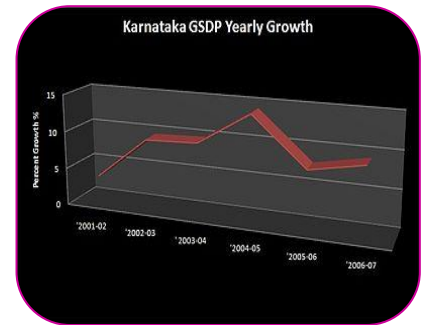




ECONOMIC PROFILE OF KARNATAKA

Ramesh Pote



ABSTRACT:

Formerly known as the State of Mysore, the state of Karnataka is located in the southern part of India and has the states of Tamil Nadu, Maharashtra, Andhra Pradesh and Kerala as neighbors. The capital of the state is the city of Bangalore which has evolved as one of the most vibrant cities in the country. Bangalore has grown into a hub for many major companies mainly IT companies. Many youngsters have flocked to Bangalore in recent times in search of employment. The state of Karnataka was formed in 1956 as the State of Mysore and was renamed as Karnataka in 1973.

KEYWORDS: Latitudes, Population, Literacy.

INTRODUCTION:

Location and Boundaries

The State of Karnataka is located within 11.5 degree North and 18.5 degree North latitudes and 74 degree East and 78.5 degree east longitude. It is situated on a tableland where the Western and Eastern Ghat ranges converge into the Nilgiri hill complex, in the Western part of the Deccan Peninsular region of India. The State is bounded by Maharashtra and Goa States in the North and North-West; by the Arabian Sea in the West; by Kerala and Tamilnadu States in the South and by the States of Andhra Pradesh in the East. Karnataka extends to about 750 km from North to South and about 400 km from East to West.

Population and Workforce

The population of Karnataka which was 5.29 crore in 2001 has increased to 6.11 crore in 2011. The female population of Karnataka which accounted for 49.10 per cent of the total population in the state during the 2001 census has gone up marginally to 49.19 per cent in the 2011 census. The total population growth in this decade was 15.67 per cent while in the previous decade it was 17.25 per cent. The population of Karnataka forms 5.05 per cent of the all-India population in 2011 as against 5.14 per cent during the 2001 census. Rural population which formed 66 per cent of the total population of Karnataka in 2001 declined to 61.43 per cent in 2011 (Table 4.9). The proportion of rural female population declined from 49.41 per cent in 2001 to 49.19 per cent in 2011. On the contrary, the proportion of female population in urban Karnataka rose marginally from 48.50 per cent in 2001 to 48.91 during 2011.

Table-4.9 Population of Karnataka during 2001 and 2011 Census
Population in '000

Population	Census 2011			Census 2001		
	Total	Rural	Urban	Total	Rural	Urban
Persons	61,095	37,469	23,626	52,851	34,889	17,962

Males	30,967	18,929	12,037	26,899	17,649	9,250
Females	30,129	18,540	11,589	25,952	17,240	8,712

Source: Karnataka Census, 2011

Literacy

In the state the literacy rate of total population has increased from 25 per cent in 1961 to 67.04 per cent in 2001 and 75.4 per cent in 2011. The literacy rate in Karnataka is higher than the literacy rate of 74.04 per cent in the country.

A marked variation is observed in the literacy rates among males and females, while the male literacy rate for the state was 82.47 per cent; the female literacy rate was 66.01 per cent during 2011.

Table-4.10 Literacy level in Karnataka(In percent)

	1961	1971	1981	1991	2001	2011
Total Literacy	25	32	39	56	64.83	75.4
Urban	44	51	57	74.2	80.6	85.8
Rural	20	25	31	47.69	59.3	68.7
Male	36	42	49	67	75.26	82.47
Female	14	21	28	44	53.67	66.01

Source: Karnataka Census, 2011

Physiography

Physiographically, Karnataka State forms part of two well defined macro regions of Indian Union; the Deccan Plateau and the Coastal plains and Islands. The State has four physiographic regions.

Northern Karnataka Plateau:

Northern Karnataka Plateau comprises of the districts of Belgaum, Bidar, Bijapur and Kalaburagi and is largely composed of the Deccan Trap. It represents a monotonous, treeless extensive plateau landscape with a general elevation of 300 to 600 meters from the mean sea level.

However the river plains of the Krishna, the Bhima, the Ghataprabha and the Malaprabha with the intervening watersheds, the step like landscapes, lateritic scarpments, residual hills and ridges break the monotony of this extensive plateau. The general slope is towards the east. This region is largely covered with rich black cotton soils.

Central Karnataka Plateau

Central Karnataka Plateau covers the districts of Bellary, Chikmagalur, Chitradurga, Dharwad, Raichur and Shimoga. The region represents the transitional surface between the Northern Karnataka Plateau of Deccan Trap and southern Karnataka Plateau with relatively higher surface.

By and large, this region represents the area of Tungabhadra basin. The general elevation varies between 450 and 700 metres. The general slope of this region is towards the east.

Southern Karnataka Plateau

The Southern Karnataka Plateau covers the districts of Bangalore, Bangalore Rural, Hassan, Kodagu, Kolar, Mandya, Mysore and Tumkur. This region largely covers the area of the Cauvery river basin lying in Karnataka. It is bounded by 600 metres contour and is characterised by a higher degree of slope. In the west and south, it is enclosed by the ranges of Western Ghats and the northern part is an interrupted but clearly identifiable high plateau.

In the east the valleys of the Cauvery and its tributaries open out to form undulating plains. The general elevation of the region varies from 600 to 900 metres. However, residual heights of 1,500 to 1,750 metres are found in the Biligirirangan hills of Mysore district and the Brahmagiri range of Kodagu.

Coastal Karnataka Region

The Karnataka Coastal Region, which extends between the Western Ghats, edge of the Karnataka Plateau in the east and the Arabian Sea in the West, covers Dakshina Kannada and Uttara Kannada districts. This region is traversed by several ridges and spurs of Western Ghats. It has difficult terrain full of rivers, creeks, water falls, peaks and ranges of hills. The coastal region consists of two broad physical units, the plains and the Western Ghats.

The Coastal plains represent a narrow stretch of estuarine and marine plains. The abrupt rise at the eastern flanks forms the Western Ghats. The northern parts of the ghats are of lower elevation (450-600 metres) as compared to Southern parts (900 to 1,500 metres). The Coastal belt with an average width of 50 to 80 km covers a distance of about 267 km. from north to south.

Topography

It is surprising that in an area of 1, 92,204 sq km that Karnataka spans we encounter an amazing variety of topography – high mountains, plateaus, residual hills and coastal plains. The state is enclosed by chains of mountains to its west, east and south. It contains mainly of plateau which has higher elevation of 600 to 900 metres above mean sea level. The entire landscape is undulating, broken up by mountains and deep ravines.

Plain land of elevation less than 300 metres above mean sea level is to be found only in the narrow coastal belt, facing the Arabian sea level. There are quite a few high peaks both in Western and Eastern Ghat systems with altitude more than 1,500 metres. A series of cross-sections drawn from west to east across the Western Ghat generally exhibit, a narrow coastal plain followed to the east by small and short plateaus at different altitudes, then suddenly rising up to great heights.

Then follows the gentle east, east-north and west sloping plateau. Among the tallest peaks of Karnataka are the Mullayanagiri (1925m), Bababudangiri (Chandradrona Parvata 1,894 m) and the Kudremukh (1895 m) all in Chikmagalur District and the Puspagiri (1,908 M) in Kodagu Dt. There are a dozen peaks which rise above the height of 1,500 meters.

Soil

There are varied types of soils in Karnataka. Six broad groups of soil orders are recognized, based on differences in soil formation processes, as reflected in the nature and sequence of soil horizons. Black soils are found in northern Karnataka whereas red and red loamy soils are prominent in southern Karnataka. Laterite soils are found in malnad and coastal areas of the state. A brief description of the properties of these soil groups, along with their distribution across districts of Karnataka, is presented below as well as depicted in Fig 1. Talking about the soils in Karnataka, we can summarize the following points:

Black soils: These soils are derived from basalt, though some are formed from limestones, shale's, alluvium and schist's. These soils have high plasticity, stickiness and tendency to swell and shrink when subjected to wetting and drying cycles. They have high water holding capacity with low bulk density.

Red soils: These form the most widespread soil type in Karnataka. The red soil results from the weathering of the crystalline and metamorphic rocks and its red color comes from the diffusion of iron oxide in high proportions.

Red loam soils: These are generally deep to very deep and the clay content can vary. The soils are subject to intense leaching. They are fairly well drained in the uplands and water logged in low-lying areas. Mixed red and black soils: The coarse textured red soils with high permeability are found in upland areas whereas deep, clayey, poorly drained black soils occur in the low lands and valleys. The topography and parent material are

the major soil forming factors under the influence of which these mixed red and black soils are formed. These are derived from either gneisses or schist's rocks or sedimentary rock formations.

Table-4.11 Share of Different Soil types in Karnataka

Soil Type	Properties	Distribution
Black soils	In texture, soil varies from loam to clays. Generally they are neutral to alkaline in reaction, calcareous and well supplied with bases such as Ca, Mg, k. Black soils are known to get self-ploughed due to their swelling and shrinking properties with changes in moisture content.	Districts are Belgaum, Bijapur, Kalaburagi and Bidar; also parts of Raichur, Chitradurga and Bellary
Laterite soil	Laterite soils result from advanced stages of weathering; highly leached, they are poor in bases and very acidic in reaction. The moisture retentivity of the soil is very poor; soil contains adequate quantities of organic matter.	Malnad and coastal areas of U.K, D.K and parts of Dharwad, Chikmagalur, Hassan
Red and red loamy soil	They are light textured, from sandy to gravelled or loamy, with poor aggregating ability. They are poor in bases and acidic to neutral in reaction.	Shimoga, Chikmagalur, Hassan, Mysore and Kodagu.
Coastal alluvials	The surface soil is generally grey, yellow or light brown; the intensity of the colour increases with depth. The soils are acidic in nature, low in cation exchange capacity and bases.	Dakshin Kannada, and Uttar Kannada
Dark brown clayey soil	They are clayey, low in bases, rich in organic matter as the surface soil receives the decomposition product of the virgin forest	Dakshin Kannada, Uttar Kannada, Kodagu and Mysore
Mixed red and black soil	Black soil seen in the low lands and valleys has properties resembling those of medium black soil. Soils are productive under good management practices.	Belgaum, Bijapur, Dharwad, Raichur, Bellary and Chitradurga.

Source: <http://raitamitra.kar.nic.in/agriprofile/table5.htm>

Climate and Rainfall:

The state located on the western coast, gets most of the precipitation from the southwest monsoon. The State enjoys three distinct climates varying with the seasons. The winter season from January to February is followed by summer season from March to May. The period from October to December forms the post-monsoon season. The period from October to March, covering the post-Monsoon and winter seasons, is generally pleasant over the entire State except during a few spells of rain associated with north-east monsoon which affects the south-eastern 4 parts of the State during October to December. The months April and May are hot, very dry and generally uncomfortable. Weather tends to be oppressive during June due to high humidity and temperature. The next three months (July, August and September) are somewhat comfortable due to reduced day temperature although the humidity's continue to be very high.

Rainfall:

Rainfall plays an important role in crop production in Karnataka as more than 70 per cent of the cropped area is rain-fed. There are 1,256 rain gauge stations in the state of which 1,170 are functioning and 86 are non-functional. The long-term (1901-1970) annual average rainfall in the state, which was 1,339 mm, has declined to an average precipitation of 1,217 mm during the years 1941-1990. The average rainfall between 1998 and 2008 indicated increased precipitation during summer and south-west monsoon season and modest reduction during the north-east monsoon season (Table 4.12). Variability in precipitation ranged from 26 per cent for north-east monsoon to 173 per cent for summer months. The actual rainfall received during south-west monsoon (June-September) as well as north-east monsoon (October – December) during

2010 is higher than the normal precipitation in the state. The total rainfall was 1,500 mm, which is 303 mm or 25 per cent more than the normal rainfall of 1,198 mm.

Table-4.12 Season-wise Normal and Average Rainfall (in mm)

Period	Normal Rainfall (1941-1990)	Average rainfall (1998 to 2008)	CV (%) (1998 to 2008)	Average rainfall 2010
Summer (Jan.-Mar.)	13	24.6	173	15
Pre-monsoon (April.-May)	131	124.9	42	126
Southwest monsoon (June-Sept.)	861	934.5	28	1064
Northeast monsoon (Oct.-Dec.)	193	177.0	26	295
Annual Total	1198	1261	21	1500

Sources: Karnataka state natural disaster monitoring centre

As stated earlier, Karnataka has varied agro-climatic conditions ranging from large semi-arid regions to coastal and rain-shadow areas. The average annual rainfall for 1998 to 2010 ranged from a minimum of 547 mm in Bijapur to a maximum of 4,471 mm in Udupi district. The districts located in southern and coastal parts of the state viz., Shimoga, Chickmagalur, Kodagu, Uttar Kannada, Dakshin Kannada and Udupi, received an average annual rainfall of more than 2,000 mm. On the contrary, districts like Bijapur, Bellary, Bagalkot, Koppal, Gadag, Raichur and Chitradurga can be classified as low rainfall districts where average annual rainfall (1998-2010) is less than 650 mm. The normal rainy days varied from less than 40 in low rainfall districts to more than 80 in high rainfall districts. The variability in annual average precipitation measured in terms of coefficient of variation (CV) was lower in the districts having high rainfall than in the districts having lower annual rainfall. The CV in annual rainfall ranged from 11 per cent in Dakshin Kannada to 31 per cent in Bagalkot district.

Irrigation:

Irrigation plays an important role in improving production and productivity of agriculture. It facilitates adoption of improved technologies and increases cropping intensity thereby making optimum use of a finite resource i.e., land. There has been a gradual increase in the irrigated area in the state. The gross irrigated area has increased steadily from 9.06 lakh ha during 1960-63 to 27.45 lakh ha during 1990-93 and touched 41.87 lakh ha for the triennium ending 2008-11. The net irrigated area is 34.90 lakh ha at the triennium ending 2008-11 when compared with 22.05 lakh ha during 1990-93.

**Table-4.13 Source of Irrigation (Triennium Averages)
Area in Lakh ha**

Triennium	Canal	Tanks	Tube Wells	Wells	Other Sources	Net Irrigated Area	Gross Irrigated Area
1960-63	2.56 (28.28)*	3.58 (39.49)	0.00 (0.00)	1.46 (16.11)	1.46 (16.12)	9.06 (100.00)	9.96
1970-73	4.38 (35.91)	3.67 (30.07)	0.04 (0.30)	3.11 (25.51)	1.00 (8.21)	12.20 (100.00)	15.02
1980-83	6.11 (40.49)	3.17 (21.02)	0.07 (0.48)	4.02 (26.68)	1.71 (11.33)	15.08 (100.00)	18.59

1990-93	8.94 (40.55)	2.65 (12.00)	2.11 (9.57)	5.32 (24.12)	3.04 (13.76)	22.05 (100.00)	27.45
2000-03	8.81 (34.50)	2.29 (8.97)	6.17 (24.16)	4.69 (18.37)	3.57 (13.99)	25.53 (100.00)	30.67
2004-07	10.11 (34.73)	1.86 (6.40)	9.36 (32.13)	3.93 (13.51)	3.86 (13.24)	29.12 (100.00)	35.21
2008-11	11.08 (32.84)	1.99 (5.92)	12.24 (36.29)	4.23 (12.53)	4.19 (12.40)	34.90 (100)	41.87

Source: Karnataka state natural disaster monitoring centre

Note: Figures in parenthesis are percentage to N

Among the irrigation sources, canals and tanks were the major sources of irrigation till 1980s. However, the share of tube/bore wells in the total irrigated area started increasing phenomenally after early 1990s. In 2008-11, the net area irrigated by tube/bore wells accounted for 36.29 per cent of the total net irrigated area in Karnataka as against 32.84 per cent covered by canal irrigation.

Crop-Wise Analysis:

Rice

In Karnataka rice is grown under a variety of soils and wide range of rainfall and temperature. Only around 44 per cent of the total acreage is under irrigation while the rest is under the regime of monsoon. Rice is cultivated in places where the rains are as heavy as 3000 mm and in others where it is just 600 mm. In some areas only one crop is grown and in certain other areas three crops are raised. The unique feature of rice culture in the state is that either sowing or transplanting is seen in all seasons of the year. Rice is grown in Karnataka in 27 districts. Rice is grown under a variety of soils and wide range of rainfall and temperature. Only around 44 per cent of the total acreage is under irrigation while the rest is under the regime of monsoon.

Major Rice growing areas of the state can be broadly classified into two seasons, viz., kharif (June-July) and summer (January-February). In all the six rice growing ecosystems, Kharif sowing is common while during summer season the crop is cultivated mainly in the irrigated maidan areas of north and south. In the tank-fed areas, the crop is taken up late in the season (August-September) depending upon the monsoon showers. In coastal area, one can see a specific situation where a second crop is sown in September-October and harvested in January-February and the third crop is cultivated between December-January and March-April. In each district, nearly 60-80 per cent of the total area is covered during Kharif (wet) season while the remaining area is occupied in late Kharif and summer (dry) season.

Maize

During the kharif season, maize was the most important crop and it was raised on the remaining land with conjunctive use of water and also to a large extent on the lands without conjunctive use of water. Therefore, Kharif maize was cultivated on more number of farms with a higher acreage under the crop on the lands without conjunctive use of water. Sowing of Kharif maize was done in May-June. In Karnataka, maize is grown over an area of 1.2m.ha with a production of 3.6million tonnes and productivity of 3.0t ha. Maize is called "Queen of cereals" because of its productive potential compared to any other cereal crop. Being an exhaustive crop, it has very high nutrient requirement and its productivity depends closely on nutrient management. During the last ten years, the area under maize in Karnataka has increased by 41 per cent.

Jawar

Jawar is grown both as Kharif as well as a rabi crop. As a Kharif crop, it grows well in areas having mean monthly temperature of 26°C to 33°C. However, the rabi crop can be grown in areas where the mean monthly temperature does not fall below 16°C. It requires more than 30 cm rainfall during the growing period and does not grow where the rainfall exceeds 100 cm. Jawar is par excellence a rainfed crop of dry farming areas where irrigation is not used. Both excessive moisture and prolonged droughts are harmful for its proper growth. Though it can be grown in a variety of soils including loamy and sandy soils, clayey deep regur and alluvium are the best suited soils for jowar. Most of the crop is grown in plain areas but it can also be raised on gentle slopes up to 1,200 metres height. Karnataka accounts for 19.4 per cent of the total area and 18.5 per cent of the total production of jowar in the country. Here jowar occupies about 16 to 30 per cent of the total area of the state. The crop occupies a major area in the dry north-eastern parts of the Karnataka Plateau where the amount of annual rainfall lies between 50 and 80 cm.

Wheat

India is the second largest producer of wheat in the world after China with about 12 per cent share in total world Wheat production. In Karnataka, Bijapur, Dharwad and Belgaum district contributes 71 per cent of state production of wheat. The total arrival of wheat in the APMC's of Karnataka during January 2015 is 1, 18,609 Quintals. The total cost of cultivation was the highest on the large farms as compared to the small and medium farms.

Ragi

Karnataka is the leading producer of Ragi. In Karnataka, the area under the crop was 7.78 lakh hectares leading to a production of 1.27 million tons in 2011-12 accounting for 81 per cent production in the country. The total arrival of Ragi in the APMC's of Karnataka during January 2015 was 42,097 Quintals. That the arrival of Ragi in the APMC's of Karnataka showed a decrease in January 2015 in comparison to December 2014 whereas in comparison with the same period last year, there was an increase.

Tur

Tur dal is an important pulse crop in India. Tur is cultivated in a wide range of soils from black clay to sandy soil, but very sensitive to waterlogged conditions. Being a drought resistant crop, it is best suitable for dry-land farming and predominantly used as an intercrop with other crops like cotton, sorghum, ground nut, black gram etc., to increase the yield and maintain soil fertility. It is also known as Pigeon Pea, Red gram and Arhar. Karnataka is the third largest producer of Tur dal accounting for 12.12 per cent of the total production in India.

Cotton

Cotton is a major commercial crop grown in almost all the Agro-climatic zones of Karnataka. All the four cultivated species of cotton viz., *Gossypium arboreum*, *G. herbaceum*, *G. barbadense*, and *G. hirsutum* are grown in the state where in *Gossypium hirsutum* has the major share of the hybrid cotton grown. Area under cotton during the year 2007-08, was 3.7 lakh hectares with a production and productivity of 6.0 lakh bales and 365 kg lint/ha respectively. Area under Bt cotton was to the extent of 0.8 lakh hectares during 2007-08.

Groundnut

India is the third largest producer of groundnut in the world with annual production of 5.9 million tons. Gujarat, Andhra Pradesh, Tamil Nadu and Karnataka are the leading producers in the country accounting for nearly 75 per cent of the total output. The major groundnut growing districts in Karnataka are Chitradurga, Dharwad, Belgaum, Bijapur, Raichur, Bellary and Bidar.

Cropping Pattern in Karnataka

Karnataka grows a variety of crops in different seasons. It has paddy area of 14.16 lakh hectares, ragi area of 8.32 lakh hectares, jowar area of 13.82 lakh hectares, bajra area of 4.32 lakh hectares, maize area of 11.13 lakh hectares, wheat area of 2.76 lakh hectares, minor millets area of 0.36 lakh hectares with a total cereal area of 54.87 lakh hectares, while bengal gram has an area of 6.05 lakh hectares, red gram area of 6.81 lakh hectares with a total pulse area of 23.85 lakh hectares, while groundnut has an area of 9.08 lakh hectares, cotton has 4.03 lakh hectares and sugarcane has 3.06 hectares (Karnataka State at a Glance, 2008-09).

The cropping pattern of the region is influenced not only by agro-climatic conditions like rainfall, soil, temperature, etc., but also by government policies and programmes for crop production in the form of subsidies, support prices, tariffs and speed of infrastructure development. The overall trends in area allotted for various crops during five decades show that cropping pattern in Karnataka is dominated by food crops, with a share of more than 60 per cent of the gross cropped area in the state. Rice, sorghum and finger millet were the major cereals till 2000-01. However, the share of maize crop went up substantially after 2005 due to improved productivity and prices. The area under food crops declined from 79.1 per cent in the 1960-61 trienniums to 59.4 per cent of the GCA in 1990-91. The area under cereals declined from 60 per cent in 1960-61 to 43 per cent of the GCA in 2010-11. Acreages of millet crops like sorghum and pear millet and minor millets declined consistently. The reduction in the share of cereals was due to shrinkage in the area devoted to millets. Area under pulses which stood at 11 per cent during the early seventies increased to 18.3 per cent in 2010-11.

Table-4.16 Changes in Cropping Pattern (Triennium Averages)

Crop	1960-61	1970-71	1980-81	1990-91	2000-01	2010-11
Rice	9.9	10.7	10.3	10.3	11.4	11.6
Jawar	28.0	21.8	19.2	18.0	15.1	10.9
Pearl millet	4.8	4.6	5.4	3.3	2.7	2.6
Mize	0.1	0.7	1.4	2.3	5.3	9.0
Finger millet	9.6	9.8	9.8	8.8	7.7	6.4
Wheat	2.9	2.9	3.0	1.7	2.2	2.2
Small millets	4.2	4.1	3.2	1.1	0.6	0.3
Total cereals	59.7	55.4	52.4	45.5	45.0	43.1
Pigeon pea	2.7	2.5	3.3	3.9	4.4	5.0
Chick pea	2.5	1.4	1.3	1.7	3.7	6.1
Total Pulses	11.9	11.0	13.2	13.8	16.9	18.3
Food grains	71.9	68.3	66.6	59.4	61.9	61.4
Groundnut	8.4	9.2	7.6	10.5	7.8	6.8
Sunflower	-	-	1.0	8.6	5.5	7.4
Total Oilseeds	9.7	11.0	12.2	22.7	15.9	17.0
Cotton	9.3	10.2	9.0	5.0	4.4	3.3
Sugarcane	0.7	1.0	1.6	2.2	3.4	2.4
Others	8.7	11.4	11.6	10.8	14.4	15.8
GCA	100	100	100	100	100	100

Note: Include tobacco, fruits and nuts, vegetables, coconut, chillies and coffee

Source: Statistical Abstracts of Karnataka (various issues), Government of Karnataka

Oilseeds grew their share from around 10 to 11 per cent during the sixties and seventies to more than 20 per cent in early 1990s and it was 17 per cent of the GCA in 2010-11. The Technology Mission on

Oilseeds introduced in the mid-eighties conditioned the expansion of area under oilseeds. Cotton occupied 9 per cent of the GCA in early 1980s but came down gradually to little more than 3 per cent of the GCA in 2010-11. Area under chickpea hovered around 1.5 per cent of the GCA between 1970s and 1990s, but rose to 6.1 per cent in 2010-11.

Similarly area under pigeon pea increased from 2.5 per cent in 1970-71 to 5 per cent in 2010-11. The area under other crops, which include fruits, vegetables and plantation crops, increased gradually from 11.4 per cent of GCA in the early seventies to 15.8 per cent in 2010-11.

Karnataka has a varied topographical character ranging from coastal plains to gentle slopes and the heights of the Western Ghats. The State is delineated into 4 sub-regions viz., 1.Northern dry region, 2. Central region, 3.Southern region and 4.Hills and coastal region. In the northern dry region, sorghum is the lead crop dominating the cropping system followed by cotton and pigeon pea. Maize and sugarcane are also important crops there. In the central region, ragi-based cropping system is predominant.

In the hills and coastal region, the cropping system is rice based and there are some pockets in this region where ragi also forms an important component of the cropping system along with rice. The northern dry and central regions are the major producers of oilseeds. Groundnut is cultivated in the central region whereas sunflower and soybeans are popular in the northern dry region. Cotton, pigeon pea and other pulses are planted during kharif and sorghum is grown on residual moisture during rabi season on black cotton soils in the northern dry region. As expected, mixed or inter-cropping is practiced more in the northern and central regions than in the southern region. Rice-rice rotations are common in irrigated areas of southern as well as coastal and hill regions. Sugarcane is grown in sizable areas in all the regions using canal irrigation. Sericulture is an important activity in the southern region and large areas are under mulberry cultivation. Coconut, arecanut, mango, grapes, sapota, citrus, etc. are the important fruit crops grown in the state. Karnataka is endowed with varied climatic conditions and has good potential for the development of horticulture and floriculture, which needs to be exploited for domestic and export markets.

Table-4.17 Annual Growth Rates of Area, Production and Productivity

Crop	1990-91 to 1999-2000			2001-01 to 2010-11		
	Area	Production	Yield	Area	Production	Yield
Rice	1.72	3.64	1.89	1.66	2.83	1.15
Sorghum	-1.55	0.09	1.67	-3.76	2.10	6.09
Pearl millet	0.21	1.83	1.61	-0.20	3.36	3.57
Mize	10.25	10.49	0.21	8.63	10.60	1.81
Finger millet	-1.13	1.91	3.07	-2.38	0.29	2.74
Wheat	3.21	3.96	0.73	0.76	4.91	4.13
Small millets	-7.76	-8.08	-0.34	-10.66	-13.35	-3.01
Cereals	0.33	3.43	3.10	0.21	4.28	4.05
Pigeon pea	0.67	5.34	4.64	3.73	8.16	4.27
Chick pea	6.04	11.64	5.29	9.14	10.45	1.20
Total Pulses	0.68	3.44	2.75	3.01	6.26	3.15
Food grains	0.56	3.38	2.81	1.03	4.48	3.41
Groundnut	-1.32	-1.48	-0.17	-1.19	-2.03	-0.86
Sunflower	-6.49	-7.43	-1.01	0.56	2.50	1.93
Total Oilseeds	-3.11	-2.13	1.01	-0.11	0.02	0.14
Cotton	-0.52	0.48	1.00	-0.84	7.56	8.47
Sugarcane	2.82	5.16	2.27	-0.50	-0.03	0.47

Source: Statistical Abstracts of Karnataka (various issues),
Government of Karnataka

The area under food grains increased only modestly during the last two decades but the production of food grains rose by 3.4 and 4.5 per cent during 1990-2000 and 2001-2011 respectively. The growth in food grain production was the result of significant improvement in yield during the period under reference.

The area as well as productivity of groundnut came down during the last two decades resulting in – 2.03 per cent growth during 2001-11. Growth in the yield of sunflower decelerated during 1990s and coupled with the deceleration of area under sunflower, it resulted in a drastic reduction (7.43 per cent per annum) in the production of sunflower during 1990s. However, growth (1.93 per cent per annum) in yields during 2001-11 induced a modest growth (0.56 per cent) in area, resulting in 2.5 per cent growth in sunflower production during 2001-11. For cotton too, growth in area decelerated during the last two decades. However, growth in the yield of cotton has increased from 1 per cent in 1990s to 8.5 per cent per annum during 2001-11. The area as well as yield of sugarcane increased by more than 2 per cent per annum during 1990-2000 resulting in 5.16 per cent growth in production. Though there was a modest growth in sugarcane productivity during 2001-2011, area under sugarcane decelerated resulting in lower sugarcane production.

Input Use and Other Services

The use of inputs such as high-yielding crop varieties, chemical fertilizers, plant protection chemicals as well as farm machinery in agriculture has increased over the years which facilitated improvement in productivity and resulted in increased crop production.

CONCLUSION:

Rainfall plays an important role in crop production in Karnataka as more than 70 per cent of the cropped area is rain-fed. As a Kharif crop, it grows well in areas having mean monthly temperature of 26 C to 33 C. However, the rabi crop can be grown in areas where the mean monthly temperature does not fall below 16 C. It requires more than 30 cm rainfall during the growing period and does not grow where the rainfall exceeds 100 cm. In Karnataka, the area under the crop was 7.78 lakh hectares leading to a production of 1.27 million tons in 2011-12 accounting for 81 per cent production in the country. It has paddy area of 14.16 lakh hectares, ragi area of 8.32 lakh hectares, jowar area of 13.82 lakh hectares, bajra area of 4.32 lakh hectares, maize area of 11.13 lakh hectares, wheat area of 2.76 lakh hectares, minor millets area of 0.36 lakh hectares with a total cereal area of 54.87 lakh hectares, while bengal gram has an area of 6.05 lakh hectares, red gram area of 6.81 lakh hectares with a total pulse area of 23.85 lakh hectares, while groundnut has an area of 9.08 lakh hectares, cotton has 4.03 lakh hectares and sugarcane has 3.06 hectares. The overall trends in area allotted for various crops during five decades show that cropping pattern in Karnataka is dominated by food crops, with a share of more than 60 per cent of the gross cropped area in the state.

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