

CHAPTER	
5	SUGARCANE AND TOTAL FOOD CROPS

5.1 DISTRICT AREA OF SUGARCANE

In the general group of total food-crops for the indepth study, sugarcane is chosen. As regards sugarcane cultivation, the absolute area covered by this crop in the district was 12,384 hectares during the initial triennium 1964-65 as shown in column 3 of Table 5.1 Thereafter, the area went on increasing till the last triennium 1985-88 when it reached to 39,034 hectares. The last triennium was the best period out of the total span of 24 years under consideration. Sugarcane is an important crop under the class foodcrops though its share was less, than the grain crops in the district. The picture is reflected in the figures of the percentage of sugarcane area of Sangli district to the districts GCA. The percentage figures since the first triennium showed continuous increase, from 1.83 per cent during 1964-65 to 6.08 per cent during 1985-88. Overall effect was continuous and sharp increase in sugarcane area. The time series data for sugarcane of the district total when plotted shows an increasing trend (Fig. 5.1).

TREND OF THE PERCENTAGE OF THE DISTRICT AREA UNDER SUGARCANE

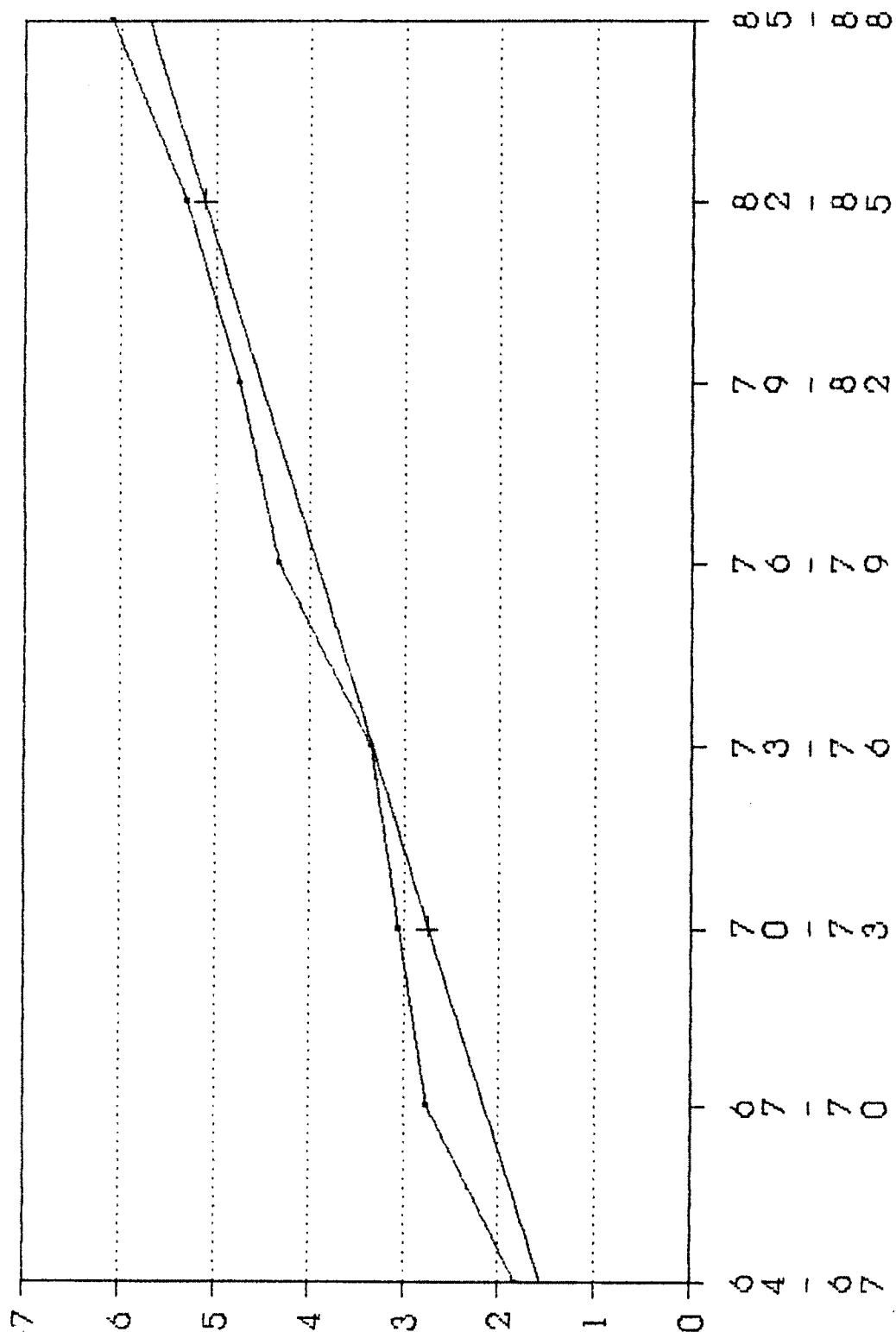


Table 5.1

Talukawise area under sugarcane in Sangli district

(Area in heactors)

Triennial Year	District gross cropped area	Area under total cereals	Miraj	Tasgaon	Khanapur	Atpadi	Jat	Kavathe Mahankal	Walva	Shirala
1	2	3	4	5	6	7	8	9	10	11
1964 - 65 to 1966 - 67	6,77,929 (100.00)	12,384 (100.00) (1.83)	2,658 (21.46) (3.27)	2,438 (19.68) (2.71)	763 (6.16) (0.68)	80 (0.64) (0.11)	400 (3.22) (0.25)	437 (3.52) (0.84)	4,099 (33.09) (6.15)	1,505 (12.15) (3.16)
1967 - 68 to 1969 - 70	6,54,469 (100.00)	18,103 (100.00) (2.76)	4,864 (26.86) (6.20)	5,210 (28.77) (6.05)	1,018 (5.62) (0.91)	79 (0.43) (0.12)	472 (2.60) (0.30)	642 (3.54) (1.29)	4,584 (25.32) (7.10)	1,233 (6.81) (2.67)
1970 - 71 to 1972 - 73	6,27,792 (100.00)	19,242 (100.00) (3.06)	5,276 (27.41) (7.00)	5,515 (28.66) (6.59)	964 (5.00) (0.9)	122 (0.63) (0.22)	359 (1.86) (0.24)	583 (3.02) (1.27)	5,291 (27.49) (8.08)	1,129 (5.86) (2.46)
1973 - 74 to 1975 - 76	6,34,105 (100.00)	21,223 (100.00) (3.35)	5,406 (25.47) (7.28)	5,697 (26.84) (7.02)	1,193 (5.62) (1.09)	204 (0.96) (0.30)	375 (1.76) (0.26)	1,021 (4.81) (2.19)	6,146 (28.95) (9.53)	1,180 (5.56) (2.54)
1976 - 77 to 1978 - 79	6,45,928 (100.00)	28,009 (100.00) (4.33)	7,315 (26.11) (9.48)	7,118 (25.41) (7.71)	2,139 (7.63) (1.93)	262 (0.93) (0.37)	592 (2.11) (0.44)	1,178 (4.20) (2.53)	8,394 (29.96) (12.65)	1,009 (3.60) (2.17)
1979 - 80 to 1981 - 82	6,47,887 (100.00)	30,714 (100.00) (4.74)	8,254 (26.87) (10.88)	8,097 (26.36) (8.94)	2,292 (7.46) (2.00)	317 (1.03) (0.49)	522 (1.69) (0.37)	1,169 (3.80) (2.40)	8,985 (29.25) (13.32)	1,075 (3.50) (2.27)
1982 - 83 to 1984 - 85	6,33,725 (100.00)	33,618 (100.00) (5.30)	8,526 (25.36) (10.19)	7,761 (23.08) (8.75)	1,923 (5.72) (1.97)	706 (2.10) (1.14)	563 (1.67) (0.40)	912 (2.71) (1.86)	11,911 (35.43) (18.25)	1,313 (3.90) (2.81)
1985 - 86 to 1987 - 88	6,41,952 (100.00)	39,034 (100.00) (6.08)	8,688 (22.25) (10.24)	12,331 (31.59) (14.17)	1,822 (4.66) (1.98)	690 (1.76) (1.11)	719 (1.84) (0.47)	453 (1.16) (0.90)	12,549 (32.14) (18.92)	1,566 (4.01) (3.42)
Average 1964-65 1987-88 (24 years)	----	(100.00) (3.93)	(25.22) (8.07)	(26.30) (7.74)	(5.98) (1.43)	(1.06) (0.48)	(2.09) (0.34)	(3.35) (1.66)	(30.20) (11.75)	(5.67) (2.68)

Note : 1. Figures in lower parentheses in column 3 are percentage to column 2

2. Figures in upper parentheses in column 4 to 11 are percentages to column 3

3. Figures in lower parentheses in columns 4 to 11 are percentages to the GCA of the respective talukas

Source: Compiled on the basis of data collected from the relevant issues of Socio Economic Review and District statistical abstract of Sangli District for the years from 1964-65 to 1987-88, Directorate of Economics & Statistics Government of Maharashtra, Bombay.

5.2 TALUKA PROFILE OF SUGARCANE

Talukawise break-up of the district area under sugarcane is shown in columns 4 to 11 of Table 5.1. This area will be analysed as before with reference to the district total and then with reference to the GCA of the taluka itself. The former would bring out the importance of the taluka in the district profile while the latter would point out the significance of this crop in the taluka's agricultural activity.

5.2.1 TALUKA AREA VIS-A-VIS DISTRICT AREA OF SUGARCANE

Columns 4 to 11 of Table 5.1 show first of all the absolute figures of sugarcane area in each taluka. Then in upper parentheses are given percentages of talukas area to the district total. These figures would serve as basis for analysing average area and the magnitude of range trend behaviour and coefficient of variation Analysis follows.

5.2.1.1 Average area

A concise presentation of average share of each taluka over the entire period range within which the area percentage moved and the range magnitude is given in Table 5.2.

Table 5.2

Talukawise range of share of area under sugarcane (1964-88).

Taluka	Range of Share	Range magnitude (percentage points)	Average share for the entire period
1 Miraj	21.46 to 27.41	5.95	25.22
2 Tasgaon	19.68 to 31.59	11.91	26.30
3 Khanapur	4.66 to 7.63	2.97	5.98
4 Atpadi	0.43 to 2.10	1.67	1.06
5 Jat	1.67 to 3.22	1.55	2.09
6 Kavathe Mahankal	1.16 to 4.81	3.65	3.25
7 Walva	25.32 to 35.43	10.11	3.20
8 Shirala	3.50 to 12.15	8.65	5.67

Source: Compiled from Table 5.1

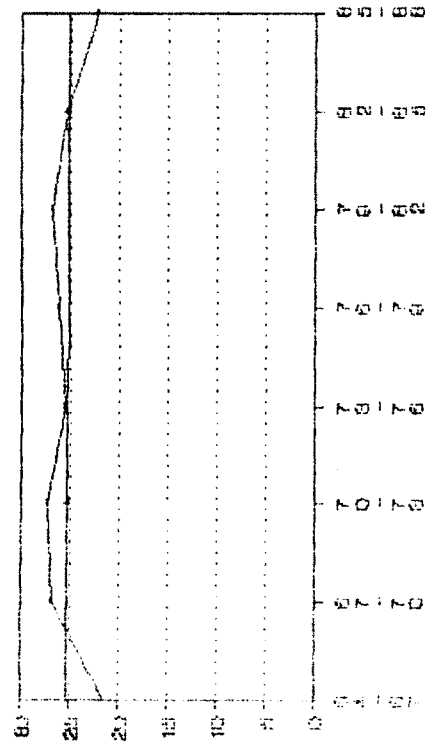
Figures of average shares of talukas for the entire period reveal skewed distribution of the district area among the talukas. It is observed from the table that Walva, Tasgaon and Miraj together covered on an average 82 per cent area of sugarcane cultivation in Sangli district, the average share for the entire period for these talukas being 30.20 per cent 26.30 per cent and 25.22 per cent respectively. These talukas enjoyed irrigation facilities from river Krishna, Krishna canal, Warna river, Warna canals and Yerla river. Other talukas had each less than 6 per cent of the district land covered by sugarcane mainly because they were located in the rain-shadow area and hence drought-

prone. Sugarcane is grown in the vicinity of Warna river in Shirala taluka. It is seen from the column of range magnitude that average area under sugarcane moved in the range of 11.91 per cent points and 10.11 percentage points in case of Tasgaon and Walva respectively. These magnitudes were on the higher side compared with the rest of the talukas. Shirala and Miraj followed these talukas with 8.65 and 5.95 percentage points respectively Kavathe Mahankal, Khanapur, Atpadi and Jat had very narrow ranges within which their area percentages moved annually. However their participation in the district crop of sugarcane was very much less. This perhaps must have led to small fluctuations annually. Moreover, expansion of sugarcane area depends on availability of water throughout the year, and therefore does not depend entirely on the sweet will of the grower.

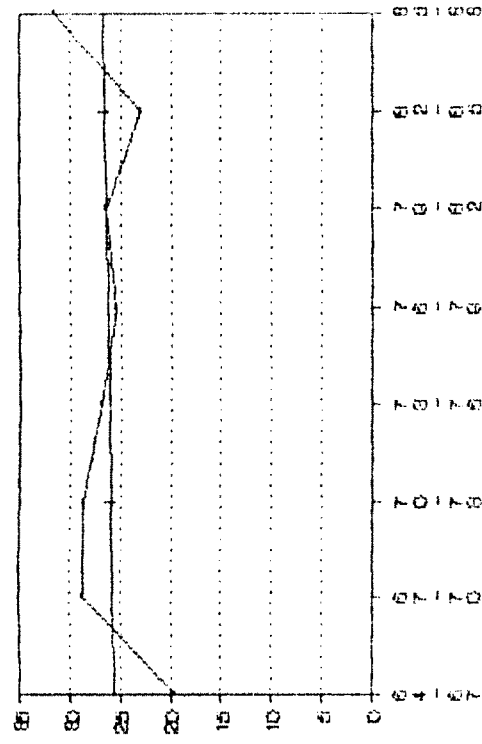
5.2.1.2 Trends

Longterm changes in taluka percentages have been smoothed need by fitting trend lines. Fig. 5.2 exhibits the trend lines for all the talukas Tasgaon, Khanapur, Atpadi and Walva showed upward trend. Miraj trend was almost constant with slight downward inclination whereas Jat, Kavathe Mahankal and shirala trends were downwards. It is observed that the percentage share in the district total of sugarcane for Walva dropped conspicuously from 1964 to 1970, then it went on increasing almost continuously. Miraj showed

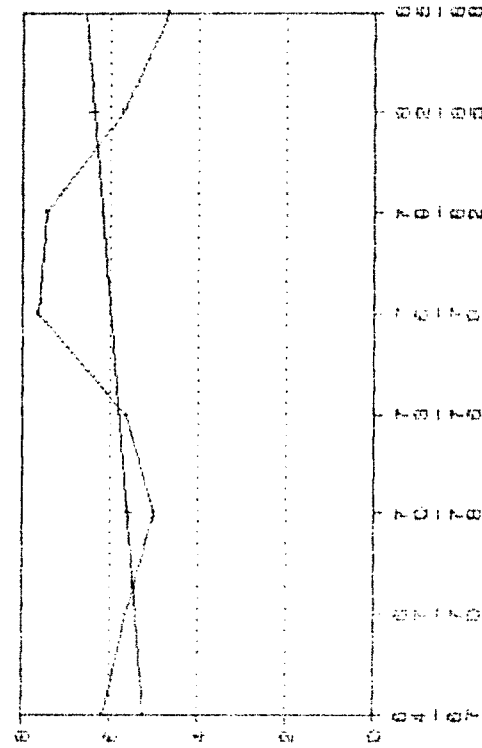
TREND OF THE PERCENTAGE OF TALUKA AREA IN THE DISTRICT SUGARCANE



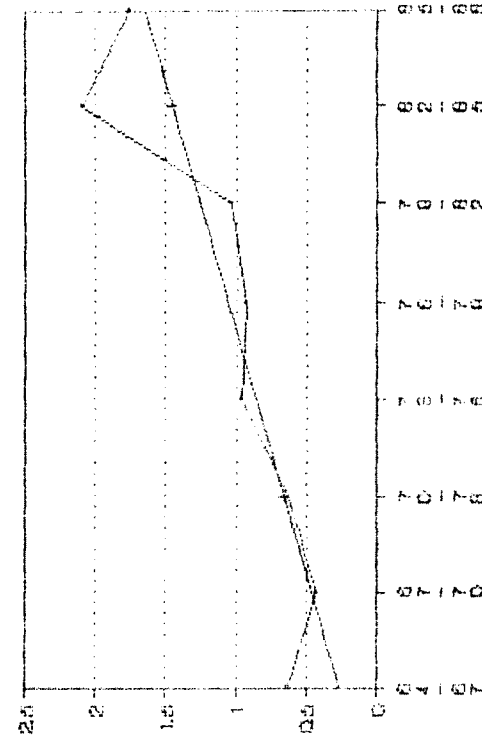
1967



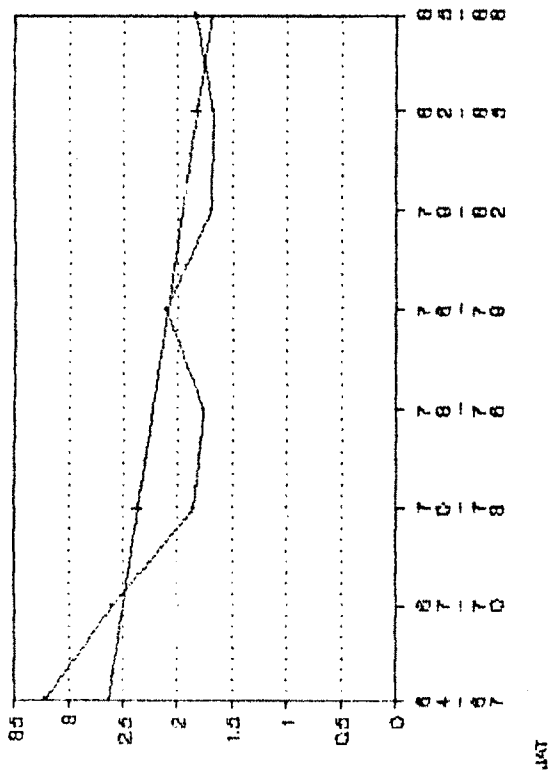
1988



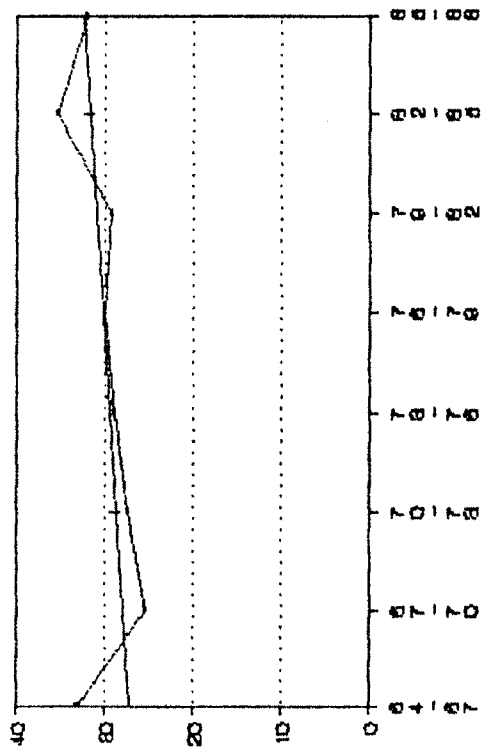
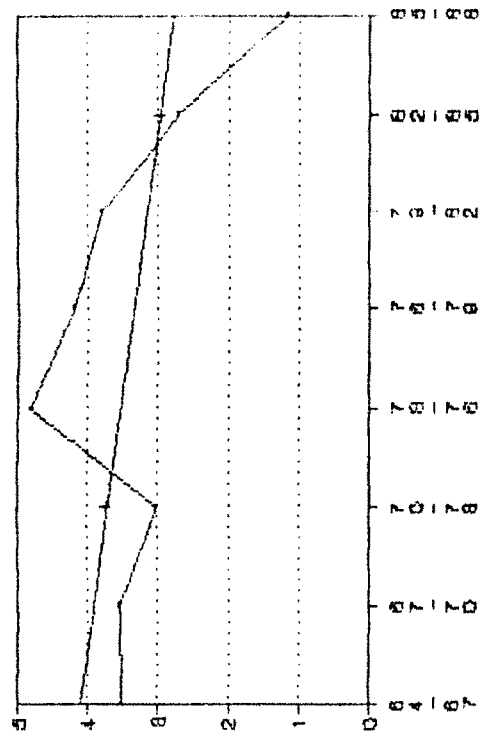
1967



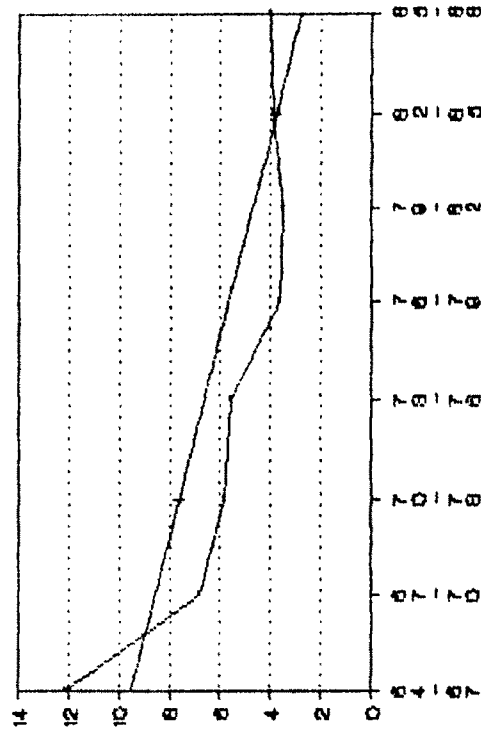
1988



KAWATHE MAHANKAL



SHIRALA



SHIRALA

an increasing trend from 1964 to 1973 and then it fell almost continuously, whereas in case of Tasgaon the tendency changed from upward to downward and then finally upward but with overall effect of an upward trend over the entire period. The description regarding other talukas is not necessary since their share was too low in the district total.

5.2.1.3 Coefficients Of Variation

The intensity of period to period changes in the percentage shares is made known through calculations of the coefficients of variation for the all talukas. These values are given in Table 5.3

Table 5.3

C.V. values of taluka shares in the district area under sugarcane

Taluka	Coefficient of variation (percentage)
1 Miraj	8.76
2 Walva	10.01
3 Tasgaon	13.10
4 Khanapur	16.71
5 Jat	24.50
6 Kavathe Mahankal	30.65
7 Shirala	47.58
8 Atpadi	51.21

Source : Calculated on the basis of data in Table 5.1

It is clear from the table that Miraj, Walva and Tasgaon which shared the major part of the district area of sugarcane were in the lower range of C.V. values than that of others. Sugarcane cultivation in Khanapur, Jat, Kavathe Mahankal, Shirala and Atpadi was subject to constant variations and thereby ups and downs of high magnitude characteristic of instability of cultivation. Actually, the C.V. values for all talukas except Miraj exceeded to per cent and the highest figure (51.21) was reached by Atpadi. They are indicative of great fluctuations in percentage areas from year-to-year.

5.2.2 TALUKA AREA OF SUGARCANE VIS-A-VIS GCA OF THE TALUKA

The absolute figures of sugarcane area of each taluka during each triennium would now be considered in the context of the GCA of each taluka during the respective triennium. Percentage figures relevant to this are given in lower parentheses of columns 4 to 11 in Table 5.1. Average area, trend and coefficient of variation are the usual three parameters.

5.2.2.1 Average area

Summary details of the average area over the 24 year period, range movement of the percentages and the range magnitudes are given in Table 5.4.

Table 5.4

Talukawise range of area under sugarcane as percentage of the GCA, of the taluka (1964-88)

Taluka	Range of share	Range magnitude (percentage points)	Average for the entire period
1 Miraj	3.27 to 10.88	7.61	8.07
2 Tasgaon	2.71 to 14.17	11.46	7.74
3 Khanapur	0.68 to 2.00	1.32	1.43
4 Atpadi	0.11 to 1.14	1.03	0.48
5 Jat	0.25 to 0.47	0.23	0.34
6 Kavathe Mahankal	0.84 to 2.53	1.69	1.66
7 Walva	6.15 to 18.92	12.77	11.75
8 Shirala	2.17 to 3.42	1.25	2.68

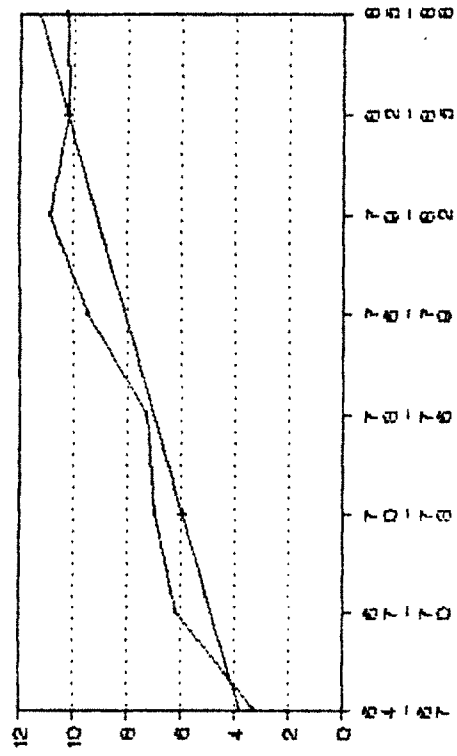
Source: Compiled from Table 5.1

It is clear from the table that Walva, Miraj and Tasgaon talukas were important producers of sugarcane. Of them Walva comes first with nearly 12 per cent of its GCA under sugarcane. This is certainly significant. Next in order were Miraj and Tasgaon with nearly 8 per cent of their GCA used for sugarcane crop other talukas had very insignificant share in the cultivation of the crop, the variation range magnitude were also very low obviously.

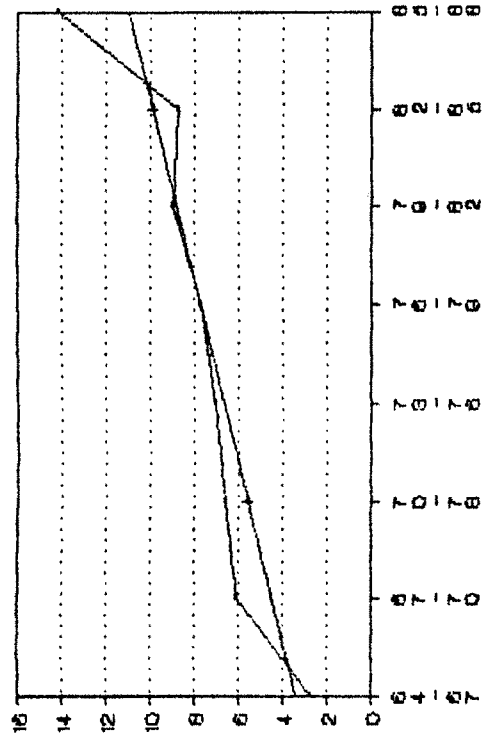
5.2.2.2 Trends

The time-serise data for the talukas are presented

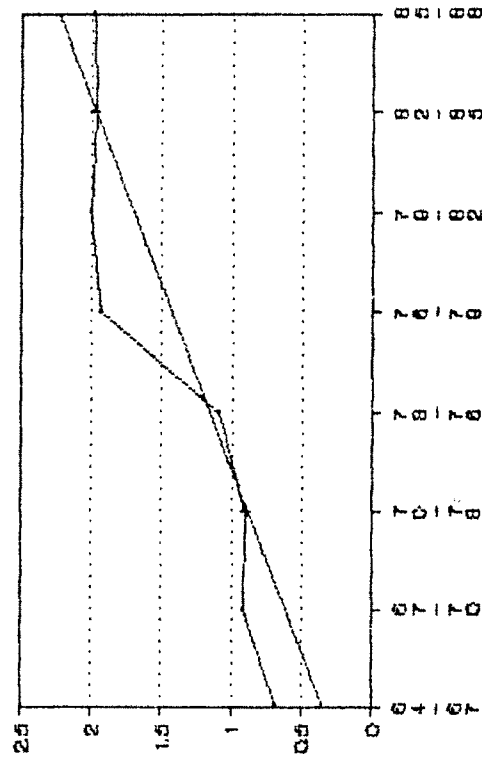
TREND OF THE PERCENTAGE OF THE
TALUKA AREA IN ITS COA SUGARCANE



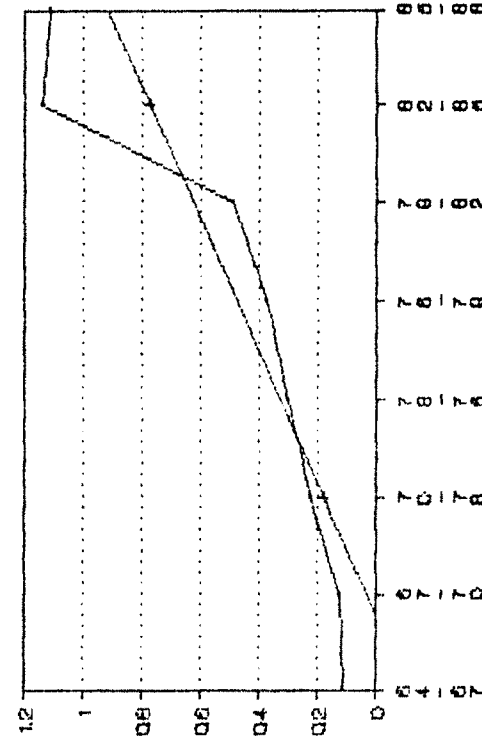
MIRAJ



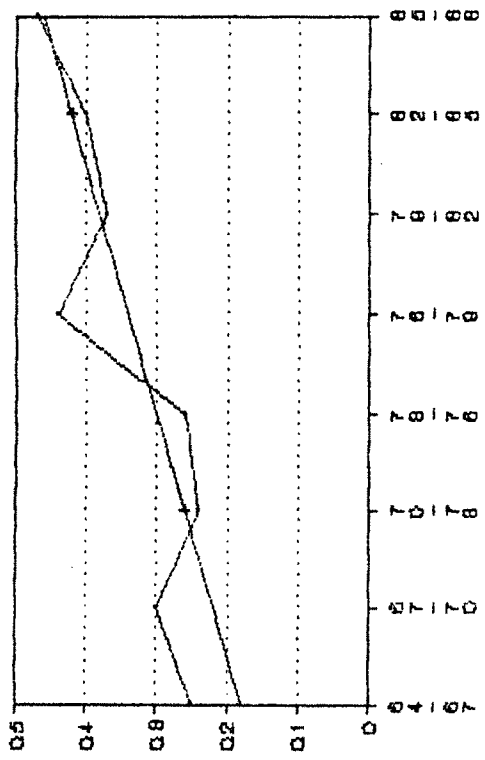
TASGAON



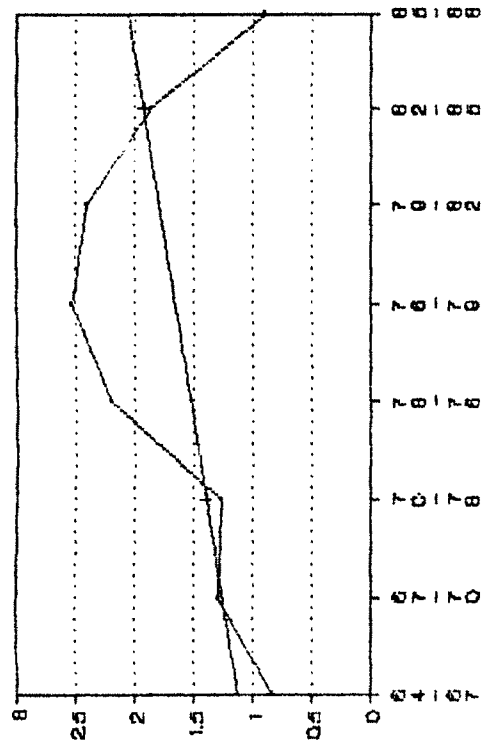
KHANAPUR



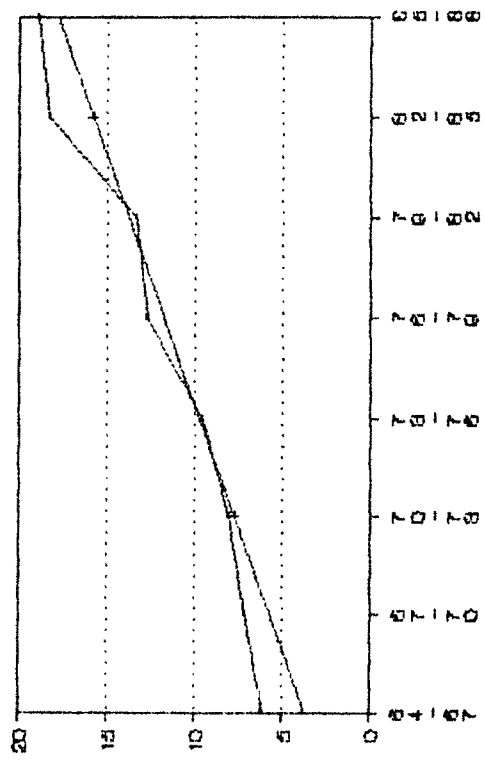
ATRADI



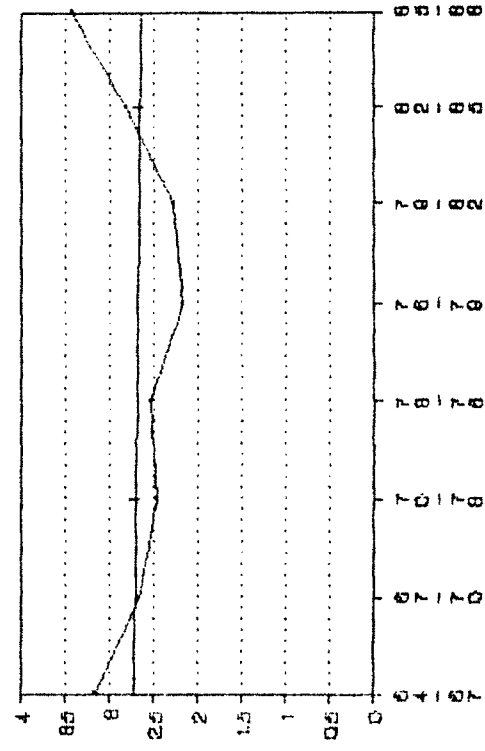
JAT



KAVATHE MAHANIKAL



WALVA



SHRALA

graphically in Fig. 5.3. The tendency is indicated by trend line in case of individual taluka. It could be easily observed from the Fig. that Miraj, Tasgaon and Walva together sharing majority of the district area of sugarcane, depicted conspicuously increasing trend. Khanapur Jat, Kavathe Mahankal and Atpadi also had uptrend but less pronounced than the first three talukas referred to earlier. It should be specifically noted that none of the talukas had decreasing trend in respect of use of taluka land for sugarcane. This means that the farmers preferred sugarcane cultivation taluka. This is one of the important changes occurring in the overall cropping pattern of Sangli district.

5.2.2.3. Coefficient Of Variation

The degree of variations in the percentage area of each taluka is gauged by calculating coefficients of variation. Talukawise values in increasing order are given in Table 5.5.

The values of coefficients were quite high for all the talukas. Shirala had the lowest and Atpadi had the highest values. However, values for all the talukas were much beyond 10 per cent. As such, the percentage shares changed by leaps and bounds with the sole exception of shirala. The shares of other talukas were quite low compared

with Miraj, Tasgaon and Walva. Hence even if their coefficients of variation were high, it did not much for the district as a whole.

Table 5.5

C V. values Of taluka shares of sugarcane in their G.C.A.

Taluka	Coefficient of variation (percentage)
1 Shirala	14.99
2 Jat	24.93
3 Miraj	30.19
4 Kavathe Mahankal	37.79
5 Khanapur	38.29
6 Walva	39.04
7 Tasgaon	39.24
8 Atpadi	81.06

Source : Compiled from Table 5.1

5.3 DISTRICT AREA OF TOTAL FOOD CROPS

The statistical data of Sangli district will be now scanned to find out the significance of the group of food crops in the cropping pattern of the district behaviour of the cultivators in putting their lands under food crops and the degree of stability in allocation of land for this purpose column 3 of. Table 5.6 gives the aggregate area of land in the district used for food crops figures in the lower parentheses pertain to the percentage of district area under this crop group to the GCA of the district.

TREND OF THE PERCENTAGE OF THE DISTRICT AREA UNDER TOTAL FOOD CROPS

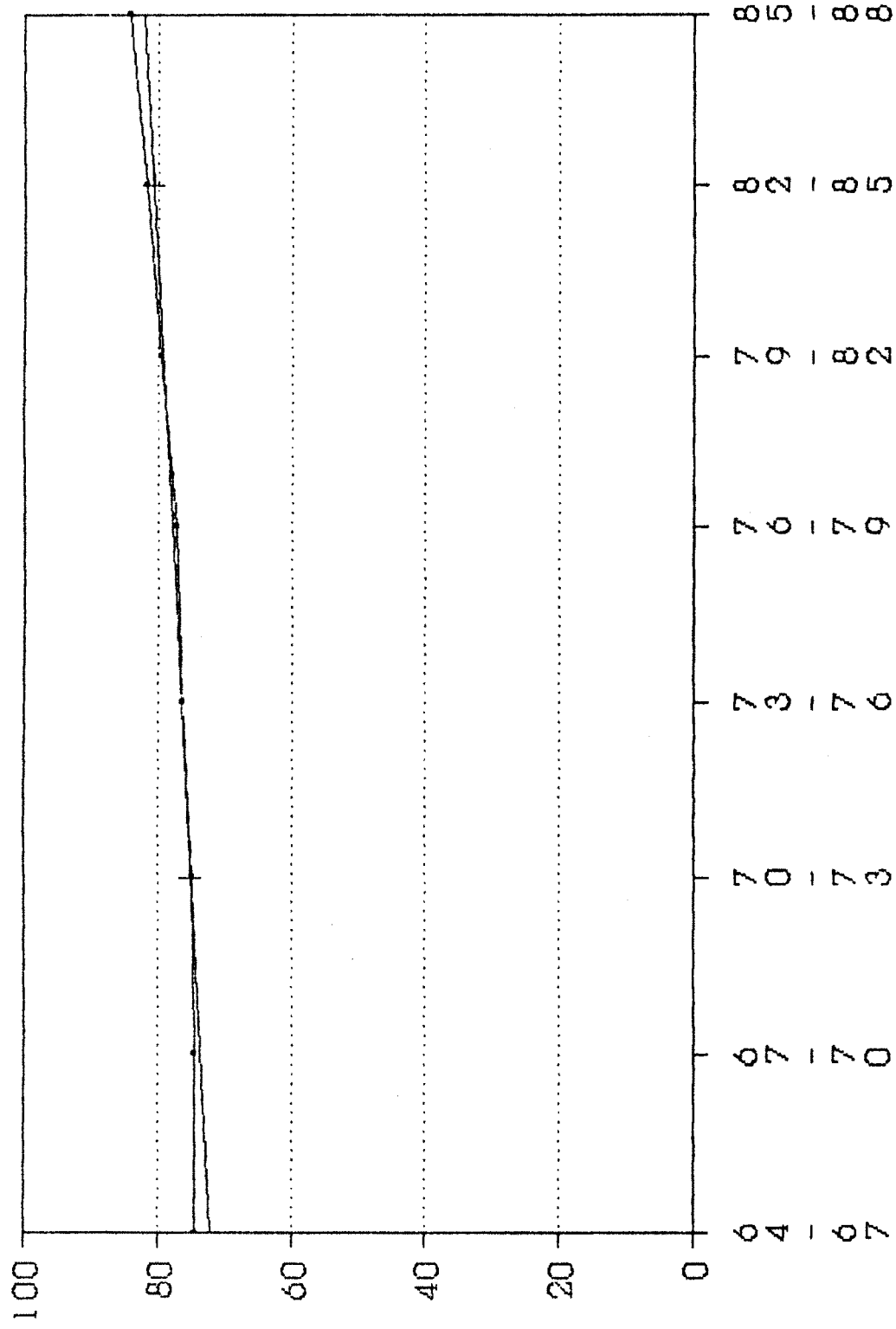


Table 5.6

Talukawise area under total food crops in Sangli district

(Area in heactares)

Triennial Year	District Total		Miraj	Tasgaon	Khanapur	Atpadi	Jat	Kavathe Mahankal	Walva	Shirala
	Gross Cropped Area	Area under jowar								
1	2	3	4	5	6	7	8	9	10	11
1964 - 65 to 1966 - 67	6,77,929 (100.00)	5,05,129 (100.00) (74.51)	52,187 (10.33) (64.22)	63,668 (12.60) (70.97)	83,776 (16.58) (75.01)	61,653 (12.20) (87.75)	1,39,665 (27.64) (87.79)	41,961 (8.30) (81.07)	42,690 (8.45) (64.21)	19,418 (3.84) (40.87)
1967 - 68 to 1969 - 70	6,54,469 (100.00)	4,86,947 (100.00) (74.41)	50,942 (10.46) (64.89)	59,817 (12.28) (69.52)	78,877 (16.19) (71.03)	61,627 (12.65) (97.18)	1,36,380 (28.00) (88.03)	41,108 (8.44) (82.42)	40,948 (8.40) (63.43)	17,244 (3.54) (37.40)
1970 - 71 to 1972 - 73	6,27,792 (100.00)	4,69,950 (100.00) (74.86)	53,210 (11.32) (70.68)	63,389 (13.48) (75.73)	74,236 (15.79) (69.47)	51,374 (10.93) (90.37)	1,31,480 (27.97) (89.02)	37,603 (8.00) (81.69)	41,604 (8.85) (63.55)	17,052 (3.62) (37.15)
1973 - 74 to 1975 - 76	6,34,105 (100.00)	4,84,804 (100.00) (76.45)	57,537 (11.86) (77.53)	68,238 (14.07) (84.11)	76,092 (15.69) (69.50)	52,064 (10.73) (77.03)	1,27,747 (26.35) (89.26)	42,057 (8.67) (90.50)	44,602 (9.20) (69.17)	16,398 (3.38) (35.35)
1976 - 77 to 1978 - 79	6,45,928 (100.00)	4,99,243 (100.00) (77.29)	61,130 (12.24) (79.18)	75,238 (15.07) (81.48)	81,544 (16.33) (73.43)	47,478 (9.50) (67.76)	1,24,868 (25.01) (91.86)	42,343 (8.48) (91.07)	48,761 (9.76) (73.46)	17,880 (3.58) (38.50)
1979 - 80 to 1981 - 82	6,47,887 (100.00)	5,16,080 (100.00) (79.66)	61,367 (11.89) (80.87)	76,835 (14.88) (84.87)	82,149 (15.91) (71.57)	48,892 (9.47) (76.51)	1,29,587 (25.10) (93.08)	45,614 (8.83) (93.72)	51,558 (9.99) (76.45)	20,041 (3.88) (42.27)
1982 - 83 to 1984 - 85	6,33,725 (100.00)	5,18,220 (100.00) (81.77)	70,316 (13.56) (84.04)	75,264 (14.52) (84.89)	81,507 (15.72) (83.40)	44,816 (8.64) (72.59)	1,31,292 (25.33) (93.24)	45,753 (8.82) (93.24)	50,030 (9.65) (76.70)	19,238 (3.71) (41.09)
1985 - 86 to 1987 - 88	6,41,952 (100.00)	5,40,146 (100.00) (84.14)	70,734 (13.09) (83.38)	76,042 (14.07) (87.41)	84,368 (15.61) (91.86)	47,032 (8.70) (75.59)	1,41,860 (26.26) (92.41)	47,877 (8.86) (94.80)	53,081 (9.82) (80.05)	19,151 (3.54) (41.88)
Average 1964-65 1987-88 (24 years)	----	(100.00) (77.89)	(11.84) (75.59)	(13.87) (79.87)	(15.98) (75.65)	(10.35) (80.59)	(26.45) (90.58)	(8.55) (88.56)	(9.26) (70.87)	(3.63) (39.31)

Note : 1. Figures in lower parentheses in column 3 are percentage to column 2

2. Figures in upper parentheses in column 4 to 11 are percentages to column 3

3. Figures in lower parentheses in columns 4 to 11 are percentages to the GCA of the respective talukas

Source:

Compiled on the basis of data collected from the relevant issues of Socio Economic Review and District statistical abstract of Sangli District for the years from 1964-65 to 1987-88. Directorate of Economics & Statistics Government of Maharashtra, Bombay.

Total food crops dominated the overall cropping scenario of the district is but natural, since they cater to the basic needs of food of the people of the land. Many of the food crops are either dry crops or they need protective irrigation. Hence they are easy to cultivate. Sticking to Sangli district majority area is rainfed ~~the~~ only. The gross cropped area is remaining almost constant and population is increasing. Hence demand for food crops is increasing. Consequently area under food crops is bound to increase in order to meet the increasing demand under conditions of dry ^gforming. As per the theory of demand and supply, when demand increases, supply remaining almost constant or increasing proportionately less the prices go up and thus cultivation of needed crops becomes rather profitable.

It could be seen from Table 5.6 that the area under total food crops increased from an average of 5,05,129 hectares in the triennium 1964-67 to 5,40,146 hectares in the triennium 1985-88. ~~the~~ the percentage area under this crop group increased correspondingly from 74.51 per cent to 84.10 per cent of the GCA of the district. For the district as a whole an average of 78 per cent of the land was occupied by the food crops and the overall trend was increasing.

5.4 TALUKA PROFILE OF FOOD CROPS

The micro-level analysis of the district behaviour is as follows. Taluka is the unit for the purpose. The way

in which the talukas of Sangli district showed variations in the food- crops in general will be studied with reference two dimensions as before: (a) taluka area vis-a-vis district area of food crops and (b) taluka area of food crops vis-a-vis GCA of the taluka. The interpretations have been presented on the basis of data in Table 5.6.

5.4.1 TALUKA AREA VIS-A-VIS DISTRICT AREA OF FOOD CROPS

In Table 5.6 columns 4 to 11 give first of all the absolute area of food crops in the taluka during the triennium, the follow the upper parentheses giving percentage shares of the taluka area in the district total. This data would be now analysed in order to establish conclusions pertaining to the average area under food crops and the magnitude of range in which the percentage area moved the time series trend behaviour and finally the degree of variability represented by the coefficient of variation.

5.4.1.1 Average area

Summary account of the average area of each taluka along with the range of variation of the percentage area is given in Table 5.7.

It is seen from the table that the maximum average area was shared by Jat which was to the tune of 26.45 per cent of the total area under food crops in the district for

entire period. This means that approximately one fourth of the total district area under food crops was in Jat alone. Next to Jat follow in decreasing order Atpadi, Walva, Kavathe Mahankal and Shirala. Of these, Shirala had relatively very small proportion of its land under food crops.

Table 5.7

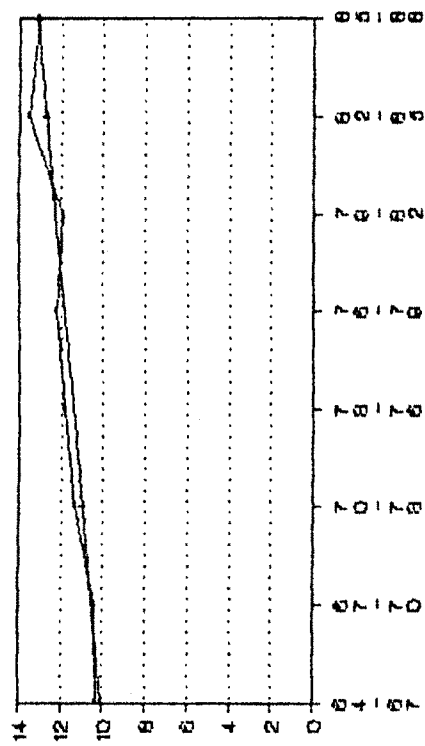
Talukawise range of share of area under total foodcrops (1964-88).

(percentage)			
Taluka	Range of share	Range magnitude (percentage points)	Average for the entire period
1 Miraj	10.33 to 13.56	3.23	11.84
2 Tasgaon	12.28 to 15.07	2.79	13.87
3 Khanapur	15.61 to 16.58	0.97	15.98
4 Atpadi	8.64 to 12.65	4.01	10.35
5 Jat	25.01 to 28.00	2.99	26.45
6 Kavathe Mahankal	8.00 to 8.86	0.86	8.55
7 Walva	8.40 to 9.99	1.59	9.26
8 Shirala	3.38 to 3.88	0.50	3.63

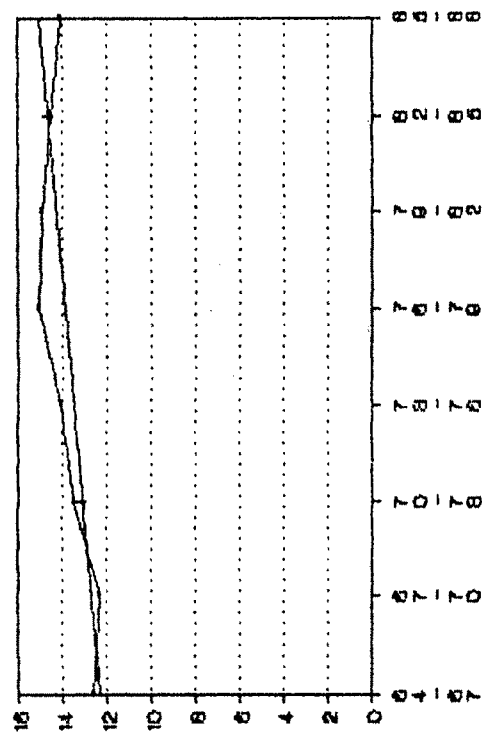
Source: Compiled from Table 5.6

The range magnitude in which the average share for the entire period had moved was quite narrow for all the talukas. Hence it could be concluded that in all the talukas food crops were cultivated quite consistently with varying average shares for the trienniums.

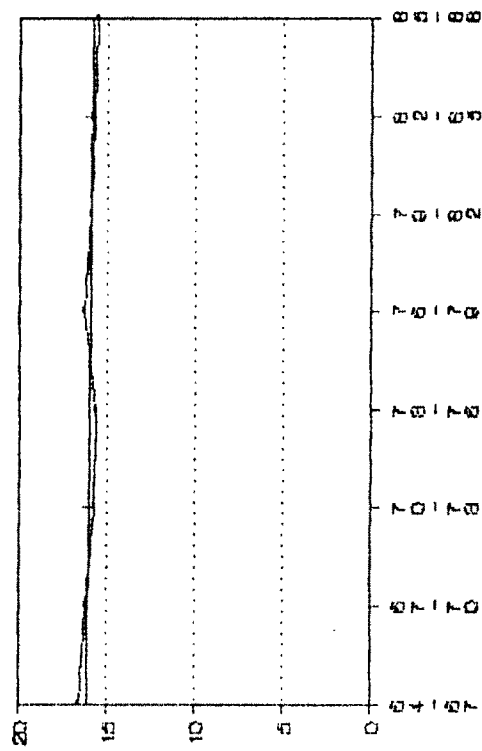
TREND OF THE PERCENTAGE OF
TALUKA AREA IN HY-CCA THE
DISTRICT TOTAL FOODCROPS



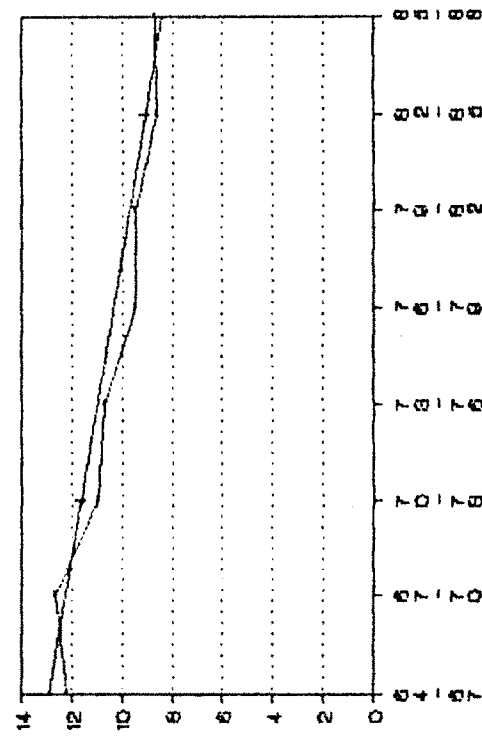
MIRAJ



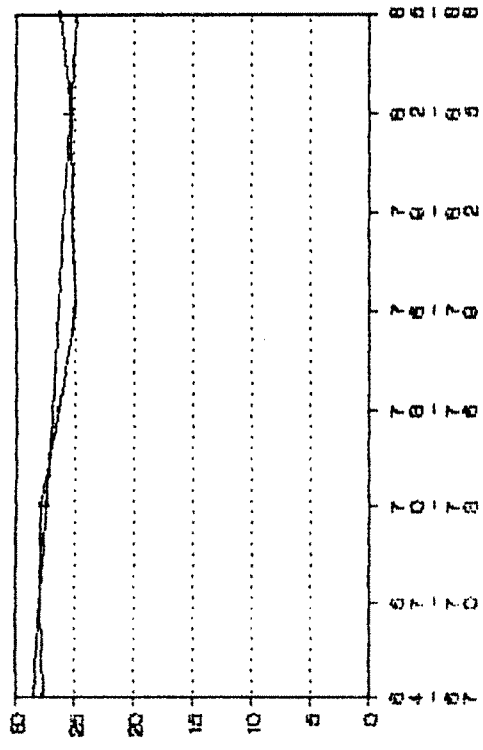
TASGAON



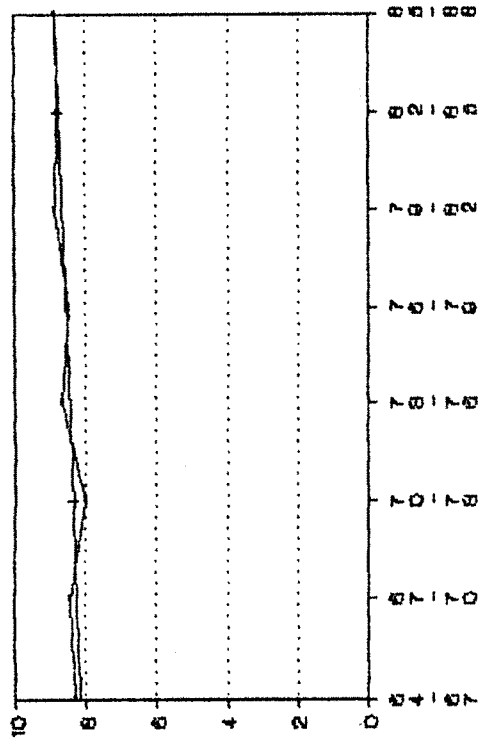
KHANAPUR



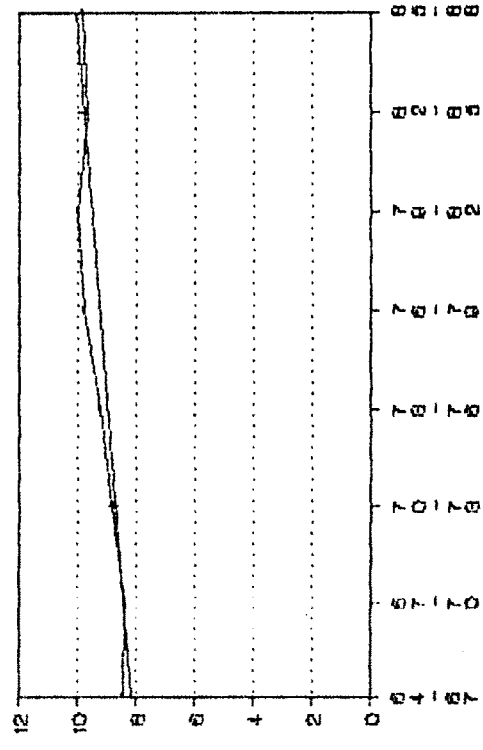
ATPADI



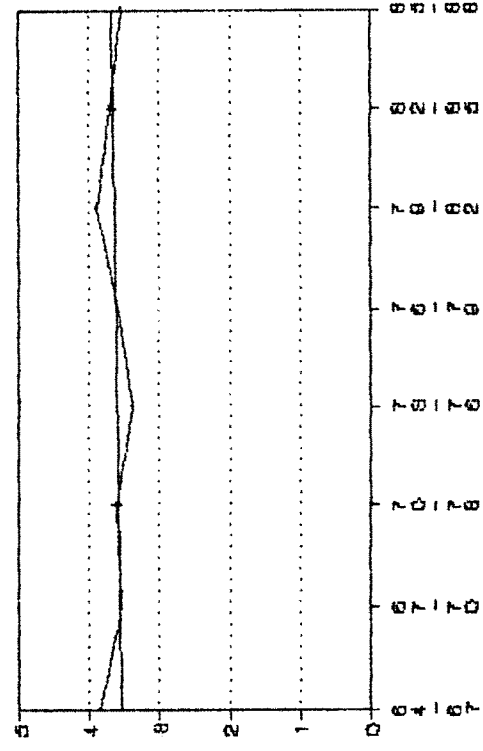
JAT



KAVATHE MAHANKAL



WALVA



SHRALA

5.4.1.2 Trends

The time series data for all the triennium are plotted for all the talukas to find out the long-term tendency of the talukas in devoting their land for food crops in general. Trend lines are fitted and shown in Fig. 5.5 the diagrams wherein point out that rising trend prevailed in case of Miraj, Tasgaon, Kavathe Mahankal, Walva and Shirala. These talukas are situated in the central-southern region and western region of the district. All these talukas together commanded an average of a little more than 40 per cent of the district area under food crops. On the other hand the downtrend was revealed by Atpadi, Khanapur and Jat. These talukas are situated in northern region and eastern region of the district. Overall trend for the district would be influenced more by the group of talukas having upward trend.

5.4.1.3. Coefficient Of Variation

The intensity of fluctuations in the area percentage would throw further light on the changing cropping pattern in the talukas of the district. The values of coefficient of variation are given in Table 5.8

In earlier sub-section on average area, it was noticed that the range magnitude of area changes was quite low for the talukas except atpadi. This had led to the

conclusion that all the talukas were growing food crops consistently and approximately over the same area. C.V. values of the talukas strengthen the observation as they were below 10 per cent for all the talukas except Atpadi. Especially Khanapur, Kavathe Mahankal, Atpadi and Jat were better placed than others since their c.v. values were below 5 per cent.

Table 5.8

C.V. value of taluka shares in the district area under total foodcrops.

Taluka	Coefficient of variation (percentage)
1 Khanapur	2.05
2 Kavathe Mahankal	3.31
3 Shirala	4.29
4 Jat	4.49
5 Walva	6.40
6 Tasgaon	6.87
7 Miraj	9.03
8 Atpadi	13.80

Source : Compiled from Table 5.6

5.4.2 TALUKA AREA OF FOOD-CROPS VIS-A-VIS GCA OF THE TALUKA

Taluka area may now be viewed against the GCA of the taluka itself. This will reflect the significance of the

food crops in the aggregate cultivation activity of the taluka. Figures in lower parentheses in columns 4 to 11 of Table 5.6 pertain to the percentages of areas to the GCA of the taluka. They will be examined as usual with respect to the three parameters: (a) average area, (b) Trend, (c) Coefficient of variation.

5.4.2.1 Average area

Summary statement of the time series average area of talukas and also the range of area showing minima and maxima and the magnitude of range are given in Table 5.9.

Table 5.9

Talukawise range of area under total foodcrops as percentage of the GCA of the taluka (1964-88)

(percentage)

Taluka	Range of share	Range magnitude (percentage points)	Average for the entire period
1 Miraj	64.22 to 84.04	19.84	75.59
2 Tasgaon	69.52 to 87.41	17.89	79.87
3 Khanapur	69.47 to 91.86	22.39	75.65
4 Atpadi	67.76 to 97.18	29.42	80.59
5 Jat	87.79 to 93.24	05.45	90.58
6 Kavathe Mahankal	81.07 to 94.80	13.73	88.56
7 Walva	63.43 to 80.05	16.62	70.81
8 Shirala	35.35 to 42.27	6.92	39.31

Source: Compiled from Table 5.6

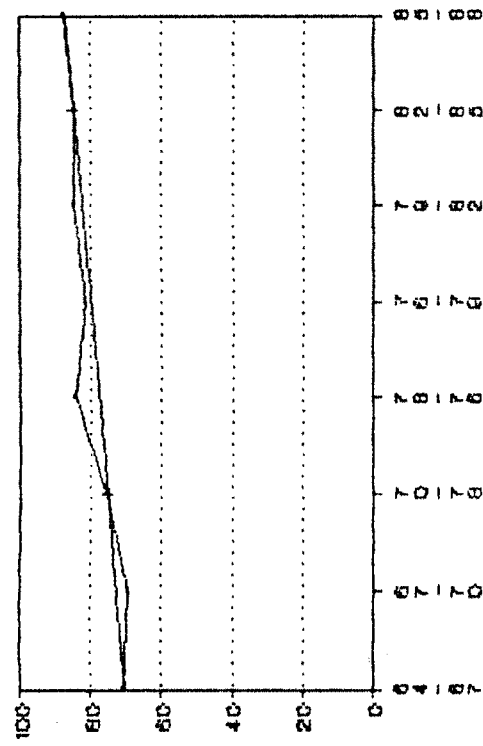
It is seen from the table that all the talukas in the district devoted sizable area in the range of 70.81 per cent and 90.58 per cent of their GCA for cultivation of food crops, except Shirala which shared an average area of 39.31 per cent of the GCA for the entire period. The maximum area was shared by Jat. The following talukas of Jat in decreasing order were Kavathe Mahankal, Atpadi, Tasgaon, Khanapur, Miraj and Walva. All the talukas of the district except Shirala, which is situated in the western hilly region were growing food crops on larger scale consistently. This is an important fact in the overall cropping pattern of the district.

Eventhough Jat taluka shared the largest area for cultivation of this class of crops, the range within which the percentage average area had moved was the lowest of all the talukas. This shows the perpetuity Jat taluka in cultivation of food crops. Shirala too revealed smaller range of variation in percentage area everthogh it used quite smaller proportion of its land for food crops. With other talukas, the range of variations was conspicuously wider.

5.4.2.2 Trends

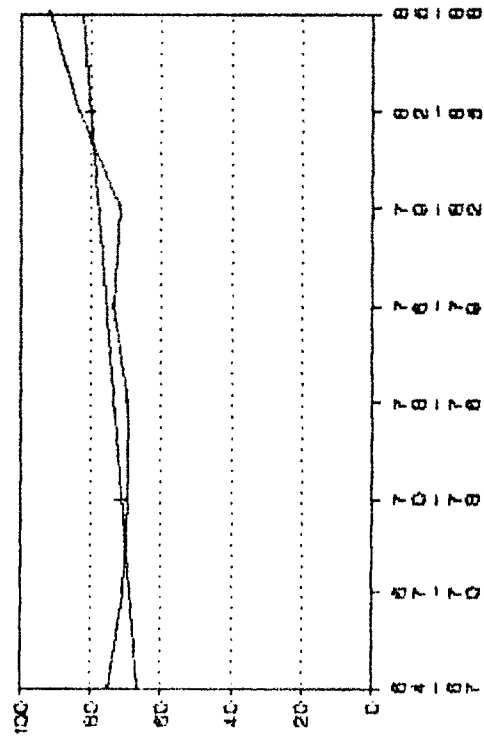
Overall movement of the percentage area during the 24 year span is presented and a trend line is fitted for each taluka in the graphical presentation of Fig. 5.6. It

TREND OF THE PERCENTAGE OF
TALUKA AREA IN ITS GCA
TOTAL FOODCROPS

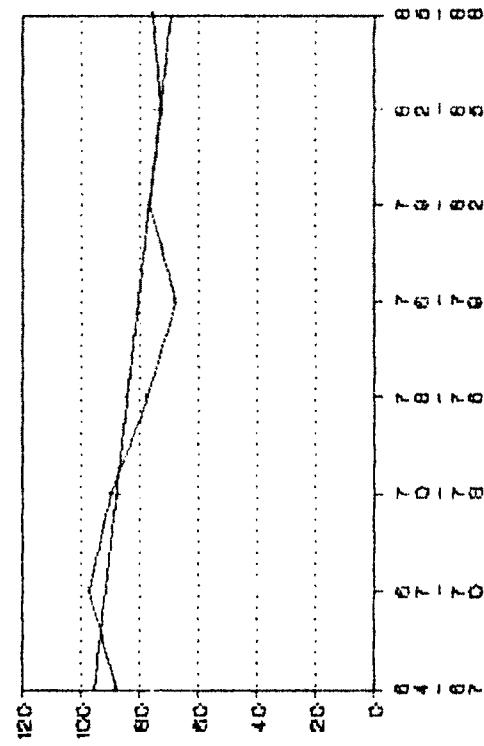


MIRAJ

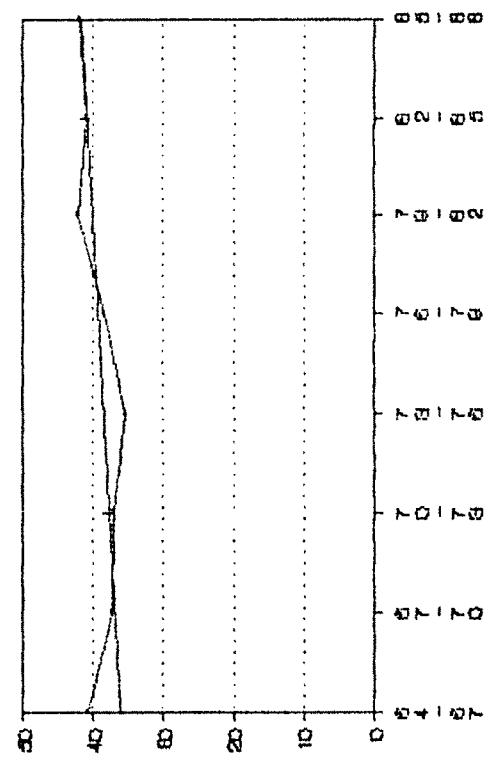
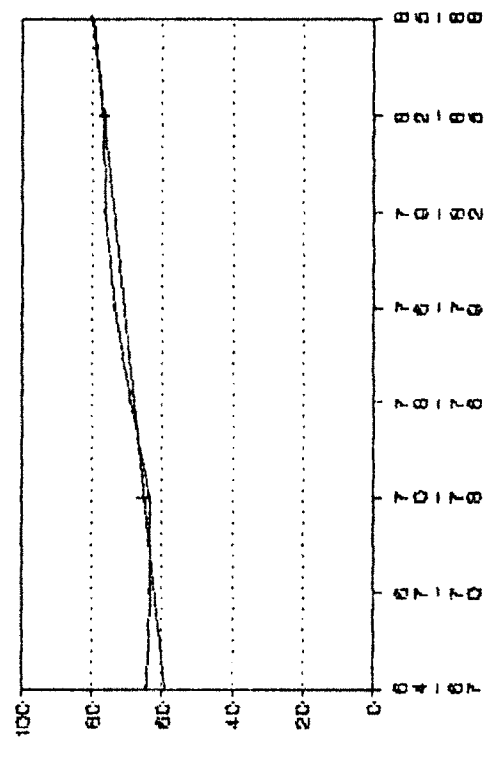
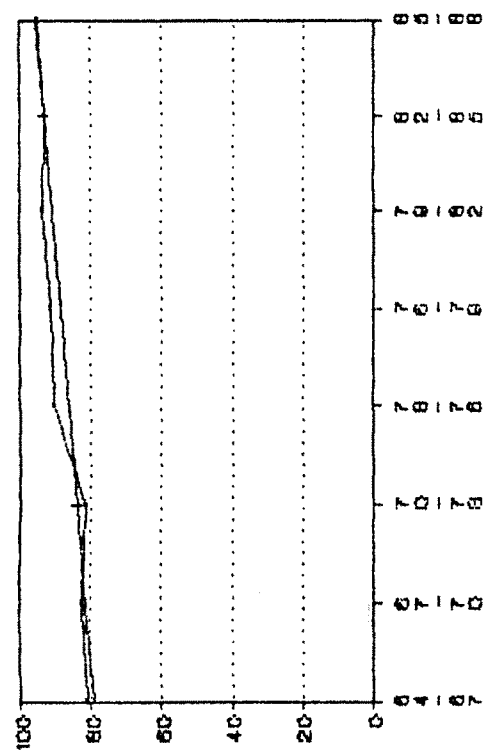
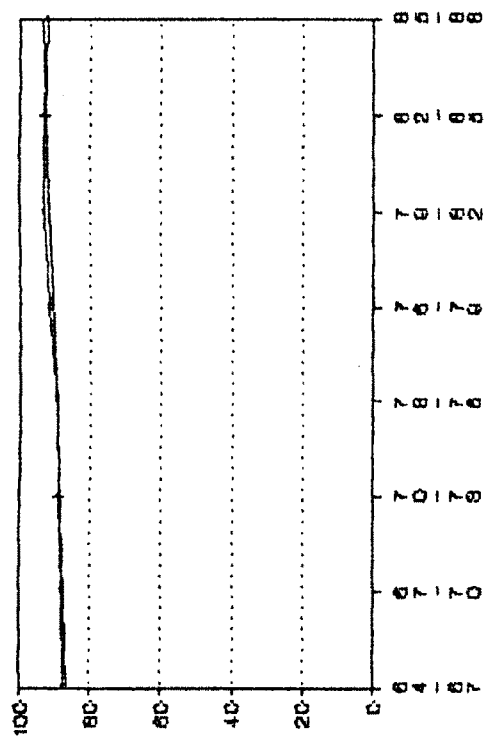
TASGAON



KHANAPUR



ATPADI



can be observed that Miraj, Tasgaon, Khanapur, Jat, Kavathe Mahankal, Walva and Shirala had rising trends only Atpadis registered a downward trend. This could mean that except Atpadi other talukas were shifting over to food crops from other ones. Further, the rising trend of seven talukas had over weighed the falling trend of one taluka, hence the overall trend for the entire district was upward.

5.4.2.3 Coefficient Of Variation

The intensity of fluctuations in the area percentage would throw further light on the changing cropping pattern in the talukas of the district. The values of coefficient of variations are given in Table 5.10.

Table 5.10

C.V. values of taluka shares of total foodcrops in their GCA

Taluka	Coefficient of variation (percentage)
1 Jat	2.36
2 Shirala	6.07
3 Kavate Mahankal	6.16
4 Tasgaon	8.05
5 Walva	8.81
6 Khanapur	9.82
7 Miraj	9.86
8 Atpadi	11.64

Source : Compiled from Table 5.6.

The values of the C.V. were below 10 per cent for all the talukas except Atpadi. The lowest value was in case of Jat which had the highest portion of its GCA for cultivation of this class of crops. Hence it could be inferred that this taluka had more or less maintained its level of land at utilisation in this respect throughout the 24 years under study. It could be also said that except atpadi, other talukas too behaved in more or less similar manner though with little greater degree of variation. It was seen earlier that Atpadi had shown falling trend and now C.V. value for the same is high. Hence it could be said that the tendency of cultivators was to go away from cultivation of food crops in this taluka.

5.5 CONCLUSION

Interpretations of the data processed for total food-grains, sugarcane and total food crops are given at a glance in Table 5.11. Talukawise trends for total food-grains, sugarcane and total food crops with reference to total area in the district under the particular class of crops and gross cropped area of the taluka are given therein.

Like food-grains total food crops also dominated the agricultural cultivation activities in Sangli district since their proportion in area share for their cultivation was in the range of average 74 to 84 per cent of the GCA of

the district. Total food-grains and sugarcane were the two sub-classes under the class total food crops that were chosen for detailed analysis. Perusal of data over 1964-88 reveals that the share of food crops in the GCA of the district had an upward trend. When it comes to the sub-classes total food-grains and sugarcane both had noticeable upward trend.

With reference to the individual talukas, the change in cropping pattern presented a mixed situation restricting to the group of total food crops, it was noticed that Miraj, Tasgaon, Kavathe Mahankal, Walva, and Shirala registered uptrend within the district as well as taluka settings. Downward trend was observed in case of Atpadi within the district as well as taluka settings. However, Khanapur and Jat revealed downward trend within district setting and upward trend within taluka setting. The same situation was observed in case of food-grains since it had dominated the situation in the district as well as taluka settings except Khanapur.

Considering the two sub-groups total food-grains and sugarcane, within the district setting, it was noticed that Tasgaon, Khanapur and Walva had upward trend. Miraj, Kavathe Mahankal and Shirala presented upward trend for total food-grains and downward trend for sugarcane. Atpadi had downward trend for total food-grains and upward sugar-

cane. Jat showed downward trend for both the sub-groups.

The other dimension was looking ^{at} the two sub-groups as shares of the GCA of the talukas. Miraj, Tasgaon, Khanapur, Jat, Kavathe Mahankal, and Walva revealed upward trends for both the sub-groups. Atpadi presented downward trend for total food grains and upward trend for sugarcane. Shirala had upward trend for total food-grains and constant one for sugarcane. It was further observed that in case of Khanapur upward trend existed for total food-grains as well as sugarcane within the district setting but the resultant trend was marginally downward. Which is rather curious and paradoxical. This was because total food-grains plus sugarcane did not equal total food crops. Area under other items of food crops like chillies, turmeric, total condiments and spices fruits and vegetable, miscellaneous food crops is also included here in and area of some items from this list high have gone down and hence the resultant downward trend was obtained. The present study did not try to analyse this phenomenon in details with reference to relevant crops. It is observed in case of Miraj, Kavathe Mahankal and shirala that upward trends were seen for total food-grains and downward for sugarcane within the district setting but the resultant trend for total food crops was upward. This was due to the domination of total food-grains in the commodity group.

In general resultant upward trends were obtained for total food crops as also for the two sub-classes. Thus readjustment in cropping pattern of the district was taking place so far as total food crops cultivation was concerned.

Table 5.11

Summary of trends in area

Taluka	Total foodgrain		Sugarcane		Total foodcrops	
	(A) District	(B) GCA	(A) District	(B) GCA	(A) District	(B) GCA
1 Miraj	up	up	down	up	up	up
2 Tasgaon	up	up	up	up	up	up
3 Khanapur	up	up	up	up	down	up
4 Atpadi	down	down	up	up	down	down
5 Jat	down	up	down	up	down	up
6 Kavathe Mahankal	up	up	down	up	up	up
7 Walva	up	up	up	up	up	up
8 Shirala	up	up	down	constant	up	up
District resultant	uptrend		uptrend		uptrend	

Note: (1) 'A' : Trend with respect to taluka area as percentage of the district area.

(2) 'B' : Trend with respect to taluka area as percentage of its GCA