
CHAPTER - V

GROWTH RATES OF CASH CROPS

C H A P T E R - V

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5.1 AREA OUTPUT AND YIELD BEHAVIOUR OF CASH CROPS :

Though 65 per cent of the GCA seems to have been devoted to the cultivation of food crops of which jowar seems to have occupied more than 35.53 per cent of the GCA, the cash crops grown in the district, mainly groundnut and cotton and to some extent safflower too occupy 38.21 per cent of the GCA (averages of 1982-85). Since these crops are being treated as the main commercial crops of the district, we analyse in what follows the area output and yield behaviour over the period in the district.

5.2 AREA, OUTPUT AND YIELD OF GROUNDNUT :

The total oilseeds abruptly fell from 78.37 per cent to 30.83 per cent by the end of the period. The area under groundnut seems to have been reduced, to some extent to some other competing oil seed crops like safflower and very recently sunflower. In respect of area output and yield of groundnut we have changed the base year from 1950-51 to 1951-52 because the output figure of groundnut in that particular year (212100 old tonnes which are converted to metric tonnes amounting 2,15,494) seems to us rather quite abnormal as compared to the output figures for the subsequent years. As far as the area is concerned, there has been a consistent decrease at the rate of - 3.42 and - 2.49 per cent per annum during the two sub-periods. For the entire period the rate of decrease in the area works out - 2.00 per cent. Since there is no change in the yield ^{i.e. the yield} seems to have remained

almost constant. The output declined at the rate of - 2.70 per cent and -3.56 per cent during the corresponding periods could be attributed to the fall in the area under groundnut. Over the long period the decline in the area only, has been responsible for the decline in the output. All the negative growths could be explained by the emergence of other competing crops such as safflower, sunflower and some Kharif pulse crops like greengram (Hybrid variety with short duration). Recently the one more additional cause of the decline of the area is that with uncertainty of Kharif monsoon, the cultivation of this crop has been more riskier as it requires heavy investment in the form of seeds and manures and with this heavy investment, its cultivation may go waste causing heavy loss of income which is especially true in respect of medium, semi-medium, small and marginal farmers. So, naturally there has been a preference for allowing the land to remain unsown and use the same for the cultivation of less riskier crops such as cotton and rabi jowar in yeri bhoomi, i.e., black soil and use it for kharif jowar or sunflower in case of Masari bhoomi, i.e., red sandy soil. The area which at present is being devoted to the cultivation of groundnut is that area which is the specific area described as Masari. Taking into view, this fact the more drought resistant varieties of seeds will have to be evolved and propagated in the district.

5.3 AREA, OUTPUT AND YIELD OF SAFFLOWER :

One more important oilseed crop of which the changes in the area, output and yield worth to be analysed is the safflower (Kusubi). Changes in its relative shares in the GCA and the area under total oilseeds form 2.12 per cent and 13.30 per cent (averages of 1950-53) to 3.57 per cent and

17.95 per cent correspondingly, suggest the growing importance of the crop in the cropping pattern of the district. During the first period all the three, area, output and yield have registered negative growth rates, viz., - 8.13, - 25.9 and - 18.56 per cent. The high negative growth rates may be attributed to a very small period (1961-66). Data regarding area and output for preceeding years are not available and hence we were forced to shift from our base year from 1950-51 to 1961-62. The next period shows rather quite satisfactory improvement in respect of yield and area, and consequently its output also. The rates of increase in area and yield work out to be 3.4 per cent and 18.4 per cent both of which were responsible for pushing the growth of output to 22.0 per cent per annum. Over this period from 1961 to 84 the long-run growth rates seem to be beyond one's expectations. Area increased by 4.5 per cent, the yield increased by 10.7 per cent, the highest among all the crops and consequently the output grew at the rate of 15.6 per cent per annum. A relative improvement in yield over other crops within and without the category of oilseed crops must be responsible in the expansion of the area under this crop. This being the traditional oilseed crop out of which the oil extraction takes place locally by the village ghanas, is also consumed locally to a large extent. The farmers who cultivate this particular crop though not on a very large scale for commercial purpose seem to have given much more preference over the other oilseed crop like groundnut. One more explanation for the increase in the area could be given is that this being a mixed crop with rabi jowar and wheat with the increase in the rabi jowar and wheat the proportionate increase in its area is bound to occur.

5.4 AREA, OUTPUT AND YIELD GROWTH RATES OF TOTAL OILSEEDS

Besides these two major oilseed crops linseed, sesamum and castor seed are also grown on a very small scale. Taking all the oilseeds grown in the district, during the first short period (1951 to 1966) the area declined by - 0.18 per cent and output increased by 8.9 per cent, whereas the yield increased by 9.1 per cent. The next short period (1966-84) registered a negative growth rate in output at - 0.82 which is the combined result of yield growth rate at - 2.5 per cent and the area growth rate at 1.8 per cent. The long-run growth rate in respect of area and output worked out to be 2.2 per cent and 0.8 per cent, whereas the yield growth rate fell to - 1.30 per cent. So we may conclude, apart from the inter-oilseed crop variations in respect of their individual area, output and yield, the aggregate area under oilseeds and output and the composite yield seems to have made no progress over a rather too long period under the study. Incidentally in recent years altogether a new oilseed crop - sunflower - has been introduced on experimental basis especially in drought prone areas. The government has taken the initiative to make this crop established in the district on a larger scale, the farmers too have responded very favourably in terms of expanding the area under it. It being a recent addition to the category of oilseed crop the figures as to the area and output have not been reported by the government agencies. Though the authentic figures regarding area, output are not available the farmers have an increasing tendency towards an allocation of larger proportion of their net sown area to devote to the cultivation of this crop both in kharif and rabi seasons. This increasing trend could be contributed to relatively high prices prevailed during the last few years. The price

incentive seems to have played an effective role in inducing the farmers to divert their area under the traditional crops to this modern commercial crop. At the time of sowing season the price per quintal of seed reached to a high of Rs.1000 and above, which induced the farmers to expand their area under the crop during the last agricultural year 1987-88, and consequently the farmers purchased the seed from other states like Maharashtra and Andhra, at abnormally high prices without any assurance as to the quality of the seeds. Immediately after the kharif sowing season was over there was a crash in its price which brought the price per quintal to almost to an half i.e. Rs.500 and less per quintal which is still (May 1988) moving about that level, the farmers expanded their area even during the rabi season under the sound expectation that the current prices may move in upward direction and reach its former peak reached during the period immediately preceeding the kharif sowing season. Due to the adulterated seeds there is a considerable loss to the crop output and owing to the crash in prices the farmers have been put to heavy losses. Some farmers have withheld their produce in view of the favourable movement of the market prices from the producers' point of view. The class of medium including semi medium and marginal farmers whose withholding capacity is extremely limited, sold out their produce even at these low prices. The proceeds of this class of farmers may not be equal even to meet the cost of production especially of cost of seeds, fertilizers and pesticides of which seed prices were on prices, what we want to suggest here is that if the government is truly interested in propagating this crop in drought prone areas and make it rather a substitute crop for the farmers in the drought prone area, the government will have

to adopt the measures regarding the supply of seeds in adequate quantity and at reasonable prices to the farmers and in the circumstance of crash in the prices which becomes less remunerative to the farmers. It will have to provide a buying agency at the remunerative prices by which we imply cost plus prices. In the absence of proper buying agency at such prices the cultivation of this crop will also become more riskier and hence the area increasing trend will be reversed. And the very objective of giving some relief by way of introducing new varieties of crops especially the crops which require less moisture will not fructify. The foregoing observation has been based on our local knowledge which should correspond to the statistical evidence when it will be published.

5.5 AREA OUTPUT AND YIELD OF COTTON :

In the category of fibre crops cotton seems to be the only crop which is the major commercial crop in the district. During the period under study its percentage of area changed from 11.22 at the beginning of the period to 18.29 at the end of the period in the GCA of the district. Cotton is grown as a rotation crop to rabi jowar. From the change in the percentage of its area in the GCA mentioned above, it seems that the farmers have been rotating the rabi jowar and cotton very regularly that is year to year change. As far as annual growth rates are concerned, in the first period area remained almost constant because the rate of decrease in the area under cotton worked out to be very marginal that is just - 0.20 per cent per annum. As against this an improvement in the yield took place (1.8 per cent) as a result of which the output grew at the rate of 1.6 per cent during the period. In the subsequent sub period strangely enough the decreasing rate of area reversed exactly by the positive growth of 0.2 per cent

per annum. The yield growth rate to some extent was lower than that of the first period, being just 1 per cent. The output growth almost remained the same that is 1.5 per cent. Even though during the second period the improved varieties of cotton such as Varalakshmi, H₄ and others introduced during this period, there has been no substantial increase in the output resulting from high yields of the new varieties. From this evidence we may conclude that the high yielding varieties of cotton have not been successful at least in the Bijapur district. The people are going back to the traditional varieties which is a reverse movement from the new technology as far as the cotton is concerned. The supporting evidence could be given by quoting a common saying amongst the farmers 'Varalakshmi has become Idilakshmi' which means the goddess of wealth has turned out to be goddess of poverty. During the early 1970s the farmers experimented with each of the new varieties and came out with the same experience which we have elaborated in respect of sunflower oilseed crop (see paragraph 5.4 above). We may generalise that the farmers, even though they are in drought prone areas are enterprising and adaptive to new technology as the farmers elsewhere. But they are very quick in rejecting the new technology if the expected results are not realised in practice. And this is a rational economic behaviour. So one can not dub the farmers as irrational. By looking at the long term growth rates of the crop in respect of area, output and yield which worked out to be 0.05, 0.05 and - 0.02 respectively, it can be substantiated that the new high yielding varieties have not pushed the growth of the output which largely depends upon the yield of the crop. Hence over the period, the crop in its all the variance remained stagnant. In order to increase the yield the irrigation facilities will have to be extended and after extending

the irrigation the prospects of the improvement in the yield and the output may become rather bright. Without assurance of irrigation the shift from traditional varieties to new varieties which are more susceptible to instability in the rainfall will cause hardships to the farmers rather than an insurance against the failures of the crops for want of required rainfall at different stages of the crop growth. From foregoing discussion we have become convinced that still the traditional varieties of crops either food or cash are more susceptible to the adverse climatic changes inclusive of rainfall. Therefore we find nothing wrong in the persistence of the traditional varieties in the drought prone areas so long as other scientific varieties of crops which could be more sustainable to the adverse climatic conditions in the drought prone areas evolved, experimented with them successfully and established. With whatever positive growth rates over a long period, we come across in our present study, they could purely be attributed to the improvement in the enterprising attitude of the farmers which has resulted from the awareness on their part to increase the output from their given resources and within the existing circumstances.

Table 5.1

The annual compound growth rates of area, yield and output of cash crops in Bijapur district.

Sr.No.	Crops	Period	Area	Yield	Output
1.	Groundnut	I	- 3.42	0.5	- 2.70
		II	- 2.49	- 1.10	- 3.56
		III	- 2.0	0.0	- 1.86
2.	Safflower	I	- 8.13	- 18.56	- 25.9
		II	3.4	18.4	22.0
		III	4.5	10.7	15.6
3.	Total oilseeds	I	- 0.18	9.1	8.9
		II	1.8	- 2.51	- 0.82
		III	2.2	- 1.30	0.8
4.	Cotton	I	- 0.20	1.8	1.6
		II	0.2	0.9	1.5
		III	0.05	- 0.02	0.05

N.B. : Period I Pre HYVs 1950-66
 Period II Post HYVs 1967-85
 Period III Whole period 1950-85

Index numbers of area, production and yield of Groundnut
in Bijapur district

Area in hectares, Production in Metric Tonnes, Yield in kgs. per hectare

Year	:Area	:Index No.	:Production	:Index No.	:Yield	:Index No.
1950-51	164858		215494		1.307	
1951-52	177449	100.00	69189	100.00	390	100.00
1952-53	187895	105.88	36169	52.28	192	49.23
1953-54	151498	85.38	68275	98.68	451	115.64
1954-55	167126	94.18	58318	84.29	349	89.49
1955-56	157571	88.80	74472	107.64	473	121.28
1956-57	178674	100.69	130378	188.44	730	187.18
1957-58	188286	106.11	197254	285.09	1048	268.72
1958-59	128875	72.63	75368	108.93	585	150.00
1959-60	172645	97.29	41082	59.38	238	61.03
1960-61	150760	84.96	58225	84.15	386	98.97
1961-62	129238	72.83	22981	33.21	178	45.64
1962-63	103804	58.50	48855	70.61	471	120.77
1963-64	104810	59.06	68012	98.30	649	166.41
1964-65	123766	69.75	66667	96.35	539	138.21
1965-66	125637	70.80	40103	57.96	319	81.79
1966-67	147576	83.17	80048	115.69	542	138.97
1967-68	138306	77.94	80017	115.65	579	148.46
1968-69	140544	79.20	61952	89.54	441	113.08
1969-70	128312	72.31	77282	111.70	602	154.36
1970-71	133871	75.44	69376	100.27	518	132.82
1971-72	129528	72.99	34315	49.60	265	67.95
1972-73	76685	43.22	23986	34.67	313	80.26
1973-74	103587	58.38	52066	75.25	503	128.97
1974-75	115628	65.16	64793	93.65	560	143.59
1975-76	115595	65.14	56193	81.22	486	124.62
1976-77	114823	64.71	41059	59.34	358	91.79
1977-78	120268	67.78	38300	55.36	318	81.53
1978-79	119392	67.28	60209	87.02	504	129.23
1979-80	99714	56.19	44192	63.87	443	113.59
1980-81	81691	46.04	28804	41.63	353	90.51
1981-82	117082	65.98	50562	73.08	431	110.51
1982-83	98578	55.55	36907	53.34	374	95.90
1983-84	92350	52.04	45404	65.62	492	126.15
1984-85	73997	41.70	31914	46.13	431	110.51

Source : As in Table 4.5.

Table No. 5.3
Index numbers of area, production and yield of Safflower
in Bijapur district

Year	:Area	:Index No.	:Production	:Index No.	:Yield	:Index No.
1961-62	30021	100.00	4522	100.00	151	100.00
1962-63	17812	59.33	1329	29.39	75	49.67
1963-64	18453	61.47	1126	24.90	61	40.40
1964-65	19222	64.03	1173	25.94	61	40.40
1965-66	18914	63.00	1135	25.10	60	40.40
1966-67	33608	111.95	2106	46.57	63	41.72
1967-68	38219	127.31	2503	55.35	65	43.05
1968-69	23468	78.17	1538	34.03	66	43.70
1969-70	34326	114.34	2266	50.11	66	43.70
1970-71	33317	110.98	2199	48.63	66	43.70
1971-72	37556	125.10	2479	54.82	66	43.70
1972-73	34737	115.71	591	13.07	17	11.26
1973-74	38271	127.48	4072	90.05	105	69.54
1974-75	40789	135.87	2524	55.82	62	41.06
1975-76	46292	154.20	2969	65.66	64	42.38
1976-77	44766	149.12	3537	78.22	79	52.32
1977-78	44380	147.83	19987	441.99	450	298.01
1978-79	40082	133.51	21688	479.61	540	357.62
1979-80	44148	147.06	16273	359.86	369	244.37
1980-81	46843	156.03	14151	312.94	302	200.00
1981-82	45346	151.10	29164	644.94	643	425.83
1982-83	48513	161.60	18066	399.51	372	246.36
1983-84	60386	201.15	40329	891.84	668	442.38

Source : As in Table 4.5

Table No. 5.4
Index numbers of area, production and yield of Total Oilseeds
in Bijapur district

Area in hectares, Production in Metric Tonnes, Yield in kgs. per hectare

Year	:Area	:Index No.	:Production	:Index No.	:Yield	:Index No.
1961-62	174923	100.00	31962	100.00	183	100.00
1962-63	138771	79.33	54734	171.25	395	215.85
1963-64	137992	78.89	72882	228.03	528	288.52
1964-65	158011	90.33	71879	224.89	455	248.63
1965-66	162467	92.88	42681	134.48	263	143.72
1966-67	200561	114.66	86858	271.75	433	236.61
1967-68	195716	111.89	87913	275.05	449	245.36
1968-69	184348	105.39	68626	214.71	372	203.28
1969-70	186705	106.74	87156	272.69	467	255.19
1970-71	196835	112.53	78138	244.47	397	216.94
1971-72	190180	108.72	42723	133.67	225	122.95
1972-73	132282	75.62	26602	83.23	201	109.84
1973-74	165332	94.52	63791	199.58	386	210.93
1974-75	181570	103.80	74104	231.85	408	222.95
1975-76	190873	109.12	69904	218.71	366	200.00
1976-77	188294	107.64	50284	157.32	267	145.90
1977-78	190450	108.88	65818	205.93	346	189.07
1978-79	188406	107.71	82918	259.43	436	238.25
1979-80	171475	98.03	85648	261.97	383	209.29
1980-81	155190	88.72	47979	150.11	309	168.85
1981-82	227054	129.80	99879	312.49	440	240.44
1982-83	254218	145.33	81077	253.67	319	174.32
1983-84	308821	176.55	183540	574.24	594	324.59
1984-85	296351	169.42	14574	45.60	49	26.77

Source : As in Table 4.5

Index numbers of area, production and yield of Cotton
in Bijapur district

Area in hectares, Production in bales of 180 Kg, Yield in kgs. per hectare

Year	:Area	:Index No.	:Production	:Index No.	:Yield	:Index No.
1950-51	180040	100.00	64790	100.00	65	100.00
1951-52	170850	94.90	49004	75.64	52	80.00
1952-53	125466	69.69	32900	50.78	47	72.31
1953-54	171538	95.28	59181	91.34	62	95.38
1954-55	227854	126.56	57304	88.45	45	69.23
1955-56	235222	130.65	60959	94.09	47	72.31
1956-57	235117	130.59	71407	110.21	55	84.61
1957-58	191621	106.43	82985	128.08	78	120.00
1958-59	218732	121.49	81213	125.35	67	103.08
1959-60	201350	111.84	55948	86.35	50	76.92
1960-61	210041	116.66	68558	105.85	59	90.77
1961-62	178280	99.02	53258	82.20	54	83.08
1962-63	175702	97.59	55542	85.73	57	87.69
1963-64	123869	68.80	62107	95.86	90	138.46
1964-65	189896	105.47	81604	125.95	77	118.46
1965-66	177726	94.71	58156	89.76	59	90.77
1966-67	156859	87.12	29803	46.00	34	52.31
1967-68	171100	95.03	45151	69.69	48	73.85
1968-69	176208	97.87	32549	50.24	33	50.77
1969-70	195185	108.41	48682	75.14	45	69.23
1970-71	205904	114.37	57595	88.89	50	76.92
1971-72	201490	111.91	44644	68.91	40	61.54
1972-73	170218	94.54	89257	137.76	94	144.62
1973-74	183190	101.75	103449	159.67	102	156.92
1974-75	198836	110.44	111146	171.55	101	155.38
1975-76	188420	104.65	71599	110.51	68	104.62
1976-77	179964	99.96	87494	135.04	88	135.38
1977-78	195979	108.85	52568	81.14	48	73.85
1978-79	200419	111.32	49279	76.06	44	67.69
1979-80	211802	117.64	78750	121.55	67	103.08
1980-81	203197	112.86	35201	54.33	31	47.69
1981-82	218128	121.15	69480	107.24	57	87.69
1982-83	198633	110.33	53280	82.23	48	73.85
1983-84	174852	97.12	71329	110.09	73	112.31
1984-85	139341	77.39	32704	50.48	42	64.61

Source : As in Table 4.5

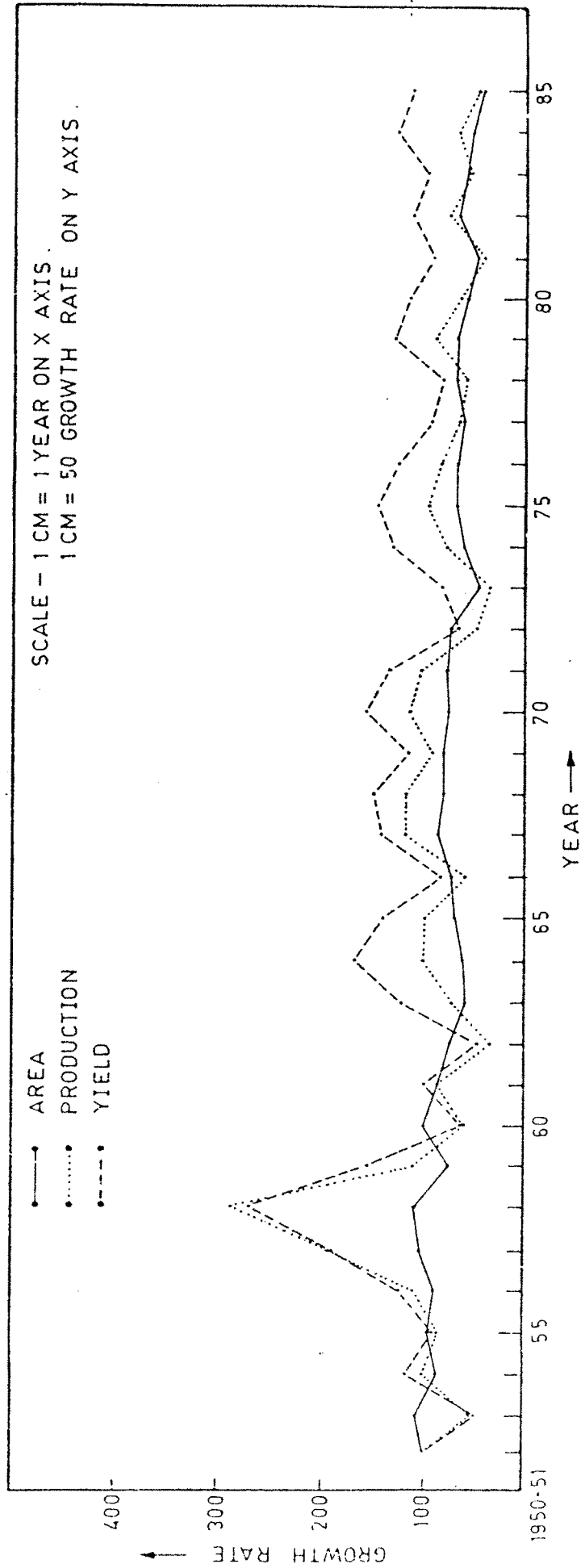


FIG. 5.1— GRAPH SHOWING THE VARIATIONS OF AREA, PRODUCTION AND YIELD OF GROUNDNUT IN BIJAPUR DISTRICT.

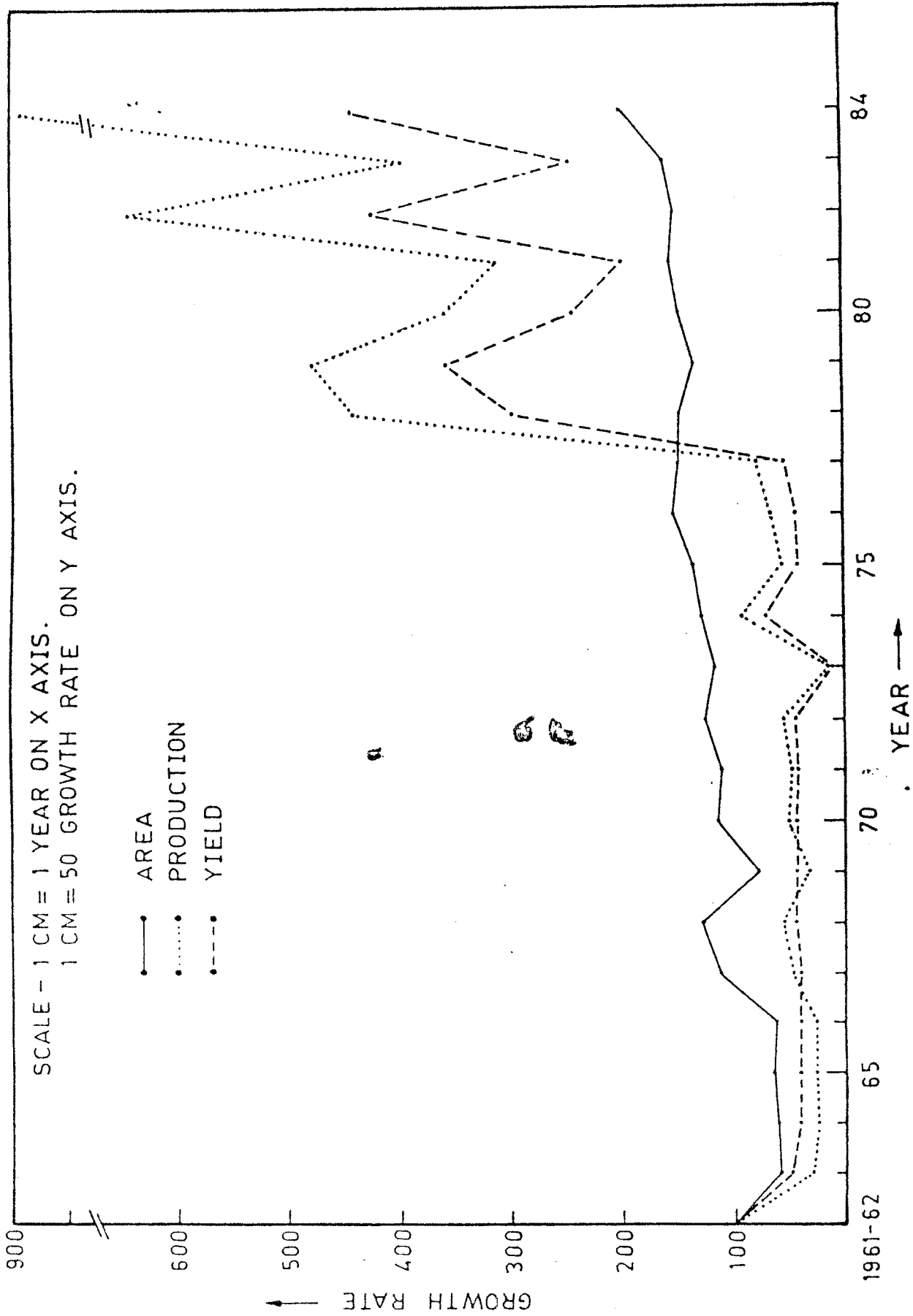


FIG.5.2- GRAPH SHOWING THE VARIATIONS OF AREA, PRODUCTION AND YIELD OF SAFFLOWER IN BIJAPUR DISTRICT.

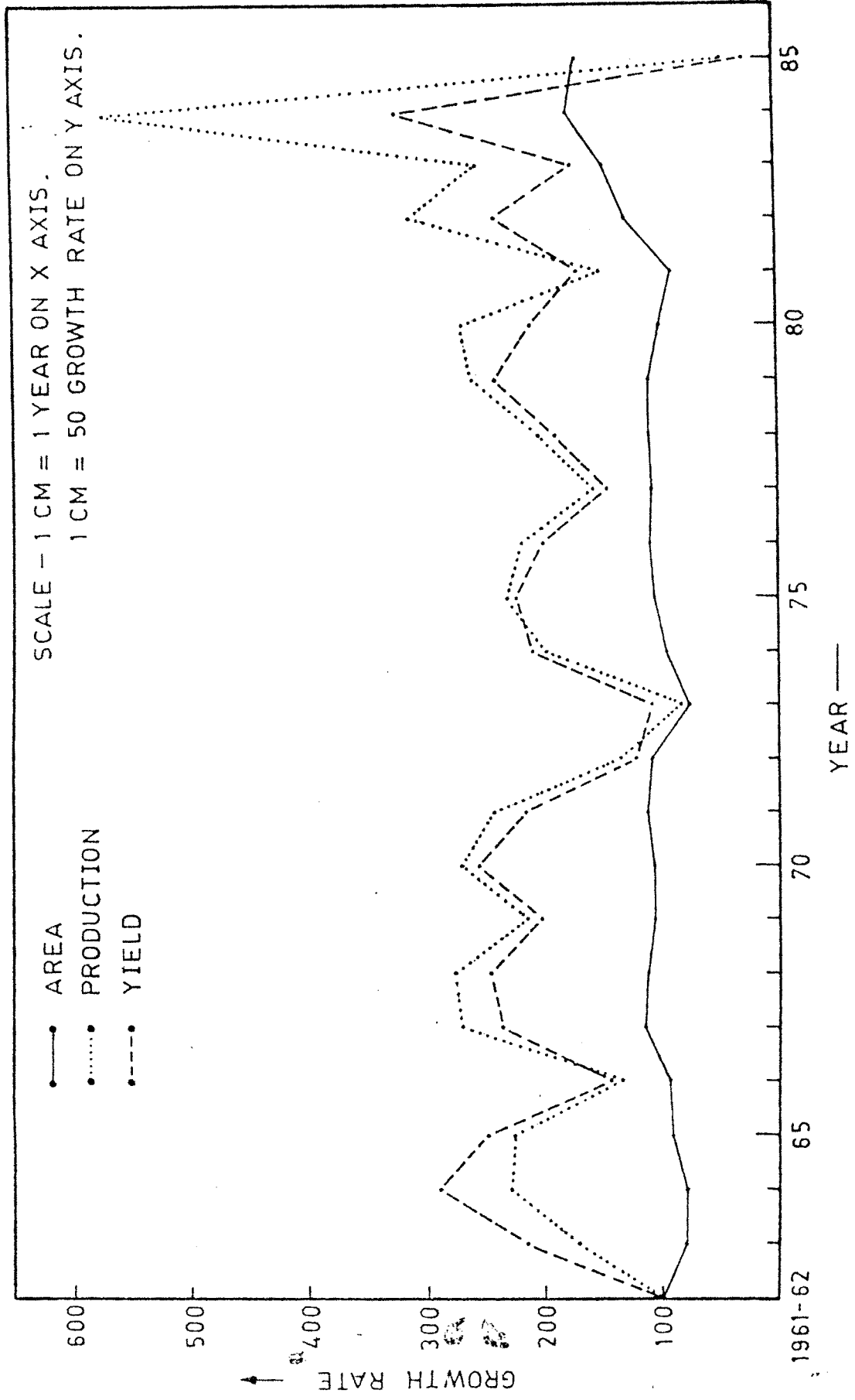


FIG.5.3 - GRAPH SHOWING THE VARIATIONS OF AREA, PRODUCTION AND YIELD OF TOTAL OILSEEDS IN BIJAPUR DISTRICT.

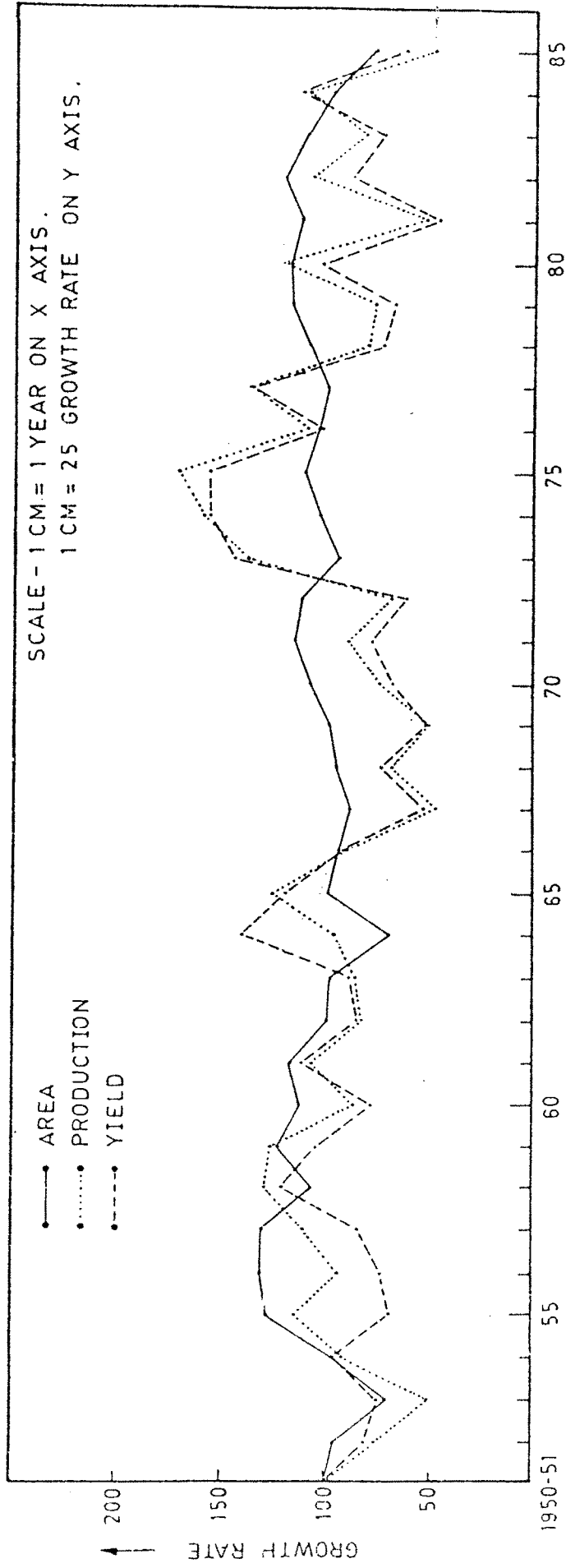


FIG. 5-4 — GRAPH SHOWING THE VARIATIONS OF AREA PRODUCTION AND YIELD OF COTTON IN BIJAPUR DISTRICT.