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## IMPACT OF IRRIGATION ON CROPPING PATTERN AND PRODUCTIVITY WITH SPECIAL REFERENCE TO VIJAPUR DISTRICT

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**Abstract:**-Increasing the agriculture production and raising the productivity of land, etc have been among the central aims of planning. Due to various development process taken by the government, tremendous changes have taken place in the village economy. Agriculture is no more a way of life but it has been slowly become a commercial profession for agriculturist. India has a diversified cropping pattern with considerable variation from region to region. The existing cropping pattern of the region may be the result of a number of ecological adjustments.

**Keywords:**Cropping Pattern and Productivity , agriculture production .

### INTRODUCTION

Cropping pattern obtained in any particular agricultural area is generally the outcome of trials and adjustment in respect of farm – enterprise and practices. The Indian farmer is so much used to traditional agriculture that takes a long time to adjust the resources and product to the changing economics environments. More innovations are now available to the Indian agriculture in the form of improved seeds, fertilizers and enhanced irrigation facilities, etc. However, there seems to be time lag in adoption of improved agricultural practices and new enterprises because a large mass of farmers have yet turn away from the past experience and traditions as a guide and look ahead to the use of science and technology. Therefore, existing cropping patterns in many parts of the country might be outdated and need to be rationalized.

Cropping pattern indicates the extent to which the usable land under different agricultural activities can be put to use. This largely depends upon the socio – economic influences, which determine the possibilities of the enterprise. Moreover social and cultural values strongly influence the cropping pattern especially in the countries where agriculture is the way of life. The farming communities have developed their own rights and traditions, which affect the growing of crops. These crops are not always grown where they are best adapted to or they can grow most economical. Ownership of land, which is undergoing many changes, is also a limiting variable in the rational distributions and development of crops.

The recognition of crop combination region is a fundamental importance in deciding agricultural system of area. This spatial distribution of crops tends to reflect the physical, cultural and environmental variables of the area. "The crops are generally grown in combination and it's rare that a particular crops occupies a portion of a total isolations from other crops in a given area unit of a given point of time". Similarly the absence of crops from a combination does not mean that it is not grown in that district but merely that crops is not important enough to include in the combination. For a comprehensive and better understanding of the agricultural mosaic, the study of crop combination is of great importance. Such combination is essential and they must be made available if one wishes to build the still more complex structure of agricultural region.

Cropping pattern means preparation of area under different crops. P.V.John "States that the term cropping pattern indicates the product mix or the crop mix that the cultivator gets from its land". The analysis of this is necessary for an identification of the major crops that are grown in the region by its farmers. These farmers generally produce two types of crops, namely food crops and commercial crops. The study of these two crops would reveal the stages of the agricultural development and the nature of the economy.

In most of the under developed countries farmers normally produce more food crops and generally the area

under the food crops is more compare to the area under the commercial crops. Various efforts have been made in this country for changing the cropping pattern but these efforts have negative effect on the economy. The Indian government has taken various measures for raising the agricultural output and changing the cropping pattern but as a result only limited change has taken place in the cropping pattern. There are many reasons for slow change in cropping pattern in the country. These factors have an important bearing on the type of crop grown and the area served to different crops.

For the development of agricultural cropping pattern should be adopted to fetch higher yields and income to the farm families. Diversifying the cropping pattern particularly in favor of superior food crops and commercial crops certainly improves the conditions of the cultivators. For small farmers balanced cropping pattern that is to grow on both food and commercial crop is more adequate. Such type of cropping pattern will have many beneficial effects on the economy.

- ❖ It will ensure stability in the total output with same crops always compensating for the failure of other crops.
- ❖ The shifts to high valued crops will obviously add to the total value of output. This will imply more efficient utilization of land.
- ❖ Larger variety will enable the country to go in crops with large foreign demand.
- ❖ The farmers with a reasonably sized land will gain from the stable or higher income.
- ❖ It adds to the total value of output.
- ❖ Stability in the prices may be achieved.

#### **Meaning of cropping pattern**

Cropping pattern means the preparation of area under the different crops (the rotation of crops and the area under double cropping in the country).

According to P.V John "the term cropping pattern indicates the product mix or crop mix, which the cultivator gets from his land". The analysis of this kind is necessary an identification of the major crops that are grown in the district or state.

The farmers generally produce two types of crops, food crops and non-food crops or commercial crops. Mere commercial crops like cotton, sugarcane, coffee, tea depending on irrigation. The study of these two crops would reveal the stages of the agricultural development and the nature of the economy. It is generally observed that larger the area under non-food crops greater will be the development. Balanced cropping means to grow both food and commercial crops in sufficient required proportions.

The variety in cropping pattern is the result of physical, economic and social conditions of farmer and regions. The physical environment provides a wide range of possibilities for growing crops but the social and economic conditions determine as to which crops are to be grown and how much of land is to be devoted to different crops. The farming communities have developed their own rights and traditions, which results in growing different crops. These crops are not always being grown where they are best adapted to nor can they be grown most economically. The technological advancement such as irrigation, soil conservation, adaption of hybrid seeds, use of chemical fertilizers and pesticides price incentives, all the changes have brought a tremendous change in the cropping pattern. In all these modern technologies irrigation plays very important role in the development of economy.

In most of the under developed countries farmer normally locate more area under food crops as compared to the commercial crops. In India irrigation affects more on cropping pattern. Since the inception of the planning in our country irrigation has given top priority. Public have invested huge amount for expansion of irrigation. The consideration behind this is that the nation would benefit a lot from this expansion of irrigation. An irrigation schemes confers a number of benefits but direct and indirect on the nation. By direct benefits we means, all increase in form of production as a result of provision of irrigation facility may also give the following direct and indirect benefits to the region.

- Irrigation provides more investment opportunities to peoples.
- Irrigation generates more and more employment and income
- Processing industries will come up

#### **It improves the standard of living of the people**

Among all above benefits, the greatest benefits of irrigation are the sense of security rendered in the mind of the peasants and stability of agricultural business on irrigation system.

#### **Impact of Irrigation on Cropping Pattern**

Irrigation is one of the main factors influencing the cropping pattern. If water is adequate, cropping pattern

can be changed. Water is a critical input that largely determines the cropping pattern of a region. Hemalatha Rao states that "Tank Irrigation has lead to a marked change in the cropping pattern. There has been a shift from ragi to paddy. Prior to the construction of tank, only 3 acres wear under the paddy. These are increased to 67.96 acres after the introduction of irrigation. When the government creates irrigation facilities, the farmers are tempted to cultivate more land. In the some piece of land, they grow more than one crop. Naturally irrigated lands give more outputs as compared to the other un-irrigated lands. Mr. Y.K. Murthy has rightly pointed out that irrigation is the basic factor to improve the income of the cultivators by helping to alter their cropping pattern." Investment in irrigation leads to multiple benefits. It provides security against the failure of rainfall, prevents crop failure and enables the country to get a higher output per acre of land.

Irrigation programs give several beneficial effects to the country economy such as double cropping. Maximum yield per acre, maximum marketable surplus, intensive cultivation, growth of different varieties of crops, etc. studies on the economics of irrigation are made by D.R Gadgil namely a study of economic effects of irrigation. He has enquired into the yield level of crops in canal irrigated area and dry forming areas. According to him, the age percent increases in the yield of canal irrigated fields over un-irrigated farms is 29% for jowar, 50% for wheat as well as groundnut, 40% for bajra and 100% for cotton. "Therefore the cropping pattern in the dry land is limited as compared to irrigated areas. Farmers in the dry land area grow traditional crops".

#### Cropping Pattern in Upper Krishna Project Area of Vijapur District

The crop planning for the entire area had been prepared after conducting extensive soil survey. The objective in preparing this cropping pattern was to maximize the benefits from the projects and to maintain, improve the soil condition depending upon the inherent soil characteristics. The upper Krishna project is intended for light irrigation in view of local climate, nature of soil and the availability of water in the irrigation systems. The recommended cropping pattern generally consists of 47.5% Kharif, 25.0% Rabi and 42.50 % Bi-season crops.

According to the technical committee recommendation, the kharif crops include maize, green peas, jowar, and groundnut. The Rabi crops include wheat, grams, sunflower and safflower. While the bi-seasonal crops include cotton, pegion pea, onion and chill. The localization of cropping pattern envisaged for the upper Krishna project command area is shown in the table.

**Table No.1**  
**Net Irrigated Area through different sources of water in Bijapur District**

Taluk	Canals	Tanks	Wells	Bore Wells	Other Sources	Total
Basavan Bagewadi	15357	868	5373	7472	4728	18441
Vijapur	9753	436	23409	19191	8221	51257
Indi	5558	209	30504	15005	17103	68170
Muddebihal	678	826	384	11047	882	13817
Sindagi	19539	228	19885	5704	2123	47251
<b>TOTAL</b>	<b>50885</b>	<b>2567</b>	<b>79555</b>	<b>58419</b>	<b>33057</b>	<b>198936</b>

Sources: Bijapur District at a Glance 2012 – 13, p48

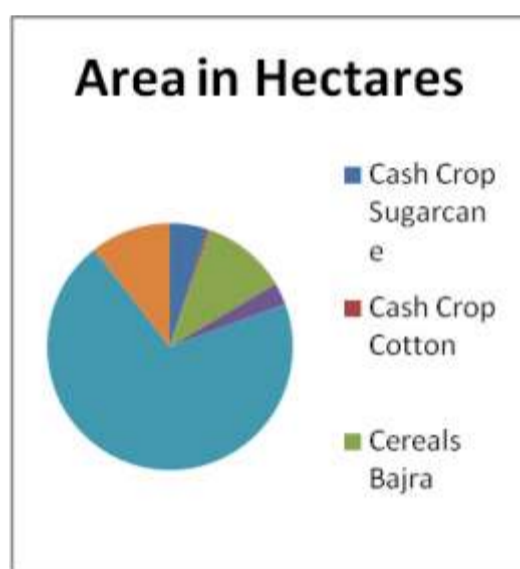
#### Cropping pattern

Bijapur district is mainly a food grains producing area. Roughly 3/4th of the total cropped area is under food crops. The main food crops are in the district namely; jawar, bajra, wheat paddy and maize. Under pulses, the main crops are Bengal gram, hose gram, green gram, tur, chavali, etc. the main non-food crops are groundnut, sunflower, sugarcane, cotton, etc. data pertaining to different crops can be gad from below table.

**Table No.2**  
**Crop Pattern in Bijapur district**

Crop		Area in Hectares	Percentage of cultivator
Cash Crop	Sugarcane	15870	1.5
	Cotton	1226	0.11
Cereals	Bajra	36571	3.47
	Maize	9557	0.9
	Jowar	228659	21.7
	Wheat	34432	3.26

Sources: Bijapur District at a glance 2012 -13 p 43



**Table No. 3**  
**Cropping Pattern in Command Area 2011-12**

Season	Deep Black Soil	Percentage	Shallow to medium deep black and red soil	Percentage
<b>Kharif</b>	Maize, green peas, hybrid jowar, ground nut, pulses	47.5	Hybrid jowar, Groundnut, green peas, Sunflower, Bajra	60.6
<b>Bi- Seasonal</b>	Pigeon pea, chilies, cotton, onion	42.5	Pigeon Pea, chilies, cotton, onion	32.5
<b>Rabi</b>	wheat, sunflower, grams & sunflower	25.0	Hybrid Jowar, Hybrid maize, sunflower and groundnut	30

Sources: Krishna Bhagya Jal Nigam Limited, ALMATTI.

**Table No. 4**  
**Cropping Pattern in Karnataka Unit**  
**(Area in Lakh Hectares)**

CROPS	YEAR					
	1960 - 61	1970 - 71	1980 - 81	1990 - 91	2000 - 01	2010 - 11
Rice	10.28	11.7	11.14	11.73	14.84	15.39
Jowar	29.69	22.24	19.91	21.55	17.82	12.42
Ragi	9.96	10.65	10.57	10.56	10.23	7.88
Maize	0.11	0.63	1.57	2.5	6.69	12.87
Bajra	5	5.62	5.64	4.25	4.62	3.09
Wheat	3.27	3.43	3.22	1.98	2.66	2.55
Minor millets	4.44	5.43	3.68	1.59	0.71	0.24
TOTAL CEREALS	62.73	59.71	55.73	54.16	57.57	54.45
Tur	2.96	3.04	3.36	4.63	5.83	8.91
Bengal Gram	1.58	1.63	1.4	2.29	3.69	9.59
Black Gram	8.52	0.94	0.57	0.96	1.46	1.27
Green Gram	8.52	1.2	1.53	2.91	4.51	4.01
COW PEA & OTHER PULSES	8.52	0.87	0.78	1.14	1.15	1.09
Avare		0.56	0.59	0.75	0.88	0.83
Horse gram	8.52	6.19	7.09	3.53	2.95	2.21
TOTAL PULSES	13.06	14.44	18.31	16.21	20.47	27.91
TOTAL FOOD GRAINS	78.8	74.15	71.04	70.37	78.04	82.36
TOTAL OIL SEEDS	12.47	13.98	12.51	25.51	18.94	16.25
COMMERCIAL CROPS						
Cotton	9.84	11.42	10.12	5.96	5.52	5.48
Sugarcane	0.72	1.04	1.54	2.72	4.17	4.24
Tobacco	0.39	0.38	0.52	0.46	0.71	1.25

Source: Directorate of Economics and Statistics 2011. Government of Karnataka Bangalor

Net area cultivated in the state was 1,04,04,107 hectares and area sown more than once was 24,69,201 hectares, totaling to 1,28,73,308 as gross cropped area compared to 1,23,68,443 hectares during 2008 - 09. Gross cropped area was the largest in the Gulbarga district (11.1 %) followed by Belgaum (8.6%).

The gross cropped area under food crops was 94, 49,756 hectares (i.e 73.4%) and that of non - food crops were 34, 23,552 hectares (26.6%). It is observed that there is an increased in the area of about 5, 91,905 hectares under food crops and decrease of about 87,040 hectares under non -food crops.

#### **Agricultural Production - Performance and Prospects**

Agricultural is still one of the priority sectors of the state's economy, particularly rural economy, notwithstanding its diminishing share in the state domestic products. Several policies and programmes are being planned and implemented by government from time to time to improve productivity. Besides improved techniques for the development of agriculture and higher agriculture production, timely and sufficient rainfall and weather conditions are also crucial factors. During the year under report, the total cropped area has increased by about 5.0 lakh hectares due to sufficient rainfall.

### Seasonal Conditions

During the year 2009-10, the actual rainfall in the state was 1535 mm as against the normal of 1197 mm an increase of 28.2 % rainfall was excess in Bagalkot, Belgaum, Bellary, Bijapur, Chitradurga, Davangere, Gadag, Hassan, Haveri, Kolar, Koppal, Raichur, Shivamoga and Udupi districts normal in Bangalore (urban), Bangalore (rural) Chamarajanagar, Chikkaballapur, Chickmagalur, Dashina Kannada, Dharwad, Gulbarga, Kodagu Mysore, Ramnagar, Tumkur and Uttar Kannada districts deficit in Bidar District.

During the year 2009-10 there was excess rainfall during Rabi but normal in Kharif and summer seasons. The season wise actual and normal rainfalls are given in the following table.

**Table No. 5**  
Season wise rainfall conditions in the State

Season	Rain fall (in mm)		Departure from Normal rain fall (%)	Rainfall Pattern
	Normal	Actual		
Kharif	839	1002	19.4	Normal
Rabi	346	518	49.7	Excess
Summer	13	15	15.4	Normal
State	1198	1535	28.2	Excess

Source: Karnataka at a glance 2011-12 Agriculture Department report Government of Karnataka

### Production and productivity of crops

Production estimates are prepared in respect of 61 principal crops taking into account the area as recorded I reconciliation of crop area statistics and annual season and crop statistic report and the yield rate obtained on the basis of the results of crop cutting experiments. In respect of fruits and vegetables crops, the estimated area and results of crop cutting experiments conducted under the scheme "Crop Estimation Survey on fruit and Vegetables Crops" are taken into account. For the calculation of production estimates of crops for which no crops cutting experiments were conducted, the yield rates were calculated through oral enquires of farmers for Niger seed, Mustard, Papaya, Coconut, Dry Ginger, Cardamom, Garlic, Black pepper, Cashew nut, Tapioca, Sweet potato, Mesta and by Traditional method for Hadaka, Baraga, Areca nut and Sun hemp. The area cultivated unauthorized is also taken care for estimation of production. The crop wise details are as follows.

### Cereals and Minor Millets

Paddy, Jower, Ragi, Bajra, Maize and wheat are the important cereals and Navane, save are the minor millets grown in the state. Total of these cover 54.8 lakh hectares of the total cropped area in the state during year under review as against 53.7 lakh hectares during 2009-10. Area, production and productivity of these crops during 2008-09 and 2009-10 are presented in Table No.6.

**Table No. 6**  
Area, Production and Productivity of Cereals and Minor millets

Crops	Area (Lakh Hectares)		Production (Lakh Hectares)		Productivity (Lakh Hectares)	
	2009-10	2008-09	2009-10	2008-09	2009-10	2008-09
Paddy	14.9	15.1	58.1	60.4	4115	4202
Jowar	13.7	13.8	13	14.8	996	1130
Ragi	7.6	8.4	12	12.3	1647	1543
Bajar	3.1	2.7	1.3	1.8	452	718
Maize	12.4	10.7	29.2	29.6	2482	2913
Wheat	2.8	2.7	2.6	2.6	980	1008
Total Cereals	54.5	53.4	96.6	101.4	1871	1999
Navane	0.1	0.2	0.04	0.04	283	268
Save	0.1	0.2	0.09	0.1	767	717
Total MMS	0.3	0.3	0.1	0.2	516	499
Total Cereals and MMS	54.8	53.7	97.0	101.6	1865	1990



Source: Karnataka at a Glance 2011, Agriculture Department report Government of Karnataka

Total area covered under cereals crops increased from 53.7 lakh hectares to 54.8 lakh hectares whereas area under minor millets almost remains same compared to previous year. Among cereals, paddy crop alone covered 14.9 lakh hectares followed by Jowar 13.7 lakh hectares. The increase was highest in maize, recorded an increase of 15.9%. The area of cereals and minor millets was largest in Belgaum (4.9 lakh hectares) followed by Gulbarga (4.7 lakh hectares).

During 2009-10, the total production of cereals and minor millets was 91.0 lakh tonnes as against 101.6 lakh tonnes during 2008-09. The yield rate decreased from 1990 to 1865 kgs per hectare compared to previous year. Production of cereals and minor millets was highest in Davangere (10.6 lakh Tones) followed by Belgaum (6.8 lakh tonnes). The yield of cereals and minor millets was highest in Davangere (3151 kgs per hect) followed by Bangalore (Rural) (2906 kgs per hectare) and lowest in Bidar (793 Kgs per hectare).

Pulses: Bengal gram, Tur, Horse gram, Black gram, mung and Awar are the principal pulses cultivated in the state. Compared to previous year, area of pulses increased from 20.9 to 24.8 lakh hectares. The area under all pulses increased during 2009-10 but the area under Awar, Tur and other pulses remains same. The increase in gram was 32.9% followed by Green gram with 40.7%. During the year under review, yield of all the pulses decreased except Gram and Horse gram. Crop wise details are in the below.

**Table No. 7**  
**Production & Productivity of pulses**

Crops	Production (lakh tonnes)		Productivity(lakh tonnes)	
	2009	2010	2009	2010
Gram	5.6	4	603	575
Tur	2.8	3.1	487	554
Horse gram	1.1	0.9	524	427
Black gram	0.1	0.3	114	298
Green gram	0.5	0.4	133	148
Awar	0.5	0.7	724	909
Cowpea	0.4	0.4	423	490
Others	Neg	Neg	295	381
Total	11	9.8	3303	3782

Source: Karnataka at a Glance 2012, Directorate of Economics and Statistics Bangalore Government of Karnataka

Area under pulses was the largest in Gulbarga (7.0 lakh hectares) followed by Bijapur (3.3 lakh hectares). Though the yield was less under pulses during 2009-10, but there is an increase in area, thus production increased from 9.8 lakh tonnes to 11.0 lakh tonnes compared to 2008-09. This increase was mainly due to the increase in area. The production of all pulse crops increased except tur, Black gram, Awar and the production of cowpea remains same during the year 2009-10. The production recorded highest under pulses in Gulbarga (3.3 lakh tonnes) followed by Bijapur (1.6 lakh tonnes). Yield of pulses was highest in Bangalore (rural) (759 kgs per hect) followed by Davangere (723 kgs per hect) and lowest in Gadag (245 kgs per hect).

#### **Total Food Grains**

The total area under food grains in the state was 79.6 lakh hectares during 2009-10 as against 74.6 during 2008-09. The area was largest in Gulbarga (11.7 lakh hectares) followed by Bijapur (7.4 lakh hectares) and least in Bangalore (urban) (0.3 lakh hectares). Total food grains production in the state was 108.0 lakh tonnes during 2009-10 as against 111.3 lakh tonnes during 2008-09. The decrease in production was due to decrease in production of paddy and jowar and also due to decrease in yield rate of maize. The highest production was in Davangere (10.7 lakh tonnes) followed by Gulbarga (8.8 lakh tonnes) and the lowest in Bangalore (urban) (0.6 lakh tonnes).

#### **Oil Seeds**

The important oilseed crops grown in the state are Groundnut, Sunflower, Safflower, Sesame, Caster, Linseed, Soybean and Niger seed. Total area under them in the state was 20.0 lakh hectares during 2008-09. Crops

wise area. Production and Productivity of oilseed crops are given in below table.

**Table No 8**  
**Area, Production and productivity of Oil Seeds**

Crops	Area (lakh hectares)		Production (lakh tonnes)		Productivity (lakh tonnes)	
	2009-10	2008-09	2009-10	2008-09	2009-10	2008-09
Groundnut	8.2	8.5	4.6	4	589	493
Sunflower	7.9	10	2.5	4.1	333	435
Safflower	0.7	0.7	0.5	0.6	805	860
Sesame	0.8	0.6	0.3	0.3	428	538
Caster	0.2	0.2	0.1	0.2	680	998
Linseed	0.1	0.1	0.04	Neg	309	397
Soybean	1.8	1.3	0.8	0.9	472	726
Rape and Mustard	0.05	Neg	0.01	Neg	295	405
Niger seed	0.3	0.3	0.09	0.1	354	346
<b>Total</b>	<b>20.05</b>	<b>21.7</b>	<b>8.94</b>	<b>10.2</b>	<b>4265</b>	<b>5198</b>

Source: Directorate of Economics and statistics 2011-12 Government of Karnataka Bangalore Neg-Negligible

Compared to 2008-09, the area under total oilseed has decreased. The area under Sesamum, Soybean and rape and Mustard increased and Groundnut, Sunflower, Decreased and that of area under Safflower, Castar, Linseed and Niger seed remains the same. Bijapur (2.1 lakh hectares) registered the largest area followed by Gulbarga (2.0 lakh hectares). Decreased in area is mainly due to decrease of area in Sunflower and Soybean.

Total Production of oil seeds decreased during the year 2009-10 compared to 2008-09, from 10.3 to 9.0 lakh tonnes. Sunflower and Soybean crops are the contributors to decrease in production. The total production of oilseed was the highest in Belgaum (1.0 lakh tonnes) followed by Chitradurga and Gulbarga (0.83 lakh tonnes). The Average yield was highest in Udapi (2196 kgs per hectare) district.

#### Commercial Crops

Cotton, Sugarcane and Tobacco are the important commercial crops grown in the state.

**Table No. 9**  
**Area Production and Productivity of Commercial crops**

Crops	Area (lakh hectares)		Production (lakh tonnes)		Productivity (lakh tonnes)	
	2009-10	2008-09	2009-10	2008-09	2009-10	2008-09
Cotton	4.6	4.1	7.1	8.3	276	361
Sugarcane (H)*	3.4	2.8	322.9	242	101	91
Tobacco	1.2	1.1	0.9	0.5	810	535

Source: Bijapur at a glance 2011-12 Zilla Panchayat, Bijapur  
Sugarcane\* : In tonnes per hectare.

#### Horticulture Crops

The Important horticulture crops of the state are Mango, Banana, Grapes, Guava, Sapota, Papaya, Lemon, Cashew nut, Coconut, Topeka, Sweet Potato, Onion, Potato, Chilies, Tomato, Brinjal, Beans, Turmeric etc. Area under all these crops increased except Pomegranates, Sweet Potato and Potato and are remain same under Tapioca

and Cabbage during 2009-10 compared to 2008-09. Production of all crops increased except Papaya, Pomegranate, Tapioca, Sweet Potato and Onion, during 2009-10.

Dry chilies, Dry Ginger, Cardamom, and Garlic, Black pepper, Areca nut and coriander are the important condiment and spice crops of Karnataka. The area under all condiments and spice crops increased expect under cardamom, Garlic and Coriander compared to 2008-09. Production of all condiments and spices increased except Cardamom, Garlic and Pepper. Yield of all condiments and Spices decreased.

### CONCLUSION

Agriculture contributes a high share of gross domestic product by sectors in India. Farmers are growing various crops in the field rather than single crop. The net sown area in Karnataka is normally about 11.2 million hectares. Only 24 percent of arable area is under irrigation, so most of the cultivable area depends on the occurrence and distribution of pre-monsoon and south west monsoon perception.

The cropping pattern of Karnataka is dominated by crops planted during the Kharif southwest monsoon season. Normally 65 percent of the net shown area is planted with crops during Kharif depending on pre-monsoon and south west monsoon rains. Similarly about 30 percent and 5 percent of the area is sown during Rabi, and the summer seasons are respectively depending on the soil. During the year 2009-10, the irrigated land increased from 26.31 lakh hectares to 33.33 lakh hectares, despite many irrigational projects, Karnataka still continues to irrigate 48.29 percent of its land by wells and by canals. Crop production shows the increased manner.

The area under cereals and minor millets crops are increased and other cereals and among pulses are increased in all pulses except Avare in 2009-10 compared to 2008-09. The area under Sugarcane, Fruits, Vegetables and other food crops increased and area under cultivation decreased in Palm and Cardamom crops and area under all oilseeds increased by knowing all the types of productions in the state is increased.

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