the country should logically be with the study of its climatic and soil conditions which constitute the regional and subterranean environment of crop plants.

PERIOD OF STUDY

The present study covers a period of twenty two years. The cropping pattern of the study region is discussed under two heads. These are as follows:

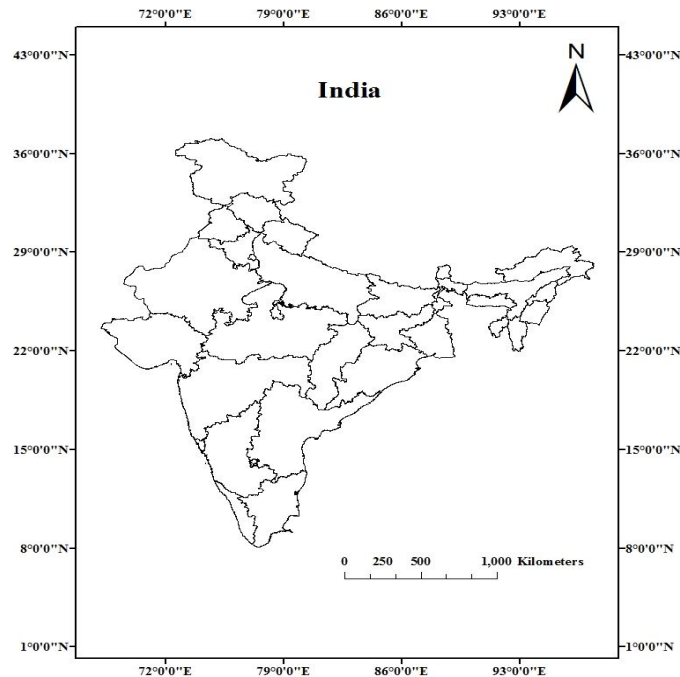
- A. Cropping pattern: 1990-93
- B. Cropping pattern: 2009-12

OBJECTIVES

- To analyse the spatial and temporal change in cropping patterns in India between these two periods (1990-93 and 2009-12).

STUDY AREA

India is the seventh largest country in the world in terms of area which makes it an obvious place to have vast geographical features. It lies on the Indian Plate, a northern portion of the Indo-Australian Plate. The Indian subcontinent is surrounded by water bodies on three sides, Arabian Sea towards the West, Bay of Bengal towards the East and Indian Ocean towards the South and is easily recognizable on the world map.



The country covers an area of about 3.28 million sq. km. The mainland of India extends between 8°4' and 37°6' N latitude and 68°7' and 97°25' E longitude (Figure 1). The Tropic of Cancer 23°30' N divides India into almost two parts. The land frontier of the country is 15,200 km and the total length of the coastline is 7,517 kilometres. Indian peninsula tapers southward resulting in the division of the Indian Ocean into two water bodies - the Bay of Bengal and the Arabian Sea. In India, there is a great diversity of landforms such as lofty mountains, deep valleys, extensive plains, and a number of islands.

The northern frontiers of India are defined largely by the Himalayan mountain range, where the country borders China, Bhutan, and Nepal. Its western border with Pakistan lies in the Punjab Plain and the Thar Desert. In the far northeast, the Chin Hills and Kachin Hills, deeply forested mountainous regions, separate India from Myanmar. On the east, its border with Bangladesh is largely defined by the Khasi Hills and Mizo Hills, and the watershed region of the Indo-Gangetic Plain.

India is a vast country with diversities in its weather and climate. Based on the Koppen system, India hosts six major climatic subtypes, ranging from arid desert in the west, alpine tundra and glaciers in the north, and humid tropical regions supporting rainforests in the southwest and the island territories. The nation has four seasons: winter (January–February), summer (March–May), a monsoon (rainy) season (June–September) and a post-monsoon period (October–December).

The Indian sub-continent has one of the richest biota's in the world and the great diversity of plants and animals is due to the vast geographical area extending over many degrees of latitude, varied topography, climatic zones and the position of the country at the junction of many biogeographic regions and sub-regions.

DATA BASE AND METHODOLOGY

India consists of different agro climatic zones which are conducive for different variety of crops. . The points at which the analysis of cropping pattern has been done are 1990-93 and 2009-12. To study change in cropping pattern in India to time periods has been chosen and data collected on the basis of state

level. The present study based on secondary data. Data for cropping pattern of India is taken from Directorate of Economics and Statistics, Ministry of Agriculture, Government of India, New Delhi.

Changes in cropping pattern have been examined in terms of changes in percentage share of individual crops in total cropped area during post reform period and the present time. To see change in cropping pattern triennium average have been calculated for two periods (1990-93 and 2009-12). The percentage area under different crops is evaluated from total cropped area. There are two categories of crops major and minor crops. The major crops showing in the table with a particular name and the minor crops, for which separate analysis could not be done, have been grouped in the category of other crops.

The map is the main tool for geographical analysis, synthesis and interpretation. The maps are prepared with the help of GIS tool (Arc- GIS 9.3). State-wise spatial variation in cropping pattern have been shown by pie-diagrams method for two periods of time. The comparative bar diagram shows the percent point change area under a particular crop out of total cropped area.

RESULTS AND DISCUSSION

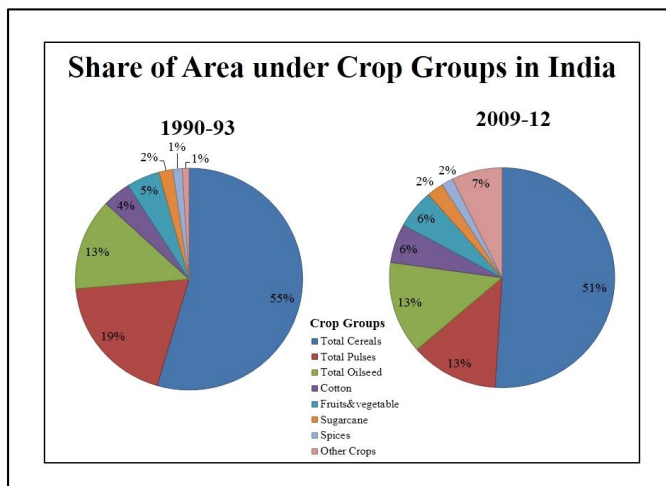
Share of Area under Various Crop Groups in India

The comparative pie diagram shows that the area under various crop groups in

Table 1. Share of Area under Various Crop Groups in India

Crop Groups	1990-93	2009-12
Total Cereals	54.5	51.0
Total Pulses	19.1	12.7
Total Oilseed	13.3	13.6
Cotton	4.1	5.7
Fruits & Vegetable	4.7	5.7
Sugarcane	2.0	2.4
Spices	1.3	1.7
Other Crops	1.0	7.3

DES, Ministry of Agriculture, Gol, New Delhi.



India during two trienniums i.e. 1990-93 and 2009-12. These crop groups are such as Total Cereals, Total Pulses, Total Oilseeds, Cotton, Fruits & Vegetables, Sugarcane, Spices and other crops. Table 1 and Figure 2 shows that there is maximum area under foodgrains with 74 percent out of total cropped area in 1990-93. Their proportion decreased to to 64 percent in 2009-12. There are drastically change in last twenty two years in foodgrains. In 1990-93 there is 55 percent area under total cereals whereas in 2009-12 it is 51 percent. It is observed that the area under total pulses has recorded sharp declined from 13 percent in 1990-93 to about 6 percent in 2009-12.

The cotton acreage has increased from 4.1 percent in 1990-93 to 5.7 percent in 2010-13. Proportion of fruit and vegetable crops have increased more than 1 percent over the period of time. During 1990-93 to 2009-12, the share of area under total oilseeds, spices and sugarcane marginally increases. During post reform period the area share of other crops decreased from 1 percent to 7 percent.

Crops	1990-93		2009-12		Percent Change	Point
	Area (000' ha)	Percent Area	Area (000' ha)	Percent Area		
Rice	42370	22.86	42929	21.51	-1.35	
Wheat	24006	12.95	29130	14.60	1.64	
Bajra	10374	5.60	9097	4.56	-1.04	
Jowar	13253	7.15	7138	3.58	-3.57	
Maize	5909	3.19	8532	4.28	1.09	
Ragi	2069	1.12	1243	0.62	-0.49	
Small Millets	2173	1.17	810	0.41	-0.77	
Gram	6518	3.52	8551	4.29	0.77	
Other Kharif Pulses	14908	8.04	7418	3.72	-4.33	
Other Rabi Pulses	10309	5.56	4800	2.41	-3.16	
Tur	3599	1.94	3947	1.98	0.04	
Ground Nut	8381	4.52	5532	2.77	-1.75	
Rapeseed & Mustard	6176	3.33	6127	3.07	-0.26	
Soyabean	3179	1.72	9815	4.92	3.20	
Sugarcane	3701	2.00	4699	2.35	0.36	
Cotton	7547	4.07	11182	5.60	1.53	
Fruits & Vegetables	6864	3.70	9384	4.70	1.00	
Condiments & Spices	2471	1.33	3359	1.68	0.35	
Other Crops	11528	6.22	25859	12.96	6.74	
Total	185333	100.00	199553	100.00		

DES, Ministry of Agriculture, Gol, New Delhi.

Table 4 and comparative bar diagram shows that the percentage area under different crops in India during the total cropped area under rice crop is increased in 2009-12 as compare to 1990-93 but is decrease in the present point area. The major decline is notified in case of coarse cereals and pulses.

The diagram is clearly shows rice and wheat crop is dominant position in India which covers 35 percent area out of total cropped area. Area under wheat, cotton, soyabean, fruits and vegetable is increased. The major increase area under soyabean crop which is dominate crop in Madhya Pradesh followed by Maharashtra. The major decline area under pulses out of total cropped area in 1990-93 is a major role in crops with 13 percent but now it is only 6 percent. There is also decline in case of coarse cereals like bajra, barley, jowar and small millets.

Cropping pattern- 1990-93:-

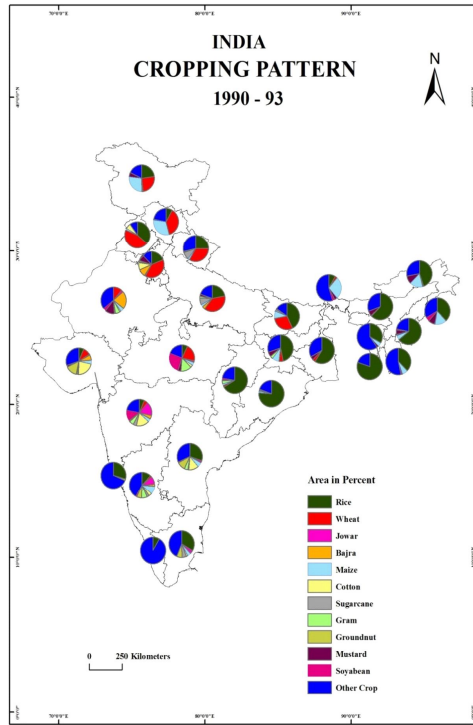
If we see cropping pattern in this (1990-93) time period Table 1 shows there are only two crops namely rice and wheat covers 36 percent area out of total cropped area. Rice is the dominant crop in India with 22.9 percent followed by wheat, jowar, bajra, cotton and gram.

State	Rice	Wheat	Jowar	Bajra	Ground-nut	Cotton	Gram	Mustard	Maize	Sugar-cane	Soya-bean	Other Crops
Andhra Pradesh	29.6	0.1	8.5	1.5	18.5	5.5	0.5	0.0	2.4	1.4	0.0	31.9
Arunachal Pradesh	47.6	1.6	0.0	0.0	0.0	0.0	0.0	7.5	14.7	0.0	0.7	28.0
Assam	65.5	2.0	0.0	0.0	0.0	0.1	0.1	7.7	0.5	1.0	0.0	23.1
Bihar	48.6	19.2	0.0	0.1	0.0	0.0	1.4	1.0	6.6	1.4	0.0	21.5
Goa	34.8	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.1	1.2	0.0	63.4
Gujarat	5.3	5.4	5.6	11.1	17.2	10.0	1.1	3.8	3.4	1.1	0.2	35.7
Haryana	11.6	32.4	2.0	10.4	0.0	8.8	7.7	9.7	0.5	2.6	0.0	14.2
Himachal Pradesh	8.5	38.2	0.0	0.0	0.0	0.0	0.3	0.8	32.0	0.2	0.1	19.9
Jammu & Kashmir	25.5	23.0	0.0	1.5	0.1	0.0	0.1	5.6	27.6	0.0	0.0	16.5
Karnataka	10.3	1.7	17.9	3.3	10.4	5.0	1.7	0.0	2.3	2.2	0.3	44.8
Kerala	18.0	0.0	0.2	0.0	0.4	0.3	0.0	0.0	0.0	0.2	0.0	80.8
Madhya Pradesh	21.3	15.3	6.2	0.7	1.2	2.3	9.6	2.5	3.7	0.2	10.9	26.3
Maharashtra	7.4	3.5	28.1	9.1	3.6	12.6	2.7	0.0	0.6	2.1	1.3	29.0
Manipur	80.5	0.0	0.0	0.0	0.0	0.1	0.0	1.2	2.0	0.9	0.0	15.3
Meghalaya	43.5	1.8	0.0	0.0	0.0	3.1	0.2	2.8	7.5	0.0	0.4	40.7
Mizoram	59.5	0.0	0.0	0.0	0.0	1.1	0.0	1.9	7.2	0.6	1.2	28.5
Nagaland	59.9	0.2	0.0	0.0	0.5	0.0	0.8	4.2	12.3	1.7	1.3	19.0
Orissa	46.5	0.2	0.2	0.1	3.0	0.1	0.4	1.3	1.4	0.4	0.0	46.4
Punjab	27.3	43.4	0.0	0.1	0.1	9.1	0.5	1.0	2.5	1.4	0.0	14.6
Rajasthan	0.7	10.1	4.2	25.1	1.3	2.4	7.2	11.8	5.0	0.1	1.0	31.1
Sikkim	13.0	7.5	0.0	0.0	0.0	0.0	0.0	5.0	29.8	0.0	3.4	41.3
Tamil Nadu	29.8	0.0	7.4	3.6	15.7	3.7	0.1	0.0	0.5	3.3	0.0	35.8
Tripura	57.1	0.8	0.0	0.0	0.4	0.3	0.2	2.0	0.5	0.4	0.0	38.4
Uttar Pradesh	21.6	34.2	1.9	3.1	0.5	0.1	4.5	4.7	4.2	7.4	0.1	17.7
West Bengal	66.6	3.1	0.0	0.0	0.2	0.0	0.2	4.6	0.6	0.2	0.0	24.5
All India	22.9	13.0	7.2	5.6	4.5	4.1	3.5	3.3	3.2	2.0	1.7	29.1

DES, Ministry of Agriculture, GoI, New Delhi.

Highest percentage area under rice in Manipur with 80 percent followed by west Bengal, Mizoram, Nagaland, Orissa etc. There are in case of wheat is dominant in northern part of India. Mostly if we see there is a good combination of wheat and rice crop in indo-Gangetic plain and reason behind this fertile alluvial soil, level land and the expansion of irrigation facility in this region

Rice is the dominant crop in north and northeastern, deltaic region and konkan coast of India due to high temperature, high humidity and high rainfall. There is little bit area under wheat and bajra crop in south and eastern part of India. In Maharashtra, Karnataka, Gujarat, Haryana and Punjab cotton is also important crop. Mostly coarse cereal crops are important crops in Maharashtra, Rajasthan, Karnataka and Gujarat which is due to climatic condition.



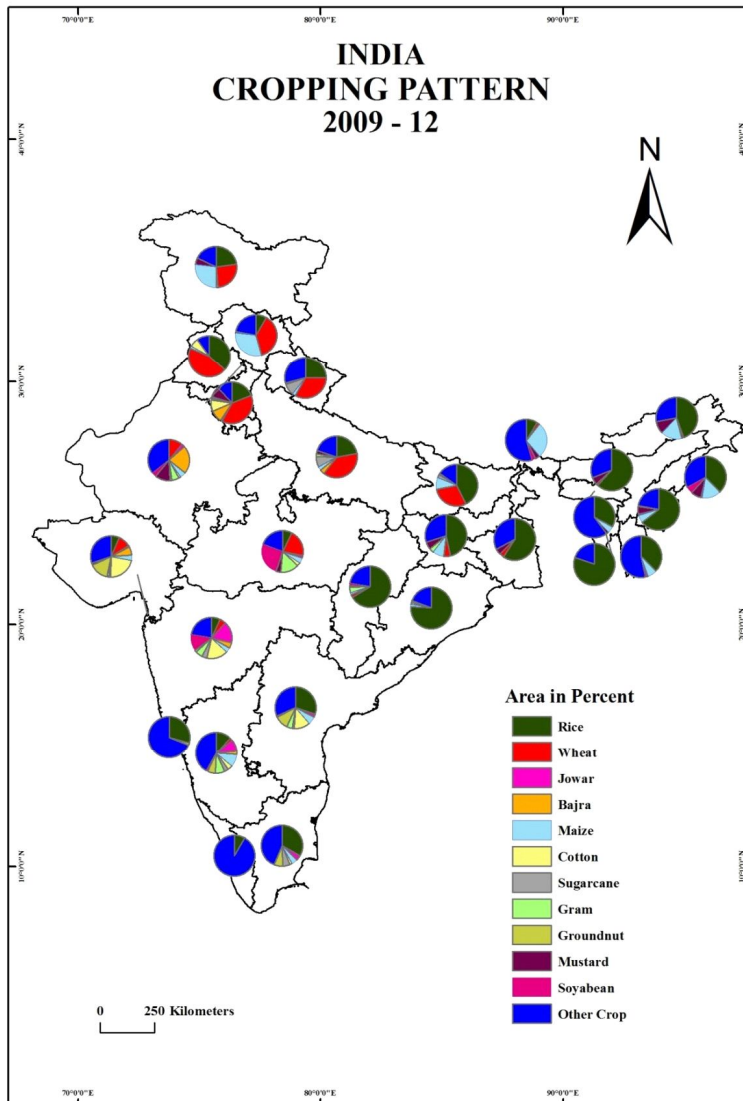
Gram is dominated in Madhya Pradesh followed by Haryana and Uttar Pradesh. Other crops included spices and cash crops dominant in Kerala and Goa. Maize is important crop in Jammu and Kashmir, Himachal Pradesh, Sikkim and Arunachal Pradesh due to availability of irrigation facilities, fertile soil and level land. Area under rice is decline only 1 percent in comparison to 1990-93. There is high change in area under rice in north eastern states of India but still rice is dominating crop in this region.

Cropping pattern-2009-12

During the period 2009-2012 (Table-3) shows that most of the arable land in Indo-Gangetic plain was devoted to wheat and rice combination in north-western part of India. It is

Table-2 Percentage of Area under Different Crops in India during 2009-12												
State	Rice	Wheat	Jowar	Bajra	Ground-nut	Cotton	Gram	Mustard	Maize	Sugar-cane	Soya-bean	Other Crops
Andhra Pradesh	30.1	0.1	2.2	0.4	10.4	12.8	4.4	0.0	5.9	1.4	1.0	31.4
Arunachal Pradesh	43.9	1.3	0.0	0.0	0.2	0.0	0.0	9.7	16.2	0.5	0.9	27.3
Assam	61.2	1.3	0.0	0.0	0.0	0.0	0.0	5.8	0.5	0.7	0.0	30.6
Bihar	42.3	29.1	0.0	0.1	0.0	0.0	0.8	1.2	8.8	2.6	0.0	15.1
Chhattisgarh	66.0	2.0	0.1	0.0	0.5	0.0	4.4	1.0	1.8	0.2	1.9	22.2
Goa	29.1	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.6	0.0	68.5
Gujarat	6.4	9.6	1.1	6.6	14.6	22.1	1.5	1.8	4.2	1.5	0.6	30.0
Haryana	19.0	38.9	1.1	9.4	0.0	8.5	1.4	8.0	0.2	1.3	0.0	12.1
Himachal Pradesh	8.1	37.5	0.0	0.0	0.0	0.0	0.1	1.0	31.1	0.2	0.1	21.9
Jammu & Kashmir	22.7	25.4	0.1	1.5	0.0	0.0	0.0	5.2	27.1	0.0	0.0	17.9
Jharkhand	46.1	5.1	0.0	0.0	0.8	0.0	3.8	5.5	8.6	0.3	0.0	29.7
Karnataka	11.7	2.0	9.9	2.4	6.2	4.1	7.2	0.0	10.2	3.1	1.4	41.8
Kerala	8.2	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	91.5
Madhya Pradesh	7.1	20.5	1.9	0.8	0.9	3.0	14.0	3.5	3.8	0.3	25.1	19.0
Maharashtra	6.7	4.8	17.0	4.3	1.4	17.1	5.6	0.0	3.8	4.1	12.9	22.3
Manipur	64.0	0.5	0.0	0.0	0.4	0.0	0.0	5.8	5.5	1.2	1.0	21.8
Meghalaya	32.1	0.1	0.0	0.0	0.2	0.7	0.2	2.1	5.1	0.0	0.3	59.1
Mizoram	37.1	0.0	0.0	0.0	0.0	0.1	0.0	0.4	7.2	1.2	1.1	53.0
Nagaland	37.6	0.6	0.0	0.1	0.0	0.0	0.1	8.0	14.5	1.0	5.2	32.9
Orissa	75.0	0.0	0.2	0.1	1.3	1.4	0.7	0.2	1.8	0.2	0.0	19.1
Punjab	35.7	44.6	0.0	0.0	0.0	6.8	0.0	0.4	1.7	0.9	0.0	9.8
Rajasthan	0.6	10.8	2.8	21.7	1.5	1.7	5.7	11.8	4.5	0.0	3.4	35.5
Sikkim	8.6	2.4	0.0	0.0	0.0	0.0	0.0	3.8	27.7	0.0	2.8	54.8
Tamil Nadu	32.9	0.0	3.9	0.9	6.9	2.1	0.1	0.0	4.4	5.6	0.0	43.1
Tripura	78.6	0.1	0.0	0.0	0.2	0.1	0.1	0.6	0.9	0.3	0.0	19.2
Uttar Pradesh	21.9	37.9	0.8	3.5	0.3	0.0	2.3	2.4	2.9	8.2	0.0	19.7
Uttarakhand	24.9	33.0	0.0	0.0	0.1	0.0	0.1	1.3	2.4	9.0	0.9	28.8
West Bengal	57.8	3.4	0.0	0.0	0.7	0.0	0.2	4.5	1.0	0.2	0.0	32.2
All India	21.5	14.6	3.6	4.6	2.8	5.6	4.3	3.1	4.3	2.4	4.9	28.5

DES, Ministry of Agriculture, Gol, New Delhi.



State	Rice	Jowar	Bajra	Maize	Wheat	Gram	Ground-nut	Soyabean	Sugarcane	Cotton	Mustard	Other Crops
Andhra Pradesh	0.52	-6.21	-1.14	3.43	0.00	3.86	-8.16	1.01	-0.06	7.26	0.01	-0.46
Arunachal Pradesh	-3.68	0.00	0.00	1.54	-0.28	0.00	0.18	0.22	0.54	0.00	2.25	-0.76
Assam	-4.37	0.00	0.00	-0.02	-0.78	-0.04	0.00	0.00	-0.32	-0.04	-1.89	7.47
Bihar	-6.26	-0.01	-0.02	2.18	9.91	-0.68	-0.04	0.00	1.25	0.00	0.18	-6.50
Goa	-5.72	0.00	0.00	-0.07	0.00	0.00	1.32	0.00	-0.64	0.00	0.00	5.12
Gujarat	1.07	-4.51	-4.52	0.79	4.20	0.38	-2.64	0.42	0.36	12.13	-2.04	-5.64
Haryana	7.49	-0.95	-1.01	-0.39	6.54	-6.31	0.00	0.00	-1.24	-0.35	-1.66	-2.13
Himachal Pradesh	-0.40	0.00	0.02	-0.85	-0.70	-0.21	-0.01	-0.01	-0.02	-0.01	0.18	2.01
Jammu & Kashmir	-2.77	0.13	-0.01	-0.52	2.39	-0.04	-0.07	0.00	-0.03	-0.01	-0.39	1.31
Karnataka	1.41	-8.03	-0.93	7.89	0.31	5.46	-4.28	1.16	0.89	-0.86	-0.01	-3.02
Kerala	-9.81	-0.09	0.00	0.00	0.00	0.00	-0.39	0.00	-0.14	-0.30	0.00	10.74
Madhya Pradesh	-2.19	-4.61	-0.06	-0.26	1.41	2.44	-0.36	9.52	0.10	0.11	0.49	-6.59
Maharashtra	-0.74	-11.07	-4.80	3.15	1.32	2.90	-2.15	11.61	1.99	4.52	0.01	-6.72
Manipur	-16.58	0.00	0.00	3.54	0.45	0.00	0.37	0.97	0.32	-0.07	4.57	6.47
Meghalaya	-11.35	0.00	0.00	-2.41	-1.69	-0.03	0.22	-0.06	-0.02	-2.46	-0.62	18.38
Mizoram	-22.40	0.00	0.00	-0.06	0.00	0.00	0.00	-0.12	0.60	-1.00	-1.52	24.53
Nagaland	-22.31	0.03	0.10	2.21	0.39	-0.69	-0.51	3.84	-0.73	-0.04	3.80	13.96
Orissa	28.49	-0.09	-0.02	0.36	-0.20	0.35	-1.72	-0.01	-0.16	1.31	-1.03	27.28
Punjab	8.41	0.00	-0.09	-0.77	1.27	-0.47	-0.12	0.00	-0.54	-2.32	-0.66	-4.71
Rajasthan	-0.12	-1.42	-3.38	-0.46	0.67	-1.49	0.26	2.37	-0.11	-0.71	0.00	4.40
Sikkim	-4.39	0.00	0.00	-2.09	-5.10	0.00	0.00	-0.61	0.00	0.00	-1.22	13.45
Tamil Nadu	3.07	-3.49	-2.70	3.88	0.00	0.03	-8.84	0.00	2.23	-1.64	-0.01	7.26
Tripura	21.49	0.00	0.00	0.37	-0.67	-0.07	-0.28	0.00	-0.10	-0.15	-1.38	19.19
Uttar Pradesh	-2.67	-1.28	-0.24	-1.72	-1.80	-2.61	-0.23	-0.02	-0.34	-0.05	-2.69	13.65
West Bengal	-8.83	0.00	0.00	0.38	0.37	0.00	0.42	0.00	-0.01	0.00	-0.10	7.78
Union Territory	9.82	-3.83	-0.98	0.23	1.42	-0.13	-1.09	0.00	0.15	21.11	-0.68	26.22
All India	-1.35	-3.57	-1.04	1.09	1.64	0.77	-1.75	3.20	0.36	1.53	-0.26	-0.62
	Increase in Percent Point			Decrease in Percent Point				No Change				
	0 – 5			0 – 5				Zero				
	Above 5			Above 5								

DES, Ministry of Agriculture, GoI, New Delhi.

due to availability of irrigation facilities, fertile soil and level land. Area under rice is decline only 1 percent in comparison to 1990-93. There is high change in area under rice in north eastern states of India but still rice is dominating crop in this region.

Maize is important crop Jammu and Kashmir, Himachal Pradesh, Sikkim and Arunachal Pradesh which have hilly topography. We can see the in case of Rajasthan the dominance of coarse cereals due lack of rainfall, unavailability of irrigation facility. In case of gram region Madhya Pradesh leading area under a

particular crop followed by Karnataka, Rajasthan and Maharashtra. The major decline is notified in case of pulses in 1990-93 it was 13 percent but in the present only 6 percent. Area under wheat, gram, cotton, soyabean and fruits & vegetable is increased.

Area under cotton is increased in Gujarat, Maharashtra and Andhra Pradesh. Mostly increased area under soyabean crop in 1990-93 it was 1.3 percent but in 2009-12 it is 5 percent. There is no change area under total oilseeds out of total cropped area.

This table shows the crop wise percent point area change in India between 1990-93 and 2009-12. If we talk about about all India level there is decline area under rice, coarse grain and oilseeds. Rice is high decrease in north-eastern state of India expect Tripura.

CONCLUSION:-

In India, we find that the conditions of soil and climate are mostly favourable to area under foodgrain and hence foodgrain crops dominate the cropping pattern of the country. In Indo-Gangetic plain, there is a good combination rice and wheat cropping pattern with the expansion of irrigation facility in this region. There is high decline in area under rice in north eastern states of India but still rice is dominating crop in this region. Maize is dominant crop Jammu and Kashmir, Himachal Pradesh and Sikkim which have hilly topography. Southwestern states comprising Kerala, Goa and Karnataka have dominance in other crops like spices and cash crops.

Area under cotton is increased mainly in three states Gujarat, Maharashtra and Karnataka. Area under oilseeds and pulses is increased in Madhya Pradesh, Rajasthan, Maharashtra, Andhra Pradesh, Gujarat and Karnataka. The major decline is noticed in case of coarse cereals and pulses. Area under wheat, cotton, soyabean, fruits and vegetable is increased over the period of time. Soyabean crop is increased very rapidly in middle part of country particularly in two states Madhya Pradesh and Maharashtra. There is negligible area under wheat and bajra crop in southern and eastern part of India

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