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**AGRICULTURAL MODERNIZATION AND THE TREND OF
SOCIAL INEQUALITY IN RURAL MAHARASHTRA**

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FOREWORD

After Independence, the Government of India has attempted to modernize agriculture through planned development with the State playing a major role, keeping growth and equity as the prime objectives. As a result, signs of change have become widely visible in the spheres of agricultural production and practices. But the emerging implications of these changes for the professed goal of social equality are not very clear.

Comparing field level data from two villages, one with modernized agriculture and the other agriculturally less advanced and traditional, both from Satara district of Maharashtra and supplementing these findings by appropriate macro-level data, and linking historical with contemporary data and economic with social phenomena, the present study looks into the effects of modernization of agriculture on social inequality in rural Maharashtra with reference to Satara district, which is agriculturally a highly modernized district of the State.

The findings of the study indicate that agricultural modernization that was initiated during the British period created more social inequality over time. The modernization measures of post-Independence period, which were more systematic and elaborate but were introduced without removing the earlier inequalities, in fact, generated further inequalities. The new measures have improved the lot of peasants of all categories, but the large farmers have come to dominate rural society. The study concludes that the existing modernization measures are desirable for agricultural growth but inadequate for the removal of social inequality.

The study, therefore, underlines the need for further assessing and taking up suitable policy measures for redistribution of land and land-based resources, taxation of agricultural income, creation of off-farm employment opportunities and adequate representation of the small and marginal farmers as well as landless labourers in the local level institutions through which State-sponsored developmental measures flow to the village.

It is hoped that the study will be useful to the researchers and policy makers for understanding the nature and the extent of social inequality in rural areas in Maharashtra and other parts of the country which continues to grow in spite of agricultural development which has taken place so far.

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20th April 2000.

PREFACE

In the post-independence phase, systematic attempt has been made by the Government of India to transform its backward agriculture to a 'developed' one through planned economic development keeping growth and equity as the prime concern. Following the approach of the Government of India, the State of Maharashtra has also made continuous efforts to modernize its agriculture through irrigation, mechanization, adoption of HYV, expansion of credit facilities and other developmental measures. As a consequence, the overall agricultural production of the State has increased noticeably. In view of these changes, the study on the trend of social inequality assumes importance.

Based on Satara, one of the highly agricultural modernized districts of Maharashtra, both at the micro and macro levels and linking historical with contemporary information, the study examines the impact of modernization of agriculture on social inequality. The results of the study indicate that the process of agricultural modernization was initiated in the district during colonial period but such a process as it was based on exploitative land, labour and credit relations and pursued by the colonial interest expanded the genesis of social inequality. As the process of modernization of post independence period which was more elaborate and systematic in form was introduced without removing the earlier inequalities they generated further inequalities. Though the new measures have brought prosperity for the peasants of all categories, the extent of prosperity being proportionate to the landownership position, the large farmers have emerged as a class of rich farmers who dominate the economic and socio-political spheres of rural society.

This study was undertaken under the Agro-Economic Research Center of the Institute at the initiative of the Ministry of Agriculture, Government of India, New Delhi. I profoundly acknowledge the concerned authorities for their interest and support for the study.

I would like to express my gratitude to Dr. D.C.Wadhwa, Professor Emeritus and former Director of the Institute for his encouragement and inspiration at the time submission of proposal for the study.

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While preparing the study I have been benefited from discussions and consultations with Prof. A.K.Mitra, Prof. R.S.Deshpande and Dr. N. Rajasekaran.

The summary of the study was presented in a paper form to the faculty and students of the Institute. I am thankful to the participants specifically to Prof. V.S. Chitre, Dr. K.G. Kshirsagar and Dr. A. Narayanamoorthy for their useful comments and suggestions.

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However, the usual disclaimers may also apply here.

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CHAPTER I

INTRODUCTION

1.1 Introductory Perspective

Agriculture continues to hold a pivotal place in rural Indian economy both in terms of income and employment around which socio-economic privileges and deprivations revolve. Any change in its structure therefore, is likely to have a corresponding impact on the pattern of social inequality existing among various categories of rural population. At the time of independence, India inherited a relatively stagnant and backward agrarian economy founded on highly unequal social relations. In view of this, in the post-independence phase a new normative model was adopted for agricultural development. Nevertheless, any attempt to understand the trend of agricultural development and its consequent impact on rural society must take into account the roles of colonialism and planning. The British colonialism through its new land tenures, commercialization of agriculture and expansion of politico-legal system attempted to transform the agrarian economy with the twin objectives of increasing the agricultural produce that could be used as raw material for Britain's industrialization on the one hand and polarizing the Indian rural society into various classes for pursuing 'divide and rule' policy on the other. After independence, following the democratic and socialistic framework of the new constitution, the Government of India tried to set upon a path for higher growth along with social justice through a centrally planned development strategy with the State playing the major role. However, in the early stages of planning there was no explicit emphasis on distribution of gains, though land reform measures were initiated to remove inequality. Subsequently, when doubts were raised about the downward percolation of the benefits of growth ("trickle down hypothesis") emphasis was given on distributive justice. The policy of growth with social justice is the main thrust of Indian planning and it has been in operation in all Five Year Plans, though with varying degrees of emphasis. In fact, for a long-run sustainable agricultural development increased productivity has to be accompanied by a concomitant increase in social justice (Mencher, 1978; Sen, 1997). Moreover, the conventional argument by some of the economists that growth and equity are incompatible has been challenged and refuted (Mencher, 1974; Benabou, 1996; Psacharopoulos, 1991).

Social inequality, structurally or functionally is an universal feature of all societies regardless of its complexities. The presence of perfect equality is a theoretical possibility which is apparently not encountered empirically in human society (Berreman, 1979 : 292). But, the nature and extent of inequality evinces the aspects of the process of development. The pattern of inequality varies from society to society and changes in the process of production and distribution bring corresponding changes in the structure of inequality. Traditionally Indian society is hierarchical and iniquitous. Like other Asian countries, the existence of extremes of privilege and deprivation is the basic feature of Indian agrarian society. In such a situation, 'when developmental measures are introduced the benefits are often siphoned off at the top and it is difficult for these measures to strike roots in a society where both the privileged and the deprived believe that men are born unequal and where to exercise the rights created by law is often to challenge the existing order of relations' (Beteille, 1974:65). In a society of this kind where inequality is viewed as

the basis of social relationship, how far the new strategy of agricultural development has achieved its desired objectives needs to be examined.

It is widely accepted that the new strategy of agricultural development with its infrastructural as well as technological breakthrough has improved significantly the efficiency of Indian agriculture in the countryside. Signs of change have been vividly visible in the sphere of agricultural growth. Indian agriculture achieved an annual growth rate of 2.45 per cent sustained over a period of four decades (1950-51 to 1990-91) showing an increase from 2.19 per cent per annum during three decades (from 1950-51 to 1980-81) to 3.37 per cent in the last decade (from 1980-81 to 1990-91) which is considerably better even by world standards (Dandekar, 1994:13). But as regards the impact of these measures on social inequality, the studies conducted at the national and regional levels subscribe to divergent views and arguments (discussed at length in the subsequent section of this chapter). However, given the extent of diversity both in the initial conditions and in the changes that are being introduced, the nature of interaction between economic changes and social structure may not be uniform across the country and it is largely State or region specific. Moreover, the sources and limits of social inequality are largely determined by the interaction of complex agro-economic conditions and the wider political economy.

Following the approach of Government of India, the State of Maharashtra soon after its formation in 1960, (and also the then post-independent State of Bombay) has made huge endeavour to modernize its agriculture through land reforms, large scale irrigation, mechanization, expansion of credit network, adoption of High Yielding Varieties and other associated measures. Besides, since late 1970's subsidies relating to fertilizers, irrigation, electricity and credit have also been provided by the Central and the State Government to boost further development. Due to these continuous and systematic efforts and initiatives, the agrarian economy of Maharashtra witnessed a noticeable change in the post independence period in terms of land utilization, cropping pattern, production and associated infrastructural arrangements (Table 1.1). In the context of this wide ranging changes in agriculture of the State brought about by the new water-seed-fertilizer-technology strategy, the study on the trend of social inequality assumes importance and commands high research priority. However, the existing agrarian studies on Maharashtra have not paid adequate attention to this aspect. Though the area has not been left completely out of scientific inquiry, it is very briefly attended and the concerned studies, due to their limited focus on certain specific aspects, do not provide a holistic and comprehensive picture of the nature of interaction between emerging trend of agricultural development and social inequality.

1.2 Review of Literature

The effects of agricultural modernization on social structure of India as a distinct field of inquiry emerged since early 70's. Social scientists of diverse intellectual persuasions have increasingly paid their attention to this aspect of agrarian reality and there is a growing body of literature in this field. Though the studies immensely vary in style and temper they can be broadly divided into three groups on the basis of their major findings:

Table 1.1: Agricultural Trends of Maharashtra State

Sr. No.	Particulars	Year		
		1970-71	1980-81	1990-91
1	Total Geographical Area in lakh hectares	307.7	307.58	307.58
2	Net Sown Area in lakh hectares	173.03	177.04	178.91
3	Per cent of Net Area Irrigated to Net Sown Area	7.15	8.11	11.53
4	Gross Cropped Area in lakh hectares	182.23	194.10	196.36
5	Per cent of Area Cropped more than once to Net Sown Area	5.32	9.64	9.75
6	Cropping Intensity	105.32	109.64	109.76
7	Land-man Ratio	0.53	0.46	0.40
8	Per cent of Area under HYV to Cropped Area	14.13	43.46	76.25
9	Per cent of Area under Foodgrains to Gross Cropped Area	68.53	70.79	68.94
10	Per cent of Area under Oilseeds to Gross Cropped Area	9.14	7.55	6.36
11	Per cent of Area under Sugarcane to Gross Cropped Area	1.05	1.48	2.71
12	Per cent of Area under Cotton to Gross Cropped Area	14.8	14.42	15.45
13	Total Production of Foodgrains in '00 metric tonnes	54137	94717	121842
14	Total Production of Oilseeds in '00 metric tonnes	7530	7275	18930
15	Total Production of Sugarcane (dressed) in '00 metric tonnes	144333	237063	384162
16	Total Production of Cotton in '00 metric tonnes	4842	12242	18803
17	Per hectare Fertilizer Consumption in kg.	13.2	21.4	67.1
18	Number of Tractors	(1971-72) 5606	20704	46631 (1992)
19	Number of Sprayers and Dusters : I) Hand Operated	(1972) N.A.	(1982) 225285	(1992) 522691
	ii) Power Operated	N.A.	(1982) 20162	(1992) 68504 (1992)
20	Number of Oil Engines with Pumpssets used for Irrigation and other Agricultural purpose	173678 (1972)	139196 (1982)	104722 (1992)
21	Number of Electric Pumpssets used for Irrigation	169778 (1972)	448632 (1982)	754636 (1992)
22	Number of Sugarcane Crushers: I) Power operated	5864 (1972)	7228 (1982)	6318 (1992)
	ii) Bullock operated	2884 (1972)	2604 (1982)	2514 (1992)
23	Number of Agricultural Credit and Multipurpose Co-op Societies	20426	18577	19565
24	Total Membership in '000 of ACMCS	3794	5416	7522
25	Owned capital by the ACMCS Rs in lakh.	8179	13412	30750

Note : Figures in parentheses indicate the reference years.

Sources : 1) Agricultural Census : Maharashtra State, Various Issues.

2) Districtwise Agriculture Statistical Information of Maharashtra, Various Issues.

3) Season and Crop Report, Maharashtra State, Various Issues

4) Statistical Abstracts of Maharashtra, Various Issues

5) Epitome of Agriculture in Maharashtra, Various Issues.

- a) The first group subscribes to the view that the effects of agricultural modernizing measures instead of removing the earlier inequalities have created further inequalities.
- b) The second group holds that the new measures have reduced the inequalities and have brought prosperity for the peasants of all categories.
- c) The third group views the modernizing measures as a package having mixed effects.

There exists a plethora of studies in the first group. Parthasarathy (1970) while analyzing the impact of green revolution revealed that the new technology is forcing new contradictions into rural society. He predicted increasing difference between the rich and the poor as the number of proletariat and semi-proletariat are likely to increase because of more additions from the ranks of small tenants and poor peasants. Based on studies conducted by the Department of Cooperation and Applied Economics, Andhra University, Waltiar, in selected villages of Andhra Pradesh (1971) he also illustrates the growing differentiation between various strata of rural society and also shows how the State-sponsored institutions failed to respond to the needs of rural poor and promote the interests of the rural rich. More recently, through a macro level analysis he concluded that second phase of technology is characterized by higher degree of inequality particularly between the socially oppressed Scheduled Castes and other groups. He further observes that such inequality is expected to rise with reduced labour absorption rates, stagnant real wages and growth in the rates of rural unemployment (1991: 694-728). Another noted study (Frankel, 1971) which looked into the impact of modern technology on the pattern of income distribution among various classes of peasants, reports that the new strategy of agricultural development has paved the way for the emergence of social polarization and class conflict by bringing prosperity for the large farmers and declining the economic position of majority of peasants. The micro level longitudinal study of two villages in Karnataka conducted by Epstein (1978) at two different points of time (1955 and 1970) provides much firmer evidence on growing disparities. In Epstein's observation, due to irrigation facilities the acreage of holdings owned by the upper caste Lingayats and traditional peasant castes steadily increased accompanying a decrease in that of the untouchable Scheduled Castes. Her study vividly shows how the extension of canal irrigation, the package programme and the jaggery price boom have resulted in cumulative process of concentration of wealth in the hands of small elites of peasant farmers. Based on seven micro level studies covering eight States, 10 districts and thirty-two villages the analysis of the consequences of agricultural modernization in India by Dasgupta (1977) reveals the conflict between growth and equity. He concludes that the consequences of new technology lead to the growing concentration of land and assets in fewer hands widening disparity between the rich and the poor households. Similarly, Pearse (1980) based on a study undertaken by United Nations Research Institute for Social Development in various parts of Africa, Asia and Latin America (including India) views that the new measures have weakened the position of rural majority. The net result of these measures, he argues, have fuelled polarization by pushing the larger cultivators towards a qualitatively more profitable agriculture, greater competitive strength and wider political power on the one hand and making incompatible conditions for the majority of cultivators to carry on their production process on the other. Set in a historical perspective, the study of Breman (1985) on South Gujarat

provides a comprehensive account of nature of agrarian transformation and growing inequality. The study maintains that modernization of agriculture has introduced capitalist farming and the traditional feudal pattern of agrarian relations have been replaced by something which combines the worst of the both systems. As a result, inequality has increased further leading to greater polarization of classes between the land owners and landless labourers. Based on review of studies conducted in different parts of the country especially from Punjab, Haryana and Tamil Nadu, Dhanagare (1987) also argues that the new measures have failed to reduce the earlier socio-economic inequalities in rural India, rather they have succeeded in increasing the domination of new class of rich farmers who are appropriating the lion's share of the developmental measures. The removal of inequality according to him, needs reformulation of the development strategy. Besides, other notable studies which share the view of this group are Byres (1981), Ramchandran (1990), Mencher (1978), and Griffin (1972).

There are also a good number of studies in the second group. In a study on the impact of the green revolution in Punjab, Byln (1983) found that as the real income from family resources increased relatively more for families with smaller holdings, the extent of inequality has been reduced. The new situation, in his view, has led to a clear gain for labourers as the total employment of hired labour increased without a decrease in real wages. Using two survey data of 1973-74 and 1982-83, Hazell *et al.* (1991) who studied the economic changes among village households in North Arcot have arrived at almost the same conclusion. They pointed out that while the landless labourers gained largest proportional increase in family income followed by small farmers, the large farmers gained relatively little because of sharp rise in their farm costs especially the cost of fertilizers and hired labour. It is found from their study that these gains in absolute welfare have also been accompanied by an improvement in equity. The study indicated that in terms of income and consumption expenditure, the relative welfare of the large paddy farms has declined with an increase in that of the landless labourers and small paddy farms. Moreover, the macro level comprehensive analysis by Ahluwalia (1978) also shows that there is a strong inverse relationship between poverty and agricultural performance in India as a whole from 1956-57 to 1973-74. The study highlights the fact that agricultural growth by itself tends to reduce the incidence of poverty and the "trickle down" mechanism operated in rural India over the periods analysed. The recent study on the trends over green revolution in rural Punjab by Shergill and Singh (1995) also explicates the same view. They strongly argue that there has been a significant decline in the incidence of poverty in rural Punjab over the last three decades (1960-61 to 1990-91). The result of their empirical exercise shows that not only the proportion but also the absolute number of poor and ultra poor has declined remarkably. Furthermore, their study reports that the number and proportion of poor and ultra poor continued to decline at the same steady rates during the mature phase of green revolution as in the initial phase. In addition, the findings of studies undertaken by Lipton and Longhurst (1989), Mellor (1976), and Rutton (1977) also sharply challenge the views upheld by the first group of studies.

The studies, that do not conform to the views subscribed by either of the above two groups are also numerically significant. The pioneering study done by Bhalla and Chadha (1983) in 180 villages covering three regions of Punjab provides a

different picture on the effects of green revolution. The findings of the study indicate that the green revolution in Punjab has brought overall prosperity to its peasantry. However, the gains of the new technology, as revealed by the study, are proportionate to the landholding position of the peasants. Because of the skewed distribution of land, the distribution of gains has also been quite inequitable. The evidence of the study shows that the small and marginal peasants despite higher cropping intensity with hard labour in farm and non-farm activities are unable to raise their economic position due to small land base. It is also pointed out that about one third of the marginal farmers and one fourth of the farmers in Punjab live below poverty line. Based on socio-economic surveys and re-surveys of two selected villages in Tamil Nadu, in 1985-86 and 1993-94 Naidu (1997) made similar observation. His study illustrates that though the modernization of agriculture trickles down and benefits the poor, the extent of benefits derived by them depends on the threshold level of productive assets owned by them. The big farmers in both the villages emerged as the major beneficiaries of low cost credit provided by formal agencies and could acquire all the income earning high valued agricultural assets such as tractors and pumpsets at concessional rates of interest by mortgaging their land. It is found that these large farmers have also got hold of the institutions, which were created for the introduction of green revolution technologies in agriculture. On the other hand, the small and marginal farmers, as revealed by the study, are at a disadvantageous situation because of their poor landownership position. But the study makes it clear that the absolute poverty of marginal farmers, pure tenants and artisan households has disappeared significantly by 1993-94. The study made by Arthreya and his associates (1990) on six villages sampled from Tiruchi district in Tamil Nadu also provides facts of mixed nature. Contrary to the alleged opinion that green revolution would bring about increasing polarization in land ownership, the study shows a decreasing trend of polarization in the ownership structure. But the class structure was found different in two ecotypes both in terms of proletarianization and polarization. Although the size of rural proletariat in wet and dry villages is not apparently very different, as revealed by the study, a higher rate of polarization is found in wet area. While in the wet villages the rural proletariat is predominantly landless labour force, in the dry belt it consists of poor peasants. The views of the protagonists and antagonists of agricultural modernization have also been challenged by another longitudinal study by John Harriss (1991). Conducted in 12 villages of North Arcot district in Tamil Nadu over two periods of time (1973-74 and 1983-84), the study assesses the growth and equity aspects of green revolution. It concludes that though the benefits have certainly not been distributed equally, most groups of rural people have derived some benefit. The study also reports little evidence of depeasantization and landlessness. As there is a decline in the incidence of owner cultivation in the labour force along with a decline in the incidence of agricultural labour, the study establishes the fact of proletarianization without depeasantization. Bina Agarwal's study (1983) on the effects of mechanization over output and employment in Punjab also views agricultural modernization (only mechanization) as a mixed package. Though it has not gone into the details of socio-economic effects of mechanization it provides some valuable insights. The findings indicate that the use of tractors have neutral effect on output and at the same time it tends to reduce the requirements for labour time. On the other hand, the use of tube-wells is associated with higher demand for labour in terms of both labour time and number of labour days, which appears as a benefit in social

terms. Furthermore, it is revealed that the use of threshers does not contribute directly to output rather it tends to reduce the demand for labour.

The review of the above studies reveals that a number of studies of these three groups have been undertaken in early 70's soon after the release of modernizing measures and also before the implementation of some measures like subsidies relating to various inputs which are launched since mid 70's. This kind of early inquiry might have led to somewhat premature assessment of the effects of new measures, as the period is too short for any fair analysis.

Some of the studies analysed the issue using secondary data gathered by large scale and extensive sample surveys. These surveys, quite often, because of their typical orientation do not capture the intricacies of inter-linkage between economic and socio-cultural factors. Moreover, as these studies are conducted largely at the macro level, they fail to provide explanations for the persistence or alterations of the form and content of social and economic behaviour.

Barring a few, many of the studies have concentrated only on particular individual components of agricultural modernization (such as irrigation, mechanization, adoption of HYV, etc.) keeping in isolation the other components. The cumulative and collective effects of the modernizing measures have largely been ignored. The analysis of this kind hides the major aspects of the reality and provides only a partial picture on the impact of agricultural modernization.

Another important feature is that most of the studies are highly concentrated on Punjab, Haryana, Tamil Nadu and Western Uttar Pradesh where the pace of agricultural development is faster. It appears that the irrigated wheat lands of the north-west and the rice growing deltas of the south-east, as pointed out by Bradnock (1984 :138), have been seen as laboratories in which the experiment of agricultural change can be tested in preparation for the transfer of successful models across the country. As there is wide-ranging regional variations and different regions are at various levels of socio-economic development, the agrarian structure of all the regions in the country may not respond uniformly to these new measures. Given the diversity of natural and social environments of South Asian subcontinent, Farmer (1986) remarks "It is *prima facie* not to be expected that 'the new technology' would operate in the same way or have the same social and economic effects all over South Asia, or even all over any one of its countries." In such a context, the findings of the studies reported from other parts of the country may not fit neatly to Maharashtra situation due to its different agro-climatic and socio-cultural conditions as well as historical features.

So far as the agrarian structure of Maharashtra and its change in post independence period is concerned there exists a number of studies. Notable among these are Brahma and Upadhyaya (1979), Attwood (1979), Baviskar (1980), Walker and Ryan (1990), Rath and Mitra (1989), Dev and Mungekar (1996), Deshpande (1998) and others. However, from among these studies while some have attempted to examine the specific aspects of rural economy others have confined their analysis only to macro level. Studies involving analysis of the important aspects of rural economy both at micro and macro levels linking historical with contemporary data

and economic with non-economic factors are very limited. Hence, studies on this line describing the collective and cumulative effects of agricultural modernizing measures on the trend of social inequality are almost non-existent. In the light of this background the present study attempts to examine the nature and extent of social inequality in rural Maharashtra in the wake of agricultural modernization with reference to one of the highly agriculturally modernized districts of the State.

1.3 Objectives of the Study

The major objectives of the study are:

- 1) To examine the nature and extent of agricultural modernization, their continuities and discontinuities through a historical perspective.
- 2) To analyze the impact of modernizing measures on various categories of rural population.
- 3) To examine the pattern and trend of social inequality, and
- 4) To suggest some measures relevant to policy issues.

1.4 Conceptual Framework

As the study is primarily concerned with the impact of agricultural modernization on social inequality, the concepts of "agricultural modernization" and "social inequality" need to be defined operationally to illuminate the empirical information.

- a) **Agricultural Modernization** : The concept of "agricultural modernization" is a broad and complex one. Generally, it refers to the extensive and intensive use of improved production technology and inputs for the maximization of agricultural production. Bernstein (1990:6) explains it as technical progress (the growth of output and productivity) which is associated with the process of development of commodity production, market and division of labour. Though the concept involves wide ranging changes in agricultural practices, infrastructure and institutions, the essence of agricultural modernization, as pointed out by Singh (1976:6), is the application of more capital inputs consequent to the introduction of technological changes such as new varieties of seeds, fertilizers, pesticides, machinery, etc. which in their respective ways raise the productivity of the resources. For the purpose of analysis at the empirical level the present study confines it to the major parameters such as irrigation, mechanization, chemical fertilizer consumption and adoption of High Yielding Varieties though some other aspects are examined in a limited manner.
- b) **Social Inequality** : Social Inequality, Berreman (1981:8) views, is the social evaluation of whatever differences are regarded relevant in a given society and that dominance goes with it. Wright (1987:150) defines it more comprehensively as the distribution of some valued attributes (income, wealth, power, etc.) across the relevant units (social groups, communities, etc.) of society in different quantities. The study of inequality, he says, involves the analysis of the determinants and consequences of the distribution of these attributes across the appropriate units. Against this background, the present study attempts to examine how different attributes such as land, land based resources, income, etc. are distributed among various categories of rural population and their consequent impact on social structure.

1.5 Methods of Study

The purpose of the study is to examine the trend of social inequality in the context modernization of agriculture in rural Maharashtra portraying the result of an empirical exercise. The study looks into the problem both at district and village levels. The rationale behind understanding the problem at the district level is that districts in Indian States constitute the major unit of planning and policy measures and the historical and contemporary information can be available in more detail at the district level. In order to elaborate and substantiate the facts at the district level, the village level information is required. Since the present study makes an inquiry into the interaction between agricultural modernizing measures and social inequality in its historical perspective an agriculturally advanced district of Maharashtra was selected for comprehensive analysis.

a) Selection of the District

As the reliability of an inquiry is largely dependent upon the importance given to the choice of the field, much care had been taken in selecting an appropriate district. Keeping in mind the purpose of the study the highest agricultural modernized district of Maharashtra was identified on the basis of four major parameters: area under irrigation, mechanization (number of tractors, oil engines and pumpsets), chemical fertilizer consumption and area under HYV.¹ While selecting the district the ranking method was followed. Each district was given a rank on the basis of its position against each indicator separately and the total rank was obtained by adding all the ranks. However, Greater Bombay had been excluded from ranking because of its negligible appearance and even non-appearance in most of the agricultural reports. The district showing the highest total rank was identified as the agriculturally advanced district of the State. On the basis of this procedure Satara district was selected for the study (Table 1.2). Besides, Satara is an important district of Maharashtra in other respects also. While describing the features of the district, Omvedt(1976) writes, "Historically it was a center of Shivaji's own kingdom and maintained a branch(deposed in 1859) of the Bhosle royal family. Geographically it stands before Poona district, the centre of Chitpavan Brahman power, and the State of Kolhapur, centre of aristocratic Maratha power. Socially it had the highest percentage of Maratha Kunbis in the Deccan (56 per cent according to the 1931 Census), a representative proportion of Brahmans, Untouchables and 'allied castes', but no tribal population. It was in many ways a typical peasant district".

b) Selection of villages

Looking at the agricultural situation of Satara district from various sources, it was found that the district is significantly heterogeneous in terms of physical and agro-climatic conditions. Tremendous differences persist among its talukas as regards the rate of agricultural development. The irrigated belt is more advanced than the unirrigated and dry belt. Given the situation, it would be proper to select villages representing both advanced and less advanced talukas of the district for a comparative analysis. On the basis of talukawise general agricultural information available from Socio-Economic Survey and Statistical Abstracts of Satara district and with some additional information provided by Chief Executive Officer and other agriculture

Table.2 : Major Indicators of Agricultural Modernization and Positions of Various Districts in Maharashtra

SL No.	Districts	Irrigation		Mechanization *			Chemical Fertilizer		Adoption of HYV **		Total Rank	
		% of net irrigated area to net sown area (1990-91)	Rank	No. of tractors per '000 hect. of gross cropped area (1992)	Rank	No. of electric pumpsets & oil-engines for irr. & other agri. purposes per '000 hect. of cropped area (1992)	Rank	Per hectare consumption in kg. (1992-93)	Rank	% of area under HYV to cropped area (1993-94)		Rank
1	Thane	0.8	27	0.67	24	12.54	27	43.5	22	41.1	20	120
2	Raigad	2.2	26	0.09	28	11.85	28	55.4	11	59.8	5	98
3	Ratnagiri	0.4	29	0.05	29	7.67	29	30.3	26	27.7	29	142
4	Sindhudurg	0.7	28	0.17	27	21.51	24	45.2	20	31.3	26	125
5	Nasik	12.5	10	7.31	2	83.18	1	73.2	6	47.3	16	35
6	Dhule	7.4	15	3.86	6	45.25	13	62.2	8	41.4	19	61
7	Jalgaon	10.6	12	4.18	3	44.67	14	129.4	2	52.3	12	43
8	Ahmednagar	25.0	2	4.15	4	73.92	3	50.1	15	39.0	22	46
9	Pune	22.9	3	3.47	8	36.37	17	55.7	10	31.7	25	63
10	Solapur	20.7	5	1.86	11	47.84	11	37.8	24	30.6	28	79
11	Satara	22.5	4	3.79	7	50.38	7	66.0	7	57.9	8	33
12	Sangli	16.1	6	3.89	5	58.83	5	87.8	3	50.4	15	34
13	Kolhapur	15.5	8	7.76	1	63.09	4	190.5	1	31.2	27	41
14	Aurangabad	7.9	14	2.20	10	48.52	10	45.7	19	38.0	23	76
15	Jalna	7.1	16	1.50	13	39.28	16	42.0	23	56.1	9	77
16	Beed	8.6	13	0.81	20	40.31	15	29.7	28	53.5	11	87

Contd

Table 1.2 Contd.....

Sl. No.	Districts	Irrigation		Mechanization *			Chemical fertilizer consumption		Adoption of HYV **		Total Rank	
		% of net irrigated area to net sown area (1990-91)	Rank	No. of tractors per '000 hect. of gross cropped area (1992)	Rank	No. of electric pumpsets & oil-engines for irr. & other agri purposes per '000 hect. of cropped area (1992)	Rank	Per hectare consumption in kg. (1992-93)	Rank	% of area under HYV to cropped area (1993-94)		Rank
17	Parbhani	3.7	23	0.71	22	35.57	18	44.7	21	44.6	17	101
18	Nanded	4.8	21	0.44	26	24.15	22	85.3	4	63.7	4	77
19	Osmanabad	6.4	18	0.71	23	48.65	9	18.4	29	43.8	18	97
20	Latur	4.3	22	1.42	16	24.47	21	49.7	16	36.9	24	99
21	Buldhana	5.8	19	1.67	12	52.09	6	52.6	13	50.6	14	64
22	Akola	2.5	25	1.40	17	23.68	23	55.0	12	58.0	7	84
23	Amaravati	5.6	20	1.43	15	45.30	12	51.8	14	51.9	13	74
24	Yavatnal	3.4	24	0.63	25	30.17	19	46.7	17	64.8	3	88
25	Wardha	7.0	17	0.80	21	49.71	8	73.6	5	54.6	10	61
26	Nagpur	15.7	7	1.47	14	77.89	2	56.9	9	39.4	21	53
27	Bhandara	40.1	1	2.64	9	24.83	20	46.2	18	69.0	1	49
28	Chandrapur	14.8	9	0.91	19	15.15	26	29.9	27	58.6	6	87
29	Gadchiroli	12.1	11	1.24	18	16.66	25	33.8	25	67.0	2	81
	Maharashtra State	11.5	-	2.37	-	43.76	-	57.7	-	47.7	-	-

Note ! * The calculation of no. of tractors and electric pumpsets and oil engines per 000' hectares is made on the basis of gross cropped area of 1990-91.

** The area under HYV covers only paddy, Jowar (Kharif and Rabi), Bajra, Wheat, Maize and Cotton. The figures for other crops are not available.

Source: 1. Agricultural Census: Maharashtra State 1990-91,

2. Season and Crop Report: Maharashtra State 1993-94,

3. Districtwise Agriculture Statistical Information of Maharashtra - 1994-95.

related officials of the district, two talukas namely, Karad (relatively more advanced) and Khatav (less advanced) were selected in the next round. Then, the list of the total villages of both the talukas was collected from their respective Block Offices and with the available agricultural information, the number of villages were short-listed to five for each taluka. Finally after paying a visit to all these villages and having discussions with Talathi, Gramsevak and various groups of inhabitants, two villages (one from each taluka) were selected for primary data collection. These villages are : i) Atke - an agriculturally modernized village (from Karad taluka), and ii) Khatval - an agriculturally traditional village (from Khatav taluka). While Atke modernized its agriculture systematically since 1961 with the support of lift irrigation using the water of Krishna river and through introduction of new mechanical appliances and improved seed varieties, Khatval continues to cultivate its crops on the basis of traditional technologies based on broadcasting method using predominantly human and bullock/buffalo labour.

c) Selection of households

After the selection of the villages the list of the total number of households of both the villages was collected from the respective Gramsevaks. Stratified random sampling method was adopted for selecting the households. As land is the most valued property with which socio-political status and power is associated in rural India, it would be appropriate to stratify the households of the village into various groups on the basis of their landholding position. The information on land holdings of all households were collected from Talathis' offices. But the report on landholding position, as provided by Talathis' offices in both the villages, was found erroneous. It was observed that many of the large holders had divided their land among family members while cultivating jointly. The exact land ownership position of each household was obtained after a thorough examination of all cases with the help of Talathi, Kotwal (assistant of Talathi who is familiar with almost all the households) and a groups of senior adult males (of both the villages). The next problem was to define the size group of holdings for classifying the households. One alternative was to take the last Agricultural Census classification of farmers as marginal (upto 1 hectare), small (1 to 2 hectares), semi-medium (2 to 4 hectares), medium (4 to 10 hectares) and large farmers (10 hectares and above). But such a classification as it was formulated at the national level uniformly for all the States without considering the irrigation status, quality of land and other regional and local variations appeared unscientific especially in the context of comparative analysis of social inequality in irrigated and unirrigated villages. Therefore, the classification of landsizes was made on the basis of capacity of holding for the reproduction of an average household. The information gathered through group interviews with some senior cultivators of both the villages revealed that, as regards production, one hectare of irrigated land is almost equal to two acres of unirrigated land provided the rainfall and the climatic conditions are usual through out the year. The value of irrigated land is also estimated at double the value of unirrigated land. It is also revealed from the same source that on an average, a household of five to six members with three to four adults and two to three children owning less than 0.50 hectare of irrigated land or 1.00 hectare of unirrigated land under no condition can survive without adequate assistance from other sources of income. For the same family with holding of 0.50 to 1.00 hectare of irrigated or 1.00 to 2.00 hectares of unirrigated land it is also difficult to maintain

without additional income, but in exceptional good harvesting years they can manage with some wage incomes. The concerned household can manage with 1.00 to 2.00 hectares of irrigated or 2.00 to 4.00 hectares of unirrigated land provided other factors of production and consumption remain constant. In contrast, the household of same position but with ownership of more than 2.00 hectares of irrigated or more than 4.00 hectares of unirrigated land can normally generate surplus and can be able to exercise in expanded reproduction. On the basis of above criteria, the households of the two villages were stratified into five categories as given in Table 1.3. However, while classifying the households their physical ownership of land has not been taken into consideration. For the village level analysis, Landless labourers, Marginal, Small, Medium and Large farmers will refer to the classification as given above in Table 1.3. After categorizing the households, 50 households were selected from these five categories of each village in proportion to their respective number.

Table 1.3: Categories of Households in Selected Villages and their Holding Sizes

Categories	Holding sizes (in hectares) for modernized (irrigated) village	Holding sizes (in hectares) for traditional (unirrigated) village
Landless Agricultural Labourers	-	-
Marginal Farmers	< 0.50	< 1.00
Small Farmers	0.50 - 1.00	1.00 - 2.00
Medium Farmers	1.00 - 2.00	2.00 - 4.00
Large Farmers	> 2.00	> 4.00

d). Unit of investigation

Household being the basic unit of production and consumption in a peasant economy, constituted the unit of investigation in the study. By household is meant the members sharing a common roof and hearth and who are bound by kinship ties. Guests and temporary visitors are excluded.

e) Data collection

Data were collected at two levels, primary and secondary. The secondary data were collected mainly from the various records and reports available in the Talathi office, Block office and Tahsil office of the respective villages, Collectorate and Zill Parishad of the district and Department of Agriculture of the State. In addition, the relevant reports, books and journals were also used.

The primary data were collected in phases. In the first phase, preliminary information was gathered through informal discussion with people belonging to different groups regarding the general aspects of economy of the villages and their agriculture in particular. The information included cropping pattern, types of labour, credit structure, wage rates for agricultural labourers and various agricultural practices. With this much of knowledge a structured interview schedule was prepared for the second phase of data collection. A pre-testing was undertaken to assess the relevance and consistencies of the formulated questions. After necessary

modification and rearrangement of the questions the final interview schedules were prepared and administered on the sampled households of both the villages. It included information on family particulars, landownership, cropping pattern, agricultural inputs, production, income, etc. As the households was the unit of investigation, the head of the households were only interviewed. But in some cases where head remained absent the next senior member was contacted. The duly filled in interview schedules were examined thoroughly. For further detail information on some specific aspects like power relations, relationship with government officials, etc., interview guide method was used. Besides the sampled households, information were collected from the persons holding key position in the various institutions at the village level. Moreover, additional information was collected through lengthy discussion with Government officials like Agricultural Development Officer, Talathi, Block Development Officer, Tahsildar and Co-operative officials. The reliability of some data collected from the sampled households of the villages is limited to the memory of the respondents as most of them do not maintain any written records of their agricultural activities and practices. The collected data were cross checked and verified at each stage.

f) Procedure of analysis and interpretation

The socio-economic organisation of the villages comprising production, consumption and distribution among various groups of population and their consequent effects have been analysed and interpreted in the context of agricultural modernization. The study used only simple tabular analysis. The income, investment, expenditures and out turn of various crops have been converted into rupees as per the market rate taking into account the local considerations and the problems of individual farmers. However, in some cases, due to complexities in the sources of income and pattern of investment, an approximate value has been taken after careful consideration.

1.6 Plan of the study

The study is organised in six chapters. The following chapter provides some detailed background information on the agrarian structure of the district in its historical perspective which explains the major changes in agricultural practices, institutions and infrastructures and their consequences. The third chapter contains a brief description of the socio-economic background of the studied villages. While the fourth chapter presents a comprehensive account of framework of agriculture prevalent at the village level with an emphasis on land, labour and credit relations, the fifth chapter analyses the nature and aspects of inequality at different spheres. The last chapter deals with summary of the findings and draws conclusions along with a few suggestions relevant to policy issues.

CHAPTER II

THE DEVELOPMENT OF AGRARIAN STRUCTURE OF SATARA

2.1 Introduction

The agrarian structure of any region can not be adequately studied without understanding its historical development because the contemporary agrarian realities have antecedents and their roots generally lie in the past. As the present study is concerned with the impact of agricultural modernizing forces on various categories of rural population of Maharashtra with reference to Satara district, the persistence and change of its agrarian structure needs to be examined on the background of historical trends. The present chapter attempts to portray the historical development of the agrarian structure of Satara with an objective of analyzing the process of modernization of agriculture at different phases of history and its consequent effects on various categories of rural population.

The district of Satara lies at the western limit of the Deccan table of Maharashtra. It is situated in the basins of the Bhima and Krishna rivers. The district is surrounded by the districts of Pune to the north, Solapur to the east, Sangli to the south and Ratnagiri to the west. Though the district has some socio-economic similarities with the other districts of western Maharashtra and shares features of Maharashtra as a whole in some respects, it has certain historical specificities which are relevant for understanding the evolution of its agrarian economy.

2.2 Pre-British Situation

The district of Satara came into existence in 1848 when it lapsed to the Britishers on the death of Sahaji Raja of Satara². Prior to British occupancy, Satara was under the control of the Marathas, Moghals and other Muslim rulers. Before Muslim invasion of Deccan the district was under the control of the Yadavs of Devagiri who inherited the region from the early Hindu rulers³. During Muslim rule Satara was made a part of Gulbarga province by Ala-ud-din and subsequently it was included in the Bijapur division of Gulbarga until the formation of Satara State in 1818⁴.

As regards the agrarian economy of Satara in pre-British period, there is a dearth of systematic and elaborate information. However, it is evident from the available sources that the early rulers did not take much interest in agricultural development. There were successive phases of wars and conquests and the rulers confined their attention only to the revenue collections, which was often a lion's share. In early village communities there was joint proprietorship and the lands were held by the *Thalkaris* and later on the system began to break down during Muhammadan period⁵. The *Thalkaris* became *Mirasdars* who enjoyed heritable and transferable right to land on the payment of land revenue and the *Upris* were the tenants-at-will who were rented the vacant lands. The officers⁶ immediately connected with land management were the *Patil* (headman) and the *Kulkarni* (village accountant) at the village level who were given *inams* in lieu of their services. The *Desmukh* (group

head) and the *Deshpande* (group clerk) were authorities above the village level. The system was proving to be quite oppressive and the economic condition of the peasantry was miserable due to the excessive revenue burdens along with frequent occurrences of famines⁷. The Moghals at the time of Aurangzeb introduced the system of Todar Mal, but unlike other districts the assessment for Satara was fixed in a different manner⁸.

The first Maratha claims to the revenue of Satara district were made by Shivaji⁹. He claimed the *Chauth* (one fourth) of the existing revenue and the *Sardeshmukhi* (extra one tenth). He encouraged extension of cultivation and tried to introduce *Rayatwari* system of land tenure under which the king was to receive the land revenue directly from the cultivators. In order to check the interference of hereditary officers in land and revenue management, Shivaji introduced an elaborate administrative system. But, when under Shivaji's successors the government became weak the Maratha *Sardars* or chiefs exacted all they could as *Saradeshmukhi* and *Chauth* and the position of the inferior peasants largely remained as miserable as before¹⁰. Under the last Peshwa, Bajirao II, the method of land administration took a turn for the worse. In order to meet the cost of his wars and extravagance of administration revenues were collected in the most arbitrary manner and the contract revenue system was universally introduced¹¹. The Government had interest only in the total settled amount and not in the individual assessment which was left to the whims of the local officials. Though after the establishment of the Satara Raj in 1818 the revenue contract system was abolished and *Rayatwari* system was followed, the old and heavy assessment was continued.¹² The system of revenue management under the chiefs, could never lead to improvement in agriculture.¹³

On the whole, in pre-British Satara, apart from the minor modifications in the methods and techniques of revenue collection, the traditional agrarian economy was largely unaltered and the basic structure persisted till the British intervention. Production was largely at the subsistence level and the area under cultivation was being adjusted to the increase or decline in population. Whatever surplus that could be extracted was spent by the rulers largely for military and administrative expenses. Agricultural production was carried on with primitive technology and village agriculture related services were mostly based on *vatandari* and *balutedari* system. The inequalities in the Maharashtra village society as noted by Fukazawa (1974), was evinced in the distinction between *Mirsadars* and *Upries* and in the patron-client relationship inherent in the *balutedari* system.

2.3 British Impact

The agrarian structure of Satara witnessed profound changes during colonial period due to the introduction of new land tenures, increasing commercialization of agriculture and the growth of Bombay as the center of capitalist development. Satara came under the direct control of the Britishers in 1848 though the regulation was not introduced till 1863. Initially, "moderation and no innovation" as laid down by Mount Stuart Elphinstone, the first commissioner of Deccan, was the main principle of British administration¹⁴. As the revenue was the prime concern of the British regime, keeping in mind the higher revenue assessment of the Marathas, they only regularised and systematised the earlier system in the beginning. Although the

assessment was made high by the Marathas, they had not always succeeded to collect it in full¹⁵, this nevertheless, set a model for the British. The same hereditary officers continued and their positions were strengthened further. The original revenue survey and settlement of different talukas in the district was completed between 1852-63 and the subsequent revision settlements were undertaken in 1891-92 and 1926-27. The land revenue rates were revised in each settlement. Polarization of the rural society was on the agenda from the first settlement (Rodrigues, 1998:22). The survey Act of 1865 abolished all the previous tenures and introduced the *Rayatwari* tenure of heritable and transferable occupancy rights which was extended to Bombay Presidency in 1830. The previous *Mirasi* and *Upri* tenures were merged into a uniform tenure as the occupancy tenure which allowed the occupant to hold the land in perpetuity and to cultivate it himself or to lease it to others for cultivation subject to the payment of land revenue. However, *Inam* holdings, nearly 20 per cent of the total area, were for the major part, left intact. The revenue rights of the *Inamdars* and the principals of *Vantandars* continued. The Bombay Land Revenue Code of 1879 governed the relation between landlord and tenant. The new tenure differed from the old *Mirasi* tenure in four respects¹⁶: (a) the occupant was given the right to sell or otherwise alienate his land without the permission of government, (b) the occupancy right was liable to forfeiture if the holder fails to pay the assessment, (c) the assessment was liable to revision every thirty years and (d) a guarantee was given that no additional taxation would be levied on account of improvement made by the occupant.

The stability of tenure of this kind and the increase in price of the field produce along with the social status attached to land ownership during British period undoubtedly increased the fondness for land investment. The privileged and affluent section who were earlier reluctant to increase their holding started acquiring more land. The new land tenure system paved the way for land concentration in the district. Looking at the landholding position of 1882-83, it is found that more than 57 per cent of the holdings were below ten acres and the rest of the holdings were of different sizes ranging from above ten acres to more than 400 acres (Table 2.1).

Table 2.1 : Landholding Pattern in Satara District in 1882-83

Land Sizes (acres)	Holders (%)
Below 5	37.03
5- 10	20.48
10- 20	18.07
20- 30	9.27
30- 40	4.46
40- 50	2.35
50-100	7.02
100-200	1.03
200-300	0.18
300-400	0.05
Above 400	0.06

Source : Gazetteer of the Bombay Presidency : Satara, Vol. XIX, 1885, p.150.

In fact, the onset of British imperialism with its network of extraction of rent, expansion of politico-legal system, commercialization of agriculture and suffocation of village industries brought about a series of changes in the agrarian structure of the district. Immediately after the British take-over, the agricultural policy was designed to feed Britain's industry and Britain based industries in Bombay and elsewhere. Agricultural modernization was initiated keeping in view the colonial interests. It is revealed from the time series data that the total cultivable area of the district increased rapidly over the years. But the net sown area which was more than 60 per cent in 1891-92 decreased in the subsequent periods till 1911 and thereafter went up (Table 2.2). The decrease in certain periods is possibly due to the effects of bad seasons and the famine years at the turn of the century. The cropping intensity which came upto 103.26 in 1891-92 increased gradually till 1905-06 and started declining consistently from 1915-16 (Table 2.2). The sudden decline of cropping intensity from 1915-16 was mainly because of the changes in the criteria¹⁷ adopted for classifying the area under land utilization by which estimates began to be made for areas not covered by earlier statistics.

Table 2.2 : Land Utilization in Satara District during British Period.

Year	Total Cultivable Area (acres)	%of Net Sown Area	Cropping Intensity
1891-92	2864381	60.10	104.26
1895-96	2859362	55.50	107.12
1901-02	2866675	51.94	106.35
1905-06	2880299	49.67	107.04
1911-12	3089481	51.48	105.54
1915-16	3089378	62.88	101.70
1920-21	3142842	61.59	101.96
1925-26	N.A.	N.A.	N.A.
1931-32	3133616	67.02	100.54
1935-36	3133701	67.97	101.38
1941-42	3134340	65.87	101.16
1945-46	3134950	63.40	100.50

Sources : 1) Agricultural Statistics of British India, Various Issues.
2) Agricultural Statistics of India, Various Issues

Upto the end of Maratha rule, there was no major source of irrigation in Satara except a limited number of tanks and wells which mostly remained dry during the low rainfall years. The construction of Revari Canal which was begun in 1781 remained in an unfinished stage till the British rule over the district. The British Government, just after the take over of the district undertook massive construction of irrigation works in order to support and extend the commercial trend of agriculture. The construction of Revari Canal was completed in 1849, within a year of British rule. Subsequently, a series of irrigation projects were undertaken and completed as famine relief work (Table 2.3).

Table 2.3 : Irrigation Construction Works in Satara during British Period

Canal/Lake	Year of beginning of Construction	Year of Completion	Area Irrigated (acres)
Revari Canal	1781	1849	519
Chikhli Canal	1866-67	1870	217
Yerla Canal	1867	1868	749
Gondoli Canal	1867	1872	Not Known
Mayni Lake	1868	1875-76	742
Krishna Canal	1863	1868	3023

Source : Gazetteer of Bombay Presidency: Satara, Vol. XIX, 1885, Pp. 151-57.

Of the six canals, while the Krishna Canal which had its source in the Sahyadris was providing perennial irrigation, the rest of the canals and lake were dependent upon the local rain fall. Besides, a number of wells, temporary dams, waterlifts, ponds, reservoirs, etc. were also constructed for irrigation purpose. As a result of this systematic and continuous initiatives, the irrigated area of the district increased significantly which became suitable for the cultivation of sugarcane and other cash crops. However, irrigated land in the district which became more than 7 per cent (to net sown area) till 1901-02 remained relatively stagnant in the subsequent years (Table 2.4). The minor increase and decrease of irrigated area is largely due to variations in net sown area and rainfall (on which most of irrigation sources depended) in the district.

Table 2.4 : Irrigation Status of Satara District during British Period.

Year	% of Irrigated Land to Net Sown Area
1891-92	5.87
1895-96	7.17
1901-02	7.12
1905-06	5.54
1911-12	6.37
1915-16	5.51
1920-21	5.28
1925-26	N.A
1931-32	5.50
1935-36	6.14
1941-42	5.57
1945-46	5.29

Source : Same as in table 2.2

From the beginning of British rule over the district systematic attempt had been made to change the traditional cropping pattern. Emphasis was given on the cultivation of commercial crops especially cotton. In 1850-51, 11,155 *bighas* of native cotton were grown and its production increased rapidly but the quantity varied with the state of foreign market¹⁸. Though the greater part of the produce was used in the country a significant part was exported to Manchester¹⁹ through the ports of Chiplun, Khed and Mahad. From 1848 attempt was made to introduce new varieties of cotton such as Orleans and Broach Cotton to increase the productivity. In 1850-51,

about 60,000 pounds of New Orleans Cotton seeds were given to the cultivators and about 3200 acres were planted with these seeds²⁰. Even in some parts of Deccan peasants were forced to adopt the alien varieties of cotton seeds²¹. The area under cotton cultivation increased more rapidly due to unlimited demand during the period of American Civil War (1861-65) when its supply from United States (to Britain) was interrupted²². It was estimated²³ that nearly 40,000 *bighas* or about 36,727 acres might grow cotton. However, the growing of cotton had lately fallen off (Table 2.5) due to less local demand following the increased import of European and Bombay piecegoods²⁴ and may also be due to the emergence of Khandesh and Nasik region²⁵ as the major exporter of the crop.

Similarly tobacco was largely exported and it was primarily cultivated by the *Mahars, Mangs* and other lower caste peasants²⁶. In 1850-51 about 4413 acres of tobacco were grown in the district²⁷. In the same year nearly 7136 acres of native and 4151 acres of Mauritius sugarcane were cultivated²⁸. In 1860, an attempt was made to introduce Chinese sugarcane in the district which was usually grown in Europe and had a very short interval between sowing and reaping²⁹. As sugarcane was a valuable crop which required abundant and assured supply of water along with more investment in labour, manure, etc. it was mostly grown by the rich peasants. Though the area under sugarcane increased gradually it varied mainly due to climatic disturbances. Falling of sugar prices after 1924 discouraged the peasants further to increase their tillage area under this crop. Due to the rise of grain prices and some improvements in agricultural infrastructure, the total area under food grains increased in the initial phases of British period. The area under foodgrains which was 78.42 per cent in 1881-82 increased to more than 92 per cent in 1891-92 (Table 2.5) and became relatively stagnant till 1920-21. In the later decades of British rule, the area under food grains started decreasing and the decline was due in part to the spread of groundnuts³⁰ and other oil seeds. Groundnut became the leading export cash crop.³¹ The net cropped area under non- food crops rose by 8 per cent between 1905 and 1923.³²

The commercialization of agriculture of this kind along with the higher land revenue expanded the need for working funds as a result of which the peasants were increasingly indebted. The indebtedness was also swollen between 1862-65, the years of American war, by the unusual cheapness of money and higher prices of field produce³³. The economic condition of the peasants was worsened further following low rain fall in 1876-77 that resulted in famine over about one half of the district³⁴. In fact, the widespread and recurring famines became a regular feature during British period owing to the increasing cultivation of commercial crops which could not be used as food for the growing population. But those who had land and other facilities became wealthier taking the advantage of demand for commercial crops. The landholders and traders belonging to the Brahmin, Gujurati Vani, Marwar Vani and Maratha communities emerged as professional moneylenders who accumulated large quantity of land through debt-trap. Prior to British rule in Satara, land was not liable to sale for debt and the lenders were also fewer in number³⁵. But during British period the provision of the Survey Act I of 1865 which made land disposable either by sale or mortgage induced the moneylenders to encourage the peasants to take loans keeping land as security. The landholders borrowed recklessly and the moneylenders

Table 2.5 : Area under Crops (% to Gross Cropped Area) in Satara District during British Period.

Year	Rice	Wheat	Jowar	Bajra	Total Food-grains	Total Oil Seeds	Sugar -cane	Cotton	Total Fibre	Gross Cropped Area
1891-92	2.11	3.01	30.27	32.79	92.71	5.50	0.77	0.44	1.02	100.00
1895-96	2.44	3.73	29.18	28.58	90.47	7.02	0.76	0.36	1.75	100.00
1901-02	2.75	2.68	29.56	33.32	94.11	4.08	0.63	0.59	1.18	100.00
1905-06	2.65	2.50	39.56	24.19	92.52	5.75	0.66	0.64	1.07	100.00
1911-12	2.72	2.32	29.34	28.08	88.44	9.30	0.75	0.90	1.52	100.00
1915-16	3.08	3.29	34.24	27.63	91.35	6.82	0.75	0.46	1.08	100.00
1920-21	3.52	2.92	44.74	19.94	92.95	5.42	0.58	0.55	1.05	100.00
1925-26	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
1931-32	3.66	3.42	34.03	23.43	86.51	11.59	0.61	0.94	1.30	100.00
1935-36	3.95	3.49	36.81	19.41	85.82	12.47	0.75	0.61	0.96	100.00
1941-42	3.46	2.69	38.23	21.24	84.80	13.94	0.48	0.58	0.79	100.00
1945-46	4.23	1.95	37.43	21.68	86.13	12.98	0.61	0.06	0.28	100.00

Source : Same as in table 2.2.

operated the debt mechanism keeping an eye on debtor's land. When the amount reached an unbearable point the borrower was insisted by the lender to dispose off the land. Due to this exploitative and oppressive money lending policy, agrarian riot raised its head in some parts of the district during the years of 1874 and 1875³⁶. It explicates the nature of antagonism that had developed between the poor peasant and the money lender and the acuteness of the twin problems of agricultural indebtedness and credit supply (Rodrigues, 1998:141). Following the report of Deccan Riots Commission, Satara district was included in the area to which the Deccan Agriculturists' Relief Act (XVII of 1879) and Agricultural Loans Act, 1884 had been applied. However, though the Act had restricted the creditor's powers of recovery, this was easily evaded by fictitious sales with oral agreements³⁷. The process of land alienation continued even after passing of these Acts. It is revealed from a survey that the total land owned by the moneylenders increased from 5.2 in 1876-77 to 6.4 per cent in 1888-89³⁸. The establishment of cooperative societies (under the Cooperative Society Act, 1904) and Land Mortgage Banks almost entirely failed to meet peasant requirements of agricultural finance and credit. As late as 1930 only 4 per cent of the peasant requirements were being served by co-operatives (Catanach, 1970:222-25). Rather, they themselves were often outlets for urban funds seeking profit instead of peasant associations rendering mutual help³⁹.

Land was mortgaged either with or without the possession of the moneylender. In case of mortgage without possession the debtor had to pay a part of the produce to the moneylender as interests till the mortgage is redeemed⁴⁰. But in cases where land was mortgaged with possession, generally the moneylenders (mostly belonging to Brahmin, Gujarati and Marwari groups) allow the borrowers to cultivate the land on the condition of payment of three-fifth of the produce and the lenders pay the revenue⁴¹. The tenancy relations under the provision of Bombay Land Revenue Code which left the crucial decision over the amount of rent to be charged for land entirely to the landlord and allowed him to increase the rent at any time and recover it with the

support of government machinery along with the right to exit the tenant for non-payment, helped the moneylenders to take the upper hand of the situation. The attempt in 1901 to introduce remedial legislation in the lines of Punjab Land Alienation Act 1901 was opposed from all sections of political elite (Rodrigues, 1998: 19). Of particular importance is that liberals like Ranade and Gokhale joined social conservatives like Tilak in opposing the measure (ibid, p.34). Thus, the process of land ownership passing from the hands of cultivators to moneylenders through debt mechanism and the cultivators becoming tenants of their own land assumed significant proportion. It is reported that a very high proportion of land, particularly the best land in the district, had passed to the Brahmins or *Marwari* or *Gujar* money lenders (Omvedt, 1976:216). Besides, the moneylenders (specially *Marathas* and *Lingayats*) were providing loans to the landless labourers keeping their labour services in mortgage to cultivate the accumulated land. The labourers were taking loan in advance and were bound to serve the moneylender till the amount is adjusted. As per the then prevalent rate, a labourer had to serve five years to work off a loan of \$10 (Rs.100)⁴². In case the labourer fails to clear the debt in his life time, it was imposed upon his son or other family members. The labourer had to remain completely under the disposal of the lender till the repayment.

Apart from this, during the British rule Satara was well provided with communication facilities which systematically linked the agriculture of the district with the wider economy. Earlier cart traffic was negligible and the traffic was mostly going on by pack bullocks. The opening of the Varandha, Kumbharli and Fitz Gerald passes in 1857 and 1876 respectively which formed the chief outlets to the coast made the traffic system fit for wheels across the Syhyadris⁴³. In addition, the construction of extensive Railway network between 1860 to 1890 specially the construction of Poona-Londa Line which passed south and south-east along almost the whole centre of the district through parts of Wai and Phaltan, the whole of Koregaon, Karad and parts of Valva and Tasgaon connected the region with the rest of India, both at the levels of product, as well as, labour and the erstwhile isolated segments of the district came under the net of British free-trade. Unlike Western Europe and America, where railway served as the catalyst of the industrial revolutions, in India they served as the catalyst of complete colonialization⁴⁴. The exports of the district⁴⁵ increased and the cultivation of commercial crops like sugarcane became widespread. The expanding commodity productions went with a parallel development of depots and wholesale markets. A number of smaller towns and big villages emerged as market centres mediating trade (Rodrigues, 1998 : 20). The chain of merchants-cum-financiers from Bombay reached upto the village level and numerous means were devised to siphon the agricultural produce of the district. Millet, wheat, chillies, turmeric and tobacco were sent to Bombay from Satara, Karad and Valva by the local and Gujarat Vanis who were collecting these produces from the cultivators either as a payment of earlier debts or on cash payment. Cotton was sent from Valva and Tasgaon by the Bhati as and Gujarat Vanis. Similarly silk goods, wool manufactures and specially the heavier products of British industry such as metal manufactures and appliances and tools began to be imported in large quantities⁴⁶ which created impediments for the income sources of the artisan castes.

These vast changes in agriculture of the district had a polarizing effect on the rural population (Kumar, 1968; Charlesworth, 1973). While the affluent section of

the society (large holders and moneylenders) with their superior and irrigated land along with cheap labour supply could prosper easily reaping the benefits of price rise of agricultural produce and expanded forces of production, the conditions of poor peasantry and rural proletariat became more and more critical. Due to the exploitative land, labour, credit and market relations the poor and small peasants became increasingly vulnerable to land sales and a regular land market did effectively take shape. It is found from the Table 2.6 that each year a substantial quantity of land (both of revenue paying and revenue free) came into market. However, data on land transfer before 1901-02 and after 1918-19 are not available which would have provided a detailed picture on land market during the British rule. As a result of systematic and continuous land transactions, peasant marginalization was accelerated.

The area held by the landholding group of below 15 acres came down to 43.4 per cent in 1921-22 as against 46.2 in 1916-17⁴⁷. Many of the impoverished peasants and labourers (mostly untouchables and other backward classes) migrated to Bombay and other places in search of survival. A large part of the Bombay labour force was recruited from Satara (Rodrigues, 1998 : 143). It is revealed from 1881 Census that one lakh people born in the district were living outside the region and nearly 50 per cent of these were found in Bombay city. It was reported that in 1911 the number of emigrants from the district came to near about 20 per cent of the total population.

Thus, the cumulative consequence of new land revenue assessments based on periodic land settlements, introduction of new rights of land ownership and tenancy, commercialization of agriculture and the consequent infrastructures and institutional arrangements of the British government expanded the genesis of social inequality in Satara. The privileged and affluent section remained in an advantage position to consolidate their socio-economic base and hegemony in various spheres of rural life and the lower rungs of peasantry led a miserable life.

2.4 Post-Colonial Situation

Consequent upon the merger of the Princes' territories in 1947, the district of Satara was enlarged and divided into North Satara and South Satara. In 1960, the North Satara reverted to its original name Satara and South Satara being designated as Sangli district. The district was included in Bombay State with the reorganization of the States in 1956 and subsequently formed a part of Maharashtra since 1960. In the post independent India, the agrarian structure of Satara entered into a new phase of socio-economic order under the impact of land reform measures, expansion of irrigation facilities, adoption of new technology and introduction of other developmental measures. Agricultural modernization started in a planned way.

After independence, in pursuance of agrarian reform policies laid down in the country's Five Year Plans based on socialistic and democratic approach of the new constitution, a package of land reform measures have been launched by the then Bombay State and the present State of Maharashtra. The major objectives of the reform measures cover : (a) abolition of intermediaries, (b) tenancy reforms, (c) fixation of ceiling and distribution of ceiling surplus land, and (d) consolidation of holdings.

Table 2.6 : Number of Transfers of Land and Area Transferred in Satara District (1901-12 to 1918-19)

Year	Revenue-paying Land		Revenue-free Land (Partially or Wholly)	
	No. of Transfers	Area (acres)	No. of Transfers	Area (acres)
1901-02	12,503	32,695	1444	5,640
1902-03	13,045	35,759	1,902	6,068
1903-04	13,727	42,374	1,412	6,324
1904-05	14,109	42,758	1,752	5,749
1905-06	14,078	53,800	1,294	4,595
1906-07	15,784	56,592	2,204	7,221
1907-08	13,233	39,974	1,672	5,953
1908-09	14,066	41,495	1,790	5,022
1909-10	12,665	35,770	1,556	8,235
1910-11	9,935	31,598	1,119	3,926
1911-12	9,209	27,048	1,136	3,345
1912-13	8,379	27,017	1,117	4,399
1913-14	9,680	28,883	1,222	3,816
1914-15	11,369	33,587	1,569	5,898
1915-16	10,311	29,169	1,398	5,611
1916-17	10,147	30,086	1,543	6,395
1917-18	11,400	33,946	1,774	5,769
1918-19	15,594	39,253	2,095	7,427

Source : Agricultural Statistics of British India, Various Issues.

In early 50's legislative measures were adopted to eliminate all intermediaries between tiller of the soil and the State. The *Zamindari* system along with all the rent collecting intermediaries of the district was abolished. However, the abolition of zamindari system had little impact as *rayatwari* tenure was widely prevalent in the district. All *Inams*, excepting *Deosthan Inams* held by religious institutions or for religious services were abolished. The year in which each class of *Inam* was abolished is shown below:

- a) Political or *Saranjam Inams* - 1952
- b) Personal *Inams* - 1953
- c) Hereditary *Watan Inams* - 1951
- d) Village Servants useful to the
 - i) Community - 1954
 - ii) Government
 - Patils* - 1963
 - Mahars* - 1959

In order to protect and ameliorate the conditions of tenants the Bombay Tenancy and Agricultural Lands Act, 1948 was enacted. Of course, the early move on tenancy reform was taken by Bombay Tenancy Act, 1939. The Act of 1939 was applied to a few selected areas as an experimental measure and its extension to other areas was delayed due to the intervention of war. It came into force in Satara from 11th April 1946 and subsequently the Act was amended in the same year. The Act of 1948

repealed the provisions of the earlier Act but maintained many of the provisions regarding protected tenants. The major provisions of the Act were concerned with: (i) protection of tenants against eviction by land lords, (ii) creation of conditions for promoting the transfer of land into the hands of the tillers, and (iii) lowering the share or cash rents in the tenancy practices. The study made by Dandekar and Khudanpur (1957) which looked into the implementation of the Act in different districts of Maharashtra including Satara reported that the Tenancy Act of 1948 due to its certain inherent weaknesses became largely ineffective in practice and failed to achieve its desired objectives. The Act was amended further in 1956 which provided for a more radical measure. The amended Act came into force with effect from 1st August 1956. It conferred on the tenants the right of compulsory purchase of lands by the tenants from the landlords with effect from 1st April 1957 (which is known as tillers' day) on payment of purchase price in twelve installments. However, the studies undertaken both at micro and macro levels in the district of Satara, as well as, in other parts of Maharashtra pointed out that the Act of 1956 met with a very limited success mainly due to socio-political and economic pressure over the tenants, ignorance of the tenants, improper maintenance of land records, etc. (Dandekar, 1979; Shah and Sawant, 1973; Brahma and Upadhyaya, 1979). Shah and Sawant (1973) who made an evaluative study on implementation of the 1956 Amendment Act state "it appears as if there is an inverse relationship between radical content of the law and its success in implementation".

Apart from this, with the objectives of bringing more equitable distribution of land and to make the tenancy reforms more effective, Maharashtra Agricultural Land (Ceiling of Holding) Act, 1961 came into force on 26th January 1962. As far as the provisions of this Act is concerned⁴⁸, it prescribed the ceiling limits on land holdings as 7.2 hectares for perennially irrigated lands, 10.8 hectares for land irrigated for two seasons, 19.2 hectares for lands irrigated for one season and 26.4 to 50.4 hectares (depending on local considerations) for dry crop land. Subsequently from 2nd October 1975 the limit for the last two categories of land lowered to 14.4 and 26.6 hectares respectively. So far as the achievements of this Act is concerned, it is reported from a source⁴⁹ that 9352.63 hectares of land of the district have been declared as ceiling surplus of which 5291.18 hectares (56.6 per cent) have been taken under possession as on December 1995. Still, there are many large landholders, as pointed out by few studies⁵⁰, who have avoided the ceiling law by distributing lands among their family members on land record while cultivating jointly. Along with this, the reasons such as exclusion of leased out land from total holding, difficulties associated with the appropriate categorization of land, the prevalence of *benami* transfer of land, etc. helped the large land holders to escape themselves from the ceiling law⁵¹.

To prevent further fragmentation of holding and to consolidate the fragmented holdings through mutual exchange of small and scattered plots, the Bombay Prevention of Fragmentation and Consolidation of Holdings Act, 1947 was applied to Satara district in 1949 and the work started in one taluka as an experiment in 1950. Later on it expanded to other talukas. It is reported that through consolidation of holdings have been achieved to some extent the village elites are the major beneficiaries who could transfer and attach the fertile fragments to their holdings colluding with implementing officials⁵².

Besides these land reform measures, in the Planning era the Government of Maharashtra has made rigorous and continuous efforts to boost agricultural production by bringing more land under cultivation, increasing the quality and extent of irrigation and inducing changes in the cropping pattern through extension of cash crop cultivation and introduction of High Yielding Varieties that can fetch higher market price and more yield. The planned development of this kind brought about significant changes in the agrarian scene of Satara. The net sown area and the gross cropped area of the district have increased consistently and rapidly across the years along with a rise in cropping intensity (Table 2.7). Within twenty years (1970-71 to 1990-91) the net sown area increased from 516805 to 699344 hectares (an increase by 35.3 per cent) and the gross cropped area increased from 557350 hectares to 791497 (an increase by more than 40 per cent). The cropping intensity increased from 107.85 in 1970-71 to 113.18 in 1990-91 though it shows little variation in between. On size class basis it is found that while the net sown area and gross cropped area of marginal and small holders increased steadily it shows a gradual declining trend in case of the upper landowning groups. Unlike the large holders, the cropping intensity of lower landowning groups has increased slowly and it is higher than that of the large holders at all points of time. It appears that the higher is the landholding size the lesser is the cropping intensity.

Table 2.7 : Net Sown and Gross Cropped Area (hectares) and Cropping Intensity in Satara District

Size Classes	1970-71			1980-81			1990-91		
	Net Sown Area	Gross Cropped Area	Cropping Intensity	Net Sown Area	Gross Cropped Area	Cropping Intensity	Net Sown Area	Gross Cropped Area	Cropping Intensity
0-1hect.	41117	46127	112.18	72052	84968	117.93	130554	156907	120.19
1-2	66321	72678	109.59	116318	131204	112.80	179994	210239	116.80
2-4	121824	132389	108.67	173638	195562	112.63	188576	210407	111.58
4-10	183882	196373	106.79	186671	207145	110.97	145295	157234	108.22
> 10	103661	109783	105.91	81507	88904	109.08	54925	56710	103.25
All Classes	516805	557350	107.85	630186	707783	112.25	699344	791497	113.18

Source : Government of Maharashtra : Report on Agricultural Census, Various Issues.

Similarly, the irrigated area in the district also increased significantly (Table 2.8). It increased from 13.47 per cent in 1970-71 to 22.52 in 1990-91. The per cent of irrigated land to net sown area is higher among the small and marginal holders which is one of the reasons for their higher cropping intensity. Looking at the trend on size class basis, it is revealed that lower land owning groups experienced a marked increase over the years and the higher landowning groups show an increasing trend from 1985-86. The sudden and higher increase of irrigated area in 1990-91 of all size classes is primarily due to expansion of area under well and canal irrigation⁵³. The cropping pattern in Satara witnessed a noticeable change in the post-independence

period following the expansion of irrigation facilities and commercial trend of agriculture. The time series data on area under various crops are projected in Table 2.9. A perusal of the table reveals that though the area under food grains is higher in the district as a whole and among all the size classes it does not show any significant trend. While in case of small and marginal holders it is relatively constant, it shows a declining rate for the large holders. The area under sugarcane shows a recorded increase across the years. It is due to the establishment of two major sugar factories in the district, one at Phaltan and other at Karad taluka, in 1957 and 1961 respectively. The subsequent growth and expansion of sugar factories necessitated more area under sugarcane. There are seven sugar factories in the district.³⁴ Several irrigation schemes have also been undertaken by these factories to increase the acreage under sugarcane. The crop specific incentives of the co-operatives also induced the cultivators to increase the area of sugarcane cultivation. The area of the small holders has increased rapidly owing to their higher percentage of irrigated area. The rise and fall of area under sugarcane for the large holders is possibly due to the variations in irrigated area. The area under oil seeds declines consistently at the district level among all size classes except the highest size group which shows a noticeable rise in 1990-91.

Table 2.8 : Irrigated Area (% to net sown area) in Satara District

Size Classes	Years				
	1970-71	1976-77	1980-81	1985-86	1990-91
0-1	15.53	14.10	18.07	20.20	27.09
1-2	14.70	15.07	16.24	18.47	27.73
2-4	13.71	12.66	13.98	15.70	21.48
4-10	12.64	9.65	11.36	11.84	16.01
10<	13.05	6.79	9.31	5.54	15.32
All Classes	13.47	11.09	13.49	15.41	22.52

Source : Government of Maharashtra : Report on Agricultural Census, Various Issues.

To match the commercial needs of agriculture, emphasis has been given on expansion of area under High Yielding Varieties. The improved seeds are distributed to the farmers mainly through cooperatives. The area under HYV is shown in Table 2.10. A cursory look over the table reveals that though data on commercial crops are not available, large area of food grains is covered by HYV and area under traditional varieties is very negligible. Moreover, the adoption of High Yielding Varieties and the increasing cultivation of sugarcane followed the rising trend of per hectare chemical fertilizer consumption in the district. It could be seen from Table 2.11. The per hectare consumption increased to 84.7 kg. in 1991-92 as against 32.6 kg. in 1981-82 and 14.1 kg. in 1971-72. Besides, the wide-ranging changes in the cropping pattern required improved method of cultivation, which necessitated the adoption of new machinery and implements. As a result, the increasing trend of mechanization has become widely visible. The trend of mechanization in the district is illustrated in Table 2.12. Over periods, the number of mechanical appliances (per '00 hectares) increased manifold in the district. The number of tractors which was only 0.005 in 1961 increased irreversibly to 0.378 in 1992. The number of sprayers and dusters, oil engines, electric pumps, etc. increased noticeably. However, the number of ploughs (both iron and wooden) has also been increased. It may possibly

Table 2.9 : Cropping Pattern in Satara District across Size classes
(% to gross cropped area)

Size Class	Rice	Kharif Jowar	Rabi Jowar	Bajra	Wheat	Total Cereals	Total Pulses	Food Grains	Sugar-Cane	Cotton	Ground-nut	Total Oilseeds
1970-71												
0-1	9.52	17.27	24.54	9.67	3.41	67.07	6.60	73.67	2.09	1.42	13.86	14.93
1-2	7.57	16.36	25.44	11.66	2.87	66.40	7.24	73.64	2.47	1.34	14.46	15.81
2-4	5.88	15.29	25.84	14.57	2.63	66.52	7.63	74.15	2.22	1.40	13.18	14.79
4-10	4.19	11.80	28.61	20.02	2.41	69.33	8.41	77.74	1.93	1.16	9.76	11.78
10 <	2.54	6.66	36.00	22.50	2.00	72.64	7.54	80.18	2.76	1.07	4.70	7.74
Total	5.15	12.66	28.65	17.27	2.52	68.75	6.14	76.50	2.26	1.24	10.53	12.48
1976-77												
0-1	12.69	26.50	14.42	9.97	2.78	69.36	8.30	77.66	3.10	0.60	11.21	11.46
1-2	9.09	23.76	14.05	11.85	2.37	63.85	9.36	73.21	3.75	0.69	12.74	13.24
2-4	6.80	20.43	15.23	15.91	2.46	63.45	9.62	73.06	2.96	0.57	11.50	11.97
4-10	3.91	15.65	14.39	22.71	2.10	61.75	11.23	72.98	1.74	0.53	8.02	8.57
10 <	3.31	9.20	13.73	29.23	1.37	60.19	11.18	71.37	0.81	0.33	4.35	4.72
Total	6.08	17.91	14.45	19.37	2.16	62.89	10.27	73.16	2.31	0.53	9.25	9.72
1980-81												
0-1	10.35	16.44	20.31	9.22	3.71	63.39	10.27	73.00	5.44	1.05	10.33	10.07
1-2	7.38	16.80	19.19	12.17	3.67	62.47	9.88	71.45	4.94	0.95	10.84	10.34
2-4	5.83	14.75	18.86	15.24	3.73	62.68	10.06	71.51	3.42	0.96	9.91	9.30
4-10	4.11	11.19	17.04	20.76	3.81	61.68	9.97	69.74	1.75	0.86	7.17	5.99
10 <	2.74	5.31	12.64	21.88	2.83	50.56	8.56	56.97	1.87	0.58	4.89	3.69
Total	5.77	13.10	17.78	16.40	3.63	60.91	9.84	69.33	3.26	0.89	8.70	7.91
1985-86												
0-1	11.16	18.98	19.61	10.19	3.64	65.92	7.91	73.83	6.32	0.29	12.57	12.82
1-2	5.74	17.23	19.77	12.93	6.37	64.45	9.90	74.35	5.56	0.30	12.55	12.67
2-4	5.08	16.89	18.35	17.06	6.72	66.94	11.03	77.97	4.75	0.28	8.69	8.87
4-10	6.53	17.29	17.62	23.51	2.48	71.62	7.97	79.58	2.80	0.13	4.68	4.93
10 <	6.74	16.43	14.94	20.94	1.05	64.17	7.21	71.38	0.95	0.06	4.35	4.49
Total	6.73	17.40	18.56	16.37	4.85	66.90	9.31	76.21	4.58	0.24	9.25	9.44
1990-91												
0-1	7.97	21.22	17.81	12.36	2.95	64.98	8.30	73.28	8.82	0.16	7.51	7.69
1-2	4.73	16.50	19.52	16.92	3.23	63.39	9.19	72.58	7.93	0.13	6.69	6.95
2-4	4.01	13.51	19.30	20.82	2.73	63.13	8.85	71.98	4.56	0.11	5.91	6.23
4-10	3.77	10.43	17.82	21.91	2.25	59.09	8.21	67.30	2.26	0.12	5.60	5.92
10 <	3.73	7.56	17.79	14.76	2.69	48.60	6.85	55.45	2.55	0.04	7.54	8.06
Total	4.92	14.79	18.66	17.89	2.81	61.72	8.56	70.28	5.70	0.12	6.49	6.78

Source : Government of Maharashtra: Reports on Agricultural Census, Various Issues.

Table 2.10 : Cropwise Area (%) Under High Yielding Varieties in Satara District

Year	Crops				
	Rice	Wheat	Kharif Jowar	Rabi Jowar	Bajra
1980-81	53.8	88.0	49.8	56.5	N.A.
1981-82	59.7	85.3	58.6	5.7	9.0
1982-83	59.8	94.6	58.4	11.9	4.9
1983-84	64.2	86.9	64.2	15.8	5.5
1984-85	66.2	75.7	70.2	9.7	4.6
1985-86	63.2	70.6	68.0	21.9	3.5
1986-87	64.1	66.6	68.7	27.3	21.8
1987-88	63.5	90.0	72.3	91.0	10.0
1988-89	68.6	98.0	68.1	68.5	29.4
1989-90	68.9	95.2	80.4	70.4	37.5
1990-91	65.2	97.8	85.1	85.1	40.0
1991-92	71.7	85.8	79.3	85.5	40.6
1992-93	67.8	51.1	83.6	12.6	74.8
1993-94	86.0	94.0	97.1	94.8	88.9

Source : Districtwise Agriculture Statistical Information of Maharashtra, Various Issues.

Table 2.11 : Chemical Fertilizer Consumption in Satara District.

Year	Per Hectare Consumption (in kg.)
1971-72	14.1
1975-76	11.9
1981-82	32.6
1985-86	51.8
1991-92	84.7

Source : Districtwise Agriculture Statistical Information of Maharashtra Various Issues.

Table 2.12 : Major Agricultural Machinery and Implements in Satara District (per ' 00hectares of Gross Cropped Area)

Years	Plough		Seed Drills	Thresher		Sprayers and Duster	Sugarcane Crushers		Oil Engines with Pumps for Irrigation	Electric Pumps for Irrigation	Tractor	Persian Wheels	Two Wheeled Walking Tractor or Power Tillers	Ghanies	Carts
	Wooden	Iron		Bullock Operated	Power Operated		Power Operated	Bullock Operated							
1961	4.727	2.052	-	-	-	-	0.05	0.059	0.358	0.005	0.005	0.001	-	0.047	4.656
1966	4.958	4.068	0.280	0.34	-	0.342	0.060	0.056	0.928	0.279	0.028	0.002	0.015	0.034	5.227
1972	7.226	4.775	6.324	0.209	0.052	0.346	0.046	0.008	1.533	0.889	0.060	0.000	0.002	0.003	8.204
1978	6.181	4.627	9.342	0.348	0.004	0.440	0.064	0.013	1.617	2.663	0.116	0.003	0.001	0.005	6.526
1982	6.371	5.477	9.987	0.462	0.031	0.501	0.065	0.005	1.407	2.689	0.145	0.002	0.002	0.005	5.239
1987	6.347	4.385	-	0.462	0.185	0.815	0.074	0.011	1.898	2.947	0.339	0.093	0.004	0.002	4.525
1992*	6.178	6.802	8.644	-	-	1.159	0.053	0.010	1.394	3.641	0.378	0.007	0.008	0.002	-

* As the data on gross cropped area of 1992 are not available the per hectare agricultural machineries and implements has been calculated on the basis of gross cropped area of 1991.

Sources : 1) Statistical Abstracts of Maharashtra, Various Issues
2) Livestock and Farm equipment Census : Maharashtra State, Various Issues.

due to the fact that as the economic condition and the land ownership position of small and marginal holders is not viable for them to own tractors, they increased their number of ploughs to meet the requirement of their higher cropping intensity. Data on size class basis are not available to look into the details of instrument ownership position of each class.

The new cropping pattern made the traditional skill and technology almost obsolete and induced the peasants to participate in market as the regular buyer of mechanical appliances, chemical fertilizers, insecticides and other inputs. As a consequence, the in-time cash need of the peasants increased enormously which ultimately made the availability of wider credit facilities inevitable. In order to meet the demand of peasants for more working funds, the credit network has been expanded largely through the establishment of agricultural cooperatives societies. The growth of agricultural cooperative societies has been phenomenal in the district in the post-independence period. The membership increased significantly though the number of societies decreased in certain periods possibly due to the problem of overdue which became more than 64 per cent in 1975-76 (Table 2.13). The provision of crop specific loans, as provided by the Banks and Co-operative Societies, encouraged the peasants to grow more the emphasized crops (mostly commercial) for availing higher amount of credit facilities because the amount of loan is relative to the area under that particular crop.

Table 2.13 : Progress of Agricultural Co-operative Societies in Satara District.

No. of Societies	Membership (in '000)	Year	Outstanding Loans (Rs. in lakhs)	Overdues (Rs. in Lakhs)	% of Overdues to Outstanding Loan
774	185	1970-71	1444	297	20.57
764	219	1975-76	730	472	64.66
752	248	1980-81	1236	329	26.62
763	289	1985-86	2458	495	20.14
810	373	1990-91	5421	1304	24.37

Source : Statistical Abstract of Maharashtra State Various Issues

The effects of these new measures on agricultural growth can be assessed from the trend of production and average yield of major crops in the district. The time series crop-wise information on production (total and per hectare yield) have been set out in Table 2.14. It indicates that the production as well as the average yield of rice, wheat, jowar have increased considerably. As a whole, the production and per hectare average yield of total food grains show a constant and significant increasing trend. Similarly, oil seeds also project the rising trend. But in case of sugarcane, which needs relatively higher investment, the average yield is noticeably decreasing. The increase in its total production is mainly due to extension of cropped area. The production of cotton does not show any marked trend. The production trend of the principal crops of this kind must have its differential impact on various categories of landholders. While the declining trend of productivity of sugarcane must have affected the small and marginal holders who continue to increase their cropped area under the crop, the upper landowning groups must have been prospered due to the

increasing productivity of food grains as they are the major growers of these crops. Of course, the absence of data on productivity of crops on size class basis limits the analysis to certain extent.

Table 2.14 : Crop-wise Production of (in '00 tones) and Average Yield (kg. per hectare) in Satara District.

Year/ Crops	1960-61		1970-71		1980-81		1990-91		1993-94	
	Total	Per hect.	Total	Per hect.	Total	Per hect.	Total	Per hect.	Total	Per hect.
Rice	230	887	301	1024	631	1850	718	1722	796	1961
Wheat	118	864	102	649	291	1207	351	1263	504	1667
Kharif	508	849	682	981	1140	1145	1423	1530	1255	1471
Jowar										
Rabi Jowar	998	685	598	362	1080	687	1295	838	1233	764
Bajra	353	233	317	314	203	239	429	369	370	408
Total	2310	554	2072	523	3547	852	4475	983	4377	1023
Cereals										
Total Pulses	262	377	156	325	297	449	272	457	291	562
Total	2572	529	2228	502	3844	797	4747	922	4668	973
Foodgrains										
Groundnut	753	1250	577	912	529	862	551	1155	923	1323
(Kharif)										
Total Oil seeds	NA	NA	NA	NA	551	814	975	1061	1099	1265
Sugarcane (dressed cane)	NA	NA	8671	93236	16033	91109	31903	87167	32234	87592
Cotton	38	251	111	262	142	359	13	300	10	326

Source : Districtwise Agricultural Statistical Information of Maharashtra, Various Issues.

Along with this, the analysis of farm (harvest) prices of major crops in Satara (Table 2.15) provides some interesting facts. The prices of paddy, wheat, jowar, bajra and groundnut are increasing year by year. On the contrary, the sugarcane price shows a fluctuating trend. From 1981-82 to 1989-90 the price was very low in comparison to its previous rate in 1980-81. Since 1990-91 it increased remarkably. From 1990-91 the prices of all crops enhanced noticeably. The steady rise of prices of food grains is likely to affect more severely the poor section of population, specifically the small and marginal holders who sell sugarcane at a lower price. The large variations in sugarcane price is mainly due to the unpredictable market situations and the nature of sugar lobby in State politics.

One way of looking into the impact of these changing situations on socio-economic conditions of various sections of rural population is to analyze the trend of operational holdings in the district because land continues to be treated as the most valued asset in rural Indian economy. The data on operational holding in the district on size class basis from 1970-71 to 1990-91 are presented in Table 2.16. It is inferred that the number and area of holdings of small and marginal holders show an increasing trend over the years accompanying a decrease in that of the large holders. This gives the impression of a decreasing trend of land concentration. But looking at

the average holding size of all the classes it is seen that the trend is just the reverse. The average holding of higher landowning group is increasing consistently with a corresponding decrease in that of the small and marginal holders. In the district as a whole the average holding size projects a continuous declining trend. The increase in the number and area of holdings of small and marginal holders, as it is reported by studies conducted in Maharashtra as well as in other parts of the country⁵⁵, is possibly due to family partitioning by the large-holders for avoiding land ceiling laws and getting the benefits of the developmental measures meant for the small and marginal peasants. The rapid growth of rural population in the district (Table 2.17) and the declining land-man ratio could be another cause of the increase in the number and total area of small and marginal holdings.

Table 2.15 : Farm (Harvest) Prices of Principal Crops in Satara District
(Rs. per Quintal)

Year	Crops					
	Paddy	Wheat	Jowar	Bajra	Sugarcane	Groundnut
1980-81	132.20	194.00	160.00	140.00	385.00	378.70
1981-82	136.80	210.70	172.10	141.65	210.50	304.20
1982-83	159.00	235.00	186.60	143.25	221.30	402.00
1983-84	155.20	214.40	180.50	140.10	225.00	392.10
1984-85	170.50	215.00	174.80	153.50	252.00	385.00
1985-86	185.50	228.30	178.75	174.00	279.50	442.80
1986-87	206.00	258.00	170.20	170.30	300.60	490.50
1987-88	215.00	260.40	181.80	170.00	322.75	512.50
1988-89	212.80	258.25	192.25	176.30	348.50	503.90
1989-90	205.50	291.70	226.50	205.40	342.30	667.00
1990-91	270.80	309.70	300.25	262.40	402.80	778.60
1991-92	376.40	410.00	399.25	371.40	490.25	1018.20

Source : Season and Crop Report, Maharashtra State, Various Issues.

So far as the operational holdings of Schedule Castes in the district are concerned⁵⁶, their percentage of the total in number and area terms decreased to 6.34 and 3.22 per cent respectively in 1991 from 6.84 and 3.41 per cent in 1985-86. Similarly the average holding also decreased from 0.92 hectare in 1985-86 to 0.84 hectare in 1990-91. But, as regards the operational holdings among the Scheduled Tribes in the district⁵⁷, their percentage of holdings and area along with the average holding increased. While the holdings increased from 0.17 per cent in 1985-86 to 0.50 in 1990-91, the area increased from 0.08 to 0.28 per cent in these years. The average size of holding also increased from 1.14 hectares in 1985-86 to 1.34 hectares in 1990-91. However, these growth figures for Schedule Tribes would have very little impact on the district as the tribal population is only 0.75 per cent of total population- according to the 1991 Census.

The impact of the new agricultural practices on rural population at the district level can also be assessed by analyzing the changes in the population of agricultural labourers and cultivators. The percentage of agricultural labourers and cultivators to main workers in the district from 1961 to 1991 census is illustrated in Table 2.18.

Table 2.16 : Number, Area and Average Size of Operational Holdings in Satara District

(Number in % and Area in hectares)

Size Classes	1970-71			1976-77			1980-81			1985-86			1990-91		
	No	Area	Average Holding	No	Area	Average Holding	No	Area	Average Holding	No	Area	Average Holding	No	Area	Average Holding
0-1	39.89	6.37	0.43	41.92	8.35	0.42	47.15	10.33	0.44	52.75	14.45	0.44	57.49	17.24	0.41
1-2	20.04	10.78	1.45	21.30	13.00	1.45	22.31	16.97	1.52	23.44	21.77	1.48	23.38	24.39	1.44
2-4	19.96	21.08	2.85	19.90	23.91	2.85	18.47	26.27	2.82	16.03	28.39	2.81	13.25	26.46	2.75
4-1	15.79	35.62	6.08	13.76	34.45	5.94	10.28	30.77	5.96	6.89	25.27	5.82	5.20	21.71	5.76
>10	4.33	26.14	16.27	3.12	21.29	16.19	1.80	15.66	17.36	0.89	10.17	18.20	0.68	10.20	20.61
Total	100.00	100.00	2.69	100.00	100.00	2.37	100.00	100.00	1.99	100.00	100.00	1.59	100.00	100.00	1.38

Source : Government of Maharashtra: Report on Agricultural Census, Various Issues.

It is found that the number of cultivators is decreasing rapidly over the years accompanying a marked increase in that of agricultural labourers. The number of cultivators which was more than 70 per cent in 1961 came down to less than 50 per cent in 1991. On the other hand, the number of agricultural labourers increased to 21.58 per cent in 1991 from 9.67 only in 1961. It appears that the collective effects of these modernizing measures have augmented the agricultural labour force in the district. It is interesting to note that female agricultural labourers increased noticeably from 11.99 per cent in 1961 to 35.09 in 1991, more than three times within

Table 2.17 : Land- Man Ratio in Satara District.

Year	Rural Population (in '000)	Cultivated Area (in '000 hectares)	Pressure on Land
1961	1272	761	0.60
1971	1500	539	0.36
1981	1773	590	0.33
1991	2136	632	0.30

Source : Report on Agricultural Census, 1990-91, Maharashtra State Part I & II

Table 2.18 : Cultivators and Agricultural Labourers (% to main workers) in Satara District

Year	Cultivators			Agricultural Labourers		
	Male	Female	Total	Male	Female	Total
1961	61.31	79.59	70.08	7.53	11.99	9.67
1971	55.87	56.90	56.15	12.82	33.24	18.32
1981	51.10	56.73	52.90	12.56	30.85	18.40
1991	47.17	53.31	49.28	14.50	35.09	21.58

Source : District Census Handbook of Satara, Various Issues.

thirty years and the growth rate is much faster than their male counterparts. In case of cultivators, the proportion of females came down from 79.59 per cent in 1961 to 53.31 in 1991. It appears that the growing impoverishment of the poor peasants and landless agricultural labourers has compelled the women to take to agricultural labour to supplement their family income. The wage structure prevalent in the district at different periods of time might have also contributed for this unusual growth of agricultural labourers. The analysis of wage rates of the field labourers in the district in terms of constant prices is drawn in Table 2.19. It indicates that the wages of all categories of field labourers were lower upto 1990-91. However, data on the employment days of agricultural labourers at the district level which constitute an important aspect particularly in the context of increasing trend of mechanization are not available to estimate their wage incomes.

It is summarized from the above discussion and analysis that the process of agricultural modernization was started in Satara during British period keeping colonial interests as the prime concern. As a consequence, such a process was performing its role of enriching a few and impoverishing many. In the post

independence period, the State adopted a different approach based on growth and social justice to modernize the agricultural practices in the district. But, it seems from the preceding analysis at the district level that the new conditions and forces of modernization have created further inequalities. However, the effects of these new measures can be substantiated in more detail at the village level.

Table 2.19 : Real Wages of Field Labourers in Satara District (Rs.)

Years	Types of Labourers		
	Male	Female	Child
1961-62	1.51 *	-	-
1970-71	1.89	1.13	0.84
1980-81	1.59	1.11	0.80
1990-91	3.16	2.20	1.66

* Wages for male, female and child labourers are not available separately. The wages for male labourers indicate the general wage of field labourers.

Note : Wages have been calculated in terms of constant prices on the basis of consumer price index number for Agricultural Labourers in Maharashtra (Base: July 1960, June 1961 = 100).

Source : Season and Crop Reports Maharashtra State, Various Issues.

CHAPTER III

GENERAL DEMOGRAPHIC AND SOCIO-ECONOMIC CHARACTERISTICS OF THE SELECTED VILLAGES

As mentioned earlier, two villages namely, Atke (modernized) and Khatval (traditional) have been selected for analysing the impact of changes in agricultural practices on social inequality at the micro level. The criteria followed for selecting these villages are described in Chapter I. The basic demographic and socio-economic features of both the villages are elucidated in this chapter.

3.1 Location

Atke is nine kms. away from its Tahsil and Block headquarters of Karad and 59 kms. from the district headquarters. It is situated in the bank of river Krishna. The Bombay-Bangalore National High Way No. 4 runs in the west of the village and the village is connected to it through a *pucca* approach road of two kms. The village is also located at the vicinity of Krishna Sahakari Sakhar Karkhana Ltd., the largest cooperative sugar factory of the district. Similarly, Khatval is situated at a distance of 18 kms. from Waduj, the Tahsil and Block headquarters of Khatav and 60 kms. from the district headquarters. A *kachha* approach road of four kms. connects the village to the metalled road that runs from Rohimatpur to Pondharpur.

3.2 Population

While Atke consists of 877 households with a total population of 5091 Khatval is having 231 households with a population of 1256. The general demographic information of the villages relating to growth of households and population, as reported in various census reports, is illuminated in Table 3.1. It indicates that Atke is relatively populous and its population has increased significantly during the two decades of 1961 to 1971 and 1971 to 1981. The unusual growth of population in the village during this period is attributable chiefly to the large scale immigration. Atke has attracted labours from outside because it provided employment opportunities for agricultural labourers in its modern agriculture

Table 3.1 : Growth of Households and Population

Particulars	ATKE				KHATVAL			
	1961.	1971	1981	1991	1961	1971	1981	1991
No. of households	513	601	781	877	152	182	204	231
Male population	1405	1779	2737	2564	410	416	544	581
Female population	1441	1731	2140	2527	444	500	632	675
Total population	2846	3510	4877	5091	854	916	1176	1256
Decennial variation of population (%)	23.33	38.95	4.39		7.26	28.38	6.80	

Source : District Census Handbook, Satara, Various Issues..

Many families have migrated to the village mainly from Marathawada region, who came looking for employment opportunity and have settled in the recent past. The increase of population in 1991 is primarily due to the general growth. Though in Khatval the growth rate is lower in comparison to Atke, it also experienced a recorded increase in its population from 1971 to 1981. This growth is mostly due to the inclusion of one more hamlet in the village in 1981 Census. Khatval's relatively low population growth is due to emigration of its people mostly to the low paying salaried jobs in Bombay and Pune. It is reported that many of the adult males of the village work in Bombay and Pune leaving their families in the village.

3.3 Caste Composition

In both the villages the Marathas are the dominant communities. They constitute more than 60 per cent of total population in Atke and 55 per cent in Khatval. Besides, the other caste groups in Atke are the Brahmins, the Guravs, the Navis, the Chamhars and the Telis. Similarly, in Khatval the other caste groups are the Wanis, the Guravs, the Kumbhars, the Mahars, the Mangs, the Ramoshis and the Holars. The growth of Scheduled Castes' and Scheduled Tribes' population in both the villages from 1961 census to 1991 census is illustrated in Table 3.2. It exhibits that the percentage of Scheduled Castes population in Khatval is comparatively more than that of Atke. The higher growth rate of Scheduled Castes population in Khatval during 1971 to 1981 census is possibly due to greater concentration of Scheduled Castes population in the newly included hamlet. The Scheduled Tribes population is almost nonexistent in these villages. The negligible appearance of their population in Atke in last census is due to immigration of some tribal families from Latur and Osmanabad districts.

Table 3.2: Growth of Scheduled Castes and Tribes Population (%)

Year	ATKE		KHATVAL	
	Scheduled Castes	Scheduled Tribes	Scheduled Castes	Scheduled Tribes
1961	3.58	-	5.27	-
1971	6.78	-	4.47	-
1981	4.92	-	14.11	-
1991	8.90	0.73	15.52	-

Source : Same as in Table 3.1.

3.4 Literacy

The growth of literacy rate is depicted in Table 3.3. It shows that the literacy rate (males and females) in Atke is considerably higher than that of Khatval. While in last 30 years Atke has increased its literacy by more than 20 per cent, Khatval shows an increase of only 12.5 per cent. It appears that increased pace of agricultural

modernization in Atke is accompanied by higher growth of literacy. The low literacy rate in Khatval is partly due to the higher percentage of population of Scheduled Castes who are extremely poor and backward in many fronts.

Table 3.3 : Growth of Literacy (%)

Particulars	ATKE				KHATVAL			
	1961	1971	1981	1991	1961	1971	1981	1991
Male Literacy	56.01	61.89	71.06	73.60	51.71	40.38	59.37	60.24
Female Literacy	28.17	30.44	39.67	51.80	19.14	13.40	30.85	36.15
General Literacy	41.92	46.38	57.30	62.78	34.78	25.65	44.05	47.29

Source : Same as in Table 3.1.

3.5 Occupational Structure

In both the traditional and modernized village agriculture constitutes the prime source of livelihood. While in Atke more than 80 per cent of the households are dependent upon agriculture and allied activities either for income or employment in Khatval it is relatively less (62 per cent). The traditional agriculture of Khatval pushed out its workers in favour of non-agricultural occupations available in and around the village. Besides, other occupations are there which are also economically significant. The establishment of Milk Co-operatives in these villages has led many households to own milchi animals which has become one of the major sources of income. The animal husbandry is also important occupation for most of the low caste people in Khatval. Apart from this, there are few households in this village belonging to artisan castes who continue to follow their traditional caste occupation. The mechanization of agriculture in Atke is associated with the hiring out of tractors and pumpsets which ultimately enable the rich households to enhance their income enormously. The trend of distribution of workers on the basis of their economic activities is shown in Table 3.4. It reveals that over the decades there is an increasing trend of occupational diversification in both the villages. The total number of workers dependent upon agriculture has decreased. In Atke the number of workers engaged in cultivation which was more than 67 per cent in 1961 decreased to 33.07 in 1981 and in 1991 it increased to 45.33 per cent. The agricultural modernization in Atke is also accompanied by increase in agricultural labour force. The number of persons who earn their livelihood from agricultural labour services has increased from 21.76 per cent in 1961 to 38.08 in 1981 and decreased slightly in 1991 to 32.7 per cent. Though the increase of labour force in the village is attributed to migration of outside labourers, it may not be the only reason for such a huge growth. The trend of agricultural modernization might have contributed to this process of increasing impoverishment. In Khatval, though the number of cultivators are more and number of agricultural labourers are less in comparison to Atke, it also indicates increasing trend of agricultural labourers and decreasing trend of cultivators. The number of cultivators which was 88.45 per cent in 1961 came down to 63.67 in 1991 with a corresponding rise of agricultural labourers from 5.38 per cent in 1961 to 20.99 in 1991. The major variation in the number of agricultural labourers and cultivators in

the village is found between 1971 to 1981 which may be due to the changes in the geographical boundary of the village described earlier. In both the villages there is an increasing trend of adoption of non-agricultural occupation. While in Atke the number of persons engaged in household industry decreased in Khatval it continued to increase. The reason behind the decrease of workers in household industry in Atke is that, with the higher rate of mechanization the importance of manufactured implements has increased and this in turn terminated the services of traditional artisan workers. On the contrary, as it is evident (Table 3.4), the agricultural modernization in Atke provides opportunities to more number of people in trade and commercial activities.

Table 3.4 : Distribution of Workers by Economic Activities (% to total Workers)

Economic Activity	ATKE				KHATVAL			
	1961	1971	1981	1991	1961	1971	1981	1991
Cultivation	67.71	52.04	33.07	45.33	88.45	81.09	63.76	63.6
Agricultural Labour	21.76	31.08	38.08	32.70	5.38	8.82	21.14	20.9
Household Industry	3.61	3.37	1.00	1.05	3.19	5.04	4.26	7.5
Manufacturing other than household industry	0.55	1.87	-	9.82	0.20	-	-	1.1
Trade and Commerce	1.33	1.69	-	2.43	0.40	-	-	-
Services	2.28	7.19	-	4.05	2.00	-	-	5.4
Other Occupations	2.75	2.75	27.81*	4.62	0.40	5.04	10.83 *	1.1
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.0

*It includes the workers engaged in manufacturing other than household industry, trade and commerce services. Separate figures are not available.

Source : Same as in Table 3.

3.6 Resources

The resource ownership position of both the villages reflects their differential pattern of agricultural development. As regards the resource structure, Atke is richer than Khatval and it is largely due to the effect of agricultural modernization. In order to facilitate smooth transportation of agricultural produce particularly the truck loads of sugarcane, Atke is provided with a *pucca* approach road that links the village with sugar factory and National Highway No. 4. On the other hand, there is a *kuchha* approach road to Khatval which mostly remains muddy and slushy in rainy season. Besides, while Atke has two Primary Agricultural Societies, two Milk Co-operative Societies, a Primary School, a Middle School, a Secondary School, a small Library, a Dispensary, a Veterinary office and a market within its territory, Khatval is provided with only a Primary Agricultural Co-operative Society, a Milk Cooperative Society and a Primary school. However, both the villages enjoy the facilities of drinking water, controlled ration and electricity though it is irregular, limited and badly managed. The modernized village of Atke has 350 tractors, 60 threshers, 666 oil engines and pumpsets and 5730 livestock. In addition, sugar crushers, trollies, sprayers and other small and minor mechanical appliances are found with all well to

do peasants of the village. The Krishna sugar factory which is located near Atke, besides the irrigation facilities, provides various agricultural incentives to the sugarcane growers as well as infrastructural facilities to the village in general. On the other hand, there are only seven tractors, 11 pumpsets and oil engines and 684 livestock in Khatval.

3.7 Land Ownership Structure

The growth of total area, cultivated and irrigated area of two villages is projected in Table 3.5. Both the villages have almost same amount of total area. However, cultivable land is comparatively more in Atke. Though the percentage of cultivable land of the two villages is increasing slowly over periods, the rate is

Table 3.5: Total Area, Cultivable Area and Irrigated Area (Hectares)

Particulars	ATKE			KHATVAL		
	1971	1981	1991	1971	1981	1991
Total area	1109.68	1112.00	1113.00	1145.16	1149.00	1149.45
% of cultivable area	84.92	87.23	88.23	82.32	82.94	83.72
% of irrigated area to cultivable area	20.67	62.37	78.82	4.23	3.36	9.92

Source :Same as in Table 3.1.

very slow in Khatval. The availability of irrigation facilities in Atke is one of the reasons for its rapid expansion of cultivable area. The irrigated land in the village has increased noticeably over the years and near about 80 per cent of cultivable area is irrigated. The Krishna cooperative sugar factory through its various lift irrigation schemes extended the irrigated area in the village utilizing the water of Krishna river in order to promote sugarcane cultivation in the region. On the contrary, in Khatval the area under irrigation is very negligible. Hence, the chief source of irrigation in this village being the wells, the water supply is severely affected in the peak of summer. The well irrigated lands mostly belong to the wealthy farmers of the village who have wells and pumpsets.

According to the Talathis' report the total land in Atke and Khatval constitutes 1019.50 and 1046.87 hectares respectively which is unequally owned. Size class-wise distribution of holdings and area in both the villages are depicted in Table 3.6. It reveals that land concentration in these villages is less in comparison to that of the district average. However, in Atke the marginal holders constituting 47.26 per cent of the total holders control only 15.65 per cent of the total area. In Khatval, with 39.07 per cent of the holders they own 11.33 per cent of the village area. On the other hand, while in Atke the large holders who constitute only 6.08 per cent occupy 22.04 per cent of total area in Khatval they control 25.62 per cent of total area with 7.18 per cent of holders. The marked difference in the average holdings of various classes in the two villages is due to variations in land sizes described in Chapter I. Moreover, it is also estimated from a source⁵⁸ that 76 per cent large holders in Atke

and 81 per cent large holders in Khatval have partitioned their holdings among family members while cultivating and staying jointly. It might have added to the number and area of marginal and small holders. A comparison of the landownership structure in two villages shows that Atke exhibits less disparity among its landowners than that of Khatval in terms of number of holdings, area, as well as, average holding.

Table 3.6 : Number and Area of Holdings (%) by Size Class
(as on December 1997)

Size Class	ATKE			KHATVAL		
	No.	Area	Average Holding (in hectares)	No.	Area	Average Holding (in hectares)
Marginal	47.26	15.65	0.25	39.07	11.33	0.48
Small	27.33	26.44	0.73	29.67	25.67	1.44
Medium	19.33	35.87	1.40	24.08	37.38	2.59
Large	6.08	22.04	2.74	7.18	25.62	5.96
All Classes	100.00	100.00	0.76	100.00	100.00	1.67

Source : Talathi office of the respective villages.

3.8 Cropping Pattern

The two villages of opposite echo types represent two different types of cropping pattern. While the modernized village of Atke largely cultivates sugarcane, the traditional village of Khatval grows mainly the foodgrain crops. The number of crops in Atke is very limited but in Khatval they are more varied in kind. Sugarcane is the predominant crop in Atke. It covers more than 60 per cent of the gross cropped area. The assured irrigation provided by cooperative sugar factory along with other crop specific incentives induced the farmers for cultivation of sugarcane in such a large scale. Apart from sugarcane, the other important crops in Atke are soyabean, paddy and groundnut. The cropping pattern in Atke for last five years is illustrated in Table 3.7. It is found that the area under sugarcane which increased earlier shows a decreasing trend since last two years with a corresponding increase in that of groundnut and soyabean. It is observed that the rising cost of cultivation of sugarcane without a corresponding rise in its price have largely motivated the peasants of the village to decrease their tillage area under sugarcane.

On the other hand, bajra is the principal crop in Khatval. It covers more than 65 per cent of the total gross cropped area. Besides bajra, the other crops are jowar, wheat, tur, math, etc. The cropping pattern in this village for last five years is shown in Table 3.8. Though it looks relatively stagnant, the area under bajra experiences a slight increase over the years. The area under commercial crops covers very small portion of gross cropped area does not show any significant trend. The data on cropping pattern on size class basis for both the villages are not available to project the agricultural practices among various categories of peasants of two different

echo-types. However, the analysis of agricultural activities of the selected households in these villages will provide a more detail picture on productive organization and their consequent impact on the persistence of social inequality.

Table 3.7 : Area under Crops (% to Gross Cropped Area) in Atke

Year	Crops						Total
	Sugarcane	Paddy	Soyabean	Groundnut	Fruits	Others*	
1992-93	72.32	6.18	14.27	4.11	-	3.12	100.00
1993-94	73.89	5.26	12.04	2.75	-	6.06	100.00
1994-95	74.22	5.86	12.93	2.89	-	4.10	100.00
1995-96	63.26	5.68	15.18	5.32	0.48	10.08	100.00
1996-97	61.22	6.75	20.98	7.03	0.55	3.47	100.00

* Separate figures for the crops included in this head are not available.

Source : Talathi's office, Atke.

Table 3.8 : Area under Crops (% to Gross Cropped Area) in Khatval

Year	Crops										Total
	Bajra	Jowar	Wheat	Tur	Horse Gram	Math	Potato	Onion	Ghevada	Groundnut	
1992-93	62.87	13.78	0.42	2.79	0.43	14.11	0.27	0.39	4.82	0.12	100.00
1993-94	61.67	15.22	0.27	3.48	0.48	13.31	0.12	0.25	5.09	0.10	100.00
1994-95	62.96	12.31	0.56	3.66	0.76	13.46	0.36	0.24	5.54	0.15	100.00
1995-96	63.60	11.59	0.41	3.56	1.29	13.78	0.30	0.23	5.21	0.03	100.00
1996-97	65.64	10.44	0.49	3.79	0.28	14.45	0.18	0.11	4.55	0.08	100.00

Source : Talathi's office, Khatval.

CHAPTER IV

FRAMEWORK OF AGRICULTURE

In an agrarian economy the pattern of distribution being influenced largely by the structure of production, the mode of formation of social inequality needs to be examined on the background of framework of agriculture. The present chapter attempts to give an account of agricultural operations of the traditional as well as modern agriculture and makes an inquiry into the agricultural practices prevalent in these two types of villages and their respective contributions towards the generation of social inequality. The analysis in this chapter is entirely based on the sampled households. As already mentioned earlier, 100 households (50 from each village) have been selected for this purpose.

4.1 Characteristics of the Selected Households

Before going into the details of the agricultural activities of the sampled households it would be fair enough to discuss briefly some of their major characteristics. These characteristics are important for two reasons. First, these characteristics play a crucial role in influencing the nature and extent of participation in agricultural activities. Second, they provide insights for examining the achieved and ascribed socio-economic positions.

i) **Population and Family Size :** The population, average size of family and family workers of the selected households are shown in Table 4.1. In the modernized village of Atke the average family size of the households is smaller than those of the traditional village of Khatval. While the family size in Atke increases with a rise in size of holdings it shows almost an opposite trend in Khatval. Both the villages exhibit higher number of family workers among the landless households. The average family workers among the landless, medium and large farmers in Khatval are relatively more than their respective counterparts in Atke.

Table 4.1 : Size Classwise Distribution of the Households and Population

Size Classes	ATKE				KHATVAL			
	House- holds	Popula- tion	Average Size of Family	Average Family Workers	House holds	Popula- tion	Average Size of Family	Average Family Workers
Landless	6	33	5.50	3.00	6	36	6.00	5.00
Marginal	16	81	5.06	2.38	15	91	6.07	3.40
Small	13	72	5.54	2.38	14	79	5.64	2.14
Medium	9	53	5.89	2.78	11	64	5.82	2.73
Large	6	40	6.67	2.67	4	19	4.75	2.75
All Classes	50	279	5.58	2.56	50	289	5.78	3.04

Source : Field Survey.

4.2 Land Ownership Pattern

The analysis of land distribution in both the villages on size class basis presented in Chapter III indicates a slightly higher concentration in the traditional village. The distribution of land on size class basis as reported in Chapter III does not provide the exact picture as most of the upper land owning households have partitioned their holdings in land record. Therefore, the analysis of land distribution among the sampled households, as it is based on actual land ownership position unveils the real situation. Landholding pattern of the selected households on size class basis is displayed in Table 4.2. It discloses the fact that the inequality in landholding among various categories of farmers in Atke is relatively higher. The average holding of the large farmers in Atke is 4.18 hectares which is more than 16 times that of the marginal holders. Similarly there is a wide gap between small and large holders also. But in Khatval the disparity is relatively less. The average holding of the marginal holders constitutes less than one ninth of the average holding of the large holders and their per capita holding comes to 0.11 hectare as against 1.18 hectares of the large farmers. The marked differences between the two villages with respect to the average and per capita holding of various size classes is due to variations in land sizes described earlier (Chapter I).

Table 4.2 : Land Holding Pattern (Acres)

Size Classes	ATKE			KHATVAL		
	Net Cultivable Land	Average Holding	Per capita Holding	Net Cultivable Land	Average Holding	Per capita Holding
Marginal	4.06	0.25	0.05	9.56	0.64	0.11
Small	8.80	0.68	0.12	20.95	1.50	0.27
Medium	11.42	1.27	0.22	28.57	2.60	0.45
Large	25.10	4.18	0.63	22.51	5.63	1.18
All Classes	49.38	1.12	0.20	81.59	1.85	0.32

Source : Field Survey.

4.3 Leasing-in and Leasing-out

In Atke almost all land is owner-cultivated. None of the sampled households of the village has either leased in or leased out land. The assured irrigation, extensive credit facilities, abundant labour supply and other infrastructural development have attracted the landowners of all categories for self cultivation. The upper caste landowners who were earlier leasing out their land find it profitable to cultivate with the support of cheap migrant labourers. Though in traditional agriculture of Khatval the predominant practice is the owner cultivation leasing in and leasing out are also prevalent. While one household from higher landowning group has leased-out 1.20 hectares of land, two landless households have leased in 0.90 hectare. It is observed that the system is based on old practice where both inputs and outputs are shared between the lessor and lessee and the rent is paid commonly in kind.

4.4 Irrigation and Cropping Intensity

The area under irrigation and cropping intensity of different size groups are shown in Table 4.3. Due to irrigation facilities provided by the cooperative sugar factory the farmers in Atke have more than 93 per cent of area under assured irrigation and the irrigated area is still more among the medium and large farmers which comes to 98.95 and 98.80 per cent respectively. In Khatval, on the other hand, the farmers are mostly deprived of irrigation facilities. Only the large and medium farmers who are relatively with better economic position could manage to irrigate a small portion of their land through own wells and pump sets which is also quite expensive. The medium farmers and the large farmers possess 14.07 and 14.88 per cent of their cultivable lands respectively as irrigated area. The cropping intensity of all size classes in this village looks higher than that of Atke. It is primarily due to the extensive cultivation of sugarcane. Though sugarcane is of one year duration crop the area under its cultivation has not been treated as double cropped area. The cropping intensity in Atke is higher among the medium and small holders. The marginal holders have lower cropping intensity which is attributable to the lower percentage of their area under irrigation. In the traditional agriculture of Khatval, the cropping intensity decreases with the rise of holding size. However, in case of the large farmers it comes to only 104.18 which is lowest among all size classes. This is due to leasing out of some land by this group.

Table 4.3 : Net Cultivable Land (hectares), Irrigated Area (%) and Cropping Intensity

Size Classes	ATKE				KHATVAL			
	Cultivable land	% of Irrigated Area	Gross Cropped Area	Cropping Intensity	Cultivable land	% of Irrigated Area	Gross Cropped Area	Cropping Intensity
Marginal	4.06	93.60	4.25	109.00	9.56	-	15.00	156.90
Small	8.80	96.60	11.00	125.00	20.95	-	29.73	141.91
Medium	11.42	98.95	12.70	111.21	28.57	14.07	37.53	131.36
Large	25.10	98.80	26.50	105.58	22.51	14.88	22.20	104.18
All Classes	49.38	98.01	54.45	110.63	81.59	9.02	104.46	129.94

Source : Field Survey.

4.5 Cropping Pattern

The inroad of agricultural modernization in Atke has tremendously altered the cropping pattern of the village which is entirely different from the traditional agriculture of Khatval. In Atke sugarcane is the principal crop for all farmers irrespective of their size of holding and it covers 66.63 per cent of the gross cropped area (Table 4.4). The variation of area under this crop across the size groups is minimal. However, the small and marginal holders' share is more as compared to medium and large farmers. This is due to the fact that as the amount of credit and other facilities (both cash and kind) provided by the cooperative sugar factory is relative to the tillage area under sugarcane, the small and marginal farmers are

induced by such policy to increase the area under this crop to the possible extent in order to avail more credit facilities. The large and medium farmers whose degree of dependency on credit facilities is relatively less could manage to bring a significant portion of their tillage area under some other high valued crops like groundnut and soyabean. The cultivation of foodgrains in the village is mostly at the subsistence level. Barring the large farmers, who have relatively less area under foodgrains, other categories of cultivators have almost equal proportion of gross cropped area under these crops. On the contrary, the cropping pattern of the farmers in Khatval as shown in Table 4.5 is characterized by foodgrain cultivation which covers more than 90 per cent of the gross cropped area. Bajra and jowar are the staple crops for all categories of farmers and they cover 56.08 and 23.69 per cent of the cropped area respectively. Unlike the other village the share of sugarcane and other commercial crops in this village is very negligible. Only the large farmers who have a small portion of well-irrigated land grow sugarcane.

Table 4.4 : Area Under Crops (% to Gross Cropped Area) in Atke

Size Classes	Crops						All Crops
	Sugarcane	Soyabean	Paddy	Wheat	Groundnut	Mung	
Marginal	67.76	6.59	17.65	-	8.00	-	100.00
Small	70.36	10.18	4.46	11.36	1.82	1.82	100.00
Medium	63.46	9.45	7.72	10.08	9.29	-	100.00
Large	66.42	12.08	6.03	9.05	6.42	-	100.00
All Classes	66.63	10.65	7.02	9.05	6.28	0.37	100.00

Source : Field Survey.

Table 4.5 : Area Under Crops (% to Gross Cropped Area) in Khatval

Size Classes	Crops										All Crops
	Bajra	Wheat	Jowar	Math	Horse Gram	Ghevda	Mung	Groun-dnut	Sugar-cane	Tur	
Marginal	50.54	14.66	25.54	3.26	6.00	-	-	-	-	-	100.00
Small	48.44	11.64	29.06	6.82	-	3.37	0.67	-	-	-	100.00
Medium	65.55	8.82	16.20	9.16	-	-	-	0.27	-	-	100.00
Large	54.05	2.70	27.93	5.41	2.70	-	-	-	5.41	1.80	100.00
All Classes	56.08	9.16	23.69	6.85	1.44	0.96	0.19	0.10	1.15	0.38	100.00

Source : Field Survey.

4.6 Adoption of High Yielding Varieties

The cropping pattern of all categories of farmers in Atke is heavily dependent upon HYV. It covers more than 97 per cent of cropped area (Table 4.6). The essential condition for the use of high yielding seeds being the availability of assured irrigation both in terms of quantity and timing, the peasants of Atke find it advantageous to widely use these seeds for higher productivity and greater margin of profit. The crops like sugarcane, soyabean, groundnut and wheat are almost entirely under these varieties and 75.92 per cent of the area under paddy is also covered by these seeds. The entire cropped area belonging to the large farmers is covered by high yielding varieties. Though a large area of farmers of other size classes are under these varieties, the extent of adoption decreases slightly with a decrease in size of holding. The extensive adoption of high yielding varieties along with increasing cultivation of cash crops in Atke has intensified the relation of farmers with outside world. It has made the traditional skill and technology almost irrelevant and encouraged the farmers to participate in the wider market as regular buyer of agricultural implements and inputs. Hence, as the choice of the farmers for these new seeds changes very fast keeping in view their productivity and marketability, the farmers are required to keep in regular touch with the local level bureaucrats for new varieties of seeds, their quality and nature of operations.

Table 4.6 : Area of Crops Under HYV (%) in Atke

Size Classes	Crops						All Crops
	Sugarcane	Soyabean	Paddy	Wheat	Groundnut	Mung	
Marginal	100.00	00.00	57.33	-	100.00	-	85.88
Small	100.00	100.00	59.18	100.00	100.00	00.00	96.36
Medium	100.00	100.00	59.18	100.00	100.00	-	96.85
Large	100.00	100.00	100.00	100.00	100.00	-	100.00
All Classes	100.00	98.90	75.92	100.00	100.00	00.00	97.43

Source : Field Survey.

On the other hand, in the traditional village of Khatval, due to the constraints of irrigation facilities, the farmers rely largely on the traditional or local varieties. However, 16.46 per cent of the gross cropped area of the sampled farmers is covered by HYV (Table 4.7). Sugarcane which is cultivated only by the large holders, is completely covered by these varieties of seeds. On an average wheat has greater coverage than any other crops. The rate of adoption of high yielding varieties is higher among the marginal holders. In order to remove the continuous deficit of their foodgrains the marginal holders in anticipation of getting higher yield adopt these new varieties of seeds.

4.7 Fertilizers and Insecticides Consumption

The process of agricultural modernization in Atke has made the consumption of chemical fertilizers and pesticides as an essential condition for the cultivation of all crops without which only a meager amount would be harvested. This is reported

to have been the case mostly after the availability of irrigation facilities and introduction of HYV seeds. Before irrigation the indigenously prepared manure composed of animal wastes, dark silts from the beds of the tanks, etc. were applied to increase the productivity. But the application of high doses chemical fertilizers and insecticides have now become quite an integral part of cultivation process for all categories of farmers. The consumption of fertilizers in both the villages on size class basis is illustrated in Table 4.8. In Atke as far as the average consumption for all crops is concerned, the small holders use more than the other categories. Among the size classes the consumption of the marginal farmers is lowest and it is mainly due to the shortage of working funds.

Table 4.7 : Area under HYV (%) in Khatval

Size Classes	Crops										All Crops
	Bajra	Wheat	Jowar	Math	Horse Gram	Ghevda	Mung	Ground nut	Sugar-cane	Tur	
Marginal	15.83	77.27	54.31	-	-	-	-	-	-	-	33.20
Small	-	5.78	14.29	-	-	-	-	-	-	-	4.71
Medium	-	100.00	67.43	-	-	-	-	-	-	-	19.74
Large	16.67	33.33	00.00	-	-	-	-	-	100.00	-	15.31
All Classes	5.46	56.53	29.82	-	-	-	-	-	100.00	-	16.46

Source : Field Survey.

Table 4.8 : Consumption of Chemical Fertilizers (per Hectare in Kg.).

Size Classes	ATKE	KHATVAL
Marginal	1948.24	63.67
Small	1054.55	60.88
Medium	1005.51	46.63
Large	1043.40	110.36
All Classes	1029.35	66.68

Source : Field Survey.

Looking at the fertilizer consumption pattern among the sampled farmers of Khatval it is seen that their average consumption is very negligible as compared to the farmers of Atke. The average consumption of the farmers for all crops comes to only 66.68 kgs per hectare as against 1029.35 kgs in Atke. The higher average consumption of the large farmers is attributable to their sugarcane cultivation. Along with this, the use of HYV followed the application of huge quantities of pesticides because these plants are more susceptible to pest attack. The farmers are also

compelled to buy sprayers. In Atke the farmers of all size classes spend a significant portion of their agriculture budget on this account especially to protect sugarcane, groundnut, soyabean and other high valued crops. On the other hand, due to small coverage of HYV, the use of pesticides in Khatval is very limited and negligible. Unlike Atke where sprayer is commonly seen with almost all categories of farmers, in Khatval only the households belonging to the large landowning groups possess this kind of equipment.

4.8 Agricultural Machinery

The agriculture of Atke is highly mechanized as compared to Khatval. The minimum implements such as threshers, sugarcane crushers, sprayers, etc. are found with all categories of peasants. The ownership of tractors which is considered as the principal indicator of mechanization is largely specific to the holding sizes. The ownership pattern of tractors, electric pumpsets and oil engines among the farmers of both the villages is shown in Table 4.9. It indicates that the farmers of all landowning groups in Atke except the marginal holders own tractors in varying degrees. Though the large farmers have more tractors their per hectare ownership is 0.34 which is little less than the medium farmers. As the ownership of tractor needs huge investment, the marginal farmers because of their poor economic position and poor land ownership base are unable to acquire it. As regards electric pumpsets, the per hectare ownership among marginal farmers in Atke is more than that of the other categories of farmers. The demand for the services of oil engines being very negligible, the marginal holders do not own it. However, the higher landholding households own this instrument in order to meet the emergent requirements. The higher landowning households of the village are well equipped to carry on their production process smoothly. The nature of agricultural operations in Atke makes the tractor services inevitable. Though the marginal farmers do not have tractors of their own, they used to hire tractor services during major agricultural operations. In Khatval only the large farmers own tractors which in per hectare terms comes to only 0.01. Unlike the modern agriculture of Atke the tractor services is not inevitable in Khatval. However, the large farmers earn a considerable amount of income by hiring out the tractor for non agricultural purposes. The variations in the ownership of pump sets and oil engines among the various categories of farmers are less.

The ownership of tractors in both the villages is crucial in two respects. Firstly, it serves agricultural purposes and secondly, it provides an additional source of income to its owners. The use of tractors, oil engines and pump sets in own land and rate of hiring them out by the farmers is depicted in Table 4.10. Usually the pump sets and oil engines are not hired in both the villages. But the rate of hiring out of tractors while comes to 54.14 per cent of total days engaged in Atke, in Khatval it is 80 per cent. All the tractor owning size classes hire out their tractors for more hours than they use it. It is inferred that tractor provides a substantial amount of income. In Atke, the small, medium and large farmers get a portion of their income from this source and the amount increases with an increase in holding size. The land based long term credit facilities provided by the various formal agencies provide opportunities to the higher landowning groups to acquire these income generating high valued assets at concessional rate of interest. As the marginal holders are deprived of such facilities due to their poor land ownership position a significant

portion of their income is being transferred to the pocket of upper landowning households against hiring in of tractor services.

Table 4.9 : Ownership of Agricultural Machinery

Size Classes	ATKE						KHATVAL					
	No. of Tractors		No. of Electric Pumpsets		No. of Oil Engines		No. of Tractors		No. of Electric Pumpsets		No. of Oil Engines	
	Total	Per hect	Total	Per hect	Total	Per hect	Total	Per hect	Total	Per hect	Total	Per hect
Marginal	-	-	-	-	-	-	-	-	3	0.20	2	0.13
Small	2	0.18	4	0.36	2	0.18	-	-	3	0.10	3	0.10
Medium	6	0.47	5	0.39	4	0.31	-	-	5	0.13	-	-
Large	9	0.34	7	0.26	4	0.15	1	0.05	6	0.27	1	0.05
All Classes	17	0.31	19	0.35	10	0.18	1	0.01	17	0.16	6	0.06

Source : Field Survey.

Table 4.10 : Use of Agricultural Machinery

Size Classes	ATKE				KHATVAL			
	Tractors		Oil Engines		Tractors		Oil Engines	
	% of hours in own land to total hours used	% of hired out hours	% of hours in own land to total hours used	% of hired out hours	% of hours in own land to total hours used	% of hired out hours	% of hours in own land to total hours used	% of hired out hours
Marginal	-	-	100.00	-	-	00.00	100.00	00.00
Small	49.02	50.98	100.00	00.00	-	00.00	100.00	00.00
Medium	45.16	54.84	100.00	00.00	-	00.00	100.00	00.00
Large	45.08	54.92	100.00	00.00	20.00	80.00	100.00	00.00
All Classes	45.86	54.14	100.00	00.00	20.00	80.00	100.00	00.00

Source : Field Survey

4.9 Labour Use Pattern

The diversity of agricultural practices between the traditional and modernized village is echoed in their labour relations which are radically different. The pattern of labour use among the farmers in the two villages is displayed in Table 4.11. A comparative analysis shows that the per hectare use of labour days is much higher in the modernized village. While in Atke the per hectare use of labour constitute 399.85 days, it is only 50.81 days in Khatval. Contrary to the alleged views that agricultural modernization displaces human labour, the findings of the study establishes the fact that agricultural modernization provides ample employment opportunities.

The dependency on hired labour services is remarkably more in Atke than that of Khatval. The share of family labour is higher in the traditional agriculture of Khatval. The percentage family labour days in Khatval comes to 68.63 as against 51.30 in Atke.

Table 4.11 : Labour Use Pattern

Size Classes	ATKE				KHATVAL			
	Total Labour Days Used	Per hectare Use of Labour Days	% of Family Labour	% of Hired Labour	Total Labour Days Used	Per hectare Use of Labour Days	% of Family Labour	% of Hired Labour
Marginal	2804	659.76	75.61	24.39	1172	78.13	89.76	10.24
Small	4069	369.91	61.05	38.95	1613	54.25	55.67	44.33
Medium	5359	421.97	72.10	27.90	1269	33.81	70.06	29.94
Large	9540	360.00	28.30	71.70	1254	56.49	64.11	35.89
All Classes	21772	399.85	51.30	48.70	5308	50.81	68.63	31.37

Source : Field Survey

The new cropping pattern and the associated water management of the modernized village require quick completion of all agricultural operations within short duration. It compels the peasant to hire labourers during certain periods which ultimately reduces the contribution of family labour. Size classwise analysis reveals that the per hectare use of labour days of the marginal farmers is 659.76 days which exceeds noticeably the labour days of other groups of farmers. It is mainly due to the greater participation of their family members. As they own small patches of land, they put all possible efforts to maximize the production. The percentage of their family labour to total labour days comes to 75.61. Though they try to replace hired labour by family labour, given the nature of agricultural practices, hired labour services becomes inevitable for them. The percentage of their hired labour days is only 24.39 which is lowest among all categories of farmers. The large farmers in Atke almost entirely depend upon hired labour services. Though their per hectare labour use is only 360 days which is lower than the other groups 71.7 per cent of it are met by hired labour services. The participation of their own family members constitute only 28.30 per cent of the total labour days which includes supervision also. The women and children of this class rarely work in the field.

The labour use pattern of the sampled households in Khatval is characterized by the predominant use of family labour. The per hectare use of labour is more among the marginal and large holders. The higher use of labour by the marginal holders is due to the greater participation of their family members. 89.76 per cent of the labour days is contributed by their family members. The relatively less participation of family members of the small farmers is caused by their small size of family workers. Unlike Atke, the large holders in Khatval meet the labour

requirement largely by family labour. However, the cultivation of sugarcane makes their dependency on hired labour slightly more (35.89 per cent).

Apart from the differences in the labour use pattern, the advent of agricultural modernization has changed the pre-existing labour relations. In the modern agriculture of Atke a new type labour (contract labour) has emerged where the labour service is provided by a group of labourers composed of both the sexes with a male group leader. During peak periods like transplantation, weeding and harvesting these groups are formed and reorganized. The group is required to complete a definite agricultural operation within a stipulated period of time and the wage is fixed taking into account the nature of operation (which is largely crop specific), time limit, location of land and the bargaining capacity of the group leader and the employer. The labourers of this kind are mainly the migrants who mostly belong to the lower castes. This type of labour is now widely preferred among the landowners because the agricultural operations are completed within short period. Around 80 per cent of labour requirements of the village are met with this kind of labour services. Especially for transplantation, weeding and harvesting priority is given for these labourers. The extensive cultivation of sugarcane specifically increased the demand for this type of labour services. Due to the increasing importance on contract labourers in the modern agriculture, the traditional labour is gradually being replaced. The practice of casual and attached labour system has been minimized. The native labourers mostly work as casual labourers. The small and marginal holders due to their small scale farming manage with the casual labourers. Near about 65 to 75 per cent of their hired labourers are casual labourers. The wage rate for a casual labourer is Rs. 50/- for male and Rs. 30/- for female per day. It also varies from season to season. Though the attached (permanent) labour practice is not widely prevalent, two large farmers in Atke have employed this kind of labourers. They are paid Rs. 10,000/- per annum along with 'free' lodging and boarding facilities and the labourer remains completely under the disposal of the employer. There is no specific time limit for the labourer and he is required to work whenever and wherever his services is wanted. Besides, some casual labourers are also found who work on shift basis, the first shift starts from morning 7 a.m. to 1 p.m. and the second shift continues from 2 p.m. to 8 p.m. The shift arrangement of labour services are only limited to sugarcane cultivation. A new group of skilled labourers has also emerged in Atke in the wake of agricultural modernization. They are the tractor drivers, the sprayers and the thresher operators. The tractor drivers are employed on annual contracts and they work relatively under better working conditions. They are paid a monthly wage of Rs. 2000/-. They are required to drive and maintain the tractors and quite often they are also hired out by the employer along with the tractor. The other skilled labourers such as sprayers and thresher operators though get wages which is little higher than that of the casual labourers, they mostly work under conditions similar to ordinary casual labourers. In modern agriculture of Atke, due to tractorization the service of the ploughmen is hardly required. The tractor has also made the bullock carts obsolete and it has created impediments, in earning of those labourers who depended on bullock carts. It also reduced the services rendered by blacksmiths and carpenters who were earlier deriving a major portion of income by manufacturing and repairing the agricultural implements. On the whole, though the modernization of agriculture in Atke has increased demand for hired labour services, it has affected the income sources of many traditional labourers by altering the pre-existing labour relations.

The new agricultural practices have expanded the typology of labour and introduced a heterogeneous wage structure with diverse terms and conditions.

The agriculture of Khatval which is characterized by predominant use of family labour is mainly based on traditional labour services. The contract labour services are conspicuous by its absence. The most distinguishing feature is the existence of exchange labour system. The small, marginal and medium farmers mostly fulfil their labour requirements through this practice. It covers more than 50 per cent of their labour services. The large farmers mainly rely on attached and casual labourers. The small, medium and marginal farmers largely meet their hired labour services by the casual labourers. The wage rates of the casual and attached labourers in Khatval is lower than those of Atke. While the attached labourers are paid Rs. 8000/- per annum along with 'free' lodging and boarding facilities, the per day wage rate of casual labourers is Rs. 40/- for a male and Rs. 25/- for a female which also varies from season to season depending upon the nature of agricultural operations and demand for labour services.

Added to this, the modern agriculture of Atke has invited the outside labourers on a large scale. Presently, there are two sets of labourers in the village viz., the migrants and the locals. The landowners who hitherto were dependent upon local labourers now prefer the migrant labourers. As a consequence, the local labourers who derive their income solely from agricultural labour services are impoverished. The share of migrant and native labourers to hired labour services of the sampled farmers is illustrated in Table 4.12. It is found that while the hired labour services in Khatval is entirely provided by the local labourers. On the contrary, in Atke the migrant labourers take a major share. Of the total hired labour days, 89.82 per cent is contributed by the migrant labourers. All categories of farmers in the village mostly hire the migrant labourers. However, the small and marginal farmers appear more sympathetic for the local labourers than the medium and large farmers. The share of local labourers to total hired labour days of the marginal and small holders come to 35.82 and 26.18 per cent respectively which is much higher than those of the large and medium farmers. The large and medium farmers due to their large scale farming find the terms and conditions of the migrant labourers more favourable and cheaper. Thus, the agricultural modernization in the process of changing the agricultural practices has introduced a new type of labour relations that creates on the one hand

Table 4.12 : Share of Migrant and Native Labourers to Hired Labour Days

Size Classes	ATKE			KHATVAL		
	Total Hired Labour Days	% of Migrant Labour	%of Local Labour	Total Hired Labour Days	% of Migrant Labour	%of Local Labour
Marginal	684	64.18	35.82	120	00.00	100.00
Small	1585	73.82	26.18	715	00.00	100.00
Medium	1495	98.66	1.34	380	00.00	100.00
Large	6840	94.15	5.85	450	00.00	100.00
All Classes	10604	89.82	10.18	1665	00.00	100.00

Source : Field Survey.

incompatible conditions for the marginal holders as well as the local landless labourers who largely derive their livelihood from agricultural labour services and provides a suitable base to the upper landowning households for their further prosperity on the other.

4.10 Access to Formal Credit

As the inroad of agricultural modernization has enormously enhanced the cost of cultivation, the availability of credit facilities and the extent of accessibility of various categories of farmers to these credit agencies need to be examined in the context of understanding social inequality. The rate of indebtedness of the farmers in both the villages to the formal credit agencies such as Banks and Cooperatives is shown in Table 4.13. It shows that the credit agencies are providing higher amount of loan to the farmers in the modernized village. The per hectare loan of all size classes

Table 4.13 : Agricultural Loan From the Formal Credit Agencies

Size Classes	ATKE			KHATVAL		
	Per hect. Loan (Rs.)	Per hect. Cost of Cultivation (Rs.)	% of Per hect. Loan to Cost of Cultivation	Per hect. Loan (Rs.)	Per hect. Cost of Cultivation (Rs.)	% of Per hect. Loan to Cost of Cultivation
Marginal	21082.35	25516.94	82.62	2340.0	1742.0	134.33
Small	11218.18	24231.36	46.56	945.17	1664.98	56.77
Medium	11401.57	26550.39	42.94	644.82	1130.03	57.06
Large	28490.57	25671.70	110.98	2855.86	3219.82	88.70
All Classes	20437.10	25757.25	79.35	1443.61	1814.28	79.57

Source : Field Survey

in Atke is many times more than that of Khatval. The per hectare loan of the marginal and large farmers of Atke is higher than that of the small and medium holders. The marginal holders' per hectare loan comes to Rs. 21082.35 which covers 82.62 per cent of their cost of cultivation. But the small and medium farmers' loan only support 46.56 and 42.94 per cent of their cost of cultivation respectively. The per hectare loan of the large holders is Rs. 28490.57 which is remarkably higher than other categories of farmers and it exceeds their per hectare cost of cultivation. Their loan is 110.98 per cent of cost of cultivation which makes it clear that the large farmers invest the surplus credit capital in other income generating and profitable items. In Khatval, though the amount of loans provided by the credit agencies is meager as compared to Atke, it looks higher from the point of view of cost of cultivation across the size classes. In this village the amount of loan is also more in case of marginal and large farmers. The marginal farmers' per hectare loan constitute Rs. 2742.00 which exceeds their cost of cultivation. The large farmers get 88.70 per cent of their cost of cultivation through credit facilities. The higher amount of loan of the marginal

farmers in both the villages is attributed to their poor economic position but the greater indebtedness of the large holders is largely due to their higher landowning position and wider control over the credit institutions.

Moreover, the transaction cost for these loan facilities in both the villages provides some interesting facts (Table 4.14). The percentage of transaction cost to the amount of loan is higher in the modernized village. As the cultivation process is highly expensive in the modern agriculture of Atke, the farmers largely depend upon the available credit facilities. In order to get higher amount of loan at the appropriate time they are required to entertain the officials of these agencies through various ways which makes their transaction cost higher. In both the villages the marginal holders pay higher rate of transaction cost and the amount decreases with the increase in holding size. The higher amount of loan of the upper landowning groups along with their wider political network reduces the proportion of transaction costs.

Table 4.14 : Average Amount of Loan and Rate of Transaction Cost

Size Classes	ATKE			KHATVAL		
	Average Amount of Loan (Rs.)	Average Transaction Cost (Rs.)	Average Transaction Cost as % of Average Loan	Average Amount of Loan (Rs.)	Average Transaction Cost (Rs.)	Average Transaction Cost as % of Average Loan
Marginal	5600.00	230.94	4.12	2340.00	38.33	1.64
Small	9492.31	186.54	1.97	2007.14	8.57	0.43
Medium	16088.89	179.44	1.12	2200.00	9.10	0.41
Large	125833.33	820.83	0.65	15850.00	25.00	0.16
All Classes	22256.00	253.20	1.14	3016.00	17.90	0.60

Source : Field Survey

It is evident from the above analysis that the credit facilities provided by the formal agencies have strengthened further the economic position of the large farmers in both the villages. Due to land based lending policies of these agencies the large farmers emerged as the major beneficiaries. The abundant supply of credit facilities in the modernized village increases the extent of benefit of the upper landowning farmers. Though the per hectare loan of the marginal farmers appears higher as compared to the cost of cultivation, their average loan is very negligible as compared to the large farmers. The higher amount of loan of the large farmers helps them increase their investment in agriculture, as well as, to acquire the high valued productive assets and other household items.

4.11 Informal Credit Relations

Informal credit relations in the studied villages are no way straightforward and it involves a wide range of complexities. In many cases, it can not be quantified and

can only be described. Unless a detailed census survey of both the villages is made and data are collected through participant observation method it is very difficult to capture the intricacies. Although it is reported that lending and borrowings are not uncommon in both the villages, the cases of indebtedness among the sampled households is very rare and data are negligible to be shown in a tabular form. It is reported that the old type of usurious capital in credit market has been broken in both the villages considerably due to extensive credit facilities by the formal agencies. Households having money lending as the principal occupation is almost nonexistent. Only some of the rich farmers practise money lending which is also very limited. However, the informal credit market is relatively more active in the traditional village. Two households of the village (one each from the marginal and small farmers category) have borrowed Rs. 2500/- from private moneylenders keeping 0.20 hectare of land in mortgage. While the marginal farmer has borrowed for family expenses the small farmer borrowed to meet the expenses of social customs and obligations. The most notable thing is that the two landless labourers in the village who have leased in some land have taken loan from their landlords. In one case the landlord has given loan to the tenant to meet the cost of cultivation such as seeds, fertilizers, etc. in free of interest which is repayable in grains from the harvest share of the tenant. In other case, the tenant household has borrowed money against the future labour services. In addition, it is also reported that tenants in the traditional village often render some unpaid or underpaid services for the landlord. In the modernized village no case of indebtedness to private moneylenders has been reported. However, tying of labour services through the credit contract is seen in the modernized village. Given the nature of agricultural operations in the modern agriculture which is heavily dependent upon hired labour services, the large farmers often tie the labourers through credit contracts in order to avoid the uncertainty of labour supply during the peak periods of agricultural activities. The labourers who have migrated to the village from other parts of the State for survival, usually take loans against future commitment of labour in which the payment of interest take the form of wage cut. In some cases it is found that migrant labourers who have migrated with their families are attached to big landowners on an annual contract basis against some advance amount of loan. Though this kind labour tying arrangements are made, 'bonded labour' in the sense that a labourer is tied to the landowner for an indefinite period until amount borrowed is repaid is conspicuous by its absence.

4.12 Outturn of Crops

Cropwise average yield among the farmers of various size classes in the modernized village is given in Table 4.15. A perusal of the table reveals that the combined effects of modern inputs have resulted in pushing up the yields of all crops across the size classes. However, the average yield increases with an increase in holding size. The large and medium farmers are more productive than the small and marginal farmers. Sugarcane which is the dominant and profitable crop in the village gives higher amount of average yield to the higher landowning farmers. Similarly the average yield of other two cash crops such as soyabean and groundnut is also higher among the medium and large farmers. But in case of foodgrains (paddy and wheat) the average yield is more among the marginal and small farmers.

Looking at the crop-wise yield in traditional village (Table 4.16), it is evident that the average yield is higher among the large farmers. However, the inclusion of sugarcane makes yield higher. If sugarcane is excluded the marginal and small farmers appear more productive. In this village the yield across the size classes is almost identical.

Table 4.15 : Cropwise Average Yield (per Hectare in Quintal) in Atke

Size Classes	Crops						All Crops
	Sugarcane	Soyabean	Paddy	Wheat	Ground -nut	Mung	
Marginal	1045.14	25.00	45.33	-	29.41	-	720.24
Small	1038.76	20.54	30.61	27.20	20.00	20.00	738.00
Medium	1179.90	26.67	36.73	13.28	34.75	-	758.74
Large	1173.30	26.56	20.00	20.83	21.76	-	786.94
All Classes	1135.89	25.34	30.63	20.49	26.90	20.00	765.27

Source : Field Survey.

Table 4.16 : Cropwise Average Yield (Per hectare in Quintal) in Khatval

Size Classes	Crops										All Crops
	Bajra	Wheat	Jowar	Math	Horse Gram	Ghevda	Mung	Ground- nut	Sugar- cane	Tur	
Marginal	10.27	11.36	12.53	6.12	2.22	-	-	-	-	-	10.39
Small	7.43	10.12	8.22	2.96	-	2.00	5.00	-	-	-	7.74
Medium	6.67	32.02	8.22	2.05	-	-	-	30.00	-	-	8.79
Large	12.25	8.33	9.35	5.00	4.17	-	-	-	750.00	5.00	50.47
All Classes	8.46	17.87	9.17	3.08	3.00	2.00	5.00	30.00	750.00	5.00	17.50

Source : Field Survey.

A comparison of yield patterns of the two villages makes it amply clear that the agricultural modernizing measures have noticeably enhanced the productivity of the farmers across the size classes, specifically in case of the crops like sugarcane, soyabean and groundnut. As far as yield of food grains is concerned, the difference between the two villages is not much taking into account the proportion of investment for these crops. The findings of the study raises doubts on largely believed view that the small farmers are more productive than big ones. In the modern agriculture the productivity is positively correlated with holding sizes of the farmers. But in the traditional agriculture increase in the holding size is not necessarily accompanied by an increase in productivity.

4.13 Marketed Surplus

As agriculture of the modernized village is characterized by the extensive cultivation of sugarcane and other cash crops, entire production process is market

oriented. More than 99 per cent of total agricultural produce of the sampled farmers is sold out (Table 4.17). While sugarcane and soyabean are completely sold out, 78.26 per cent of groundnut is also for sale. Paddy is mostly cultivated for consumption purpose. Only 35.04 per cent of its produce is sold. Similarly wheat is also grown for meeting the consumption requirements, but the medium and large farmers sell 58.80 and 64 per cent of their produce respectively. It is evident that the agricultural production of the village across the size classes is primarily for sale. However, the percentage of marketed surplus decreases slightly with a decrease in holding sizes. On the other hand, in the traditional village the agricultural production, as it is based on the cultivation of food grains, is largely at the subsistence level. The large farmers sell 89.25 per cent of their produce (Table 4.18) and it is mainly due to cultivation of sugarcane in which the entire produce is sold out. While the marginal and medium farmers sell 40.75 and 38.49 per cent of their produce respectively the proportion of sale by the small farmers is relatively higher (57.21 per cent). The higher amount of sale by the small farmers is possible due their small family size which may contribute for lower consumption requirement. It is inferred from the above analysis that the agricultural modernizing measures by introducing new cropping pattern has tremendously increased the rate of commercialization which in turn has intensified market relations in the village economy.

Table 4.17 : Cropwise Produce Sold (%) in Atke.

Crops	Marginal	Small	Medium	Large	All Classes
Sugarcane	100.00	100.00	100.00	100.00	100.00
Soyabean	100.00	100.00	100.00	100.00	100.00
Paddy	29.41	0.00	52.80	37.50	35.00
Wheat	-	29.40	58.80	64.00	51.50
Ground nut	40.00	0.00	100.00	73.00	78.30
Mung	-	0.00	-	-	0.00
All Crops	99.02	99.50	99.80	99.80	99.70

Source : Field Survey.

4.14 Input and Output Relations

Crop-wise per hectare cost of cultivation and income in the modernized village is illustrated in Table 4.19. It is evident that sugarcane is the most profitable crop in the village across the size classes. The net income from this crop is many times more than that of other crops. The increase in the cost of cultivation for this crop brings a corresponding rise in the net and gross income. Due to higher investment (mostly in fertilizers and other inputs) the medium and large farmers could get higher amount of per hectare income from this crop. The per hectare average income from all crops is more among the medium and large farmers. The medium farmers income is slightly higher than that of the large farmers. Comparatively, the small and marginal farmers get lower amount of income which may be due to their low investment.

Coming to the traditional agriculture of Khatval (Table 4.20), it is found that the per hectare gross and net income is extremely lower across the size classes as compared to the modern agriculture of Atke. Of all the crops in the village, though sugarcane is more profitable it is confined to the large farmers only who own certain amount of well-irrigated land. However, the per hectare income of sugarcane in this village is considerably lower in comparison to the modernized village. The per hectare income from all crops is higher among the large farmers which is largely due to sugarcane cultivation. Though the per hectare income of the marginal farmers is little less than that of the large farmers it is higher among all other categories of farmers. Unlike the modernized village, in this village higher amount of investment does not have a corresponding effect on gross returns because the cultivation process is entirely dependent on monsoons. The medium farmers with lowest cost of cultivation could get income which is higher than the small farmers. It is also reported that low rain fall has led to the total failure of certain crops in the village.

Table 4.18 : Cropwise Produce Sold (%) in Khatval

Crops	Marginal	Small	Medium	Large	All Classes
Bajra	39.18	53.27	35.37	30.67	38.42
Wheat	56.00	77.14	37.74	10.00	47.66
Jowar	33.33	52.11	54.00	87.93	57.71
Math	66.67	66.67	14.89	58.33	47.85
Horse Gram	50.00	-	-	00.00	22.22
Ghevda	-	100.00	-	-	100.00
Mung	-	00.00	-	-	00.00
Groundnut	-	-	33.33	-	33.33
Sugarcane	-	-	-	100.00	100.00
Tur	-	-	-	00.00	00.00
All Crops	40.75	57.21	38.49	89.25	72.06

Source : Field Survey.

The comparative analysis of input and output relationship between the two villages makes it quite clear that the combined effects of assured irrigation, mechanization, HYV seeds, high doses of fertilizer, labour and other inputs in the modernized-village have noticeably increased the per hectare income of all categories farmers as compared to the traditional one. The amount of income increases further with an increase in farm size.

From the above discussion it can be summarized that the framework of agriculture of these two villages are radically different. The modernization of agriculture by introducing new cropping pattern and associated agricultural practices has systematically changed the land, labour and credit relations in the village. As a result, the pattern of investment, production and income of the farmers have taken a new turn. The productivity of land has drastically been increased as compared to the traditional agriculture and it is positively correlated with land sizes. Given the unequal distribution of land, the tremendous rise in the per hectare income, while spells greater prosperity for the upper landowning farmers, perpetuates the rate of inequality existing among the various categories of farmers and the landless labourers. It could be observed from the structure of inequality existent in both the villages.

Table 4.19 : Cropwise Per hectare Cost of Cultivation, Gross Return and Net Income (in Rs.) in Atke.

Crops	Size Classes														
	Marginal			Small			Medium			Large			All Classes		
	Cost of Cultivation	Gross Return	Net Income	Cost of Cultivation	Gross Return	Net Income	Cost of Cultivation	Gross Return	Net Income	Cost of Cultivation	Gross Return	Net Income	Cost of Cultivation	Gross Return	Net Income
Sugarcane	32714.24	90607.64	57893.40	32332.04	88294.57	55962.53	36326.30	100291.56	63965.26	33340.91	99730.11	64389.20	34709.40	96691.01	61989.81
Soyabn	15714.29	25000.00	9285.71	9812.50	24107.14	14294.64	12083.33	32000.00	19916.67	10500.00	28562.50	18062.50	10946.55	28241.38	17294.83
Paddy	8440.00	20666.67	12226.67	8816.33	13306.12	6489.79	7551.02	26326.53	18775.51	4812.50	10312.50	5500.00	6740.84	17094.24	10353.40
Wheat	-	-	-	6928.00	17600.00	10672.00	1953.13	6640.63	4687.50	3583.33	12637.50	9054.17	4008.11	12338.74	8330.63
Groundnut	10294.12	20588.24	10294.12	6125.00	20000.00	13875.00	16949.15	51864.41	34915.26	4941.18	22941.18	18000.00	9685.67	32514.62	22828.95
Mung.	-	-	-	5500.00	10500.00	5000.00	-	-	-	-	-	-	5500.00	10500.00	5000.00
All Crops	25516.94	68341.18	42824.24	24231.36	67818.18	43586.82	26550.39	74192.91	47642.52	25671.70	72923.77	47252.07	25757.25	71830.67	46073.42

Source : Field Survey.

Table 4.20 : Cropwise Per hectare Cost of Cultivation, Gross Return and Net Income (in Rs.) in Khatval

Crops	Size Classes												All Classes		
	Marginal			Small			Medium			Large			Cost of Cultivation	Gross Return	Net Income
	Cost of Cultivation	Gross Return	Net Income	Cost of Cultivation	Gross Return	Net Income	Cost of Cultivation	Gross Return	Net Income	Cost of Cultivation	Gross Return	Net Income			
Bajra	1419.53	4534.96	3115.43	1642.36	3270.83	1628.47	1034.56	2961.38	1926.82	2191.67	4903.33	2711.66	1483.61	3664.48	2180.87
Wheat	1500.00	5250.00	3750.00	1387.28	7485.55	6098.27	1646.33	7462.24	5815.71	4000.00	5000.00	1000.00	1765.93	6995.82	5229.89
Jawar	2292.43	5942.36	3650.13	1846.06	4664.35	2818.29	1259.86	5847.04	4587.18	1448.39	3580.65	2132.26	1687.67	4899.40	3211.73
Math	5693.88	3673.47	-2020.41	1674.89	2438.42	763.53	857.56	1322.67	465.11	1250.00	4666.67	3416.67	1486.03	2360.34	874.31
H. Gram	555.56	1777.78	1222.22	-	-	-	-	-	-	3833.33	4833.33	1000.00	1866.67	3000.00	1133.33
Ghevada	-	-	-	1200.00	1200.00	00.00	-	-	-	-	-	-	1200.00	1200.00	00.00
Mung	-	-	-	2500.00	2000.00	-500.00	-	-	-	-	-	-	2500.00	2000.00	5000.00
Groundnut	-	-	-	-	-	-	9000.00	10000.00	1000.00	-	-	-	9000.00	10000.00	1000.00
Sugarcane	-	-	-	-	-	-	-	-	-	25000.00	60000.00	35000.00	25000.00	60000.00	35000.00
Tur	-	-	-	-	-	-	-	-	-	2250.00	00.00	-2250.00	2250.00	00.00	2250.00
All Crops	1742.00	4808.00	3066.00	1664.98	4031.28	2366.30	1130.03	3694.38	2564.35	3219.82	7452.25	4232.43	1843.00	4775.75	2932.75

Source: Field Survey

CHAPTER V

STRUCTURE OF SOCIAL INEQUALITY

In the previous chapter (IV) the productive organisations of the traditional and modernized villages comprising the cropping pattern, input-output relationship and land, labour and credit relations and their respective contributions towards the formation of inequality have been described at length. Against this background, the present chapter makes an attempt to examine the nature and extent of social inequality persistent in these two villages.

5.1 Income Distribution

One way of looking into the structure of social inequality is to examine the pattern of income distribution which largely reflects the distribution of gains of agricultural development. The distribution of income among the sampled households of Atke is demonstrated in Table 5.1. A perusal of the table reveals that there exists a tremendous income disparity among the various categories of farmers and it is mainly due to the contribution of agricultural (farm) income. The net income from agriculture of the marginal farmers is Rs. 11375.19 which covers 44.81 per cent of their total income.

Table 5.1 : Income Distribution (Rs.) in Atke (Mean Values per Household)

Size Classes	Gross Return from Agriculture	Cost of Cultivation	Net Income from Agriculture	% of Net Agricultural Income to Total Household Income	Income from Other Sources	% of Income from Other Sources to Total Household Income	Total Household Income
Marginal	18153.13	6777.94	11375.19	44.81	14012.81	55.19	25388.00
Small	57384.62	20503.46	36881.15	66.54	18543.15	33.46	55424.31
Medium	104694.44	37465.55	67228.89	69.63	29321.11	30.37	96550.00
Large	322080.00	113383.33	208696.67	85.18	36315.00	14.82	245011.67
All	88890.45	31647.32	57243.14	72.67	21523.77	27.33	78766.91
Landless	-	-	-	-	20215.00	100.00	20215.00

Source : Field Survey.

They largely depend upon other sources of income for their survival. Their total household income constitute only Rs. 25388.00 which is slightly higher than the landless labourers (Rs.20215.00). The large farmers on the other hand get 85.18 per cent of their total income from agriculture which makes their income many times higher than that of other categories of farmers. The small and marginal farmers derive 66.54 and 69.63 per cent of their income from agriculture respectively. The amount of income increases immensely with the rise of holding sizes. Every additional hectare of land adds to the income stream of a farmer derived from agriculture which results in the cumulative process of concentration of wealth in the hands of the upper landowning households.

Coming to the pattern of income distribution among the sampled households of Khatval (Table 5.2), it is evident that the share of agricultural income to total income is extremely lower as compared to the modernized village. The small and marginal farmers get only 19.87 and 19.15 per cent of their income from agriculture respectively and the major portion of income comes from other sources. The medium farmers get 50.84 per cent of their income from agriculture which is the highest share among all categories of farmers. The agriculture of the large farmers only support 43.50 per cent of their total

Table 5.2 : Income Distribution (Rs.) in Khatval (Mean Values per Household)

Size Classes	Gross Return from Agriculture	Cost of Cultivation	Net Income from Agriculture	% of Net Agricultural Income to Total Household Income	Income from Other Sources	% of Income from Other Sources to Total Household Income	Total Household Income
Marginal	4808.00	1742.00	3066.00	19.87	12367.27	80.13	15433.27
Small	8560.71	3535.71	5025.00	19.15	21215.00	80.85	26240.00
Medium	12604.55	3855.45	8749.10	50.84	8459.10	49.16	17208.20
Large	41360.00	17870.00	23490.00	43.50	30511.50	56.50	54001.50
All	11274.10	4307.27	6966.83	30.53	15854.88	69.47	22821.71
Landless *	625.00	350.00	275.00	1.81	14950.00	98.19	15225.00

* The gross return, cost of cultivation and net income from agriculture of this class is based on their leased in land.

Source : Field Survey.

household income. The household income disparity is mainly due to income from non-agricultural sources. Though the medium farmers get 50.84 per cent of income from agriculture their household income is less than the small farmers and it is due to less income from other sources. In this village, the landless labourers also get a small portion of their income (1.81 per cent) from cultivation by leasing in the lands of the higher landowning households. The difference between incomes of marginal farmers and landless labourers is minimal. Due to the predominance of other sources of income, the increase in land size is not necessarily associated with rise of household income. A comparative analysis of the income distribution of the two villages makes it clear that the agricultural modernization has brought economic prosperity for the landowners of all categories by pushing up the agricultural income significantly. However, on the other side, it has noticeably widened the gap between rich and the poor.

5.2 Resource ownership structure

The distribution of the resources (Table 5.3) on size class basis reflects pattern of inequalities existing in both the villages. In the modernized village it is found that the acquisition of land leads to the control over land based resources. The difference in landownership pattern corresponds to the unequal distribution of resources which exhibits a strong relationship between the two. The large and medium farmers have greater control over the resources. The new measures while increasing the agricultural income has helped the upper landowning households to acquire the high valued agricultural and other household assets. Large and medium farmers have more number of tractors, oil engines, and pumpsets. Due to higher land ownership position they have greater access to formal credit agencies and more control over the labour force also. Majority of them live in well designed *pucca* houses and own television sets. Many of the large farmers own trucks, jeeps and cars and other vehicles which also add to their income sources. The ownership of mopeds and motor cycles is common to most of the medium and large farmers. The landless labourers and the marginal holders, as they derive their livelihood largely from agricultural labour services are asset poor and have almost no control over the land based resources. In fact, in terms of land ownership, agricultural investment, income, ownership of agricultural machinery and other household assets, the large and medium farmers are much ahead of the other categories of farmers and land less labourers. The distribution pattern clearly reveals the utter lack of resources of the people belonging to lower land owning and land less groups.

In the traditional agriculture of Khatval (Table 5.3) though the resource ownership pattern is not independent of land ownership position the degree of correspondence between the two is relatively less. The resource ownership position among the farmers of all categories is poor as compared to that of the modernized village and the magnitude of inequality among the various categories of households is relatively less. Along with agricultural income, the contribution of non agricultural sources of income also plays an important role in the acquisition of household assets.

Table 5.3 : Size Classwise Distribution of Major Attributes of Agricultural Production and Inequality

Sl. No.	Particulars	Size Classes of the Modernized Village (Atke)					Size Classes of the Traditional Village (Khatval)						
		Land less N=6	Marginal N=16	Small N=13	Medium N=9	Large N=6	Total N=50	Land less N=6	Marginal N=15	Small N=14	Medium N=11	Large N=4	Total N=50
1	Average family size	5.5	5.06	5.54	5.89	6.67	5.58	6.00	6.07	5.64	5.82	4.75	5.78
2	Average land holding in hectares	-	0.25	0.68	1.27	4.18	1.12	-	0.64	1.50	2.60	5.63	1.85
3	Per cent of irrigated land to total holding	-	93.60	96.60	98.95	98.80	98.01	-	-	-	14.07	14.88	9.02
4	Cropping Intensity*	-	109.00	125.00	111.21	105.58	110.63	-	156.90	141.91	131.36	104.18	129.94
5	Per cent of area under cash crops to gross cropped area	-	82.35	82.36	82.20	84.92	83.56	-	-	-	0.27	5.41	1.25
6	Per cent of area covered by HYV	-	85.88	96.36	96.85	100.00	97.43	-	33.20	4.71	19.74	15.31	16.46
7	Per hectare ownership of tractors	-	-	0.18	0.47	0.34	0.31	-	-	-	-	0.05	0.01
8	Per hectare ownership of oil engines	-	-	0.18	0.31	0.15	0.18	-	0.13	0.10	-	0.05	0.06
9	Per hectare ownership of electric pumpsets	-	0.71	0.36	0.39	0.26	0.35	-	0.20	0.10	0.13	0.27	0.16
10	Per hectare consumption of chemical fertilizer (kg.)	-	948.24	1054.55	1005.51	1043.40	1092.35	-	63.67	60.88	46.63	110.36	66.68
11	Per hectare use of labour days	-	659.76	369.91	421.97	360.00	399.85	-	78.13	54.25	33.81	56.49	50.81
12	Per cent of family labour days to per hectare labour days	-	75.61	61.05	72.10	28.30	51.30	-	89.76	55.67	70.06	64.11	68.63
13	Per hectare cost of cultivation (Rs.)	-	25516.94	24231.36	26550.39	25671.70	25757.25	-	1742.00	1664.98	1130.03	3219.82	1814.28
14	Per cent of total produce sold	-	99.02	99.50	99.80	99.80	99.70	-	40.75	57.21	38.49	89.25	72.06
15	Per hectare net income (Rs.)	-	42824.24	43586.82	47642.52	47252.07	46073.42	-	3066.00	2366.30	2564.35	4232.43	2932.75
16	Average household income from all sources (Rs.)	20215.00	25388.00	55424.31	96550.00	245011.67	71740.68	15225.00	15433.27	26240.00	17208.20	54001.50	21910.10
17	Per cent of agricultural income to total income	-	44.81	66.54	69.63	85.18	70.22	1.81	19.87	19.15	50.81	43.50	28.13
18	Average labour days hired in	-	42.75	121.92	166.11	1140.00	212.08	-	8.00	57.07	34.55	112.50	33.30
19	Average labour days of family members in own land	-	132.50	191.08	428.89	450.0	223.36	-	70.13	64.14	80.82	134.00	72.86
20	Average labour days hired out	466.33	113.19	20.31	23.33	-	101.66	440.00	267.00	121.86	104.55	85.00	196.82

(Contd.)

Table 5.3 : (Contd.)

Sl. No.	Particulars	Size Classes of the Modernized Village (Atke)					Size Classes of the Traditional Village (Khatval)						
		Land less N=6	Marginal N=16	Small N=13	Medium N=9	Large N=6	Total N=50	Land less N=6	Marginal N=15	Small N=14	Medium N=11	Large N=4	Total N=50
21	Per hectare loan from formal credit agencies (Rs.)	-	21082.35	4227.18	11401.57	28490.57	20437.10	-	2340.00	945.17	644.82	2855.86	1443.61
22	Average amount of loan from credit agencies (Rs.)	-	5600.00	9492.31	16088.89	125833.33	22256.00	-	2340.00	2007.14	2200.00	15850.00	3016.00
23	Average transaction cost as per cent of average loan	-	4.12	1.97	1.12	0.65	1.14	-	1.64	0.43	0.41	0.16	0.60
24	Per cent of literacy	51.52	79.01	81.94	84.91	92.50	79.57	50.00	60.44	73.42	70.31	68.42	64.71
25	Per cent of literate persons having post matric qualification	00.00	3.13	27.12	17.78	29.73	16.67	61.11	52.73	53.57	73.33	69.23	59.90
26	Per cent of households owning pucca houses	00.00	18.75	38.46	55.56	83.33	36.00	-	-	21.43	36.36	75.00	20.00
27	Per cent of households owning television sets	16.67	50.00	76.92	77.78	100.00	64.00	-	20.00	21.43	18.18	50.00	20.00
28	Average ownership of trucks/cars/jeeps	-	-	-	0.11	0.83	0.12	-	-	-	-	-	-
29	Average ownership of mopeds/scooters/motor cycles	-	0.13	0.62	1.11	2.00	0.64	-	-	-	-	0.5	0.04

Keeping in view the general features of these villages and the agricultural practices of the selected households, a broad generalization can be made on their class structure acknowledging the fact that none of the landowning groups is a homogenous category. Looking at the distribution of attributes of inequality among the various landowning groups in both the villages, it appears that the class structure of the two villages is quite different. In the wake of agricultural modernization in Atke, the higher landowning groups specially the large farmers have emerged distinctly as a class of rich farmers. The large farmers are the major landowners of the village and their average holding comes to 4.18 hectares which is much higher than that of the other categories of farmers. They own the required agricultural machineries and their production process is highly mechanized. The most important distinguishing feature is that they themselves cultivate the land using largely the hired labour. The percentage of their family labour to total labour requirement comes to only 28. They are never hired out by the other farmers. More than 83 per cent of their gross cropped area is covered by cash crops and 99.77 per cent of their produce are sold out. However, the higher percentage of area under cash crops and sale of agricultural produce is common to all categories of farmers because of predominance of sugarcane cultivation in the region. More than 85 per cent of total income of the large farmers comes from agriculture. They get a per hectare net income of Rs. 47252.07 as against the investment of Rs. 25671.70. The socio-economic features of the medium farmers are similar to those of large farmers. The marginal and small farmers, on the other hand, cultivate land largely with the help of their family labour and due to small holdings they depend upon other sources of income also. The agricultural labourers derive their livelihood entirely by selling their labour services.

In the traditional village on the other hand, though the large farmers are the major landowners of the village, due to absence of irrigation and other modernizing measures their production process is largely under subsistence level. They also depend significantly upon the non-farm sources of income for their reproduction. The agriculture of all categories of farmers are characterized by higher use of family labour. The small and marginal holders and the landless labourers are largely dependent upon the agricultural labour services and other non agricultural activities for their survival. In view of the poor resource ownership position and less reliance on hired labour in the traditional village one would expect the subsistent peasantry to be more significant strata in the area.

It is quite clear from the above discussion that the agricultural modernizing measures in the process of transforming the traditional agricultural practices have initiated the process of class differentiation in the countryside. The analysis of the power structure existing in two types of village can elaborate the nature of class structure in more detail.

5.3 Power Structure

Power, in rural context, involves access to resources (such as land, water, credit, labour, etc.) and to institutions and agencies which may provide or withhold such

resources. The access to resources has already been described and the nature of access to major institutions will be analysed here.

It is convenient to examine the access of the various categories of farmers to different institutions by making a study to Grampanchayat and the Co-operative Societies which play an important role in the agricultural as well as general development of the villages. The Grampanchayat is the apex socio-political body at the village level through which most of the State-sponsored developmental programmes are implemented. Similarly, the State supported credit facilities for agricultural development and allied activities are supplied through the cooperative societies at the village level in the form of agricultural inputs (subsidized fertilizers, pesticides, seeds, etc.).

In the modernized village of Atke besides the Gram Panchayat, which is common to all villages, there are two Primary Agricultural Co-operative Societies and two Milk Co-operative Societies. The Milk Co-operative Society collects milk from the farmers and provides all kinds of inputs and facilities for the maintenance of milchi cows. Looking at the various positions of the Gram Panchayat in Atke and the background of the persons associated with these positions (Table 5.4), it is found that the Gram Panchayat is largely under the control of the large farmers. The small and marginal holders have a very negligible representation. Most of the positions including *Sarpanch* are occupied by the members who have higher land and other asset ownership position in the village. Similarly, the two credit Co-operative Societies (Table 5.5 and 5.6) and the two Milk Co-operative Societies (Table 5.7 and 5.8) in the village are also dominated by the large farmers. The large farmers have taken the management of all the village level institutions into their control and the poor farmers and the landless labourers have almost no say in these affairs. The domination of the large farmers in all these institutions helps them corner the benefits of all developmental measures. Similar kind of domination of the large farmers at the local socio-political institutions has also been reported by a study conducted in the countryside of Gujarat (Rutten, 1995).

The analysis of socio-economic background of the persons holding positions in various institutions of the traditional village of Khatval on the other hand, reveals that representation of the small and marginal farmers and the landless labourers are numerically significant. In the Gram Panchayat, positions of *Sarpanch* and Deputy *Sarpanch* are occupied by a marginal farmer and a landless labourer respectively. Similarly the landless labourers and small farmers in the village could also occupy some other important positions (Table 5.9) Apart from this, in the Primary Agricultural Co-operative Society and Milk Co-operative Society the small and marginal farmers and the landless labourers have also relatively better representation (Table 5.10 and 11).

It is evident that (Table 5.12), of the total positions of 52 in Atke, the large farmers occupy 63.46 per cent and the rest 36.54 per cent of the positions are occupied by other categories of farmers. In Khatval (Table 5.13) on the contrary, of the total positions of 27, while the large farmers hold only 22.22 per cent the landless labourers

Table 5.4 : Profile of Persons* Holding Positions in Gram Panchayat of Atke

Sl. No.	Positions	Size Class	Level of Education	Land Holding (in hect.)	No. of Tractors	No. of Trucks/ Cars /Jeeps	No. of Mopeds/ Scooters/Motor Cycles	Type of House
1.	Sarpanch	Large Farmer	SSC	2.49	1	-	2	P
2.	Member	Marginal Farmer	10 th	0.31	-	-	-	K
3.	Member	Large Farmer	9 th	3.14	1	3	3	P
4.	Member	Large Farmer	10 th	4.43	2	2	2	P
5.	Member	Large Farmer	B. Sc.	3.50	1	2	2	P
6.	Member	Large Farmer	12 th	3.52	1	2	2	P
7.	Member	Small Farmer	12 th	0.65	1	2	2	P
8.	Member	Large Farmer	10 th	2.57	-	-	-	P
9.	Member	Large Farmer	7 th	2.63	-	-	-	M
10.	Member	Large Farmer	7 th	2.89	2	-	-	P
11.	Member (w)	Large Farmer	6 th	4.05	2	1	1	M
12.	Member	Small Farmer	6 th	0.53	-	-	-	K
13.	Member	Landless	9 th	-	-	-	-	K
14.	Member	Medium Farmer	4 th	1.64	1	-	1	M
15.	Member	Marginal Farmer	4 th	0.10	-	-	-	K
16.	Member	Large Farmer	9 th	2.54	2	1	1	P

Note : w : women, * The land and the other asset represent the household ownership position

P : Pucca house (both roof and floor) M : House with only pucca floor (Mixed)

K : Kuchha house (houses built out of mud and grass)

Source : Field Survey.

Table 5.5 : Profile of Persons Holding Positions in Primary Agricultural Co-operative Credit Society of Atke

Sl. No.	Positions	Size Class	Level of Education	Land Holding (in hect.)	No. of Tractors	No. of Trucks/Cars /Jeeps	No. of Mopeds/ Scooters/ Motor Cycles	Type of House
1.	Chairman	Large Farmer	7 th	2.30	2	-	2	P
2.	Vice Chairman (w)	Large Farmer	6 th	4.20	2	-	2	P
3.	Member	Large Farmer	9 th	2.89	2	2	1	P
4.	Member	Large Farmer	10 th	4.43	2	2	2	P
5.	Member	Medium Farmer	6 th	1.85	2	2	1	P
6.	Member	Large Farmer	7 th	3.37	1	3	1	P
7.	Member	Large Farmer	9 th	4.10	3	2	1	M
8.	Member	Medium Farmer	9 th	1.75	1	-	1	M
9.	Member	Marginal Farmer	8 th	0.13	-	-	-	K

Note : Same as in Table 5.4

Source : Same as in Table 5.4

Table 5.6 : Profile of Persons Holding Positions in Bhairavnath Agricultural Co-operative Society in Atke

Sl. No.	Positions	Size Classes	Level of Education	Land Holding (in hect.)	No. of Tractors	No. of Trucks/Cars /Jeeps	No. of Mopeds/ Scooters/ Motor Cycles	Type of House
1.	Chairman	Large Farmer	10 th	2.60	2	1	3	P
2.	Vice Chairman	Large Farmer	7 th	2.92	1	3	3	P
3.	Member	Large Farmer	7 th	2.87	2	2	3	P
4.	Member	Large Farmer	4 th	3.03	1	-	2	P
5.	Member	Medium Farmer	5 th	1.48	1	-	1	P
6.	Member	Large Farmer	4 th	2.00	-	-	2	M
7.	Member	Small Farmer	9 th	0.64	-	-	-	K
8.	Member (w)	Large Farmer	10 th	3.87	1	-	2	P
9.	Member	Landless	9 th	-	-	-	-	K

Note : Same as in Table 5.4.

Source : Same as in Table 5.4

Table 5.7 : Profile of Persons Holding Positions in Milk Co-operative Society of Atke

Sl. No.	Positions	Size Class	Level of Education	Land Holding (in hect.)	No. of Tractors	No. of Trucks/Cars/Jeeps	No. of Mopeds/Scooters/Motor Cycles	Type of House
1.	Chairman	Large Farmer	9 th	2.60	1	-	1	P
2.	Vice Chairman	Large Farmer	7 th	4.98	1	1	1	P
3.	Member	Large Farmer	7 th	2.47	1	1	1	P
4.	Member	Medium Farmer	5 th	1.24	-	-	-	M
5.	Member	Marginal Farmer	3 rd	0.45	-	-	2	P
6.	Member	Large Farmer	2 nd	2.91	1	-	1	P
7.	Member	Medium Farmer	-	1.20	1	-	-	M
8.	Member	Marginal Farmer	-	0.13	-	-	-	K
9.	Member (w)	Large Farmer	9 th	4.75	1	1	1	P

Note : Same as in Table 5.4

Source : Same as in Table 5.4

Table 5.8 : Profile of Persons Holding Positions in Hatkeshwar Milk Co-operative Society of Atke

Sl. No.	Positions	Size Class	Level of Education	Land Holding (in hect.)	No. of Tractors	No. of Trucks/Cars/Jeeps	No. of Mopeds/Scooters/Motor Cycles	Type of House
1.	Chairman	Large Farmer	9 th	4.39	1	2	2	P
2.	Vice Chairman	Large Farmer	10 th	3.61	1	2	3	P
3.	Member	Marginal Farmer	7 th	0.20	-	-	1	M
4.	Member	Large Farmer	5 th	3.36	1	-	1	P
5.	Member	Large Farmer	4 th	3.20	1	-	1	P
6.	Member	Large Farmer	4 th	2.10	1	2	2	P
7.	Member	Medium Farmer	4 th	1.42	-	-	2	K
8.	Member	Small Farmer	3 rd	0.52	-	-	-	K
9.	Member	Large Farmer	5 th	2.48	1	-	-	P

Note : Same as in Table 5.4

Source : Same as in Table 5.4

Table 5.9 : Profile of Persons Holding Positions in Gram Panchayat of Khatval

Sl. No.	Positions	Size Class	Level of Education	Land Holding (in hect.)	No. of Tractors	No. of Trucks/ Cars/ Jeeps	No. of Mopeds/ Scooter/ Motor Cycles	Type of House
1.	Sarpanch	Marginal Farmer	Illiterate	0.25	-	-	-	P
2.	Dy. Sarpanch (w)	Landless	Illiterate	-	-	-	-	P
3.	Member	Small Farmer	4 th	1.66	-	-	-	M
4.	Member	Large Farmer	9 th	5.92	-	-	-	M
5.	Member	Large Farmer	Illiterate	8.50	-	-	-	M
6.	Member	Small Farmer	B.A.	1.99	-	-	-	P
7.	Member	Medium Farmer	Illiterate	2.01	-	-	-	M
8.	Member (w)	Landless	Illiterate	-	-	-	-	M
9.	Member (w)	Large Farmer	3 rd	4.34	-	-	-	P

Note : Same as in Table 5.4.

Source : Same as in Table 5.4

Table 5.10 : Profile of Persons Holding Positions in Primary Agricultural Co-operative Society of Khatval

Sl. No	Positions	Size Class	Level of Education	Land Holding (in hect.)	No. of Tractors	No. of Trucks/ Cars/Jeeps	No. of Moped/ Scooter/ Motor Cycles	Type of House
1.	Chairman	Medium Farmer	Illiterate	2.30	-	-	-	P
2.	Vice Chairman	Large Farmer	4 th	8.11	-	-	-	K
3.	Member	Small Farmer	3 rd	1.18	-	-	-	M
4.	Member	Medium Farmer	4 th	3.26	-	-	-	M
5.	Member	Small Farmer	2 nd	1.56	-	-	-	P
6.	Member	Medium Farmer	2 nd	2.01	-	-	-	M
7.	Member (w)	Small Farmer	Illiterate	1.10	-	-	-	K
8.	Member (w)	Landless	Illiterate	-	-	-	-	K
9.	Member	Medium Farmer	3 rd	2.10	-	-	-	M

Note : Same as in Table 5.4.

Source : Same as in Table 5.4

Table 5.11 : Profile of Persons Holding Positions in Milk Co-operative Society of Khatval

Sl. No	Positions	Size Class	Level of Education	Land Holding (in hect.)	No. of Tractors	No. of Trucks/ Cars/ Jeeps	No. of Mopeds/ Scooters/ Motor Cycles	Type of House
1.	Chairman	Large Farmer	B.A.	4.60	1	-	1	P
2.	Vice Chairman	Large Farmer	4 th	8.11	-	-	-	P
3.	Member	Small Farmer	3 rd	1.60	-	-	-	K
4.	Member	Small Farmer	3 rd	1.20	-	-	-	K
5.	Member (w)	Marginal Farmer	2 nd	0.30	-	-	-	M
6.	Member (w)	Landless	2 nd	-	-	-	-	M
7.	Member	Landless	4 th	-	-	-	-	K
8.	Member	Landless	2 nd	-	-	-	-	P
9.	Member	Landless	2 nd	-	-	-	-	M

Note : Same as in Table 5.4.
Source : Same as in Table 5.4

Table 5.12 : Distribution of Positions in Various Socio-political Institutions of Atke

Name of the Institutions	No. of Positions	Share of Size Classes (%)				
		Land less	Marginal	Small	Medium	Large
Gram Panchayat	16	6.25	12.50	12.50	6.25	62.50
Primary Agricultural Cooperative Society	9	-	11.11	-	22.22	66.67
Bhairavnath Agricultural Coop Society	9	11.11	-	11.11	11.11	66.67
Milk Cooperative Society	9	-	22.22	-	22.22	55.56
Hatkeshwar Milk Coop. Society	9	-	11.11	11.11	11.11	66.67
Total	52	3.85	11.54	7.69	13.46	63.46

Table 5.13 : Distribution of Positions in Various Socio-political Institutions of Khatval

Name of the Institutions	No. of Positions	Share of Size Classes (%)				
		Land less	Marginal	Small	Medium	Large
Gram Panchayat	9	22.22	11.11	22.22	11.11	33.33
Primary Agricultural Cooperative Society	9	11.11	-	33.33	44.44	11.11
Milk Cooperative Society	9	44.44	11.11	22.22	-	22.22
Total	27	25.93	7.41	25.93	18.52	22.22

the marginal and the small farmers could occupy 25.93, 7.41 and 25.95 per cent of the positions respectively. The landless labourers and the lower landowning farmers have been relatively well represented. From the comparative analysis of power structure of the two types of villages it appears that the agricultural modernization has strengthened the socio-economic dominance of the rich farmers at the village level.

It is inferred from the above discussion that the conditions of agricultural modernization have induced the large farmers to take active part in the management of village level institutions for the promotion of their economic interests. As the modern agriculture is heavily dependent upon State sponsored inputs and facilities which is supplied through these institutions, the large farmers in order to obtain a large range of benefits show increasing interest in local politics. Apart from this, political connections often help to break through the rigid demands of government officials for getting certain economic advantages.

From the foregoing discussion it is summarized that the agricultural modernization by increasing the agricultural income has raised the economic status of all categories of farmers. The extent of benefit being specific to land ownership base and ownership of productive assets the large farmers emerged as a class of rich farmers who dominate the economic and socio-political spheres of the rural society. Thus, the advent of agricultural modernization in the process of bringing prosperity for the peasants has increased social inequality.

CHAPTER VI

SUMMARY AND CONCLUSION

In rural Indian economy, agriculture continues to hold a pivotal place both in terms of income and employment around which socio-economic privileges and deprivation revolve. Any change in its structure, therefore, affects the relative prosperity and destitution of various categories of agrarian population. In the post independence phase huge endeavor has been made by the Government of India to transform its backward agriculture to a 'developed' one through a centrally planned development strategy with the State playing major role. The main thrust of agricultural policy and planning in India is to create a progressive and egalitarian rural society on the one hand and to maximize agricultural production on the other. Following the approach of the Government of India the State of Maharashtra has made systematic efforts to modernize its agriculture through irrigation, mechanization, expansion of credit network, adoption of HYV and other associated infrastructural development as a result of which the cropping pattern and the pattern of investment in agriculture have changed noticeably over the years with a significant rise in agricultural production. In the context of this wide ranging changes in agriculture brought about by the new water-seed-fertilizer-technology, the study of the trend of social inequality assumes importance and commands high research priority.

The agrarian studies in India subscribe to three views on effects of agricultural modernization. While the first group holds that agricultural modernizing measures have reduced the earlier social inequalities, the second group argues that these measures in the process of modernizing the agricultural practices have created further inequalities. The third group of studies views agricultural modernizing measures as a package having mixed effects. A review of studies of the above three groups revealed that while some of the studies were undertaken in the early phase of agricultural modernization many of the studies confined their analysis only to macro level concentrating on the individual components of agricultural modernization. The most important common feature of these studies is that they are largely based on Punjab, Haryana, Tamil Nadu and Western Uttar Pradesh. Therefore, the findings of these studies may not fit neatly to Maharashtra situation due to its different agro-climatic conditions, socio-cultural features and historical specificities. As far as the agrarian studies on Maharashtra is concerned, the effects of agricultural modernizing measures on the trend of social inequality have not received proper attention and it is very briefly attended. Studies involving analysis of collective impact of agricultural modernization on social inequality both at the micro and macro levels linking historical with contemporary data and economic with social factors are almost non-existent. In the light of this background the present study attempts to examine the nature and extent of social inequality in rural Maharashtra in the wake of agricultural modernization with reference to one of the highly agricultural modernized districts of the State. The study covered the following main objectives :

- a) To examine the nature and extent of agricultural modernization, its continuities and discontinuities in the district through a historical perspective.

- b) To analyze the impact of agricultural modernizing measures on various categories of rural population .
- c) To find out the pattern and trend of social inequality, and
- d) To suggest some measures relevant to policy issues.

6.1 Methods of Study

In view of the purpose of the study, the highest agricultural modernized district of Maharashtra was selected on the basis of four major parameters: area under irrigation, mechanization, chemical fertilizer consumption and adoption of High Yielding Varieties. While selecting the district ranking method was followed in which each district was given a rank on the basis of its position against each indicator separately and the total rank was obtained by adding all the ranks. On the basis of this procedure, Satara district was selected for the study. The study used both primary and secondary data. Keeping in mind the wide variations in the pattern of agricultural development among the various talukas of Satara district two talukas were selected representing the agriculturally advanced and less advanced parts. In the subsequent round, two villages (one from each taluka) were selected for a comparative analysis. While the village representing the advanced taluka is treated as modernized village due to its extensive and assured irrigation facilities, mechanization and adoption of HYV, the village representing the less advanced taluka is considered as traditional village because it cultivates its crops on the basis of traditional technology based on broadcasting method using predominantly human and bullock labour. Fifty households were chosen from each village on the basis of stratified random sampling method. The households were stratified into five categories on the basis of their landholding status. The primary data were collected in phases. In the first phase, preliminary information was gathered through informal discussion with people belonging to different groups regarding the general aspect of economy of the village and its agriculture. With this much of knowledge a structured interview schedule was prepared and administered on the sampled households after a pre-testing for the second phase of data collection. In the subsequent phase, further detail information on specific issues was collected through interview guide method. Besides the sampled households, additional information was collected from the persons holding positions in various socio-political bodies at the village level, as well as, from the government officials at different levels. The secondary data were collected from various records and reports relevant to the study.

The socio-economic organisation of the villages comprising production, consumption and distribution among various groups and their consequent impact have been analysed and interpreted in the context of agricultural modernization. The study used only simple tabular analysis. The various categories of village population have been identified as Landless Agricultural Labourers, Marginal Farmers, Small Farmers, Medium Farmers and Large Farmers on the basis of their landownership position.

6.2 Major Findings of the Study

As far as the development of the agrarian economy of Satara is concerned the process of agricultural modernization in the district was initiated in some way during

British period keeping the colonial interest as the prime concern. During the Pre-British rule, the agriculture of the district was largely at subsistence level and the early rulers did not take much interest in agricultural development. However, the surplus of the peasantry was appropriated in the form of revenue which was often a lion's share. With the advent of the British rule over the district, a new land tenure system was introduced and the tillage area was expanded with an increase in the area under irrigation. The cultivation of cash crops was encouraged and the cultivators were motivated to adopt alien varieties of seeds for these crops especially for cotton and sugarcane. The communication system was developed to link the district with the rest of world to siphon off the agricultural surplus. The cumulative consequence of these measures increased tremendously the rate of indebtedness and land transfers in the district, resulting in marginalization and depeasantisation on a massive scale which, in turn, gradually expanded the genesis of social inequality. The privileged and affluent section remained in an advantageous position to consolidate their socio-economic position and hegemony in various spheres of rural life and the lower rungs of the peasantry led a miserable life.

In the post independence period, agricultural modernization started more elaborately and systematically in a planned way. As a result, the net sown area, gross cropped area and the irrigated area of the district increased noticeably along with a rise in cropping intensity. The cropping pattern of the district witnessed profound changes across the years following the expansion of irrigation facilities and commercial trend of agriculture. Along with this, the area under HYV seeds increased rapidly and now the percentage of area under the traditional varieties is very negligible. Following the increasing cultivation of commercial crops along with extensive adoption of HYV, the per hectare consumption of chemical fertilizer has increased many times. In order to meet the higher cost of cultivation, the credit network has been expanded through the establishment various cooperative societies. The rising trend of mechanization of agriculture in the district is evident from the unprecedented rise in the number of tractors, oil engines, pumpsets and other implements. The consequences of these modernizing measures have resulted in boosting the overall production in the district. However, the productivity of sugarcane which needs huge investment for cultivation shows a decreasing trend. Besides, though farm (harvest) prices of the major crops increase year by year, the price of sugarcane experiences a fluctuating trend.

The collective effects of these changes, as it is inferred from district level analysis, increased social inequalities. It is found from the trend of operational holdings of the district that though the number and area of the small and marginal holders have increased over the years accompanying a decrease in that of the large holders, the average holding of the large holders show a consistent rising trend. The increase in number and area of holdings of the small and marginal holders is mainly due to the family partitioning by the large holders as well as due to the population growth. Apart from this, the number and area of holdings of scheduled caste holders have also decreased. It is evident from a number of micro and macro level studies of the district that the land reform measures have met with only a limited success in removing the landowning disparities. The increasing trend of social inequality is also seen from the steady growth of both male and female agricultural labourers of the

district. Over years, the percentage of cultivators to main workers has decreased noticeably with a corresponding rise in that of the agricultural labourers.

From the village level analysis it is found that the availability of assured irrigation has drastically changed the cropping pattern in the modernized village. While in the traditional village the agriculture is characterized by the predominant cultivation of foodgrains, sugarcane is the principal crop across the size classes in the modernized village. The extensive adoption of HYV is common to all categories of farmers in the modernized village and it covers more than 90 per cent of the gross cropped area, whereas in the traditional village it is limited and largely confined to the lower landowning groups. Ecological features have influenced land utilization and cropping pattern in the two villages.

A comparison of input use in these two villages reveals that due to the increasing cultivation of commercial crops along with higher coverage under HYV, which is heavily dependent upon high doses of fertilizers, pesticides and other inputs, the per hectare cost of cultivation is much higher in the modernized village.

In view of the higher cost of cultivation in the modernized village, the formal credit agencies have provided expanded credit facilities to the farmers of all categories. The per hectare indebtedness to formal credit agencies among all categories of farmers of the modernized village is many times more than that of the farmers of the traditional village. However, in the modernized village the major beneficiaries of the credit facilities are the large farmers whose per hectare indebtedness is higher than their cost of cultivation. On the contrary, the per hectare indebtedness of the marginal farmers in the traditional village also exceeds their cost of cultivation which is because their cost of cultivation is very low and they also use a significant portion of these loans mostly to meet the dire necessities other than agriculture. In both the villages, the marginal as well as the large farmers have a high rate of indebtedness to formal credit agencies. While the marginal farmers' indebtedness is caused due to their perpetual scarcity of funds, the large farmers' indebtedness is attributed to their desire for utilizing the low cost credit capital in other profit generating uses. Due to the land based lending policies of the credit agencies, the large holders have higher average indebtedness.

It is evident from the study that the expansion of formal credit network in both the villages has broken the hold of traditional type of usurious capital in the credit market. However, in the traditional village, private money-lending system by the landlords and rich farmers continues to exist to some extent. The tying of labour services through credit contracts is also quite common in the modernized village.

The introduction of new cropping pattern has altered the traditional labour relations. As compared to the traditional village, the demand for labour services in the modernized village has increased significantly despite higher degree of mechanization. Though the farmers of all categories in the modernized village use family labour in varying degrees the dependency on hired labour services is more. The large farmers in the modernized village are almost entirely dependent upon hired labour services. On the other hand, in the traditional village the use of family labour predominates across the size classes. In addition, the agricultural modernization has

expanded the earlier typology of labour and introduced a heterogeneous wage structure. In the traditional village, the small, marginal and medium farmers largely manage with family labour and exchange labour services and the large farmers besides their family labour, use the labour services of casual or attached labourers. In the modernized village, though the casual and attached labour continue to exist, new types of labour like contract labour (group labour services) and skilled labour of different types have emerged with new terms and conditions. The group labour services are mostly provided by the migrant labourers. In the modernized village there are two sets of labourers viz., the migrants and the locals. The farmers who hitherto were dependent upon the local labourers now prefer the migrant labourers because of favourable terms and conditions as a result of which the local landless labourers and marginal farmers, who largely derive their livelihood from labour services, get impoverished.

The cumulative effects of these developments have tremendously enhanced the overall agricultural production in the modernized village as compared to the traditional one. The per hectare gross return and net income among all categories of farmers of the modernized village is many times higher than those of the farmers of the traditional village. While the medium and large farmers are more productive in the modernized village, in the traditional village the productivity is higher among marginal and the small farmers (excepting the production of sugarcane which covers a small portion of the gross cropped area of the large holders).

The new measures by increasing the productivity have remarkably enhanced the per hectare income of all categories of farmers of the modernized village as compared to the traditional one. Every additional hectare adds to the income stream of a farmer, which, in turn, has increased the household income disparity among the various categories of rural population due to unequal distribution of land. The household income of the large farmers of the modernized village is many times more than the incomes of the other categories of farmers. In the traditional village, on the other hand, the income disparity is minimal.

An analysis of the resource ownership structure indicates a higher rate of inequality in the modernized village. The large farmers are much ahead of the other categories of farmers and landless labourers in terms of land ownership, income, ownership of agricultural machinery and other high-value household assets. The distribution pattern clearly exhibits utter lack of resources of the people belonging to the lower land owning and landless groups. Though, in the traditional village, the control over resources is unequal and corresponds to land ownership position, the magnitude is very less.

In the modernized village, the large farmers have occupied vantage positions in the Gram Panchayat and various cooperative societies at the village level. As these institutions are the major agencies through which the State sponsored developmental measures are launched, the large farmers are able to appropriate the lion's share of the benefits of these measures because of their dominance. In the traditional village, on the other hand, the small, marginal and medium farmers have relatively a better access to these village level institutions.

To sum up, the results of the study show that the process of agricultural modernization started in some way during the colonial period but such a process as it was based on exploitative land, labour and credit relations and pursued by the colonial interests expanded the genesis of social inequality in the countryside. As the modernizing measures of post-independent India, which were more systematic and elaborate in form, were introduced without removing the earlier inherited inequalities, they generated further inequalities. The new measures have brought prosperity to the peasants of all categories but the extent of prosperity being relative to the resource ownership position, the large farmers have emerged as a class of rich farmers who dominate the socio-economic and political spheres of rural society and the small and marginal farmers and landless labourers remain at the receiving end. The same could be said from another micro level study conducted by Punalekar (1998) in the adjoining Sangli district of Maharashtra. The study concludes by stating :

Development gains seem to have gone more to the middle and rich farmers. This is observable through certain visible indices in all the villages along with the western corridor of the district A rich farmer's visit to his farms are infrequent, if not rare His interests are now riveted around trade, finance and 'the politics' beyond the village frontier' (p. 324).

In fact, inequality breeds further inequality unless it is checked at the initial stage of growth and development.

It is evinced from the study that the existing modernizing measures are desirable for agricultural growth but they are inadequate for the removal of social inequality. The existing strategy, as pointed out by Kurein (1986: 390) is an attempt to correct the structural consequences without altering the structural characteristics. To quote Dantwala (1996) :

Equity-oriented policies and programmes pursued within the cast-iron iniquitous economic structure of ownership of assets will not only be self-defeating, but may prove counter-productive, through a 'trickle up' (p. 125).

Therefore, Barraclough (1974) has rightly observed :

If we are really serious about wanting to encourage development policies that benefit the low income rural classes a great deal more attention must be paid to analysis of social structure and political process. Development is not just economics or sociology or technology but history.... Rural development for the low income majorities requires fundamental and often revolutionary reforms in social institutions...

6.3 Policy Implications

In fact, from a study of this kind which is primarily based on few sampled households of the selected villages of one district, it is problematic to draw conclusions for policy making that can have wider applications. Usually, an empirical exercise of this nature brings up at least as many issues as could be attended. However, it is worthwhile to make some suggestions. Although these do not give any concrete and precise description of how to put together an appropriate package, they emphasize on certain aspects, that can be taken into consideration. It should be noted that the measures suggested here are mostly related to agriculture and the

removal of social inequality obviously requires supporting or complementary measures in other socio-economic spheres also.

It is reported from the study that the importance of land as the basis of social inequality has increased in the wake of agricultural modernization. The control over land and control and authority over local level institutions usually go together and this accounts for the bias of the allocative mechanisms in favour of the upper layers of the landowning class. The unequal ownership of land leads to the unequal control over resources and thereby perpetuates the inequality in socio-political and economic relations. The results also show that the existing land reform measures are met with limited success. Thus, the potential of land redistribution as an instrument to redistribution of resources in favour of the disadvantaged group needs special consideration. Hence, in view of the tremendous enhancement of per hectare income, taxation of agricultural income would be another alternative to reduce the huge income disparity.

In addition, the productivity of the farmers is heavily dependent on the extent of ownership of productive assets and many of the small and marginal farmers, as revealed by the study, do not have the implements and machinery to carry on the production processes of modern agriculture. They are compelled to spend a considerable amount against hiring these instruments. The distribution of minimum productive assets such as sprayers, pumpsets, and tractors to these farmers would help in increasing productivity as well as the margin of profit.

The results of the study indicate that though the new measures have brought prosperity for the landowners of all categories by raising the productivity, the conditions of landless agricultural labourers have not been improved. Their socio-economic conditions have been worsened further due to the large scale migration of labourers from other parts of the State. In this context, creation of off-farm employment opportunities could enable the labourers to supplement their wage incomes.

It is evident from the study that the emergence of agricultural modernization has led to the dominance of the large farmers over the local level socio-political institutions through which the State-sponsored developmental measures are launched. As a result, they remain in an advantageous position to appropriate a major share of the benefit of the developmental measures. In such a situation, the provision for adequate representation of small and marginal farmers as well as landless labourers in the village level socio-political institutions would be appropriate.

The traditional agriculture, as revealed by the study, fails to provide a stable and viable source of income for which many of the farmers depend upon non-agricultural sources for their livelihood. Absence of irrigation facilities prevents them to go for profitable cash crops. It seems to give a policy option of changing the existing cropping pattern and introducing the horticultural crops consistent to the agro-climatic conditions and socio-cultural practices that could provide a relatively higher margin of profit.

NOTES

1. The data on area under HYV are available only for some limited crops like paddy, jowar, bajra, wheat, maize and cotton. But there are districts having large area under sugarcane, groundnuts, fruits, etc. The absence of information on adoption of HYV for these crops might affect the ranking pattern of the districts. However, as the adoption of HYV is not the only indicator of modernization, it would not vitiate the selection process significantly.
2. See Gazetteer of Bombay Presidency : Satara, 1885, p. 328.
3. See Maharashtra State Gazetteers : Satara District, 1963, pp.54-66.
4. Ibid., pp.68-70.
5. See Dandekar (1978). While characterizing the land tenure system of a village in Satara district during Muslim period she has inferred the view.
6. For more details see Gazetteer Bombay Presidency: Satara, op.cit. pp.330-33.
7. In Satara and some parts of Deccan there were series of severe famines from 1396 to 1802 during which many people starved and migrated to other places. The 1520 famine was mainly due to the crop destruction in Deccan following military disturbances. For details see Ibid., pp.168-69.
8. In Satara assessment was fixed not by measurement as it was done in other Moghal conquered districts, but by the average of the accounts of the ten previous years. However, in some cases Aurangzeb raised the rents arbitrarily.
9. See Gazetteer Bombay Presidency : Satara, op. cit. p.335.
10. Ibid., p.336.
11. Ibid., p.337.
12. See Bombay Government Revenue Records, 1852, p.23.
13. It is observed by Mr.Ogilvy, the then Commissioner of Deccan, as cited in Bombay Government Revenue Records, 1852, 22(27-28).
14. As cited in Modak (1932:36).
15. See Maharashtra State Gazetteers : Satara District, op.cit. p.602.
16. These differences between the previous land tenure and the British System have been drawn in Mann (1917:35).
17. In 1915-16, the occupied land under grass and babhul trees previously categorized as fallow land classified as land under fodder crops. New area began to be included in the net sown area due to changed classification. For more details see Season and Crop Report 1915-16, p.2.
18. See Gazetteer of Bombay Presidency : Satara op. cit. p.346
19. Ibid.
20. Ibid., p.166.
21. The idea of forcible cultivation of certain alien varieties of cotton in some parts of Deccan has been drawn in Guha (1985: 107).

22. For details see Benjamin (1973) and Borpujari (1973).
23. As cited in Gazetteer of Bombay Presidency : Satara ,op. cit. p. 346.
24. Ibid., p. 219-20.
25. During the later part of nineteenth century Khandesh and Nasik districts exported large quantity of cotton. Near about 85 per cent of the produce was exported and the local consumption was very negligible. For more details see Guha , op. cit. p.105-14.
26. Gazetteer of Bombay Presidency : Satara, op. cit. p.166.
27. Ibid.,p.346.
28. Ibid.
29. Journal of Royal Asiatic Society, Vol. XIX, as cited in Gazetteer of Bombay Presidency: Satara, op.cit. p.167.
30. Though the percentage of area under groundnut is not given (table 2.5) , it is evident from the respective Reports on Agricultural Statistics that the tillage area increased relatively after 1931-32.
31. Arthur (1895), as cited in Rodrigues (1998).
32. See Season and Crop Reports of the Bombay Presidency for the years 1905-6, p.9, and 1922-3 , pp. 18-19.
33. Gazetteer of Bombay Presidency: Satara, op. cit. p.186.
34. The east and south-east part of the district was severely affected by the famine. As the prices of the grains grew up significantly and there was no demand for field work the poorer classes fell into distress. For more details see Colonel Etheridge's Report on past famines.
35. See Gazetteer of Bombay Presidency: Satara, op. cit. p.186.
36. Deccan Riots Commission Report, 1878, Appendix A 40-41, and Appendix c.10-12.
37. Guha (1987:132).
38. Deccan Agriculturist's Relief Act Papers ,Vol.II, p.78.
39. Mishra, as quoted in Rodrigues (1998).
40. See Gazetteer of Bombay Presidency : Satara, op. cit. p.189.
41. Ibid.
42. Ibid.
43. Ibid., p.195-206.
44. Irfan Habib (1995:328).
45. See Gazetteer of Bombay Presidency : Satara, op.cit. p.219.
46. Ibid.
47. Land Revenue Administration Reports, Bombay, for the respective years.
48. See Economic Survey of Maharashtra, 1977-78.
49. See N. Rajasekaran (1996:37).
50. The studies of Dandekar (1978) and Rajasekaran (1996) pointed out that many of the large holders have distributed the land among their family members.

51. Analysis of the problems associated with various Land Reform Laws in Maharashtra is described in Deshpande (1998:1-24).
52. Ibid.
53. See Report on Agricultural Census, Maharashtra State, 1990-91.
54. See Socio-Economic Review and District Statistical Abstract of Satara District, 1991-92.
55. The studies of Dandekar (1978) and Rajasekaran (1996) conducted in Maharashtra and Rajasekar (1988) in Andhra Pradesh reported the family partitioning by the large holders for avoiding land reform laws and getting the facilities of other developmental measures meant for the small and marginal peasants.
56. See Agricultural Situation in India, September 1994, p. 455.
57. Ibid.
58. It is based on the estimate made by Talathis and their assistants of the respective villages.

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