

## **OILSEEDS PRODUCTION IN KARNATAKA STATE**

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### **Abstract**

In Karnataka, soil and vegetation shows a varied feature with different kinds of soils spread in different regions. The weather in the state is dynamic; it changes from place to place owing to its altitude, topography and its distance from the sea. Geography of Karnataka states that Karnataka is the eighth largest state in India. The major crops grown are cereals, pulses, oilseeds and cash crops. The important oil seed crops in the state are groundnut, sunflower, safflower and sesamum. Cotton, sugarcane, coffee, tobacco and mulberry are the major commercial crops. The programmes designed to supplement the efforts of the State governments to increase the production and productivity of various oilseed crops (Deshpande, 2002). In the State, the area under oilseeds cultivation from 1992-93 to 2002-03 has gone down by almost 50 per cent. For instance, the share of oilseed cultivation was 25.64 per cent of the net sown area and it declined to 12.6 per cent in 2002-03. As the state of Karnataka covers second largest share of dry-land farming in India, emphasizing more on the conventional rain-fed cultivation like paddy is little preferred by the farmers, especially in the northern Karnataka. Understand the growth trend of oilseed production

over the years in Karnataka. To assess the area, production and yield of oilseeds crop by different districts of Karnataka.

**Keywords:** Oilseeds; TE-1993; TE-2009; Karnataka

## **INTRODUCTION**

Karnataka is one of the four southern states of India. With the reorganization of states, the modern state of Karnataka came into existence during 1956 with the incorporation of districts from Bombay, Hyderabad, Madras States and Coorg within the existing Mysore State. Mysore state was made up of ten districts, Bangalore, Kolar, Tumkur, Mandya, Mysore, Hassan, Chikmagalur (Kadur), Shimoga and Chitradurga; Bellary had been transferred from Madras State to Mysore in 1953, when the new state of Andhra Pradesh was created out of Madras's northern districts. Kodagu became a district, and Dakshina Kannada (South Kanara) district was transferred from Madras State, North Kanara, Dharwad, Belgaum District, and Bijapur District from Bombay State, and Bidar District, Gulbarga District, and Raichur District from Hyderabad State. Mysore was renamed as Karnataka on the first day of November 1973.

In 1989, Bangalore Rural district was split from Bangalore and in 1997 Bagalkot district split from Bijapur, Chamrajnagar district split from Mysore, Gadag district split from Dharwad, Haveri district split from Dharwad, Koppal district split from Raichur, Udupi district split from Dakshina Kannada, and Davanagere district was created from parts of Bellary, Chitradurga, Dharwad, and Shimoga. Karnataka's capital,

Bengaluru, is the capital city of the State with a population of more than 6 million.

Most parts of Karnataka were a part of the Mauryan Empire, which has ruled by Emperor Ashoka, by the third century BC. Later, Karnataka was ruled by a series of Jain/Vaishnavite/Hindu Dynasties such as the Kadambas, the Ganga Dynasty and the Chalukyas and Rashtrakutas. With the rule of the state changing hands from the Wodeyars to Haidar Ali and Tippu Sultan, the state has later incorporated into the British Raj at the turn of the 19<sup>th</sup> century.

The earliest known references to Karnataka has found in the Sabha Parva and the Bhishma Parva of the Mahabharata. The term Karnataka has used by the astrologer Varaha Mihira in his work Brihatkatha and the Tamil classic Sillapadikaram of the same time calls the people of present day Karnataka region as Karunatakars. Karnataka lies in the Deccan Plateau and borders with Maharashtra, Goa, Andhra Pradesh, Tamil Nadu and Kerala. Karnataka has situated in the Deccan Plateau and is bordered by the Arabian Sea to the west, Goa to the northwest, Maharashtra to the north, Andhra Pradesh to the east, Tamil Nadu to the east and southeast, and Kerala to the southwest.

In Karnataka, soil and vegetation shows a varied feature with different kinds of soils spread in different regions. The soil in Karnataka is varied with red clay and laterite soil, red soil mixed with clay and sand, black soil or split; and it is owing to the availability of different kinds of soil in different region that influences the cropping pattern of Karnataka. The soil

and vegetation in Karnataka are two complimentary terms that go hand in hand with each other. It is noteworthy that in Karnataka, about 61.95 per cent of the land is cultivable; that is to say that the soil and vegetation produce a complete sync in Karnataka. In fact, the percentage of cultivable land in Karnataka is higher than any other state in India.

The weather in the state is dynamic; it changes from place to place owing to its altitude, topography and its distance from the sea. The hills and plateau in Karnataka show a different climatic trait compared to the plains, viz. the average rainfall in the Western Ghats is 254 centimeters, whereas in the parts of the Kanara coast, it is nearly 762 centimeters; moreover in the plains rainfall is considerably low. Geography of Karnataka states that Karnataka is the eighth largest state in India. With a geographic area of 1,91,791 square kilometers, the State of Karnataka lies between 11.5° and 18.50° North latitude and 74° East and 78.30° East longitudes in the southern plateau. With a population of 4, 49, 77,201 the literacy rate of the state accounts to 55.98 per cent. The total number of farmers in the state is 62,20,798, out of which 26,09,513(41.9 per cent) are marginal having below 1 hectare land, 17,06,839 (27.44 per cent) are small having 1-2 hectare land, 12,04,185 (19.65 per cent) semi medium having 2-4 hectares, 5,94,232 (9.55 per cent) medium farmers having 4-10 hectares and finally 1,06,029 (1.70 per cent) large farmers having more than 10 hectares.

The state receives an annual rainfall from both the South-West monsoon and Northeast monsoon, which starts from June and extends up to November. Major rain received from the South-West monsoon. The state

on an average has categorized as drought prone; the severity of the drought varies from year to year.

### **Agricultural Economy**

The agrarian economy of Karnataka comprises of many valuable enterprises. The normal net cultivated area in the state is about 106 lakh hectares, which accounts for 56 percent of the total geographical area (Table-3.1). The major crops grown are cereals, pulses, oilseeds and cash crops. Important food crops of the state are ragi, paddy, jowar, maize and bajra. Pulses like red gram, Bengal gram, field bean, cow pea and horse gram are grown. The important oil seed crops in the state are groundnut, sunflower, safflower and sesamum. Cotton, sugarcane, coffee, tobacco and mulberry are the major commercial crops. The vegetable crops include potato, carrot, cabbage, beetroot, radish, cauliflower, brinjal, beans and leafy vegetables. The major fruit crops like mango, guava, sapota, grapes and the flower crops like rose, chrysanthemum, crossandra, aster, jasmine, champaka and marigold are grown. The unique feature of the Karnataka state is the existence of sericulture from the time immemorial. It is said that the then ruler Tipu Sultan is responsible for the prominent growth of sericulture in the state. Now, Karnataka accounts for more than 55 per cent of the raw silk produced in the country.

The *kharif* crops (April to September) in Karnataka comprise millets, paddy (rice), maize, moong (pulses), groundnut, red chillies, cotton, soyabean, sugarcane, rice, and turmeric. It has also known as the autumn harvest as it has cropped with the beginning of the first rains in the month

of July. The major rabi crops (October to December) of Karnataka are wheat, barley, mustard, sesame, and peas. Karnataka is one of the major producers of rice among all other states in India. Cash crops grown in the state comprise of sugarcane, cashews, cardamom, betel (areca) nut, and grapes. The cool slopes of Western Ghats well known for coffee and tea plantations whereas the eastern regions are widely known for producing a heavy amount of sugarcanes, a bit of rubber plants, and fruits such as oranges and bananas. The northwestern region of Karnataka has black soil, which supports oilseeds, cotton, and peanut (groundnut). Karnataka is also potential for its horticulture production and it ranks second in this aspect in India. Karnataka's agricultural products also include raw silk, which has the highest production range among all other states in India. Karnataka agriculture is experiencing major development plans and strategies to ensue more flexibility and advancement in harvesting crops which is adding value to Karnataka's economy to a great extent.

### **Land utilization in Agriculture**

A perusal of the data in Table-1 reveals that, with an existing area of 190.49 lakh hectares, the net sown area was 100.31 lakh hectares during the year 2010-11. With additional 16.38-lakh hectares of land coming under area sown more than once, the gross cropped area during the year 2010-11 was 116.70 lakh hectares. The cropping intensity, which has calculated as the proportion of total cropped area to the net sown area, has found to be 1.16. Among the districts, the district Gulbarga is the biggest among all the districts with a total geographical area of 16.10 lakh hectares, followed by

Belgaum (13.44 lakh hectares), Tumkur (10.65 lakh hectares), Bijapur (10.54 lakh hectares) and Uttara Kannada (10.25 lakh hectares). The cropping intensity was highest among the districts of Dharwad (1.45), Mysore (1.27), Udupi (1.27) and Haveri (1.26) during the year 2010-11.

**Table-1**  
**District Wise Geographical Area, Net Area Sown and Total Cropped Area**  
**in Karnataka State (2010-11)**  
**(Area in hectares)**

Sl. No.	District	Total geographical area	Net area sown	Total cropped area	Area sown more than once	Cropping intensity
1	Bagalkote	658877	436119	475080	38961	1.09
2	Bangalore (U)	217410	81833	88506	6673	1.08
3	Bangalore (R)	585431	295042	332189	37147	1.13
4	Belgaum	1344382	728473	870100	141627	1.19
5	Bellary	813196	457906	525409	67503	1.15
6	Bidar	541765	372202	450789	78587	1.21
7	Bijapur	1053471	676925	757937	81012	1.12
8	Chamarajanagar	569901	153264	203681	50417	1.33
9	Chickmagalur	722075	282464	304264	21800	1.08
10	Chitradurga	770702	422574	489849	67275	1.16
11	D. Kannada	477149	133698	162238	28540	1.21
12	Davanagere	597597	365451	436052	70601	1.19
13	Dharwad	427329	331396	480267	148871	1.45
14	Gadag	465715	392790	442433	49643	1.13
15	Gulbarga	1610208	1168658	1340470	171812	1.15
16	Hassan	662602	370437	414017	43580	1.12
17	Haveri	485156	346425	435845	89420	1.26
18	Kodagu	410775	147111	148623	1512	1.01
19	Kolar	779467	350559	372031	21472	1.06
20	Koppal	552495	359970	436251	76281	1.21
21	Mandya	498244	247076	286357	39281	1.16
22	Mysore	676382	390943	494749	103806	1.27
23	Raichur	835843	522093	606364	84271	1.16
24	Shimoga	847784	213096	241230	28134	1.13
25	Tumkur	1064755	574739	627215	52476	1.09
26	Udupi	356446	101638	129285	27647	1.27
27	Uttara Kannada	1024679	108610	118519	9909	1.09
	Karnataka State	19049836	10031492	11669750	1638258	1.16

*Note: Normal Net cultivated area is about 106 lakh hectares and the Gross cultivated area is about 123 lakh hectares under all crops*  
*Source: Directorate of Economics & Statistics (2002) Annual Season and Crop Report, Government of Karnataka, Bangalore*

There was a considerable increase in the area under pulses and oil seeds during the period from 1990-91 to 2005-06. It noted that, the area share of pulses in Karnataka agriculture was to the extent of 19.80 lakh hectares and that of oilseeds was 28.63 lakh hectares during 2005-06 (Table-2). However, there was a negative rate of increase in the area underground nut. The groundnut crop area, which was around 12.12 lakh hectares in Karnataka during 1990-91, declined to 10.40 lakh hectares during 2005-06. The fact that the oil seed crops in Karnataka are mainly covered under rain fed conditions, which in turn has to depend on the arrival of monsoon, climatic changes and drought. Hence, the productivity level under groundnut crop was erratic.

**Table-2**  
**Year-Wise Area, Production and Yield Oilseed Crops in Karnataka State**

<b>Year</b>	<b>Area ( Ha )</b>	<b>Production ( MT )</b>	<b>Yield (Kg/Ha)</b>
1990-91	2551177	1339094	552
1991-92	2981286	1779869	628
1992-93	2771726	1754847	666
1993-94	3126794	1888849	636
1994-95	2564926	1542249	633
1995-96	2617491	1743480	701
1996-97	2606382	1755492	709
1997-98	2371986	1139137	506
1998-99	2436992	1671445	722
1999-00	1982440	1192559	633
2000-01	1894104	1545196	859
2001-02	1737268	1019867	618
2002-03	2005364	1073724	564
2003-04	2267382	934052	434
2004-05	2672875	1446306	570
2005-06	2862817	1527323	562
% Change	12.22	14.06	1.81



**Table-3**  
Average productivity of major oil seeds in Karnataka  
Kgs/hectare

Crops	Three years averages centred at		
	1990-91	2000-01	2010-11
Groundnut	718.00	794.67 (10.68)	905.00 (13.88)
Rapseed/Mustred	280.00	254.33 (-9.17)	277.67 (9.17)
Soyabean	NA	492.33 NA	913.00 (85.44)
Sesamum	312.00	331.00 (6.09)	396.33 (19.74)
Sunflower	575.33	441.33 (-23.29)	359.33 (-18.58)
Safflower	528.00	499.33 (-5.43)	611.00 (22.36)
Niger	177.33	181.33 (2.26)	191.00 (5.33)
Linseed	240.00	263.67 (9.86)	268.33 (1.77)
Castor	627.67	898.67 (43.18)	1172.33 (30.45)
Total oilseeds	601.00	609.00 (1.33)	657.33 (7.94)

Source : Office of the Commissioner of Agriculture, Government of  
Karnataka, Bangalore.

Productivity of oilseeds in the State of Karnataka has shown similar trends as those at the country level. Significant improvement in productivity has noted in soybeans, safflower, castor, groundnut, rape, and mustard. Sunflower showed decline in productivity during the recent past (Table-3). The overall increase in productivity was about 8 per cent during late nineties.

The absolute and relative change in the area of major commercial crops, that include major oilseed, during the period from 1993-94 to 2009-10 in Karnataka. As all oilseeds, cultivating areas have been declining between these two periods (TE-1993-94 to 2009-10).

**Table-4**  
Change in the Share (%) of Major three Districts Producing Oilseeds in  
Karnataka (TE 1993-94 and TE 2009-10)

<b>Oilseeds</b>	<b>Major Districts</b>	<b>TE 1993-94</b>	<b>TE 2009-10</b>
Groundnut	Chitradurga	15.36	14.35
	Tumkur	16.02	14.68
	Gulbarga	6.27	6.73
Rapeseed-Mustard	Ramanagar	0.00	21.74
	Bangalore-Rural	36.76	17.11
	Tumkur	14.23	15.18
Sesamum	Mysore	7.18	15.58
	Chikamagalur	6.76	12.17
	Mandya	6.52	10.71
Soyabean	Belgaum	18.32	56.13
	Dharwad	0.82	20.07
	Bidar	0.01	15.21
Sunflower	Raichur	15.14	15.85
	Gulbarga	15.98	11.01
	Bijapur	25.03	10.73
Safflower	Bidar	5.65	25.29
	Gulbarga	31.31	15.57
	Dharwad	21.88	17.14
Niger seed	Mysore	6.23	19.78
	Hassan	5.24	13.33
	Bidar	17.52	12.68
Castor seed	Tumkur	11.90	21.25
	Ramanagar	0.00	19.93
	Chitradurga	12.41	9.69
Linseed	Bijapur	63.95	33.78
	Bagalkote	0.00	25.66
	Koppal	0.00	11.34
Total Oilseeds	Chitradurga	12.83	9.05
	Belgaum	6.93	10.00
	Gulbarga	10.15	8.21

Source: DES (2012)

If we look at the share of production of major oilseed crops of the major districts, Chitradurga, Gulbarga and Belgaum contributed the major share of oilseed in the State, in TE-1993-94, at the tune of 12.83 per cent,

10.15 per cent and 6.93 per cent respectively. In TE-2009-10, the share of Belgaum rose to 10 per cent. However, the other two districts, Chitradurga and Gulbarga have decreased their share to 9.05 per cent and 8.21 per cent respectively in the same period (Table-4). In the case of sunflower, the share of production by the district of Raichur has increased very negligibly from 15.14 per cent in TE-1993-94 to 15.85 per cent in TE-2009-10. However, other two districts have decreased significantly from 25.03 per cent by Bijapur in TE-1993-94 to 10.73 per cent in TE-2009-10. Similarly, the share of Gulbarga has decreased from 15.98 per cent in TE-1993-94 to 11.01 per cent in TE-2009-10.

**Table-5**  
Irrigated Area (in %) under Oilseeds in Kharif and Rabi  
(TE1993-94 to TE2009-10)

Districts	Kharif		Rabi		Total	
	TE 1993-94	TE 2009-10	TE 1993-94	TE 2009-10	TE 1993-94	TE 2009-10
Bagalkote	0.00	6.40	0.00	14.61	0.00	11.60
Bangalore (U)	0.07	0.01	0.19	0.01	0.15	0.01
Bangalore (R)	0.20	0.10	0.67	0.05	0.51	0.10
Belgaum	8.00	13.84	2.79	6.47	4.01	8.81
Bellary	13.87	9.01	13.78	7.32	14.37	8.50
Bidar	0.14	0.08	1.37	0.82	1.04	0.53
Bijapur	25.27	18.97	14.44	14.80	16.72	15.60
Chamarajanagar	0.00	0.39	0.00	0.14	0.00	0.33
Chikkaballapur	0.00	0.47	0.00	0.82	0.00	0.98
Chikmagalur	0.03	0.00	1.28	0.11	0.87	0.06
Chitradurga	3.96	4.82	8.14	1.78	7.64	2.80
Davanagere	0.00	1.84	0.00	2.58	0.00	2.60
Dharwad	5.65	0.21	8.68	1.41	8.05	0.88
Gadag	0.00	2.82	0.00	5.36	0.00	4.30
Gulbarga	18.34	8.71	17.81	14.44	17.26	11.38
Hassan	0.04	0.69	0.68	0.36	0.51	0.43
Haveri	0.00	0.76	0.00	2.79	0.00	2.38

Kodagu	0.00	0.00	0.02	0.01	0.01	0.00
Kolar	3.87	0.32	2.20	0.03	2.64	0.13
Koppal	0.00	11.36	0.00	7.68	0.00	9.97
Mandya	0.37	0.02	0.66	0.01	0.45	0.01
Mysore	1.55	0.31	2.36	0.10	2.06	0.15
Raichur	17.83	14.61	15.24	15.47	16.83	14.79
Ramanagar	0.00	0.00	0.00	0.02	0.00	0.01
Shimoga	0.03	0.00	3.06	0.56	2.16	0.72
Tumkur	1.22	4.27	6.54	2.16	4.66	2.85
Uttara Kannada	0.00	0.00	0.08	0.11	0.05	0.06

Source: DES (2012)

To understand the irrigated area of oilseed in different districts of the State, it is very interesting to know that the districts that were leading in terms of area and production have declined their irrigated area share to total State irrigated oilseed area from TE-1993-94 to TE-2009-10. The irrigated area shares to State's total irrigated area under oilseed by the districts of Bagalkote and Gadag have increased from zero level in TE-1993-94 to 11.6 per cent and 4.3 per cent respectively in TE2009-10 (Table-5).

Further, the Table-5 reveals that, barring three districts– Dakshina Kannada, Kodagu and Udupi, the irrigated areas have spatially shared by the rest of the districts in the State. It means that the districts, which were not covered by irrigation in TE-1993-94, have literally reached to other districts as well in TE-2009-10. One more interesting thing in this context is, not much difference of irrigated area among the districts noticed between the Rabi and Kharif season.

**Table-6**  
**Changing Share of Kharif and Rabi Oilseeds Area of Major Districts in the State (TE 1993-94 and TE 2009-10)**

Districts	Kharif			Rabi		
	TE 1993	TE 2009	Change*	TE 1993	TE 2009	Change*
Bijapur	14.29	6.91	-51.64	27.40	17.08	-37.66
Gulbarga	13.6	7.53	-44.63	16.67	12.88	-22.74
Raichur	10.41	6.67	-35.93	16.89	16.11	-4.62
Chitradurga	11.45	12.57	9.78	6.58	2.09	-68.24
Bellary	6.38	7.27	13.95	9.40	7.92	-15.74
Dharwad	9.31	4.94	-46.94	10.25	2.49	-75.71
Belgaum	7.01	10.5	49.79	3.17	4.72	48.90
Tumkur	9.4	10.85	15.43	2.21	0.72	-67.42
Koppal	0	5.25	100.00	0.00	9.58	100.00
Gadag	0	4.7	100.00	0.00	9.43	100.00
Bagalkote	0	2.34	100.00	0.00	10.44	100.00
Bidar	2.42	3.01	24.38	2.20	2.28	3.64
Kolar	5.31	0.8	-84.93	0.71	0.01	-98.59
Mysore	3.28	1.72	-47.56	0.90	0.03	-96.67
Haveri	0	2.12	100.00	0.00	3.23	100.00
Chikmagalur	1.52	1.93	26.97	0.69	0.06	-91.30
Hassan	1.18	1.72	45.76	0.54	0.17	-68.52
Davanagere	0	1.93	100.00	0.00	1.15	100.00
Chikkaballapur	0	2.67	100.00	0.00	0.23	100.00
Chamarajanagar	0	2.47	100.00	0.00	0.04	100.00
Karnataka	100	100	0.00	100.00	100.00	0.00

Source: DES (2012)

From the Table-6, we can see the share of oilseed area in Rabi and Kharif season and its change in area from TE-1993 to TE-2009 in different districts of the State. The districts of Belgaum and Bidar have positive change from TE-1993 to TE-2009 in both rabi and kharif seasons. Of course, seven districts have started cultivation after TE-1993 and evaluation of change rate for them do not arise. However, the districts of Chitradurga, Bellary, Tumkur, Chikmagalur and Hassan made positive change from TE-1993 to TE-2009 in Kharif season only, not in Rabi. During the kharif

season, Belgaum registered highest change rate with 50 per cent from TE-1993 to TE-2009, followed by Hassan with 46 per cent

## **CONCLUSION**

Literally, the yearly sequence and spatial arrangement of crops and fallow on a given area is termed as cropping pattern in agriculture. Therefore, cropping pattern has found different in different areas depending on the nature and condition of the soil, climatic conditions and others socio-economic factors mentioned.

Within the agriculture sector, the share of oilseeds to gross cropped area was about 12 per cent during the early eighties, and went above 21 per cent during the early nineties, where it stayed during the decade. In the late 1990s, State's share of area under oilseed to all India total had gone down to 8.2 per cent and production share of State was around 6 per cent of the all India level (Shenoi, 2003). In the State, the area under oilseeds cultivation from 1992-93 to 2002-03 has gone down by almost 50 per cent. For instance, the share of oilseed cultivation was 25.64 per cent of the net sown area and declined to 12.6 per cent in 2002-03. This situation mainly attributed to shortage and ill distribution of rainfall in the State. Out of the land under major oilseeds in Karnataka. The total major oilseed cultivated during same period.

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