

Chapter III - Cropping Pattern in Maharashtra.

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- Fibre Crops.

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Chapter III

Cropping Pattern -

In Maharashtra the total area under crops in 1970-71 was 187.36 lakh hectares. For the two succeeding years i.e. 1971-72 and 1972-73 it declined to 169.79 which is minimum for the period under study. Since 1973-74 onwards it started rising every year and reached upto 1979-80 which remained more or less the same in 1980-81 accounting for 201.122 lakh hectares. Thus it is about 18 percent increase over that in year 1972-73.

Amongst all the crops the large amount area is under cereals accounting for 103.20 lakh hectares which comes about 55 percent to total area under crops in 1970-71. Except two years i.e. 1971-72 and 1972-73 the area under cereals steadily increased and it reached its highest i.e. 114.10 lakh hectares in 1979-80 which comes about 56.73 percent of total area under crops. From the cereals the major share is of Jowar accounting for 57.03 lakh hectares in 1970-71 which increased to 68.25 in 1979-80. Similarly the area under other cereals is also increased steadily i.e. the area under rice has raised to 15.03 lakh hectares from 13.52 lakh hectares, wheat area raised to 11.87 lakh hectares to 8.12 lakh. The only exception is of the bajara, the area under which gone decreased from 20.38 lakh hectares to 17.09 lakh hectares during the period under study. This may be because of failure of newly introduced H.Y.V.s, because of their susceptibility to different diseases.

About the area under major pulses like tur and gram it is observed that the area under total pulses is showing any uniform trend except it has increased in 1973-74 accounting for 27.62 lakh hectares and in 1974-75 and 1975-76 accounting from 29.56 and 29.55 lakh hectares respectively. Since 1975-76 it remained more or less the same up to 1980-81.

If collectively area under food crops (cereals and pulses) is taken into consideration it also shown increasing trend from 128.85 lakh hectares (68.77 percent) in 1970-71 to 148.85 (73.62 percent) in 1980-81.

Cotton is an important cash crop in the state. The average area under cotton for first three years of the period was about 27 lakh hectares. (14 percent of the net sown area). This was declined continuously up to 1976-77 to 21.20 lakh hectares. Again since 1977-78 it started rising steadily to reach about 26.67 lakh hectares in 1980-81.

The area under total oil seeds has not much changed during the period of study. But groundnut which is important oil seed its performance is not satisfactory. Infact the area under groundnut shown decline through the entire period. Similarly in fruit crops, vegetables also the area is not changed much.

Chapter III

Cropping Pattern -

As regards gross cropped area Maharashtra ranked 3rd in country accounting for 1,87,36,900 hectares in 1970-71. Which comes to about 11.5 percent of the gross cropped area in India. (Table No. 2.7) It was followed by decline during 1971-72 and 1972-73 during which years the gross cropped area was 1,81,15,300 hectares and 1,69,79,700 respectively. In 1972-73 gross cropped area was the minimum for the period under study because of drought. Since 1973-74 onwards there was steady rise is observed in gross cropped area in Maharashtra state. Which reached its peak of 2,01,13,000 hectares. However it suffered a reverse trend in 1978-79 due to adverse seasonal conditions and during this year the gross cropped area in the state come down to 1,97,38,000 hectares. Overall there is a 9.96 percent increase in gross cropped area in 1980-81 over the base year 1970-71. This is because of overall favourable weather conditions. This increase in gross cropped area is also accompanied by the increase in total irrigated area as well as double sown area. In 1970-71 the total irrigated area was 15,70,000 hectares which increased to 24,04,500 hectares in 1980-81 which double sown area increased from 10,69,000 hectares in 1970-71 to 18,35,000 hectares in 1980-81. And this increase in irrigated area and consequently double sown to area both have direct bearing on the cropping patterns. As

irrigated area is increased it will increase the double or triple sown area and as a result we see the changes in cropping pattern of the state.

In our analysis we have divided the agricultural production into eight categories. They are as follows.

- 1) Cereals
- 2) Pulses
- 3) Oil seeds
- 4) Sugars
- 5) Fibers
- 6) Drugs and Narcotics
- 7) Condiments and spices
- 8) Fruits and vegetables
- 9) Forage crops

Study of the area under different crops assumes importance because we can to a great extent find out the changes in cropping pattern by studying the relative changes in area under different crops. Changing area under different crops can be the way to study how the cropping pattern changes. In addition we can also find out the shift in the farmer's attitude towards cultivating different crops. Change in area under crop production can also analyse the change in irrigation facility, agricultural technology etc. which help in changing cropping pattern.

Keeping in view the above factor we have undertaken a comprehensive study of the area under different crop production in Maharashtra for the period 1970-71 to 1980-81. In the first instance we have analysed the broad categories and then the individual crops.

I Cereals -

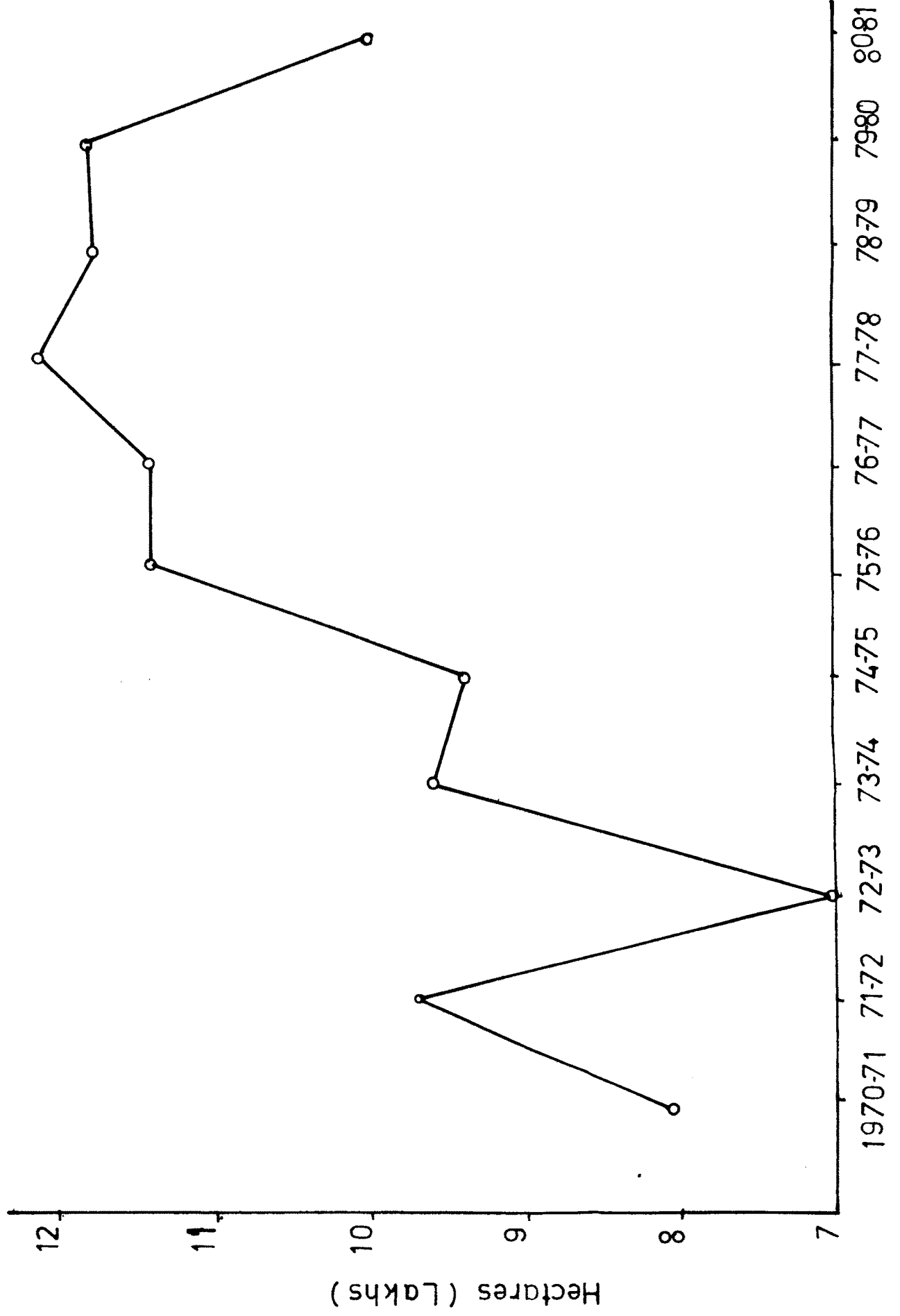
The category of cereals includes food crop like rice, wheat, jawar, bajra, barley, maize, ragi, etc. During the period under study the area under this group of crops slowly increased every year except two years 1971-72 and 1972-73. There is 8.82 percent increase in area under cereal crops in 1980-81 over the base year 1970-71. In 1970-71 the total area under cereals was 1,03,20,000 hectares which increased to 1,12,31,400 hectares in 1980-81. (Table No.3.1)

Among the cereals the major role to this increase in area was that of wheat which has increased by 32.89 percent in 1980-81 over the base year 1970-71. Similar increasing trend in area has been observed in case of miscellaneous cereals area under which had increased by 34 percent. Actual area under there in 1970-71 was 1,72,300 hectares increased to 2,31,300 hectares in 1980-81. The two crops ragi and maize have shown 60.7 percent and 53.85 percent increase in 1980-81 over the base year 1970-71 in which the area under them was 5,600 hectares and 45,600 hectares respectively which in 1980-81 increased

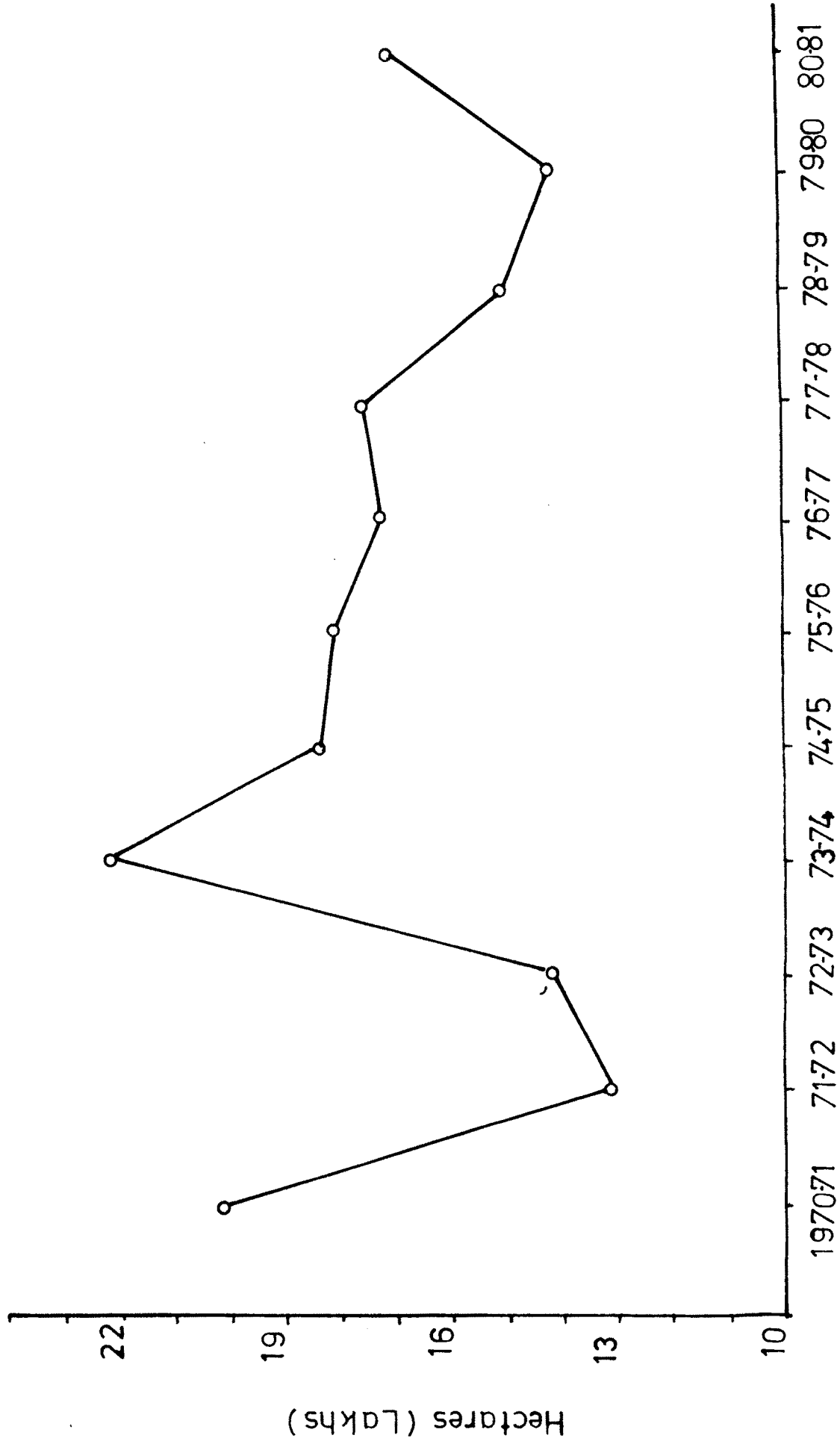
Table No. 3.1 Area Under Cereals in Maharashtra during 1970-71 (In "00" hectares)

Year	Rice	Wheat	Jowar	Bajra	Barley	Maize	Ragi	Others	Total
1970-71	13524	8120	57030	20387	56	456	1904	1723	103200
1971-72	13395	9783	60681	13123	70	379	1843	1638	100912
1972-73	13317	9099	54425	14294	50	347	1897	1660	93089
1973-74	13511	9652	60876	22145	90	520	2048	2068	110910
1974-75	13572	9477	60229	18438	66	523	2060	2055	106420
1975-76	14157	11691	60642	18077	89	599	2103	1948	109306
1976-77	14630	12189	62828	17296	60	596	2080	1860	111039
1977-78	14994	12146	66385	17593	88	654	2239	2028	116127
1978-79	14983	11868	65866	15753	89	690	2229	1925	112803
1979-80	14853	11640	68250	14284	91	715	2202	2074	114107
1980-81	14706	10791	64379	17092	90	729	2214	2313	112314
% Increase over base year.	8.74	32.89	12.88	-15.16	60.7	53.85	16.28	34.24	8.83
1970-71									

Area Under Wheat Cultivation



Area Under Bajra Cultivation



to 9,000 hectares and 729 hectares. The number of factors have influenced this increase in area under maize during this period. Maize is cultivated as a mixed crop along with different cash crops because of its short duration. Maize is cultivated with rice, sugarcane, turmeric, chillies, etc. Maize is also cultivated as pure crop because of its short duration. Similarly it can be used when young for fodder as well as it can be sold fresh for high price in the market. But the main factor influencing the increase in area under maize is the increase in irrigated area.

Among the cereals jowar is the major cereals in Maharashtra occupying about 50 percent of area under all cereals. This crop has also shown an increase of 12.88 percent of area in 1980-81. In 1970-71 the area under jowar was 57,03,000 hectares which increased to 64,37,000 hectares in 1980-81. This increase in area under jowar is mainly due to new high yielding hybrid varieties which are sown generally during kharif season.

The area under rice has also increased by 8.74 percent in 1980-81 accounting for 14,70,600 hectares over 13,52,400 in 1970-71. Especially during the year 1975-76 all the three major cereals i.e. rice, wheat and jowar had shown spectacular increase. This is because the agricultural season in 1975-76 had been largely satisfactory

both kharip as well as rabi crops. The state received premonsoon showers all over the state except in parts of Nagpur division. Monsoon entered the state during first week of June 1975, became active and covered the entire state by third week of June. This was followed by frequent and spreaded rains in the state.

From this category of cereals the only crop which has shown uneven trend is bajra. After 1970-71 for two year because of seven faumine drought the area under bajra was decreased remarkably. But during next three years i.e. 1973-74, 1974-75, 1975-76 bajara had shown some increase in area because of favourable weather conditions. Again from 1976-77 the area under bajra was continuously d decreased which had reached its minimum in 1980-81. Which was the worst year for this crop. This year the area under bajra was 17,09,200 hectares. It is 15.16 percent decrease over the base year 1970-71. The reason for this decrease in area under is that the newly introduced varieties found out to be most susceptible to the diseases like downy mildew. Therefore, inspite of satisfactory agricultural season in successive years the area under this crops decreased.

2 Pulses -

Maharashtra state contributes about 12 percent of the area under pulses in country. Tur, moong, gram are the major pulse crops grown in most districts of the state.

Table No.3.2

Area under Pulses in Maharashtra during 1970-71 to 1980-81.

(In 100 hectares)

Year	Gram	Tur	Urid	Moong	Masur	Others	Total
1970-71	3103	6271	4957	5057	77	6180	25663
1971-72	4335	5942	4314	3630	103	5398	22822
1972-73	2590	5012	4467	4309	71	4792	21241
1973-74	3506	6239	5239	5117	96	7426	27623
1974-75	4080	6139	5046	5131	120	8048	28564
1975-76	4463	6755	4803	5193	118	7807	29139
1976-77	4208	6383	4866	5844	107	8651	29064
1977-78	4715	6603	5030	5431	161	6483	28423
1978-79	4602	6758	4899	5336	139	6289	28023
1979-80	4529	6626	4525	5161	91	5723	26055
1980-81	4291	7061	5482	4747	93	6370	28044
% Increase	38.28	12.59	10.59	-6.13	20.77	3.07	9.29

Due to different agroclimatic conditions in the state, the change in area production and productivity are not uniform. During the period 1970-71 to 1980-81 the area under pulses is 14 percent of the gross cropped area in the state. And in the year 1980-81 there is 9.29 percent rise in area under pulses over the base year 1970-71. In 1970-71 the total area under pulse crops was 25,66,300 hectares (Table No.3.2). During next two years 1971-72 and 1972-73 it declined to 22,82,200 hectares and 21,24,100 hectares respectively. Again from 1973-74 the area under pulses started to rise accounting for 27,62,300 hectares in that year and it reached to 29,13,900 in 1975-76. This is because the agricultural season in 1975-76 and 1976-77 were satisfactory for the kharif crops and except gram most of the pulses are grown in kharif season. Except these two years the total area under pulses is not increased much during the period under study. Among the major kharif pulses tur and urid has shown 12.59 percent and 10.59 percent increase in area under pulses in 1980-81 over the base year 1970-71. Except two years 1971-72 and 1972-73 there is small but uniform rise in area is observed in case of these two pulses. Masur being a minor pulse sown in small percentage of area had increased by 20.77 percent in 1980-81 over the base year 1970-71. It had maximum area 16,900 hectares in 1977-78. Moong is the only pulse crop which had shown decreasing trend in area. It had decreased by 6.13 percent in 1980-81 over the base year

1970-71. This is because of late start of monsoon during most of the years from the period under study.

The gram being major pulse crop which is sown in rabi season had shown a significant rise in area. This crop is sown in irrigated as well as non-irrigated fields. And this 38.28 percent increase is mainly due to the increase in irrigation facilities during the period under study. For this pulse crop the year 1977-78 was favourable 1972-73 was worst.

3 Oil Seeds -

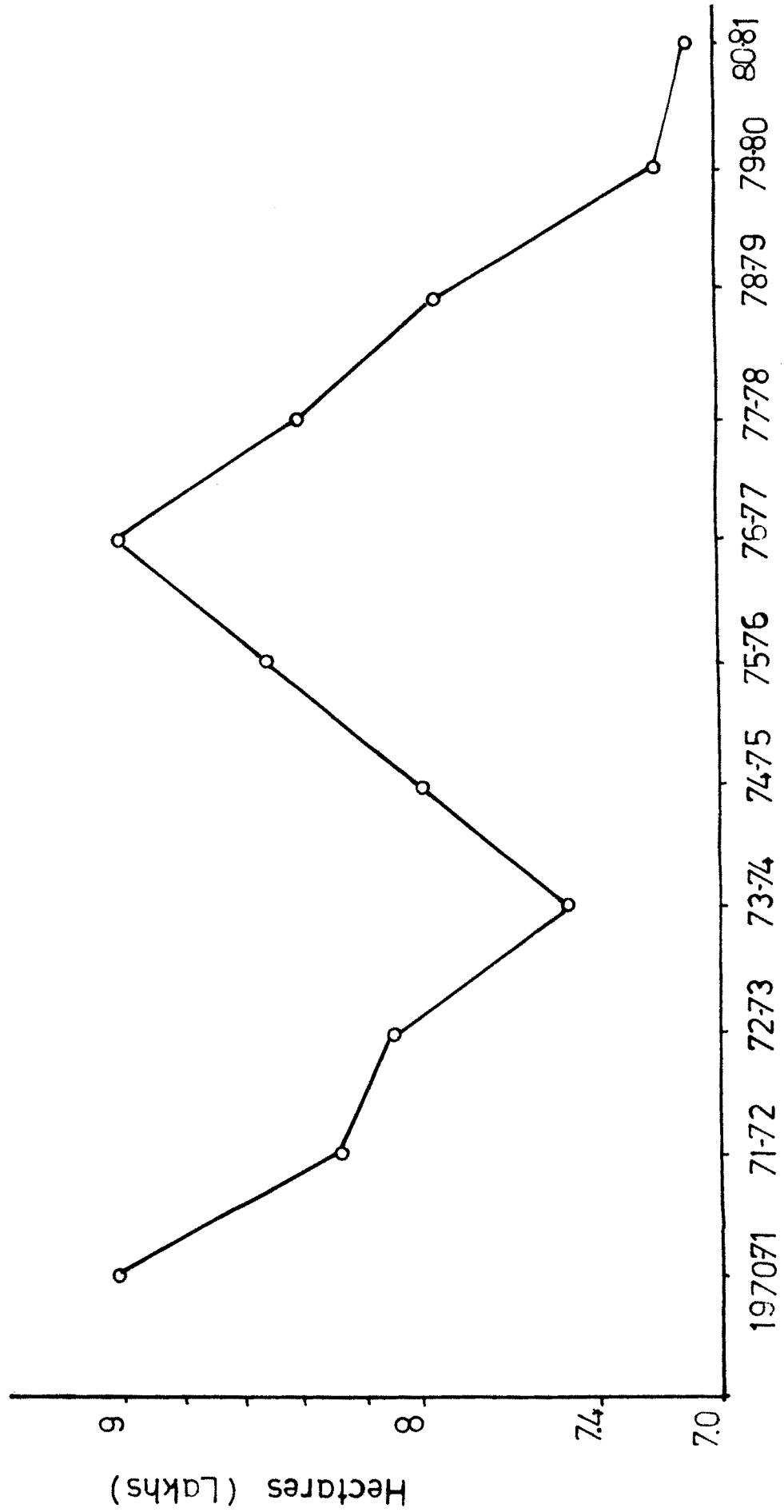
Out of the average total cultivated area of 19.5 million hectares in Maharashtra oil seeds are grown on 1.75 million hectares. (Table No.3.3). About 53 percent area is under groundnut (Kharif) and 22 percent area under safflower (rabi). These form the two major oil seeds of the state. Linseed and sesamum occupy 2. to 9 percent of the total area respectively under oil seeds. Sunflower which has been introduced very recently is grown on about 25,000 hectares. As far as individual oil seed crop is concerned linseed has shown the increase in area by 26.6 percent in 1980-81. Sesamum by 54.7 percent rape and mustard by 48.3 percent, Niger by 23.3 percent Coconut by 27 percent and safflower by 28.3 percent. And groundnut is the only oil seed crop which has shown decrease in its area. It had been decreased by 21-26 percent in 1980-81

Table No.3.3 Area Under Oil Seeds in Maharashtra during 1970-71 to 1980-81 (In "100" hectares)

Year	Linseed	Sesam -um	Ground -nut Pods	Rape & Mustard	Castor	Niger	Coconut	Safflower	Others	Total
1970-71	1963	1237	9040	29	28	827	742	4053	81	17332
1971-72	2390	1175	8348	44	34	786	76	5314	79	14246
1972-73	1979	1332	8172	23	30	778	75	3672	40	16101
1973-74	2370	1494	7594	39	40	954	76	4368	129	17064
1974-75	3008	1739	8003	45	70	1065	79	5033	203	19245
1975-76	2992	1516	8544	36	45	1020	77	4730	177 (118.5)	19137
1976-77	2811	1602	9048	46	45	1063	79	4880	60	19634 (13.28)
1977-78	2829	1751	8483	45	45	1077	92	5150	60 R	19532
1978-79	2810	1793	7947	47	48	1024	91	5139	60 R	18958
1979-80	2612	2053	7232	44	48	1029	94	5334	60 R	18506
1980-81	2485	1914	7118	43	47	1020	94	5199	60 R	17980
% Increase	26.59	54.72	-21.26	48.27	67.85	23.33	27.02	28.27	- 35	3.73

Area Under Groundnut Cultivation

STATE/CAY



over the base year 1970-71. The downward trend of the area under groundnut which was set in during the annual plan period gathered the momentum in 4th plan period. This decrease in area under groundnut could mainly be accounted for by the introduction and gradual adoption of High Yielding varieties of Kharif jowar. Most probably the another crop that might have encroached upon groundnut area is the cotton. Besides the marginal and sub marginal farmers having small holdings shifted from groundnut cultivation to this Kharif jowar as their crop pattern is decisively determined by the family requirements of cereals for domestic consumption. During 1974-75, 1975-76 and 1976-77 the area under groundnut seems to have resumed its uptrend in the state. The relative rising prices of groundnut during early seventees must have induced the expansion of area under groundnut during these three years. But since 1977-78 it had shown decline and accounted for 7,11,800 hectares in 1980-81 from 9,04,000 in 1970-71.

Castor is another oil seed crop which is industrially important as it is non-edible oil. This has shown the highest i.e. 67.85 percent increase in 1980-81 over the base year 1970-71. The area under castor in 1970-71 was 2,800 hectares which had increased to 4,700 hectares in 1980-81. With the increased demand from industry the crop is fetching good price and there is a scope to increase the area.

4 Sugarcane -

Sugarcane occupies a pride of place in the agricultural economy of Maharashtra as it is one of the important commercial crops. The sugar industry is the second largest in the country today involving about 200 million farmers is providing employment to about 3.5 lakh workers and technicians. The total area under sugarcane in Maharashtra was 2,03,900 hectares. It increased to 3,16,800 hectares in 1980-81 (Table No.3.4). The area under sugarcane increased by almost 55.37 percent in the decade. The distribution of cane area between Adkali plant cane and ratoon was 75 percent 15 percent on state basis. It was 49 percent and 35 percent during previous decade. Such a shift caused considerable strain on supply of cane to the factory during the crushing season of about 200 days.

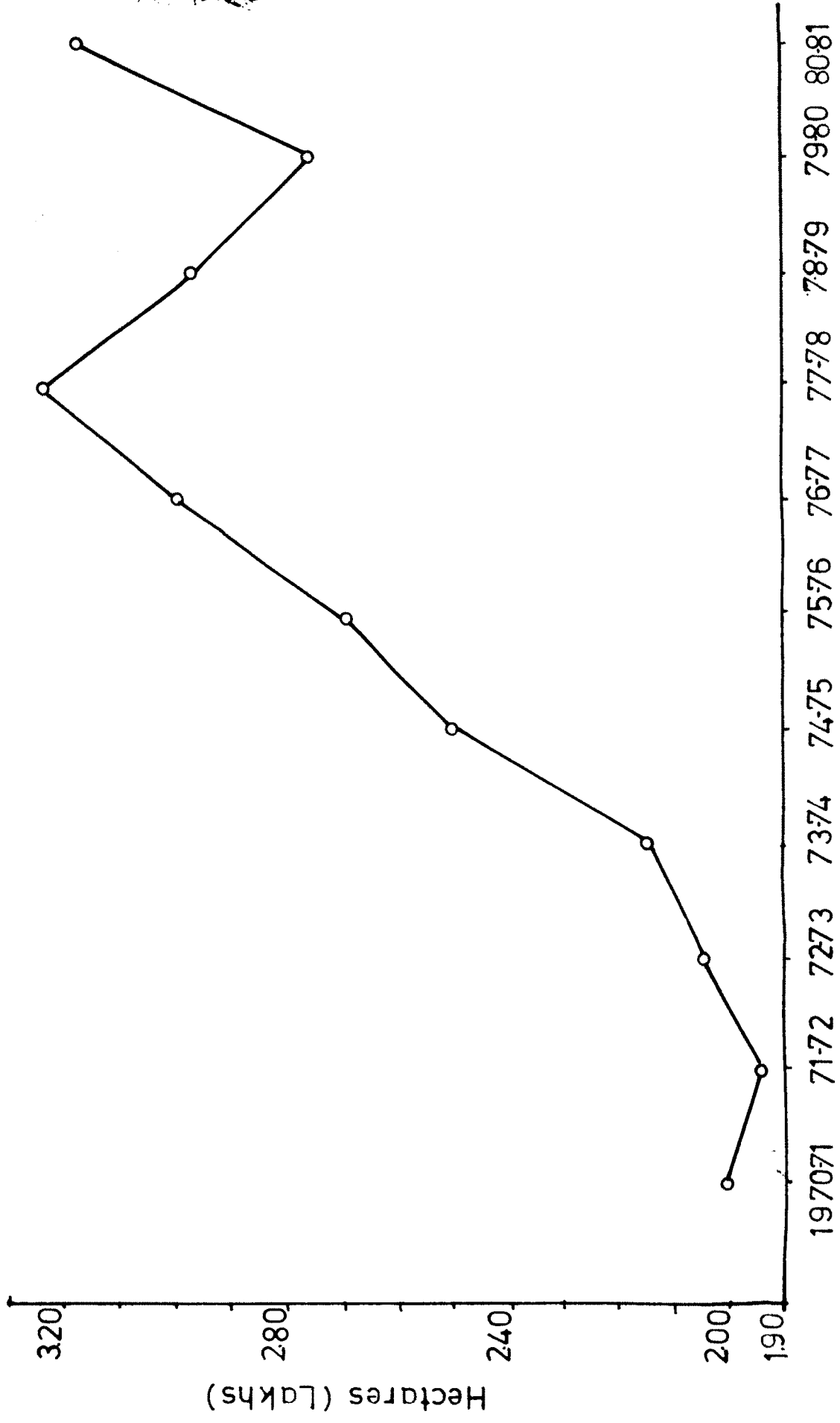
Thus the increasing area under irrigation had been mainly responsible for the growth in area under sugarcane. In other words the increasing irrigation facilities have induced a change in cropping pattern and that too favour of sugarcane cultivation because of suitable agroclimatic conditions. The second main factor that has induced the expansion in the sugarcane area has been the increasing supply of chemical and improved (biological) fertilizers. The substitution for organic fertilizers (manures) had facilitated a great deal of cultivation of sugarcane on a

Table No. 3.4

Area under Sugarcane in Maharashtra during 1970-71 to
1980-81. (In 100 - Hectares)

Year	Sugarcane Total	Harvested	Total
1970-71	2039	1668	2039
1971-72	1935	1539	1935
1972-73	2055	1664	2055
1973-74	2145	1745	2145
1974-75	2475	2012	2475
1975-76	2678	2283	2678
1976-77	2980	2486	2980
1977-78	3218	2643	3218
1978-79	2976	2441	2976
1979-80	2740	2220	2740
1980-81	3168	2555	3168
% Increase	55.37	53.17	55.37

Area Under Sugarcane Cultivation



large in the state. In addition to this the development of other industries or agriculture involves a change in technique of production. A change in technique of irrigation of sugarcane crop has also been decisively responsible for shift of acreage from food grain crops to sugarcane. The spread of electricity in country side and that to increasing bids towards larger supply of electricity for accelerating agricultural development has brought about an increase in the amount of irrigated lands.

Among the states, Maharashtra, is the leading state in the field^{of} co-operative finance and co-operative organization of production. The District Central Co-operative, District land development banks, through their primary credit societies have been supplying working capital on the increasing scale since their inception. Another equally important factor that may be held responsible for expansion in Sugarcane crop is the existence of the market for it. The establishment of Co-operative Sugar factory in country side provides a ready market for sugarcane.

Impact of Increasing Area Under Sugarcane -

The effects of the growing area under Sugarcane crop may be classified into several categories such as economic, Political and Cultural also. However, here we can confine ourselves to the analysis of economic effects only Owing to the limited scope of this discussion. The change in the

structure of agricultural output consequent upon the increasing proportion of sugarcane output in the total output of agriculture had produced beneficial effects. This sort of structural change has triggered off a number of salutary effects in the secondary and tertiary sector of cooperative economics of the state. A number of sugar co operatives have cropped up and still will crop up in the future as a result of growing acreage under sugarcane crop. With the establishment of sugar co operatives in response to growing area under sugarcane and vice versa also; a process of industrilization has been initiated. It has given impectas to the growth of tertiary services viz. banking, insurance, transport, hotels, etc. The economic activity in the industrial and service sectors have been growing rapidly. In a developing economy several growth centres are bound to emerge industries like small engineering units, cement pipes etc. are located at these centres. These industries are developed well to export their product to foreign countries. It would notube exaggerating if we say that the growth of sugarcane area has generated a number of employment opportunities for the educated and uneducated, skilled and unskilled population in all the primary, secondary and tertiary sector of the state economics.

The expansion of sugarcane area and consequent establishment of sugar co operatives and other ancillary industries have induced the temporary inter state migration

of the population. A number of people have been migrating from near by states like Karnatak and Andhra Pradesh to the areas of agriculturally and industrially developed enclaves in the state of Maharashtra to find job every season.

The increase of sugarcane area has further facilitated the development of roads and communication facilities in these centres. Majority of the villages have been linked through the construction of roads connecting with centres of sugar co operatives and with the other growth centres. For transporting sugarcane besides almost all villages have approach road to either state highways or national highways. Rich sugarcane growing farmers have been increasingly replacing bullock carts and bullock ploughs with tractor trailers. This village peoples have increased contacts with the growth centres and they have been switching over to a new way of life. Villagers aspire to send their children for college and University education. Moreover, most of the factories are having their own colleges. This sort of change brought about from the shift of subsistence farming to commercial farming i.e. the shift of diversified food grains cultivation to specialized sugarcane cultivation.

Inspite of all these beneficial effects of the area expansion under sugarcane that was brought about glaring economic disparities persist. It has led to the

intra-region disparities in respect of agricultural growth in every region of the state. The only areas where the perennial sources of water are made available a shift in cropping pattern has occurred whereas the areas where the perennial water sources are not available have trailed far behind and agriculture is still being carried on mainly for self-subsistence which often times is quite inadequate to meet even the consumption requirements of farm families. If the policy measures to be adopted by the Government (as they have put emphasis on the rural development) are not being directed towards the improvement of the area, the gap between the developed pockets and backward pockets in every region and the region as a whole may widen still further. Therefore there is an urgent need for introducing new dry farming techniques in backward areas which have not been favourably endowed with natural resources such as abundant water supply, rich soil and regular and assured rainfall. The areas where the sugarcane plantation are concentrated and consequently various industrial activities have been localised could be described as the oasis in the deserts.

5 Fiber Crops -

Sunhemp, Mesta and Kapas are cultivated fiber crops in Maharashtra. Sunhemp and mesta being minor fiber crops their area had been increased from 18,000 hectares and 51,400 hectares to 25,000 and 68,000 hectares respectively in 1980-81 over the base year 1970-71. (Table No.3.5). There

Table No.3.5

Area under Fiber Crops in Maharashtra during 1970-71 to
1980-81. (In "100" hectares)

Year	Kapas	Sunhemp	Mesta	Other	Total
1970-71	27498	180	514	10	28202
1971-72	25288	213	465	9	25975
1972-73	25434	188	433	8	26063
1973-74	23482	195	603	6	24286
1974-75	24968	244	630	66	25848
1975-76	23069	211	703	13	23998
				30.00	
1976-77	21622	238	618	7 R	22485
					- 20.29
1977-78	23137	236	655	7 R	N.A.
1978-79	25085	151	666	7 R	N.A.
1979-80	25878	261	654	7 R	N.A.
1980-81	26671	250	686	7 R	N.A.
% Increase	2.99	38.88	33.46		

N.A. Not available.

is 38.88 percent increase in case of sunhemp while that of mesta the area had been increased by 33.46 percent.

Area under cotton in Maharashtra had not shown satisfactory increase. In 1970-71 it was 27,49,800 hectares which had shown decline every year till 1976-77 in which the area under cotton was 21,62,200 hectares. During last four years from the period under study 1977-78, 1978-79, 1979-80 and 1980-81 it had shown increasing trend which accounted for 26,67,100 hectares in 1980-81 over all there is negative growth in area under cotton by 2.99 percent. Although the state accounts for 34 percent of the area in the country. But its contribution to cotton production is only 22 percent. Thus cotton is main fibre crop among these grown which had shown decrease in area and consequently total area under this group had recorded negative growth by 20.2 percent.

6 Tobacco -

From the drugs and narcotics group Tobacco is the important crop which is grown in Maharashtra. And it also had shown very slow growth in area under it. (Table No.3.6). In 1970-71 the area under tobacco was 11,600 hectares which had increased to 11,900 hectares in 1980-81. This increase accounts for 2.6 percent during the period under study.

Table No. 3.6

Area Under Drugs and Narcotics in Maharashtra during
1970-71 to 1980-81. (In "00" hectares)

Year	Tobacco	Other	Total
1970-71	116	28	144
1971-72	118	29	147
1972-73	95	21	116
1973-74	121	25	146
1974-75	104	30	134
1975-76	111	23	134
1976-77	133	27	160
		- 3.57	11.11
1977-78	108	27 R	N.A.
1978-79	128	27 R	N.A.
1979-80	143	27 R	N.A.
1980-81	119	27 R	N.A.
% Increase	2.58		

N.A. Not available.

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7 Condiments -

The group condiments includes the cash crops like chillies Ginger, Termuric, arecanut etc. Among these chillies are the major and important. This group also had shown not much increase in area under them (Table No. 3.7). The area under chillies in 1970-71 was 1,47,500 hectares which had increased to 1,51,200 in 1980-81 which accounts for only 2.5 percent increase. This is because the present varieties are susceptible to leaf curl.

Dry ginger was grown an 500 hectares in 1970-71 while in 1980-81 the area increased to 700 hectares which accounts for 40 percent increase.

The area under are count was 2,000 hectares in 1970-71 which had increased to 2,100 in 1980-81. Which accounts for only 5 percent increase.

Termuric is another cash crop from this group which has shown decreasing trend in area under it. The area under termuric in 1970-71 was 10,100 hectares which decreased to 7,700 hectares in 1980-81. This accounts for 23.75 percent decrease. The reason is that Termuric being a perenial and irrigated crop grown in most of the district on area irrigated by wells.

Table No. 3.7

Area under Condiments in Maharashtra during 1970-71 to
1980-81 (In "100" hectares)

Year	Dry Chillies	Dry Ging- er	Turmeric	Arecanut	Others	Total
1970-71	1475	5	101	20	293	1894
1971-72	1444	8	107	20	298	1877
1972-73	1267	5	80	22	263	1637
1973-74	1445	5	105	21	275	1851
1974-75	1445	6	92	23	307	1883
1975-76	1453	6	80	23	277	1839
1976-77	1465	6	58	23	322	1874
					3.89	- 1.05
1977-78	1493	7	93	21	322 R	N.A.
1978-79	1496	8	92	21	322 R	N.A.
1979-80	1488	7	83	20	322 R	N.A.
1980-81	1512	7	77	21	322 R	N.A.
% Increase	2.50	40	- 23.76	5.00		

8 Fruits and Vegetables -

Fruits and vegetables play an important role in the human diet. It has been reported that there is a considerable gap between the per capita consumption of fruits and vegetables and the actual requirements. Per capita requirements are 255 grams while the actual consumption is about 80 grams.

The horticultural crops including vegetables occupy one percent of the total cropped area of the state. In the year 1970-71 the total area under this group was 7,32,200 hectares. Table No.3.8. By the end of the period under study it increased to 9,63,400 hectares. This accounts for nearly 13.25 over the base year 1970.71.

Among the fruit crops of the state banana occupies the highest acreage accounting for 36,900 hectares in 1970-71 which had been increased to 46,000 hectares in 1980-81. This increase comes about 24.66 percent.

Even though area under grape in the state in total fruit crop acreage ranks fifth its per unit income is the highest among fruit crops. Maharashtra is the leading grape growing state in the country. During 1970-71 the area under grape was 1,700 hectares which increased to more than 2,000 hectares. Out of this more than 40 percent area is under Thompson seedless. It is also observed that the area under

Table No.3.8 Area Under Fruits-Vegetables in Maharashtra during 1970-71 to 1980-81
(In "100" hectares)

Year	Banana	Mango	Grapes	Cashew -nut	Potato	Sweet potato	Citrus oranges	Onion	Others	Total
1970-71	369	110	17	109	111	52	250	503	590	2119
1971-72	326	113	17	131	124	53	243	444	554	2020
1972-73	310	116	18	117	91	44	259	374	509	1838
1973-74	322	121	17	118	32	51	250	446	659	2066
1974-75	406	133	19	119	97	61	265	503	692	2295
1975-76	439	148	21	163	109	58	267	485	666	2356
1976-77	460	142	20	163	105	58	280	435	690	2353 (11.04)
1977-78	460	142	20	163	109	63	280	487	690	N.A.
1978-79	460	142	20	163	107	63	280	481	690	N.A.
1979-80	460	142	20	163	106	58	280	503	690	N.A.
1980-81	460	142	20	163	107	58	280	503	690	N.A.
% Increase	24.66	29.09	17.54	49.54	-3.60	11.53	12.00	Nil		

N.A. Not available

this crop is steadily increasing in the state. There was 17.54 percent increase in 1980-81 over the base year 1970-71. Mango is grown as a rainfed crop on an area of 11,000 hectares in 1970-71. This was increased to 14,200 hectares in 1980-81. This comes to 29.1 percent increase. Alphonso is the commercial variety of Mango grown as an area of about 6,300 hectares the Konkan region in regular orchards. There is very slow extension of area under this crop even though more than one lakh hectares of cultivable waste land is available in Konkan region for extension.

The area under Cashewnut in India is 1,26,900 hectares out of which 10,900 hectares are in Maharashtra. Cashewnut is a rainfed crop on the hilly areas of the Konkan region of Maharashtra State. The climate and soil conditions of this region are well suited for the cultivation of this crop can be extended on more than 1,00,000 hectares on the cultivable hilly west lands of the Konkan region.

The important citrus crops of Maharashtra are Mandarina orange (Santra), Sweet orange (Mosambi) and Kagadi limboo. Major area among the citrus crops grown in Maharashtra is occupied by mandarina group of orange i.e. famous Nagpur oranges followed by Sweet oranges and Kagadi lime. It is matter of pride that Nagpur oranges are not only famous all over the world. The area under citrus group is steadily increasing. It is observed that 25,000 hectares

were occupied by them in 1970-71 which is increased to 28,000 hectares in 1980-81. This comes to 12 percent increase other fruits like coconut, Gaava, Chiku, Pomegranate, Pineapple, Annonas, Fig. etc. are grown in Maharashtra and area under them is steadily increasing. And there is large scope for extension.

Maharashtra is ideally situated for cultivation of wide range of vegetables like onions, potatoes, bringle, tomato, orka and peas. Research and development activities in this group of crops have not been strengthened to the extent they deserve.

The state occupies a unique position in the production of onion in the country. Onion occupies the second position among the vegetables grown in the stock. The crop is grown both in Kharip and rabi seasons. Still it had made not any progress to extend the area under onion during the period understudy and is 0 percent increase in 1980-81 over the base year 1970-71. Thus its performance is very poor. It was grown on 50,300 hectares and many times less than that.

In Maharashtra potato ranks fourth among the cultivated vegetables. It will be seen from the table that the area under potato is slowly decreased by 3 percent in 1980-81 over the base year 1970-71.



Maharashtra is one of the ideal states in the peninsular India for the cultivation of number of fruits and vegetables. Unfortunately the available potential for fruit culture provided by nature had not been exploited to the fullest extent in the state. There is a great scope for extending the area under these crops in the newer regions of western Maharashtra and Marathwada under the command of new irrigation projects. In marginal and sub marginal area of drier regions fruit crops such as amla, phalsa, annonas, karwand, jambul, ber, tamarind can be successfully grown.

A very congenial climate for the cultivation of variety of floricultural crops exists in the state. Flowers like rose, chrysanthmum, jasmine lilies, cross-andra, gardania, and magnolia can be grown. Mahabaleshwar and Lonawala areas possess tremendous scope for growing a variety of roses orchids and gladiolus.

9 Forage Crops -

The forage crops and grasses are the basic feed crops to feed the livestock. They are required for better livestock production. The raw materials feeds are converted into edible products through livestock. Proper livestock feeding is thus important for optimum production to fulfill the needs of agriculture and population at large. The area under forage crops and grasses in the state is very low

Table No. 3.9

Area under Fodder crops in Maharashtra during 1970-71 to
1980-81 (In 100 hectares)

Year	Dry Fodder	Irrigated	Non Irrig- ated	Food	Non Food	Total
1970-71	6737	284	6453	9	30	6776
1971-72	7192	339	6853	14	13	7219
1972-73	7595	317	7278	26	36	7657
1973-74	8728	432	8296	10	41	8779
1974-75	8738	419	7719	14	40	8792
1975-76	7992	419 R	7573	22	40	8054
1976-77	8196	419 R	7777	18	57	8291
1977-78	8196	419 R	7777 R	188	57	8291
1978-79	8196	419 R	7777 R	18	57	8291
1979-80	8196	419 R	7777 R	18	57	8291
1980-81	8196	419 R	7777 R	18	57	8291
%	21.65	47.53	20.51	100.00	90.00	22.35
Increase						

and inadequate rainfall situation in major part of the state aggravate the situation. The dry fodder occupied 6,73,700 hectares in 1970-71 which increased to 8,20,000 hectares in 1980-81 (Table No. 3.9). It comes to 21.85 percent increase. There was 47.5 percent increase in irrigated area during the period under this group. As against this non irrigated area increased by 20.5 percent. during the period. The area under food crops and non food crops forages has increased to 100 percent and 90 percent respectively.

Success of the intensive cultivation and H.Y.V. programme depends mainly on the timely supply of inputs in adequate qualities. The rate of H.Y.V. in wheat is encouraging while in other crops this speed is rather low and coverage of area is limited. In most of the crops such a H.Y.V. are now available and efforts are under way to remove interisic weakness in these varieties. It is therefore absolutely essential to increase the speed of adpotation of these H.Y.V.s, so that atleast 55-60percent of area under crop is covered within next few years.

Prof. V. M. Dandekar has pointed out that planning for agricultural production in India based on centrally planned target was unrealistic. This is so because decision in agricultural production are in final analysis taken by million of farmers scattered far and wide. Further, with

highly diversified and variable agroclimatic conditions, it is not possible to lay down a set of rules for instant adoption by all farmers although such a procedure may hold a good conditions where all the variables including the use of land is controlled by a central planning authority. In the absence of this, target oriented approach fails, as it has in India.

Therefore it is suggested that -

- 1) An all out efforts be made to create an environment congenial for furthering agricultural growth. These measures include availability of high-pay-off inputs, creating a adequate infrastructure, adoption of favourable price policy etc.

- 2) Education the farmers so that they can acquire adequate skills for adoption of modern technology.

- 3) More emphasis be given in evolving efficient methods for motivating the farmers for wider adoption of improved technology.