

Chapter V - Conclusions.

- + Cropping Patterns in Maharashtra.
- + Trends in Production of Different Crops.
- + Trends in Productivity of Some Major Crops.

Conclusions-

Agriculture in Maharashtra continues to be a problem sector in the economy of Maharashtra. Fluctuations in production, severe drought conditions, fodder and water shortage are the major problems that the farmers face. The reasons for such conditions are first, dry farming dominates agricultural production which depends upon the vagaries of monsoon which has a decisive impact on overall production. Second, growth of irrigation has been a very slow and about 13 percent of gross cropped area in the state enjoys the benefit of irrigation. This percentage is very low as compared to all India average of 30 percent. More over about 50 percent of irrigated area in the state is under surface irrigation which in turn depends upon monsoon rainfall. Due to these factors the agricultural production is severely affected.

In Maharashtra a large area under crops comes under coarse grains mainly jowar which is grown in both rabi and kharif season. In this production popularisation of high yielding varieties has been not that satisfactory successfully, moreover in pulses also the above trend is noticed. Hence overall food grain production does not show the expected increase. Share of Maharashtra in all India food grains production during the period 1970-71 to 1980-81 is showing an increasing trend. In 1970-71 the share of Maharashtra in

all India foodgrains production was 5 percent which has increased to 7.5 percentage in 1980-81. However after 1981 Maharashtra's share is declining and it has come down to 6.7 percent in 1984-85.

Other reasons for stagnation of agriculture in Maharashtra are, first low cropping intensity due to lack of irrigation. Second, uneconomic size of holdings. Nearly 45 percent of holdings being less than 2 hectares. Third, the use of High yielding hybrid varieties of seeds and chemical fertilizers is not increasing in the desired degree. Due to all these factors working together the green revolution which was responsible for agricultural transformation in other parts of India- especially in the production of wheat and rice - has not made the desired impact in Maharashtra. Consequently during recent years Maharashtra continues to be a deficit state in foodgrains and about 20 percent of foodgrains requirements have to be brought from outside.

The broad conclusions that emerge from the study of cropping pattern and production of agricultural crops in Maharashtra during the period 1970-71 to 1980-81 are summarised as follows.

A Area

Gross cropped area shows a overall increase of 9.96 percent in 1980-81 over the base year 1970-71. Increase in gross cropped area is mainly due to increase in the total irrigated area and growth of area sown more than once.

I Area Under Cereals -

Area under cereals cultivation shows a percentage increase of 8.83 in 1980-81 over the base year 1970-71.

1) Among the cereals area under wheat cultivation shows a significant increase of 32.89 percent in 1980-81 over the base year 1970-71.

2) Area under maize cultivation is also showing an increasing trend and percentage increase in 1980-81 over 1970-71 was 53.85. Many factors are contributing to this increase. Maize is cultivated as a mix crop along with different cash crops because of its short duration. Similarly, fodder of this crop is useful for milch animals and the maize can also be sold when fresh for good price. And the main reason for the increase in area under maize is the increase in irrigation.

3) Among the cereals the area under jowar cultivation is the most important and it constitute 50 percent of a area under cereals. Jowar is mainly sown in kharif season and development of high yielding varieties cultivates to increase in area under this crop.

4) The area under rice, barley, ragi and other minor millets also have shown increase by 8.74 percent, 60.7 percent, 16.28 percent and 34.24 percent respectively in 1980-81 over the base year 1970-71.

5) Bajra is the only cereal showing decreasing trend in area under cultivation during the period under study and percentage decrease in area under bajra cultivation was 15.16 in 1980-81 over the base year 1970-71. This exceptional decrease in area under bajra is mainly due to lack of disease resistant varieties.

II Area Under Pulses -

The area under pulses in Maharashtra shows a percentage increase of 9.29 at the end of period under study i.e. in 1980-81 over the base year 1970-71. Excepting Gram most of the pulses are grown in kharif season.

1) Tur and Urid are the two important pulses which show percentage increase in area under cultivation of 12.59 and 10.59 respectively in 1980-81 over 1970-71.

2) Masur and other pulses also show an increasing trend in area under their cultivation. The percentage increase in area under them is 20.77 and 3.07 respectively.

3) Gram which is sown in rabi season is the major pulse crop which has shown a significant rise in area under its cultivation. Area under gram cultivation has shown percentage increase of 38.28 in 1980-81 over 1970-71. The reasons for this increase are growth of irrigation, due to late arrival of monsoon or its total failure kharif cultivation of other pulse crops is affected resulting in farmers going for gram.

4) Among pulses moong is the only pulse crop which has shown decline in area under its cultivation by 6.13 percent in 1980-81 over the base year 1970-71.

III Area Under Oilseeds -

The total area under oilseeds, in Maharashtra has increased from 17,33,200 hectares in 1970-71 to 19,63,400 hectares in 1976-77. This comes to a percentage increase of 13.28 percent since 1976-77 the area under oilseeds remained more or less the same.

1) Among oilseeds Castor, Sesamum, Linseed, Rape-mustard, Niger and Safflower are the major oilseeds crops after groundnut grown in Maharashtra. All these shown an increase in area under their cultivation by 67.85 percent, 54.72 percent; 26.59 percent; 48.27 percent; 23.33 percent and 28.27 percent respectively. The cultivation of castor is extended because castor oil is being used on large scale in various industries.

2) Groundnut is the only oilseed crop which has shown decline in its area under cultivation and percentage decrease in area under groundnut was 21.26 in 1980-81 over the base year 1970-71. The reasons for this decline may be, one, shift to cultivate other cash crops like sugarcane and cotton with the development of irrigation. Second, in drought prone areas farmers have shifted from groundnut cultivation to high yielding varieties of jowar. In addition family requirements

of cereals necessitate cultivation of jowar instead of groundnut especially by small farmers.

IV Area Under Sugarcane -

Sugarcane is the most important cash crop in the state whose cultivation certainly had led to social and economic transformation in few areas with assured irrigation.

1) With the growth of irrigation farmers started undertaking sugarcane cultivation on increased scale. In addition the Government encouraged the growth and development of co operative sugarcane factories which in turn encouraged the sugarcane cultivation in their area of operations. Consequently area under sugarcane cultivation shows an increasing trend during the period under study. Percentage increase in area under sugarcane was 55.73 percent in 1980-81 over the base year 1970-71.

2) Increase in area under sugarcane cultivation has led to increase its production. This had encouraged the rapid development of sugar industry in Maharashtra and development of co-operative sugarcane factories which have become the centres for overall transformation.

V Area Under Cotton -

The area under fiber crops in Maharashtra on the whole shows declining trend and the percentage decrease comes to 20.29 in 1976-77 over the base year 1970-71. This declining

trend is mainly due to fall in area of cultivation made cotton and other fibre crops. However, as far as cotton itself is concerned we find very slight percentage of increase i.e. 2.99 percent in 1980-81 over 1970-71, which indicates that the area under cotton cultivation has remained more or less the same at the beginning and at the end of the period under study with the minimum during 1976-77 being 23,13,700 hectares against 27,49,800 hectares in 1970-71.

VI Area Under ^{Drugs} and Narcotics -

Study of the area under drugs and narcotics shows that the area under tobacco cultivation increased only by 2.58 percent in 1980-81 over the base year 1970-71.

VII Area Under Condiments and Species -

The total area under condiments and species in Maharashtra shows a percentage fall of 1.05 in 1977-78 and after wards over the base year 1970-71. Fall in area under cultivation is mainly noticable in case of turmuric where the percentage decrease was 23.76 in 1980-81 over 1970-71. However area under chillies, ginger etc. shows increasing trends.

VIII Area Under Fruits and Vegetables -

Area under fruits and vegetables shows percentage increase of 11.04 in 1976-77 and thereafter over 1970.71.

Among the fruits and vegetables area under cultivation of mango, cashewnut, grapes and banana shows a significant increase.

IX Area Under Fodder Crops -

The area under fodder crops during the period of study shows a percentage growth of 22.35 in 1980-81 over 1970-71.

B Production -

Overall agricultural production during the period of study has shown an rising trend. In 1970-71 it was 161.89 Lakh metric tonnes which increased to 182.85 lakh metric tonnes in 1980-81. This comes to a 13 percentage rise during the period of ten years which seem to be very slow growth.

I Production of Cereals -

Production of cereals increased from 47.37 lakh metric tonnes in 1970-71 to 94.43 lakh metric tonnes in 1977-78 which comes to about 100 percent increase during first seven years of the period under study. While during last three year it has shown decrease up to 88.62 lakh tonnes in 1980-81. In spite of this short fall in production there is overall increase of 87.11 percent in 1980-81 overall the base year 1970-71.

1) The production of rice has shown rising trend from 16.62 lakh tonnes in 1970-71 to 23.44 lakh tonnes in 1977-78

which by the end of decade again decreased to 23.0 lakh in tonnes. But there is overall increase by 38.71 percent during at the end of period under study. The share of rice in total cereal production in 1970-71 was 35.9 percent which decreased to 24.82 percent in 1977-78 and thereafter.

2) Wheat production in Maharashtra has shown a noticable rise of 111.51 percent in 1980-81 over the base year 1970-71. In total cereal production the share of wheat has increased from 9.29 percent in 1970-71 to 10.2 percent in 1977-78. But during the last three years it has gone down slightly.

3) Jowar production has shown the percentage increase of 184.29 percent in 1980-81 over the base year 1970-71. The production of jowar in 1970-71 was 15.57 lakh metric tonnes with its share 32.87 percent in total cereal production which has increased to 58.55 percent in 1979-80 with its production of 54.64 lakh metric tonnes.

4) Maize has contributed a very small share of 0.53 percent in total cereal production in 1970-71. It has increased to 1.41 percent. The production of maize in 1970-71 was only 25,500 metric tonnes which increased to 1.25 lakh metric tonnes in 1980-81 which comes to 391.75 percent increase over the base year 1970-71.

5) Similarly ragi and other cereals also have shown an increase of 28.75 percent and 60.85 percent in 1980-81 over 1970-71 with the small shares.

6) Bajra production shows a decline in Maharashtra and this decline was from 8.25 lakh metric tonnes in 1970-71 to 7.59 lakh metric tonnes in 1980-81. Thus there is decreased of 0.077 percent in bajra production during the period under study

II Production of Pulses -

Total pulses production in Maharashtra during the period increased from 6.77 lakh metric tonnes in 1970-71 to 8.31 lakh metric tonnes in 1980-81. Percentage increase being 22.76 percentage. During the year 1975-76 the production of pulses has reached its maximum of 11.67 lakh tonnes which comes to 72.45 percentage increase over the base year. Most of the pulses except gram are sown during kharif season.

1) The production of tur and masur has increased by 32.53 percent and 33.33 percent respectively in 1980-81 over 1970-71. But the share of tur by total pulses production declined from 40.00 percent in 1970-71 to 39.63 percent in 1980-81.

2) Moong production increased by 15.30 percent at the end of the period under study. Its share in total pulses production in 1970-71 was 12.15 percent which raised to 18.30 percent in 1976-77 which again decreased to 11.41 percent in 1980-81.

3) Urid and other pulses have shown decline trend in the production as well as in their share in total pulses

production. Urid production decreased by 0.75 percent and its share in total pulses production. Increase from 15.71 percent in 1970-71 to 17.00 percent in 1976-77. But there after it has declined to 12 percent in 1980-81. Production of other pulses decreased by 5.2 percent and their share show rise from 18.43 percent in 1970-71 to 24.30 percent in 1974-75 which declined up to 14.23 in 1980-81.

4) Gram production in Maharashtra during the period under study has shown a noticable increase by 93.44 percent in 1980-81 over 1970-71. It share in total pulses production also has increased from 12.79 in 1970-71 to 15.46 percent in 1975-76 and then to 18.00 percent in 1980-81.

III Production of Oil Seeds -

Overall production of oil seeds in Maharashtra during the period under study was not satisfactory and it has shown 15.49 percent decrease in 1980-81 over the base year 1970-71.

1) Linseed, Sesamum, Rape-mustard, Castor and Niger are the few oil seed crops grown in the state, whose production has shown noticable rise at the end of the decade by 66.24 percent; 102.2 percent; 160.0 percent; 133.0 percent; and 27.85 percent respectively. But their individual share in total oil seed production was small in i.e. 4.82 percent; 2.73 percent; 0.07 percent; 0.09 percent and 2.15 percent respectively in 1970-71 which was increased 9.49 percent

6.52 percent; 0.23 percent ; 0.25 percent and 2.94 percent respectively in 1980-81.

2) In 1970-71 number of nuts of coconut produced was 389 lakhs which was increased to 575 lakh nuts in 1980-81 which comes to 47.88 percent increase over the base year.

3) Among the oil seeds in Maharashtra during 1970-71 groundnut contributed major share of 90.11 percent with its production of 5.86 lakh metric tonnes. Both the share as well as the production of groundnut have shown a declining trend. In 1976-77 its production was 5.82 lakh metric tonnes with its share 84.95 percent. Even there after it continued to decline upto 4.41 lakh metric tonnes of production and 80.21 percent in its share. Thus the production has decreased by 24.78 percent in 1980-81.

IV Production of Sugarcane -

Overall sugarcane production in Maharashtra increased from 144.3 lakh metric tonnes in 1970-71 to 235.9 lakh metric tonnes in 1980-81 showing the percentage increase of 63.42 percent. Increase in sugarcane production has resulted in increase in sugar production in the state and at present Maharashtra is the largest sugar producing state in the country.

V Production of fibre crops -

The production of fibre crops in Maharashtra increased by 112.95 percent during the period under study. In 1970-71 it was 5.28 lakh metric tonnes which increased to 11.24 lakh tonnes in 1980-81.

1) Cotton production has increased by 39.23 percent in 1980-81 over the base year 1970-71. In 1970-71 the cotton production was 4.34 lakh metric tonnes with its share of 82.34 percent of total fibre crops produced. The year 1974-75 was most favourable for cotton because its production in that year was maximum i.e. 8.12 lakh tonnes. with its share of 70.80 percent.

2) The production of sunhemp and mesta have shown percentage increase of 161.1 percent and 138.88 percent.

VI Production of drugs, Narcotics, Condiments-spices -

1) Tobacco production in Maharashtra increased from 5,200 metric tonnes in 1970-71 to 6,800 metric tonnes in 1980-81 showing a percentage increase of 30.75 percent.

2) Dry chilley production showed a percentage increase of 22.77 percent. Among these crops the share of chilleys is about 73 percent. The production ginger showed a percentage increase of 50.00 percent in 1980-81 over 1970-71.

VII Production of fruits and vegetables -

1) Fruits and vegetable production in Maharashtra increased from 31.31 lakh metric tonnes in 1970-71 to 35.56 lakh metric tonnes in 1980-81. Percentage rise being 13.56 percent. Banana, Onion, Cashewnut and Mango are the most important commodities. Banana production in Maharashtra increased from 17.74 lakh metric tonnes in 1970-71 to 23.43 lakh

metric tonnes in 1980-81. Of the total fruits and vegetable production share of banana in 1970-71 was 56.65 percent which increased to 53.08 percent in 1980-81. However, onion production in Maharashtra during the period under study showed a declining trend and its production decreased from 93.56 lakh metric tonnes in 1970-71 to 77.46 lakh metric tonnes in 1980-81. Percentage decrease being 17.20 percent. One of the main reason for this decrease in onion production is the non-remmunarative. Prices which make it unprofitable for the farmers to cultivate onions. A way out to get better prices to onion in Maharashtra would be to increase the quantity of export of onion mainly to Gulf Countires.

2) Production of oranges is concentrated in Nagpur region. It was increased from 70,400 metric tonnes to 96,200 metric tonnes in 1980-81. Similarly production of Cashewnut is showing increase from 31,000 metric tonnes to 92,000 metric tonnes with percentage increase of 196.77 percent.

3) Mango and grape production was increased by 29.06 percent and 28.50 percent.

VIII Production of fodder crops -

Production of grasses and fodder crops decreased by 5.12 percent in 1980-81 over 1970-71. Grass contributed a major share of 65.60 percent in 1970-71 which was decreased to 62.32 percent. Grass production in 1970-71 was 47.98 lakh metric tonnes which was decreased to 43.24 lakh metric tonnes which comes to 9.87 percent decrease.

C Productivity -

The levels of agricultural output and its growth depends on the interaction of several institutional technological and environmental factors. The area with high productivity levels of agricultural output are significantly associated with high rainfall and assured levels of irrigation. Thus high productivity level is seen in inner Tamil Nadu, some parts of W. Bengal and Assam and North parts of Punjab and Haryana. On the other hand the low productivity area belongs to the western, central and Southern arid zones of India namely Western Rajasthan, Some parts of Gujarat, Madhya Pradesh, Maharashtra and Andhra Pradesh. These are the areas where rainfall is very low and unpredictable and assured irrigation is almost absent. In fact in Maharashtra state there was drought in both years 1971-72 and 1972-73. The recurrence of drought has become a regular phenomenon since the 1980s. (Table No. 4.16)

Although about two-third of the states population is engaged in agriculture and allied activities, only one-third of the states income comes from agriculture. The corresponding share of this sector for the country as a whole in national income is about 38 percent. The per Capita food grain production in Maharashtra is one of the lowest among the states. It was only 157 Kg as against 782 Kg in Punjab and 192 Kg for all India in 1980-81. The state has to go along way in achieving self sufficiency in agriculture. The

The per hectare yield of the state was only about two-third of that of India and little above one-third for that of Punjab. The yield per hectare for cereals at 792 Kg was the second lowest in the country only next to Madhya Pradesh with 784 Kg. Similarly for pulses the per capita production in the state at 348 was fourth lowest only next to Andhra Pradesh with 330 Kg; Tamil Nadu (301 Kg) and Himachal Pradesh (262 Kg). From the statistical tables it is evident that other than sugarcane none of the other crops such as food grains, cotton, and groundnut have improved in productivity.

As compared to other states the agricultural productivity in Maharashtra is low, however during the period under study we find an increasing trend in productivity of most of the major crops. The productivity of rice in 1970-71 was 1229 Kg per hectare which increased to 1570 Kg per hectare in 1980-81 accounting for 24.25 percent of increase. Kharif and rabi jowar have shown 271.5 percent and 172.7 percent increase in 1980-81 over the base year 1970-71. In 1980-81 per hectare yield of kharif and rabi jowar was 1200 Kg and 600 Kg respectively against 350 Kg and 220 Kg per hectare in 1970-71. There was an increase of only 10 percent in the productivity of bajra in 1980-81. It was 404 Kg in 1970-71 while in 1980-81 it increased to 445 Kg. In 1970-71 the per hectare production of wheat was 542 Kg which increased by 60.2 percent in 1980-81 accounting for 864 Kg per hectare.

Tur and gram productivity increased by 39.5 percent and 25 percent during the period under study. In 1970-71 per hectare production of tur and gram was 432 Kg and 281 Kg respectively which increased to 500 Kg and 350 Kg in 1980-81. The per hectare yield of cotton increased from 30 Kg in 1970-71 to 81 Kg in 1980-81 which comes to 166 percent. In spite of large increase in sugarcane production the gur production has shown only 32 percent increase in 1980-81 over the base year 1970-71. Groundnut is the only crop which has shown decrease in its productivity. The per hectare production of groundnut in 1970-71 was 650 Kg which decreased to 619 Kg per hectare accounting for 5 percent decrease.