CHAPTER VI
SUMMARY, FINDINGS AND POLICY MEASURES

This is the final chapter. It attempts to give summary of the elementary chapters, to recapitulate the important conclusions of the present study and suggest some policy measures.

6.1 : SUMMARY:

India is considered to be an anthropological laboratory because of its regional, religious, ethnic, racial and linguistic diversities. It has always attracted the attention of the world as being one of the oldest civilization with kaleidoscopic variety of rich cultural heritage.

As a geographical concept, India covers an area of 32,87,263 sq. kms, extending from the icy & snow covered Himalayan ranges to the tropical virgin forests of south. As the seventh largest country in the world, it is well marked of from the rest of Asia by mountains and the sea which give country a unique geographical identity. The main land comprises of four well-defined regions viz; the great mountain ranges, plains of Ganges and the Indus, the desert regions and the southern peninsula. Irrespective of the influence of modernization, urbanization, industrialization and over all development in tribal areas there are still certain tribal communities which are extremely
backward. Such tribal communities have been termed as "primitive tribes". The criteria used to classify a tribal community under primitive tribe are: I) pre-agricultural level of technology, II) low level of literacy, and III) a stagnant or diminishing population. In Maharashtra State there are three such tribal communities, which fall under primitive tribe category. These tribes are the Katkaris, the Kolams and the Madia Gonds.

Various writers have their own specific view regarding the definition of "Tribe." According to Oxford dictionary, a tribe is a group of development acknowledging the authority of a chief and usually regarding themselves as having a common ancestor. The western scholars used the said concept with a slight modification here. Parry says that, "Tribe is a group of people speaking a common dialect and inhabitant of a common territories.

Majumdar defines a tribe as "a social group with territorial affiliation, endogamous with no specialization of functions; ruled by the tribal officers, hereditary or otherwise, united in language or dialect, recognizing the social distance from tribe or castes but without any stigma attached in the case of caste-structure following tribal traditions, beliefs, customs, illiberal naturalization of ideas from alien sources, above all conscious of homogeneity of ethnical and territorial integration.

'A Dictionary of Social Sciences' has defined the tribe as "a system of social organization which includes several local groups, villages, bands,
districts or linkages and includes a common territory, a common language and common culture”.

The International Encyclopedia of Social Sciences’ states that in general usage, the word ‘tribe’ is taken to denote a primary aggregate of people living in the primitive or barbarous condition under headman or chief.

According to the Scheduled Areas (Maharashtra) Order, 1995, the tribals major population is spread over in 15 districts; They are: Thane, Dhule, Nashik, Nandurbar, Jalgaon, Ahmednagar, Pune, Nanded, Amravati, Yavatmal, Chandrapur, Gadchiroli, Raigad, Nagpur and Bhandara. Out of these fifteen districts, Gadchiroli districts is clubbed with Chandrapur and Nandurbar with Dhule. We have also considered an additional districts viz. Wardha as tribal districts in the present study became the concentration of tribal population in this district is also significantly high. In all, 14 districts are considered as the tribal districts for the purpose of the present study. Out of these, seven districts belong to Vidharbha region, five belong to Western Maharashtra, two belong to Konkan region and one district belongs to Marathwada region of Maharashtra State. The population of the scheduled tribes in the remaining districts of the State is very small.

There are 53 communities included in the list of scheduled tribes in Maharashtra State. The population of eight of these tribes viz. Bhil, Mahadeo koli, Gond, Warli, Kokan, Thakur, Kathod or Katkari and Gamit is more than one lakh each. The population of these eight tribes together accounts 81.06
percent of the total tribal population. These tribes are Malhar Koli, Andh, Korku, Dhanka, Kolam, Pardhan, Pardhi, Dhor, Koli, Dubla, Dhodia and Naikda. Another eleven tribes have a population of less than 1000 each, while not a single person belonging to the 13 other tribes included in the scheduled tribes is found in Maharashtra State.

Maharashtra ranks fourth in the population of tribals, which according to the census of 2001 is about 85.77 lakhs. This tribal population is mainly concentrated in three specific regions of the State i.e. parts of Thane, Nashik, Dhule, Jalgaon, Pune, Ahmednagar and Raigad districts of Western Maharashtra, Melghat tehsil of Amravati district of Northern Maharashtra and Chandrapur, Gadchiroli, Bhandara, Yavatmal and Nanded districts from eastern Maharashtra State.

The review of recent studies on performance of agriculture in India was taken. This review contains the studies on agricultural growth at India level, state level as well as district level. The focus of the review is on the studies relating to tribal regions in India. The literature reviewed in this chapter indicated that the level of agriculture development of tribal farmers differs for small, marginal and large farmers. The small and marginal farmers are lagging. The literature also indicated that the factors that explain the adoption of new agricultural policy as well as technology are both economic and sociological. There are technological and cultural constraints to the adoption of new agricultural technology by the farmers in tribal areas. It is held that
provision of infrastructural facilities is essential to increase the income by tribal farmers. The studies on income and consumption patterns revealed that tribal families receive income from both cultivation and other activities like minor forest products, wages, etc. They spend a very large part of their income on food items and they generally do not have savings for investment on their farms. Indebtedness is also an important problem faced by the tribal farmers. This review inspires us to study the growth of major agricultural crops in tribal districts of Maharashtra during the last four decades. This study was undertaken mainly to study the agricultural resource base, growth in area, yield and production of major foodgrain and non-foodgrains crops and also to suggest suitable policy measures for development of agriculture in tribal districts of the Maharashtra.

The present study was based on purely secondary data. This study covered the period of forty years from 1960-61 to 1999-2000. According to the Government documents there are 15 tribal districts in the Maharashtra State. They belong to all the regions of Maharashtra State (viz. Western Maharashtra, Konkan, Marathwada, and Vidarbha). The main crops grown in these districts are: rice, jowar kharif, jowar rabi, wheat, bajra, maize, tur, gram, sugarcane, cotton, sesameum and groundnut. These crops were considered in the present study. Further, three crop groups viz. total pulses, total cereals and total foodgrains were also considered for the present study. The secondary data about area, yield, production and prices of these major
crops were collected for the period from 1960-61 to 1999-2000. This entire period of 40 years was divided into four sub-periods: Period I: 1960-61 to 1969-70, Period II: 1970-71 to 1979-80, Period III: 1980-81 to 1989-90, Period IV: 1990-91 to 1999-2000. The entire period of 40 years is treated as the overall Period (Period V). The required secondary data were complied from the government publications such as: 'Districtwise General Statistical Information of Agriculture in Maharashtra', 'Seasons and Crop Reports', 'Statistical Abstract of Maharashtra', 'Economic Survey of Maharashtra' and the data published by the 'Economic and Political Weekly Research Foundation' and other such publications. Annual Compound growth rates in area, yield and production for above mentioned major agricultural crops selected for this study were calculated by fitting the exponential function to the data.

Further, some simple statistical tools like percentages and averages were also used at few places for analysis of the data. The main findings of the present study are discussed in the subsequent section.

6.2 : Findings :

The main findings of the present study are discussed below.

1. The present study indicated that the literacy rate in the state as well as all tribal districts has increased between 1961 and 2001. The percentage of literates in the state went up from 45 to 66 over this
period. The proportion of working population has also decreased in the state and all the tribal districts over the period under consideration. In case of the state, it went down from 47.90 percent to 42.50 percent. The proportion of cultivators has decreased in the state (from 46.11 percent to 28.69 percent) as well as in all the tribal districts except Dhule. But the proportion of agricultural workers is found to have increased from 23.80 percent to 26.27 percent in the state. This has also increased in Ahmednagar, Bhandara, Chandrapur, Dhule, Jalgaon, Nagpur, Nashik, Nanded and Pune.

2. The study indicated that though the proportion of net sown area remained stagnant at the state level (57.40 percent), it showed increase in Amravati, Chandrapur, Jalgaon, Nagpur, Nanded and Yavatmal districts during the period of this study. Further, the cropping intensity index is found to have increased from 106.52 percent to 126.19 percent in the state. All tribal districts also experienced increase in the cropping intensity index over the period under study. But only three tribal districts were above the state level figure in 2000-01 (as against six districts in 1960-61). The average size of holding in the state as well as tribal districts is found to have decreased between 1970-71 and 1990-91. Area under cereals is found to have decreased while area under pulses increased in the state, but few tribal districts shared an opposite experience. Though the area under foodgrains in the state
came down from 68.80 percent to 60.13 percent, some tribal districts like Ahmednagar, Bhandara, Chandrapur and Raigad continued to remain foodgrain producing districts. Area under oilseeds showed increase from 10 percent to 11.50 percent in the state.

3. It is found that the percentage of net irrigated area to net cropped area in the state has increased from 5.99 percent in 1960-61 to 17.32 percent in 1997-98. Irrigation intensity in the state is found to have increased from 113.78 percent in 1960-61 to 117.61 percent in 1997-98. Irrigation intensity was lower than the state level figure in Ahmednagar, Bhandara, Chandrapur, and Yavatmal during both the years. The per hectare use of chemical fertilizers showed sharp increase in the state. All the tribal districts were also using higher chemical fertilizers than the state level figure in 1967-68. But in 2000-01, it was higher only in Nanded, Nashik, Bhandara, Jalgaon and Wardha districts. The availability of traditional farm implements showed a decline at the state level but in few tribal districts adoption of such implements has increased. The availability of electric pumpsets, tractors and threshers is found to have increased in the state as well as in tribal districts.

4. The present study indicated that the rice output in the state had increased at the rate of 1.75 percent per annum during the period of last four decades. It is also found that most part of growth in rice output
was due to improvement in yield of this crop. But some tribal districts (viz; Jalgaon, Wardha and Yavatmal) exhibited negative growth in rice output due to reduction in area under this crop. At the state level, output of rice crop is found to have shown impressive positive growth (6.91 percent per annum) during the second sub-period and also a considerable growth (1.35 percent) during the fourth sub-period. But rice output is found to have decreased during the first (-1.24 percent per annum) and the third (-0.42 percent per annum) periods, in the state. It is important to note that the districts of Amravati, Bhandara, Chandrapur, Dhule, Nagpur, Nashik, Pune and Raigad have shown better performance than the state in rice production.

5. It is found that wheat output had grown at the annual rate of 3.14 percent in the state during the period of this study. All the tribal districts considered in the study have also experienced positive growth in wheat output with the exception of Wardha district. Performance of this crop is found to be the best during the second sub-period (13.20 percent per annum) and it was considerably significant (5.39 percent) during the fourth sub-period in the state. But output of this crop is found to have decreased during the first sub-period at rate of 1.83 percent and marginally (-0.47 percent) during the third sub-period. But several (six to seven) tribal districts exhibited positive growth in wheat output during these sub-periods.
6. This study has shown that output of kharif jowar crop has grown at the annual rate of 2.67 percent per annum in the state during the last four decades. This growth was due to improvement in yield of the crop. Yield of this crop is found to have grown at a positive rate in all the tribal districts of the state. With the exception of Amravati and Pune, output of this crop recorded positive growth in all the tribal districts during the period of this study. Output of this crop showed the best performance during the second sub-period in different tribal districts as well as at the state level.

7. This study has shown that rabi jowar output has increased at a very low rate of 0.84 percent per annum in the state during the period of this study. And this growth was due to improvement in yield of this crop. The districtwise analysis revealed that six tribal districts (out of ten) have experienced decline in rabi jowar output despite increase in its yield in all the tribal districts except Chandrapur. Output of this crop is found to have recorded positive growth rate in the state during all the sub-periods except the first sub-period.

8. It is found that bajra output has grown at the annual compound rate of 2.99 percent in the state. It has also grown in seven (out of ten) tribal districts during the period of this study. This was happened due to improvement in yield of this crop. It is also found that output of this crop indicated positive growth in the state during all the four sub-
periods. And the best output growth performance is found in case of second sub-period (4.49 percent per annum).

9. In case of maize, it is found that output increased at the annual rate of 7.98 percent in the state and the expansion in area was the main factor responsible for this growth. Output of this crop is found to have increased in all the tribal districts except Bhandara and Chandrapur during the period of this study. Yield is also found to have grown in all the districts except Ahmednagar. It is also found that output of this crop has exhibited positive growth in the state during all the sub-periods.

10. It is found that the cereal production in the state has grown at the annual compound rate of 2.19 percent and this growth has come from improvement in yield of cereals crops. All the tribal districts have experienced positive growth in cereals output during the period of this study. Yield showed positive growth in all the tribal districts. Cereal production showed positive growth during all the sub-periods except the first sub-period.

11. Gram output is found to have grown at a positive rate of 4.26 percent per annum due to increase in area and yield of this crop in the state during the period of this study. It is also found that output, area and yield of this crop recorded positive growth in all the tribal districts
of the state during the period under study. Output of this crop showed positive growth during all the sub-periods except the first.

12. Tur output exhibited positive growth (2.16 percent per annum) in the state and most of this has come from expansion in area under this crop. All the tribal districts are also found to have experienced positive growth in tur output during the period of this study. Tur output in the state showed negative growth during the first sub-period and positive growth during the subsequent three sub-periods.

13. This study indicated that the production of pulses in the state has grown at the annual rate of 2.59 percent during the period of this study. This growth in pulse production is found to have come from the increase in area and improvement in yield of the pulse crops. This study has further shown that output and yield of pulse crops has recorded positive growth in all the tribal districts except Bhandara. Production of pulses in the state has shown positive growth during the second, third and fourth sub-periods.

14. It is found that foodgrain production in the state has grown at the annual compound rate of 2.25 percent during the last four decades. Increased yields of foodgrain crops was the main reason behind this growth in foodgrain output in the state. Foodgrain production is also found to have grown in all the tribal districts of the state. The districts like Chandrapur, Amravati, Dhule, Jalgaon, Pune and Yavatmal have
shown better performance in foodgrain production as compared to the state as a whole. Foodgrain production recorded positive growth in the state during all the sub-periods except the first sub-period.

15. It is found that groundnut output has increased at the rate of 2.80 percent per annum in Maharashtra state during the period of last four decades. It is notable that this growth took place due to improvement in yield of this crop. Output of this oilseed crop showed positive growth in eight out of twelve tribal districts of the state. Yield of this crop showed positive growth in all the tribal districts of the state. Groundnut output recorded negative growth in Dhule, Jalgaon, Nanded and Yavatmal districts during the period of last four decades. Periodwise analysis revealed that groundnut output showed negative growth during the first sub-period (-4.38 percent per annum) and fourth sub-period (-7.44 percent per annum). But its output exhibited an impressive positive growth during the second sub-period (2.73 percent per annum) due to yield factor and the third sub-period (7.06 percent) due to expansion in area and improvement in yield of this crop.

16. The present study indicated that cotton output in the state has recorded a positive growth rate of 2.13 percent per annum during the last four decades. Most of this growth is found to have come from improvement in the yield of this crop. Except Nashik and Ahmednagar districts, the cotton output is found to have increased at a positive rate
in all the tribal districts of the state. But it is also found that the yield of this crop showed positive growth in all the tribal districts of the state during the period of this study. With the exception of first sub-period, cotton output is found to have increased during all the subsequent three sub-periods at the annual rate of 6.21 percent, 3.39 percent and 6.64 percent respectively during the period of this study. Amravati, Chandrapur, Jalgaon, Nanded, Pune, Wardha and Yavatmal districts experienced a higher positive growth in cotton output than the state level figure during the period of this study.

17. In this study it is found that sesame output in the state has increased at the rate of 2.91 percent per annum during the period of last four decades. This growth was due to positive growth in both area (2.05 percent) and yield (0.83 percent) of this crop. But sesame output is found to have indicated positive growth in five tribal districts (viz. Bhandara, Dhule, Jalgaon, Nanded and Pune) and negative growth in another five districts (viz. Ahmednagar, Chandrapur, Nagpur, Wardha and Yavatmal). Most of the growth in output is found to have come from increase in area under this crop. Sesamum output in the state is found to have grown at the annual rate of 3.39 percent, 9.64 percent and 13.82 percent per annum during the first three sub-periods respectively. But it is found to have decreased at a very high rate (-9.91 percent per annum) during the fourth sub-period.
18. This study has indicated that the sugarcane output in the state showed impressive growth rate of 12.70 percent per annum during the period of this study. Further, about two-thirds of this growth is found to have come from yield improvement. All the tribal districts in the state are found to have experienced positive growth in output, yield and area under sugarcane during the period under study. It is also found that sugarcane output in the state had increased during all the sub-periods. It had come from area expansion during the first two sub-periods and mostly from improvement in yield during the third and fourth sub-periods, in the state.

6.3 : Policy Measures :

On the basis of the findings of the present study some policy measures can be suggested for improving the growth in output of agricultural crops in tribal districts of the Maharashtra state.

The study indicated that the growth in output of cereal crops in general and kharif jowar, rabi jowar and bajra crops in particular was not satisfactory in the study area during the last four decades. Jowar alone occupies a larger proportion of the gross cropped area in the study area. There is not much scope for increasing the agricultural output through area expansion at both the national and state level. So further growth in agricultural output has to come from increasing yields of the agricultural crops. The productivity of
cereals, pulses and other commercial crops needs to be increased in the study area. Productivity of crops studied can be increased through expansion of irrigation facilities, adoption of more advanced seed and other production technologies, proper price and marketing policies and improving supplies of inputs to the farmers in the study area. These measures are discussed in detail as below.

1. It is found in this study that the proportion of net irrigated area to net cropped area and irrigation intensity index are very low in many tribal districts of the Maharashtra state. It is well known that irrigation promotes multiple cropping, reduces yield variability and also makes possible the cultivation of some high value, perennial and plantation crops. The productivity of crops considered in the present study can be increased through creation of irrigation facilities in the study area. For creating irrigation facilities for agriculture, the emphasis may be given on minor irrigation works and watershed projects. Watersheds deliver several benefits to the people in rural areas. It is also essential to utilize the present irrigation potential economically by adopting modern techniques of irrigation such as drip and sprinkler. Attention needs to be given towards stimulating the farmers for adoption of new irrigation systems.
2. Agricultural productivity in the study area can be improved by way of adopting new techniques and practices of cultivation. The present study indicated that the growth in output of most of the crops and crop groups was relatively lower during the nineties (sub-period IV). This indicates that there is need of inventing new seed varieties of crops and methods of cultivation as well. It is the fact that the farmers do not get original seeds of different crops. Patent rules may also exploit the farmers by charging higher prices for seeds. Hence attention needs to be given towards the assured and timely supply of quality seeds of different foodgrain and commercial crops to the farmers at reasonable prices. This would help in raising the productivity of crops in the study area.

3. The Government of India fixes and announces the support prices for major agricultural commodities in order to ensure certain minimum price for the products of the farmers. But the price policy has favoured some crops and disfavoured some coarse cereal and pulse crops grown in tribal areas. For example, kharif jowar, rabi jowar, bajra and maize are the neglected commodities whereas wheat, rice and sugarcane are the most favoured commodities. It is therefore, essential to evolve a favourable pricing and marketing policies for the inferior crops grown in the tribal areas. Because
several tribal districts in the Maharashtra State still continue to dominate as foodgrain producing districts.

4. Both central and state governments have taken efforts for the development of tribal areas through five year plans. Substantial part of the budget of both the Governments has been allocated and spent on development of tribal people and tribal regions. But the experience is that these schemes and programmes do not reach the people properly due to several administrative and other factors. Hence the necessary steps are required for improving the implementation of schemes already introduced for the development of tribal areas.

5. This study has indicated that the crop-pattern in the study area is dominated by traditional and low value crops due to certain institutional, natural and technological factors. Therefore, the economic condition of the farmers in such tribal areas is very weak. The Government of India has already decided to give emphasis on diversification of agriculture. So this policy of diversifying agriculture should be implemented in the tribal regions on priority basis. This would help in changing the face of the agriculture in the tribal area under study.