
CHAPTER VIII

SUMMARY, CONCLUSIONS AND POLICY SUGGESTIONS

A study of the commercialization of agriculture in a country like India has immense significance as the spread of commercialization of agriculture alters the social, economic, and political structure in the country. The spatial contrasts in the extent of commercialization of agriculture, the factors that determine commercialization, and the effects of commercialization are important issues which need to be investigated systematically in a predominantly agricultural country like India. Therefore, the phenomenon of commercialization of agriculture in Maharashtra during 1951-85 was taken up as the subject matter for in-depth analysis in the present study.

Maharashtra is often considered as one of the progressive States in the country but it has been reported to be a deficit State for long when one considers the major pursuit of economic activity, that is, agriculture. The commercialization of agriculture is the cornerstone of economic development, [100] yet relatively little is known about the inter-district, inter-regional, and inter-state variation in commercialization of agriculture in post-independence period in India and particularly in Maharashtra. Therefore, the study on commercialization of agriculture in Maharashtra is an interesting and valuable one to the planners, policy makers, researchers, administrators, industrialists and finally, those who consider that agricultural development does matter to the economic growth.

This study was undertaken to measure the extent of and change in the commercialization of agriculture, to measure the inter-district and inter-regional variations in the commercialization of agriculture, and to identify its determinants, and to evaluate the effect of the commercialization of agriculture on production, employment, income, productivity of land and agricultural workers, and wages.

The ratio technique and principal component analysis method were used in measuring the extent of commercialization of agriculture. The multiple regression model was applied to identify the determinants of commercialization of agriculture, and the comparative approach was used to study the effect of commercialization of agriculture. The summary of the findings of the study are as follows.

It was found from the cash crops ratio analysis that Maharashtra experienced an upward trend in the total area under cash crops and in the percentage of area under cash crops to gross cropped area during the post-green revolution period as compared to the pre-green revolution period. During 1951-85, the area under cotton, oilseeds, and chillies grew at a slower rate than that of the area under sugarcane and fruits and vegetables in Maharashtra. During the post-green revolution period, the extent of and change in area under commercial crops was higher in Western

Maharashtra, Marathwada and Vidarbha as compared to pre-green revolution period. The extent of and change in area under cash crops was higher in the post-green revolution period than the pre-green revolution period in the districts of Nasik, Ahmednagar, Poona, Solapur, Kolhapur, Purbhani, Beed, Nanded, Osmanabad, Buldhana, Yeotmal, Nagpur and Chandrapur.

The study of the localization showed that while Maharashtra was specialized in cotton and oilseeds, each region and district of Maharashtra had its own specialization in commercial crops. The cultivation of cotton was localized in Vidarbha. The area under sugarcane was concentrated in Western Maharashtra and oilseeds cultivation remained a speciality of Marathwada. The sugarcane cultivation was localized in Ahmednagar, Kolhapur, Poona, Satara, Sangli, Solapur, Nasik, Aurangabad and Osmanabad to the extent of 85.57 percent in 1985. The cotton production was a speciality of Buldana, Akola, Amravati, Yeotmal, Wardha, Nanded, Purbhani, and Jalgaon district for the whole period of 1951-85. The cultivation of oilseeds had been concentrated in Purbhani, Osmanabad, Beed, Aurangabad, Dhule, Jalgaon, Buldana, Nasik, Chandrapur and Solapur to the extent of 62.99 percent in 1985. On the other hand, Thane, Ratnagiri, Kolaba, Nasik, Poona, Ahmednagar, Satara, Sangli, and Kolhapur were found to be localized in fodder to the extent of 95 percent in 1985 and more than 95 percent in 1951. Moreover, the fruits and vegetables were localized

210

in Nasik, Ratnagiri, Thane, Jalgaon, Poona, Satara, Amravati and Nagpur to the extent of 68.86 percent in 1985, and the localization of chilli was in the districts of Nagpur, Nanded, Kolhapur, Chandrapur, Osmanabad, Sangli, and Dhule to the extent of 53.07 percent in 1985.

The agricultural intensity criterion showed that the agricultural intensity of Western Maharashtra and Marathwada was greater than that of Maharashtra State and other regions during 1951-85. As compared to the pre-green revolution period, agriculture intensity index had moved upwards in 23 districts during the post-green revolution period, except in Dhule and Yeotmal.

From the technological inputs use ratio, it was found that there were a wide inter-district and inter-regional variations in fertilizer consumption, area under high yielding varieties and pesticides, and use of tractors and electric pumpsets. The Western Maharashtra showed a higher level of technological change than any other regions in Maharashtra during the period of 1951-85. The use of all the components of technological inputs had increased in all the districts and regions of Maharashtra during the period of 1951-85 in general and during the post-green revolution period in particular.

The results of marketable surplus analysis showed that the growth of marketable and marketed surplus was higher during the post-green revolution period than the pre-green

revolution period in Maharashtra. The Inter-district and inter-regional variations were observed in marketable and marketed surplus. The extent of marketable surplus was higher in Marathwada than that of any other region in Maharashtra. Twenty-two districts, except Thane, Bhandara, and Chandrapur showed a positive change and higher level in marketable and marketed surplus during the post-green revolution period than that of the pre-green revolution period.

One of the objectives of the present study was to measure and to identify the level of commercialization of agriculture and to assess the inter-district and inter-regional variations in the levels of commercialization of agriculture with the help of principal component analysis method. The results showed that there was a large gap between high and low cash crops level. The pattern of cash crops was widely varied and cash crops were unevenly distributed. The highest cash crops level was found in Kolhapur district, whereas the lowest cash crops level was in Kolaba district in 1985. The percentage of area under cash crops to gross cropped area increases, with the increase in the degree of commercialization of agriculture. The factor score of agricultural intensity group was varied between 3.07 to -2.47. Bhandara district had achieved highest agricultural intensity level whereas the lowest agricultural intensity level was found in Kolaba

district. There was a vast disparity in the cropping and irrigation intensity between the regions/districts.

The factor scores of technological inputs group varied between 3.88 to -2.47. The highest technological inputs use level was found in Kolhapur followed by Nasik and Jalgaon. The moderately high technological level was seen in Ahmednagar, Sangli, Satara, Nagpur, Dhule and Amravati. Thirteen districts were found at moderately low level of technological input use. They were Waradha, Buldhna, Poona, Thane, Nanded, Akola, Osmanabad, Solapur, Yeotmal, Aurangabad, Kolaba, bhandara and Purbhani. On the other hand, low technological input level was indicated by Chandrapur, Beed and Ratnagiri.

The analysis of composite factor scores for 1985 showed that Kolhapur was the most commercialized district whereas Chandrapur was the least commercialized district. The Western Maharashtra had greater commercialization than that of Marathwada, Konkan and Vidharbha, respectively. The moderately high level of commercialization of agriculture was found in Ratnagiri, Jalgaon, Ahmednagar, Poona, Satara, Sangli, Purbhani, Amravati, and Nagpur. On the other hand, the moderately low level of commercialization of agriculture was found in Thane, Dhule, Solapur, Aurangabad, Beed, Nanded, Osmanabad, Buldana, Akola, Yeotmal, Wardha, and Bhandara.

Thus it can be concluded from the ratio approach and the principal component analysis that the area under sugarcane, cotton, oilseeds, fodder, fruits and vegetables, and chillies resulted in variations in cash crops level. The cropping intensity and irrigation intensity lead to variations in agricultural intensity level. The fertilizer consumption, area under pesticides, high yielding varieties, tractorization and use of electric pumpsets affected the extent of technological inputs use level, and the variation in cash crops level, agricultural intensity level and technological inputs use level was responsible for inter-district and inter-regional differences in the commercialization of agriculture. In other words, differentiation in commercialization of agriculture was a function of differentiation in cash crops, agricultural intensity and technological inputs use. The growth of commercialization of agriculture was uneven in Maharashtra. The extent and change in the commercialization of agriculture was also uneven.

The causes of spatial differences in the commercialization of agriculture were studied on the basis of multiple regression analysis. The results of regression equations for 1978 and 1985 showed that the development of irrigation, banking, transportation, urbanization, growth of co-operatives and industrialization were the important factors behind the commercialization of agriculture in Maharashtra. Uneven development in irrigation, banking,

transportation, urbanization, co-operative sector and industrialization had resulted in uneven cash crops distribution, cropping pattern, irrigation intensity, cropping intensity, technological inputs use, specialization and the generation of marketable surplus. As a consequence of this, the extent and growth of commercialization of agriculture had occurred unevenly.

The commercialization of agriculture is a controversial issue. While a number of studies, particularly abroad, have indicated that the effect of commercial agriculture on production, wages, and particularly, on employment have been disastrous, others have found a positive or at least a neutral effect[101]. This particular issue was also studied by us. In order to study this aspect, high commercialization of agriculture had been compared with other levels, especially low level of commercialization of agriculture for the year 1985. It had been found that the high level of cash crops, agricultural intensity, and technological inputs employed more agricultural workers than other levels, especially the low level. In other words, as cash crops level, agricultural intensity level, and technological inputs level increase, the use of agricultural workers per hectare increases. It was also evident from the composite level that the effect of commercialization of agriculture on the use of agricultural workers was positive. It had also been found that the commercialization of agriculture increases production, land productivity and agricultural

worker's productivity. The effect of commercialization of agriculture on wages had been found to be positive, i.e. highly commercialized districts offer higher wages than districts with the lower level of commercialization of agriculture. Thus, our results suggest that the commercial agriculture may have positive effect on employment, production, productivity of land and agricultural workers, and wages.

On the basis of the above summary and conclusions, the study has the following policy implications.

The study showed a number of dimensions of inter-district and inter-regional differentiation in commercialization of agriculture that related to its components and forces. Increasing commercialization of agriculture increase the farm production, employment opportunities, productivity and wages. Therefore, the steps should be taken to reduce the imbalance in the level of commercialization of agriculture. Particular attention should be paid to the districts with low and moderately low level of commercialization of agriculture, and encouragement should be given to upgrade their level by way of providing sufficient incentives.

More specifically, the uneven progress of the commercialization of agriculture can be reduced by encouraging the use of high yielding varieties, fertilizer consumption, pesticides, electric pumpsets, tractorization,

specialization in crops, and increasing cropping intensity, irrigation intensity and expanding area under cash crops as well, and by developing its forces, for example, irrigation, banking, transport, industrialization, urbanization and co-operatives in a district where low and moderately low commercialization of agriculture was found.

It may be possible that different districts / regions may have different political, social, and economic circumstances and the highly commercialized districts / regions may have the political and the economic capacity not only to keep what they have but also pre-empt a larger proportion of opportunities and benefits. The prospects for reducing inter-districts and inter-regional imbalance, improving income of the farming communities, developing the important determinants at moderately low and low level of commercialized districts /regions may therefore, be weak. It may be simplistic to expect a single strategy of development to prove equally relevant or practicable in all the districts. Therefore, there is need for a spectrum of solutions which can achieve the best possible combination of transforming low and moderately low commercialized districts towards upper level of commercialization.

The policy for increasing fertilizer consumption should be continued and enlarged. Easy, sufficient and in-time availability of fertilizers should be ensured. Efforts should be made to bring more and more area under high yielding varieties. The control must be exercised to see

211

that farmers are getting fertilizers and high yielding varieties in time, and of right quality, and in required quantity. Therefore, it is suggested that one village-one shop and buffer stocking of seed system be strengthened.

The coverage of pesticides should be expanded. Instead of waiting for disease and then giving doses of pesticides, it can be suggested that provision of pesticides be made available well in advance and at suitable interval .

Measures should be taken to increase application of tractors and electric pumpsets on farming. Importance of crops insurance should be explained to farmers and they should be given encouragement to insure crops. The Premium should be very low and coverage of insurance should not remain for specific crops. It is suggested that more co-operative sugar factories should be opened to cope up with the increased production of sugarcane in Maharashtra, wherever it is required.

The basic inputs of agricultural and economic development of any country are land and water. The water is a major natural resource which may limit the commercialization of agriculture. The biggest consumer of water is agriculture which accounts for more than 90 percent of the total water use. Therefore, it is vital to economise the use of water and to adopt scientific and systematic methods of water use for transforming subsistence agriculture into commercialized agriculture in

the State of Maharashtra, where water is scarce. Drip irrigation could be one of the answers to increase water use efficiency and also to bridge the gap in the growing demand of irrigation water in the State. It was also observed that there is a positive relationship between the extent of irrigation and commercialization of agriculture. Therefore, minor and major irrigations projects should be built as fast as possible.

The infrastructure such as banking, transport and markets should be created on priority basis in low and moderately low commercialized districts.

As regulated markets have not played any significant role in commercializing the agriculture, measures should focus on both domestic and export markets, particularly on promotion of farm exports.

It was found that industrialization and co-operatives are the another determinants of commercialization of agriculture. Therefore, to raise the level of commercialization of agriculture, it is suggested that steps should be taken to speed up industrialization and co-operative networks in low and moderately low level of commercialized districts.

To create employment opportunities within the rural sector is the need of time. For that purpose commercialization of agriculture could be the solution. As

the use of total agricultural workers and average agricultural workers per hectare were greater at high level of commercialization of agriculture as compared to the low level of commercialization of agriculture, it may be possible to increase agricultural workers use by enhancing the level of commercialization of agriculture. However, agriculture alone may not be able to sustain the whole of the rural population. Therefore, reduction in the supply of agricultural workers and increasing the size of holding depend on the efforts to control the rate of population growth. The reduction in the rate of population growth is basic in solving the employment problem.