

**CHANGING TENANCY RELATIONS IN INDIA
A TEMPORAL INTER-STATE STUDY**

*Dissertation submitted to Jawaharlal Nehru University
in partial fulfillment of the requirements for the
award of the degree of*

MASTER OF PHILOSOPHY

KAMALIKA MAJUMDER



**CENTRE FOR THE STUDY OF REGIONAL DEVELOPMENT
SCHOOL OF SOCIAL SCIENCES
JAWAHARLAL NEHRU UNIVERSITY
NEW DELHI-110067
INDIA
2007**



जवाहरलाल नेहरू विश्वविद्यालय
JAWAHARLAL NEHRU UNIVERSITY
Centre for the Study of Regional Development
School of Social Sciences
New Delhi - 110067

CERTIFICATE

I, Kamalika Majumder, certify that the dissertation entitled "**Changing Tenancy Relations in India: A Temporal Inter-state Study**" submitted by me for the degree of **Master of Philosophy** is my bonafide work and may be placed before the examiners for the evaluation.

Kamalika Majumder
(KAMALIKA MAJUMDER)

Forwarded by

(PROF. RAVI S. SRIVASTAVA)
SUPERVISOR

(PROF. SARASWATI RAJU)
CHAIRPERSON

ACKNOWLEDGEMENTS

I express my deep sense of gratitude to my revered teacher Prof. Ravi S. Srivastava, under whose invaluable supervision this dissertation has been completed. It would not have been possible for me to complete this work without his constant encouragement, generous help, erudite guidance and personal care. It is because of his encouragement that I have been able to work with the data. Especially, because of Prof. Srivastava, I have learnt how to work with the household level data. I believe that my phobia for data has been substantially reduced because of Prof. Srivastava. I am very much grateful to my supervisor.

I am also indebted to my revered teacher Dr. Sankar Kumar Bhaumik, Reader in Economics, University of Calcutta, for his valuable comments and suggestions at various stages of my dissertation. It is because of his constant encouragement that I have been able to work confidently. I am immensely grateful to him.

I must put on record, my sincere thanks to Mr. K. Varghese for helping me with the processing of household level data and also for answering my queries regarding the handling and analyzing of the data set in SPSS. He has also helped me with the workings of STATA. I have been immensely benefited by the valuable materials found in the Central and Exim Bank Library of JNU. The staff members of the library have always been very cooperative and helpful. I am also indebted to all the faculty members of my centre for offering a number of invaluable suggestions to further improve my work. I have been greatly benefited from the interactions with Dr. Sudeshna Das, Department of Economics, Women's Christian College, University of Calcutta.

I am grateful to my friends in JNU and back in Kolkata for encouraging me throughout my pursuit. In this respect, I would like to mention the names of Arpita Banerjee, Divya Tiwari, Indrani Sengupta, Ravi Ranjan, Abhinav Kumar Jha, Ranjana Saha, Dr. Kishore Jhunjhunwala, Dr. Saakshi Sharma, Chandra Prakash Pandey and Mili Mukherjee. They have constantly encouraged me. I would like to express my heartfelt gratitude to all of them for their unshaken faith in me. In this context, I would specifically like to mention the name of Dhiman Roy, who has always inspired me and cheered me up whenever I felt stressed out. I want to convey my immense gratitude to him for having so much confidence in my capabilities.

I am grateful to my local guardians, Dr. M.C. Paul and Mrs. Sushmita Paul, for helping and taking care of me from time to time.

Finally, I owe my deep respect and debt to my parents. It is because of them that I have been able to come this far. Also, I am immensely grateful to my uncle and aunty for always being there for me. Like my parents, they have constantly encouraged me and made me feel that I am capable of achieving any heights in my life. My grandfather has been a source of inspiration to me.

Date: 25-07-07

Place: New Delhi

Kamalika Majumder
KAMALIKA MAJUMDER

LIST OF CONTENTS

Acknowledgement	i
List of Contents	iii
List of Tables	vi
List of Regression Tables	viii
List of Appendix Tables	ix
List of Figures	xi
List of Abbreviations	xii
Chapter 1 A General Overview	
• Introduction	1
• Review of Literature	2
• Major Objectives	7
• Proposed Hypotheses	8
• Database, Concepts and Definitions, and Data Adjustments	9
• Methodology	11
• Plan of Study	13
Chapter 2 Impact Of Agrarian Reforms On The Distributional Pattern Of Land	
• Introduction	14
• A theoretical discussion on the various Land Reform Policies	15
➤ Abolition of Intermediaries	16
➤ Tenancy Reform Legislations	17
➤ Ceilings on Landholdings	18
➤ Consolidation of Holdings	19
• Changing Structure of Ownership Holding of Land	20
➤ Changes in the Percentage Distribution of Ownership Holdings and Area Owned	20
➤ Average Size of Household Ownership Holdings and Percentage of Landless Households	23
➤ Average Household Size and Per Capita Holding by Size Class of Ownership Holdings at	

	the all-India level	26
	➤ Concentration Ratio : <i>A Measure of Inequality</i>	27
	• Changing Structure of Operational Holding of Land	29
	➤ Changes in the Percentage Distribution of Operational Holdings and Area Operated	29
	➤ Changes in the Size Distribution of Operational Holdings and the Percentage Distribution of Operated Area by major categories at the all-India level	31
	➤ Concentration Ratio : <i>A Measure of Inequality</i>	34
	• A Comparison between the Concentration Ratios pertaining to the Ownership and Operational Holdings of Land	37
	• Conclusion	38
Chapter 3	Magnitude Of Tenancy And The Impact Of The Lease Market On The Institution Of Tenancy	
	• Introduction	40
	• Magnitude of Tenancy	41
	• A theoretical background on the Nature and Performance of Land Lease Market	44
	• Lease Market Scenario: <i>Who leases land and from whom?</i>	46
	➤ Impact of the functioning of Lease Market on the Incidence of Tenancy	53
	• Seasonal Variations in Leasing Out and Leasing-in of Land during 1991-92	55
	• Recorded and Unrecorded Leasing-in of Land (other than homestead)	58
	• Conclusion	60
Chapter 4	Choice Of Tenurial Contracts And Determinants Of Tenancy	
	• Introduction	62
	• Terms of Lease : <i>Prevailing Trends</i>	63
	• Duration of Lease Contracts	65
	• Seasonal Variations with respect to Leasing-in of Land	69
	➤ Seasonality with respect to the Proportion of Operated Area Irrigated	71
	➤ Seasonality with respect to Irrigated to Operated Area under different sources of Irrigation	73
	• Determinants of Tenancy	73

	• Determinants of Choice among different Lease Contracts	78
	• Conclusion	80
Chapter 5	Conclusion	
	• Introduction	81
	• Some Broad Findings from the Study	81
	• Some Policy Recommendations	88
	Appendix Tables	92
	Bibliography	124

LIST OF TABLES

Table 2.1	Average Size of Household Ownership Holding and Percentage of Landless Households for 15 Major States, 1991-92 & 2002-03	23
Table 2.2	Average Household Size and Per Capita Holding by Size Class of Ownership Holdings at the All-India level, 1991-92	26
Table 2.3	Average Household Size and Per Capita Holding by Size Class of Ownership Holdings at the All-India level, 2002-03	27
Table 2.4	Concentration Ratio (denoted by G) for Ownership Holdings across 15 Major States and at the All-India level, 1991-92 & 2002-03	28
Table 2.5	Changes in Size Distribution of Operational Holdings at the All-India level, 1991-92 & 2002-03	32
Table 2.6	Changes in Percentage Distribution of Operated Area by Major Categories of Operational Holding at the All-India level, 1991-92 & 2002-03	33
Table 2.7	Concentration Ratio (denoted by G) for Operational Holdings across 15 Major States and at the All-India level, 1991-92 & 2002-03	35
Table 2.8	Comparison between Concentration Ratios for Ownership and Operational Holdings across 15 Major States and at the All-India level, 1991-92 & 2002-03	37
Table 3.1	Percentage Distribution of Area Leased Out during Kharif, Rabi and Both Seasons for All Size Class of Ownership Holdings across 15 Major States, 1991-92	55
Table 3.2	Percentage Distribution of Area Leased-In during Kharif, Rabi and Both Seasons for All Size Class of Ownership Holdings across 15 Major States, 1991-92	57
Table 3.3	Percentage Distribution of Households Reporting Recorded and Unrecorded Leasing-In of Land (other than Homestead) for All Size Class of Ownership Holding across 15 Major States, 1991-92 & 2002-03	59

Table 4.1	Percentage Distribution of Area Leased-In by Period of Lease for All Size Class of Operational Holdings across 15 Major States, 1991-92 & 2002-03	67
Table 4.2	Percentage Distribution of Leased-In to Actual Area Operated during Kharif and Rabi Seasons for All Size Class of Operational Holdings across 15 Major States, 1991-92	69
Table 4.3	Percentage Distribution of Area Leased-In during Kharif and Rabi Seasons for All Size Class of Operational Holdings across 15 Major States, 2002-03	70
Table 4.4	Percentage Distribution of Irrigated Area during Kharif and Rabi Seasons for All Size Class of Operational Holding across 15 Major States, 1991-92 & 2002-03	72

LIST OF REGRESSION TABLES

Table 4.1R	Determinants of Tenancy for 15 Major States taken as a whole across All Farm Sizes	74
Table 4.2R	Determinants of Tenancy for Eastern and North-Eastern States taken as a whole across All Farm Sizes	75
Table 4.3R	Determinants of Tenancy for Northern and North-Western States taken as a whole across All Farm Sizes	76
Table 4.4R	Determinants of Tenancy for Central and Western States taken as a whole across All Farm Sizes	77
Table 4.5R	Determinants of Tenancy for Southern States taken as a whole across All Farm Sizes	78
Table 4.6R	Determinants of Lease Contracts by using Probit Analysis for 15 Major States taken as a whole across All Farm Sizes	80

LIST OF APPENDIX TABLES

Table 2.1A	Percentage Distribution of Households and Area Owned across Major Categories of Ownership Holding, 1991-92 & 2002-03	93
Table 2.2A	Percentage Distribution of Households and Area Operated across Major Categories of Operational Holding, 1991-92 & 2002-03	95
Table 3.1A	Percentage Distribution of Households by Types of Operational Holdings across Major Categories, 1991-92	97
Table 3.2A	Percentage Distribution of Households by Types of Operational Holdings across Major Categories, 2002-03	99
Table 3.3A	Percentage Distribution of Operated Area by Type of Possession across Major Categories of Operational Holding, 1991-92	102
Table 3.4A	Percentage Distribution of Operated Area by Type of Possession across Major Categories of Operational Holding, 2002-03	104
Table 3.5A	Percentage Distribution of Total Households Leasing Out Land and Total Area Leased Out by Major Categories of Ownership Holdings across 15 Major States, 1991-92 & 2002-03	106
Table 3.6A	Percentage Distribution of Total Households Leasing In Land and Total Area Leased-In by Major Categories of Ownership Holdings across 15 Major States, 1991-92 & 2002-03	108
Table 3.7A	Percentage Distribution of Households Reporting to All Households Leasing-In Land and the Proportion of Leased- In to Owned Area for Major Categories of Ownership Holdings across 15 Major States, 1991-92 & 2002-03	110
Table 4.1A	Percentage Distribution of Area Leased-In by various Terms of Lease for Major Categories of Operational Holding across 15 Major States, 1991-92	112
Table	Percentage Distribution of Area Leased-In by various	

4.2A	Terms of Lease for Major Categories of Operational Holding across 15 Major States, 2002-03	116
Table 4.3A	Percentage Distribution of Irrigated to Operated Area by different Sources of Irrigation during Kharif and Rabi Seasons for All Size Class across 15 Major States, 1991-92	120
Table 4.4A	Percentage Distribution of Irrigated to Operated Area by different Sources of Irrigation during Kharif and Rabi Seasons for All Size Class across 15 Major States, 2002-03	122

LIST OF FIGURES

Figure 1	Average Size of Household Ownership Holdings across 15 Major States, 1991-92 & 2002-03	24
Figure 2	Changes in the Proportion of Landless Households across 15 Major States, 1991-92 & 2002-03	25
Figure 3	Changes in the Size Distribution of Operational Holdings by Major Categories at the All-India level, 1991-92 & 2002-03 (Season wise)	32
Figure 4	Changes in the Percentage Distribution of Operated Area by Major Categories of Operational Holding at the All-India level, 1991-92 & 2002-03 (Season wise)	34
Figure 5	Changes in the Concentration Ratio of Operational Holdings across 15 Major States, 1991-92 & 2002-03	36

LIST OF ABBREVIATIONS

AER	<i>American Economic Review</i>
AV	<i>Artha Vijnana</i>
BJE	<i>Bell Journal of Economics</i>
CUP	<i>Cambridge University Press</i>
EDCC	<i>Economic Development and Cultural Change</i>
EJ	<i>The Economic Journal</i>
EPW	<i>Economic and Political Weekly</i>
IEJ	<i>Indian Economic Journal</i>
IER	<i>Indian Economic Review</i>
1JAE	<i>Indian Journal of Agricultural Economics</i>
JEL	<i>Journal of Economic Literature</i>
JISPE	<i>Journal of Indian School of Political Economy</i>
JPE	<i>Journal of Political Economy</i>
JPS	<i>Journal of Peasant Studies</i>
LE	<i>Land Economics</i>
NSSO	<i>National Sample Survey Organization</i>
OEP	<i>Oxford Economic Papers</i>
OUP	<i>Oxford University Press</i>
RES	<i>The Review of Economic Studies</i>

CHAPTER 1

A GENERAL OVERVIEW

Introduction

The role of agrarian structure in affecting the agricultural development of any economy can hardly be over emphasized. Land is the prime input in any agricultural operation which, not only through ownership and the mode of operation strives for efficient utilization, but also induces the inflow and efficient use of other input resources. But, in general, the concentration of land is highly skewed. This is the most common feature for majority of economies, and, more so, for developing economies. India, being a developing country, is no exception. It is basically a labor-abundant and a land-scarce economy, where the ownership of land is concentrated in very few brackets of size classes. Of this, a number of owner households don't even take up agriculture as their occupation. These types of households called the 'lessor' households lease out their land to those (called the 'lessee' households), who are willing to cultivate. These 'lessee' households are called the tenant households. Broadly, tenancy can be classified into two categories, viz., (i) fixed rent (both, cash and kind) and (ii) sharecropping. Under fixed rent tenancy, the tenant has to pay the landowner a rent (fixed beforehand at the time of lease) in cash or kind, as the case may be. While, in case of share tenancy, the tenant pays a fixed proportion of the produce to the landowner, as rent. There exists a vast pool of literature regarding the relative inefficiencies of tenancy, in general, and sharecropping, in particular. Popularly, a large number of researchers held the view that, in general, the institution of tenancy (and, more so, share tenancy) acts as an obstacle in the process of agricultural development with respect to technological innovation, use of modern inputs and allocative efficiency. More precisely, the Marxist thinkers view tenancy as a transitional phase between feudalistic and capitalistic modes of production. Over the

years, the institution of tenancy has undergone some radical changes following a series of land reform programmes in various states throughout India. Still, a lot remains to be done and as a result, the old debate persists as to whether the institution of tenancy (and, more specifically, share tenancy) is desirable or not. In this context, a number of pertinent questions have come to the forefront:

1. Why a particular tenancy relation does come into existence and how does it gradually establishes itself firmly in the relevant agrarian setup?
2. Once a particular tenancy relation is established, why it is very difficult to change that old setup even though it poses obstacles to agrarian development?
3. How far the land reform programmes have contributed to the betterment of the conditions of poor tenants? More specifically, our query is whether tenancy reforms legislation have culminated in guaranting the security of tenure to poor tenants and put a check on the exploitations of the same?
4. Whether the inequality with respect to the concentration of ownership and operational holding of land has decreased over the years or not?

All these relevant questions broadly address the various dimensions of the tenurial structure and specifically, search for a suitable answer regarding the desirability of the institution of tenancy. In the present study, we will broadly focus on these issues and suggest some appropriate policy measures. The first two questions will be dealt with, in course of the review of literature. While, the other two questions will be taken up in the subsequent chapters. Before stating the major objectives and the proposed hypotheses behind the present study, at first, a review of the studies on tenancy will be presented. This discussion has been taken up in the next section.

Review of Literature

As noted in section 1, that the institution of tenancy, in general, and share cropping, in particular, have been the focus of debate and discussions (both,

theoretically and empirically) over decades and across various countries. The reason behind this persisting debate is aptly summed up by Byres (1983, p-32):

...sharecropping has existed since remarkably early times; has been extremely widespread geographically; has shown an often astonishing historical continuity and tenacity; has, in some pre-capitalist/pre-socialist societies, such as China and Turkey, displayed a capacity to disappear and reappear. It continues to exist pervasively in the so-called Third World.

Share tenancy has invited much debate with regards to its efficiency from the economic point of view. In the late seventeenth century, the physiocrats, considered the system of metayege¹ (the system of sharecropping as developed in France) to be detrimental for the advancement of agriculture [Basu (1998), p-253]. Thus, to the Marquis of Mirabeau, share tenancy was a **“deplorable method of cultivation, the daughter of necessity and mother of misery”** [Basu (1998), p-253]. According to Arthur Young, **“there is not one word to be said in favor of the practice and a thousand arguments can be used against it”** [Basu (1998), p-253]. Among the distinguished classical and neoclassical writers, Smith (1776) and Marshall (1890) also argued against the system of share tenancy. According to Smith, the optimum disadvantage of the metayege system arose primarily from the lack of incentive towards investment on the part of the metayege cultivators, since a portion of output is due to the owner of the land and this very portion is equivalent to a tax. Mill (1904), however, does not fully accept Smith’s view on the possible adverse effects of metayege system. According to Mill, the metayege system is not without its merit as it provides an alternative to wage employment in labor surplus economies. So, Mill suggests that, **“The metayer tenure is not one which we should be anxious to introduce where the exigencies of society had not naturally given birth to it; but neither ought we to be eager to abolish it on mere *a priori* view of its disadvantages”** [Bhaumik, (1994)]. Marshall considered

¹ The French word ‘metayege’ was used originally to describe a share tenancy system in which the output was shared in halves, though now it is treated more or less a synonym for share tenancy, in general.

the system of share tenancy as 'inefficient' on the premise that it would strongly discourage the share tenant to undertake any productive investment on the tenanted land as he has to pay a part of the produce to the landowner and as a result, the tenant would supply labor, the variable input, up to the point where his share in the value of marginal product would equalize wage, the price of labor.

Johnson (1950), however, questioned the empirical validity of Marshall's argument. According to Johnson, the landowner could induce the tenant to make efficient utilization of the necessary input(s) by monitoring the resultant output level, and not renewing the lease contracts of the unsatisfactory tenants. In support of Johnson's argument, Cheung (1969) proved that share tenancy is equally efficient as that of ownership farming and/or fixed-rent tenancy. Cheung's work subsequently paved the way for a number of theoretical models constructed by other neoclassical scholars like Hsiao (1975) and Lucas (1979). These models straight away contradict the inefficiency argument given by Marshall. On the other front, Bardhan and Srinivasan (1971, 1974) and Jaynes (1982) raise serious objections against Cheung's formulation. Bardhan and Srinivasan prove the 'inefficiency hypothesis' related to sharecropping by assuming that the work decision is taken by share tenant, contrary to Cheung's assumption. Bagchi (1975, 1976), however, severely criticized the models of both Cheung, and Bardhan and Srinivasan for making the unrealistic assumption of perfect competition as the basis of their models. Thus, a lack of unanimity of opinion can be clearly observed among the theorists on the issue of share tenancy. Exactly identical situation prevails among the scholars conducting empirical research. Thus, while, the studies by Bharadwaj (1974) and Shaban (1987) provide empirical support to the Marshallian inefficiency hypothesis; on the other hand, studies by Vyas (1970), Rao (1971), Chakravarty and Rudra (1973), Dwivedi and Rudra (1973), Bliss and Stern (1982) and Rudra (1992) support Cheung's equal-efficiency argument.

As noted in the preceding discussion that there exists no unanimity of opinion among scholars regarding the relative efficiency of the system of share tenancy, both theoretically and empirically; but another very important question remains

unanswered that - what exactly is the reason behind the historical perpetuation of share tenancy, given that it has been labeled as an 'inefficient' system by many scholars. One of the early attempts to explain the persistence of share tenancy is made by Cheung. According to him, **"The choice of contractual arrangement is made so as to maximize the gains from risk dispersion subject to the constraints of transaction cost"**. Stiglitz (1974) first modeled the risk-sharing advantages of sharecropping in a general equilibrium framework. Stiglitz holds the view that the ultimate advantage of share tenancy lies in its reduction of transaction costs related to direct supervision and risk. A number of other explanations have also been offered by different scholars. Reid (1976, 1977) holds the view that the rationale behind the sharecropping system lies in its incentive for cooperation between the landowner and the tenant in order to maximize the efficiency of agricultural production. Like Mill (1904), Newbery (1977), too, argues that sharecropping contracts are devised to mitigate the effects of rural labor market uncertainty. Hallagan (1978) views sharecropping contracts as a 'screening device' in a market where prospective tenants are endowed with different amounts of entrepreneurial ability. According to him, the individuals with the greatest entrepreneurial ability select to be fixed-rent tenants, those with no such ability become wage labor, and the intermediate cases become share tenants. However, Bliss and Stern (1982) are of the opinion that the very existence of sharecropping is due to indivisibility and imperfect marketability of some factors of production (draught animals, family labor, etc.). Sharecropping enables efficient utilization of such indivisible factors and eventually, brings gains for both landowner and tenants. This view is also supported by the studies conducted by Nabi (1985) and BIRTHAL and Singh (1991).

Coming to the Marxian perspective, it is seen that one of the most influential studies explaining the persistence of sharecropping is the paper by Pearce (1983). He views sharecropping as a particular method of surplus appropriation by which surplus labor is transferred to the landowner in the form of surplus product. He further argues that sharecropping actually represents a transitional mode of surplus appropriation **'between forms of agrestic servitude and the full**

commoditization of rural labor itself'. According to him, sharecropping may persist in the early stages of capitalistic development when accumulation and technical change are slow in creating developed wage-labor market, but **'there will be a tendency for such contract to be superseded by others more appropriate to high rates of accumulation in agriculture'**. Many writers are of the opinion that in a backward agrarian setup share tenancy operates as a part of a greater interlinked system of rural markets (Bardhan, 1980, 1984; Braverman and Stiglitz, 1982; Basu, 1998; Otsuka *et al.*, 1992). Quite often, sharecropping lease contracts are interlinked with land, labor, credit or any other contract that may have important implications for technological change and the resultant growth in agriculture. Bhaduri (1973) initiated a debate on the effects of factor market interlinkages on technical progress and their implications for agrarian growth. In terms of a formal model, Bhaduri shows that a landowner who also provides consumption loans to his tenants may have no incentive to adopt innovations that will increase productivity, if the landowner's interest income from his loans to the tenants goes down. Bhaduri's model shows very clearly how the interlinkage of land-lease and credit contracts restricts technical progress and hence, stagnates agricultural growth. Another implication of this model is that sharecropping in an interlocked system serves as a means of exploitation of the tenants by the landowners. This phenomenon of exploitation of the tenants by the landowners to extract maximum surplus and keep the former in perpetual indebtedness is termed by Bhaduri as 'forced commerce' (Bhaduri, 1983). Even though Bhaduri's hypothesis found support from Chandra (1974) and Sau (1975), it has also been subjected to scathing criticisms. A number of scholars pointed out that the interlinkage of land-lease and credit market contracts is rather a weak constraint for adoption of technical progress. On the contrary, they argue that if the landowner possesses sufficient power to exploit the tenant and to withhold the innovation, then he must have necessary means to extract the extra gain from innovation by suitably manipulating the terms and conditions of lease and credit contracts. Bardhan and Rudra (1978) observe that even in eastern India, the very basis of Bhaduri's model, landowners quite often extend interest-free loans to the tenants,

share the input cost, participate in decision making about the use of inputs and generally, take a lot of interest in productive investment on the tenant's farm. All these findings very clearly contradict Bhaduri's model. Moreover, a number of empirical studies examining the nature of rural market interlinkages clearly reject the idea of tenancy-credit interlinking being operative in rural areas as a means to exploit the poor tenants (Khasnabis and Chakraborty, 1982; Chattopadhyay and Ghosh, 1983).

From the preceding discussion it emerges that there exists a lot of controversies regarding tenancy, in general, and share tenancy, in particular. The purpose of the present study is to look into some of the issues related to the institution of tenancy. The general approach will be to examine every aspect from the point of view of the institution of tenancy as a whole (with special emphasis on share tenancy). The present study will be of temporal nature as it is based on two points of time – 1991-92² and 2002-03³. The main purpose of the present study is to analyse the trends that are prevailing across 15 major states with regards to the institution of tenancy. The major objectives behind the present study will be put forward in the next section.

Major Objectives

The major objectives behind the present study are as follows.

1. The principal objective of the study will be to analyse the household and state level determinants of the emerging lease situation.
2. At the household level, the study will explore the relationship between family size, number of workers, land and assets (bullocks and physical) and the emerging pattern of lease.

² For 1991-92, both the household level and the state level data have been used.

³ For 2002-03, only state level data have been used.

3. At the state level, the study will explore the relationship between land distribution, landlessness, irrigation and cropping pattern and the lease pattern.

In the next section, some hypotheses, based on these objectives, will be proposed.

Proposed Hypotheses

The list of hypotheses that are to be tested with the available data set are as follows.

1. As the scale of operation increases by leasing in more land, households employ less of family labor and more of wage labor for agricultural activities.
2. With the increase in the scale of operation, the households mostly belonging to the medium and large categories lease-in more land from the marginal and small farming households.
3. The marginal and small farming households make use of more bullock labor per hectare and less of agricultural implements as more land is operated by them through leasing.
4. The most preferred form of lease contract, in states with high concentration of landless, marginal and small farms, is sharecropping.
5. A positive relationship is expected between area leased-in and the proportion of irrigated to owned area for states where, over time, modern technology is used by most households in agriculture.
6. A positive relationship is expected between area leased-in under fixed rent lease contract and the proportion of irrigated to owned area.
7. A positive relationship is expected between area leased-in under fixed rent lease contract and the level of mechanization used in agriculture.

Database, Concepts and Definitions, and Adjustments of Data

Database

The National Sample Survey (NSS) Reports on landholdings and tenancy, and Agricultural Census Reports are the two major sources of data on landholdings and tenancy. Of the two sources, the data published by NSS is more reliable and informative. The present study is based on NSS data set. The study will use both state level and household level data for 1991-92 and only, state level data for 2002-03. All the reports and the household level database are prepared by National Sample Survey Organization (NSSO). The unit level database contains information on both household ownership (visit 1 schedule) and operational (visit 2 schedule) holdings.

Concepts and Definitions

In order to examine the adequacy, relevance and temporal comparability of the data set used here, it is essential to look into the conceptual and definitional changes resorted to by the NSSO from time to time.

Ownership Holding

The landholding enquiry for the 8th Round defined ownership holding as the land owned by a person if he had the right of permanent heritable possession with or without the right to transfer the title. The concept of ownership holding was, however, broadened subsequently in the 16th and 17th Rounds to include land held in ownership-like possession defined to include (a) land held from government under a grant of lease of assignment with the right of permanent heritable and transferable possession and such land without transferable possession; (b) land held from a person other than government with permanent heritable and transferable possession and such land without the right to transfer the title. There has been no significant change in the definition of ownership holding in the subsequent rounds including the 48th Round (1991-92) and the latest 59th Round (2002-03). However, there is a difference in the inclusion of size classes of ownership holding in the last two rounds. In the 48th

Round, there were 16 size classes of ownership holding; where as, in the 59th Round, only 13 size classes of ownership holding have been included.

Operational Holding

In the 8th Round, operational holding was defined to include all land whether cultivable or not, whether put to agriculture use, directed or managed by one or more persons by themselves or with the assistance of others without regard to title, location and size, provided these holdings come under the management of a distinct technical and economic unit. The definition of operational holding was, however, drastically changed in the 16th and 17th Rounds in order to include only the land wholly or partly put to agricultural uses, operated by one person alone or with the assistance of others without regard to size and title, provided the holding might consist of one or more parcels, and they come under the same state. The holding put exclusively to pastures and livestock raising or production of livestock and pisciculture were excluded from the scope of operational holding. In the 26th Round, there was no substantial change in the definition except that the condition of location of a parcel within a state was changed. The 37th Round included the holdings put exclusively to livestock raising, dairy and pisciculture under the scope of operational holding. There has been no change in the definition of operational holding in the 48th and 59th Rounds. However, unlike 48th Round, in the 59th Round the data on operational holding is separately given for kharif and rabi seasons. Also, the number of size classes of operational holding is 13 in the 59th Round as against 16 size classes in 48th Round.

Tenancy

In addition to the data on ownership and operational holdings of land, the NSS surveys also give detailed information on land leased-in by different farm-size groups as also on terms and conditions of leasing out and leasing-in. The data on different aspects of tenancy are broadly comparable across different rounds. But, in order to ensure temporal comparability, some adjustments are being made to the data set pertaining to tenancy.

Adjustments of Data

First of all, the adjustments regarding state level data will be discussed. Regarding magnitude of tenancy, the area reported as 'not recorded' has been included in the area reported as 'neither owned nor leased-in but otherwise possessed' in the 48th Round. The same thing is done for 59th Round. Since, the data for the operational holding in 59th Round is given season wise, hence, in order to ensure temporal comparability, only data during kharif season have been used.

Regarding data adjustments for the household level during 1991-92, it can be observed that in both the visits except, for the area corresponding to the size class of holdings (both, ownership and operational), that are given in hectares; all other areas are given in acres. In order to facilitate comparability, we have converted all those areas (in acres) into hectares by the rule

$$1 \text{ acre} = 0.4047 \text{ hectares.}$$

Moreover, most of the data are given in codes. So, while decoding those data, it is observed that some codes exist in the data base for which no mention is made in the questionnaire. Since, the percentage of such codes is, in general, very negligible, so such codes have been ignored without bringing substantial effect on the data base and the subsequent results drawn from the same. In order to give weights to the data set (so as to obtain the estimated value), the combined multiplier values have been used as weights.

Methodology

As far as the methodology is concerned, cross tabulations with respect to the household level data will be used in order to discern the generalized pattern regarding various dimensions of tenancy. In order to test the inter-relations across different states, regression analysis will be used. For some cases, graphs will also be used. The list of variables that will be considered for the present analysis is as follows:

1. whether any part of land leased out/leased-in

2. type of lessee
3. terms of lease
4. type of possession
5. duration of possession
6. lessor type
7. irrigation source
8. nature of operation
9. class of area operated
10. type of holding
11. number of bullock labor
12. farm equipment
13. family labor (number of persons in agriculture).

With respect to the state level data at both the points of time, almost all relevant tables are generated for the following size classes – landless (in case of leased-in tables), marginal, small, semi-medium, medium, large and all sizes. At the state level, the data set is already aggregated; but, it has been further aggregated to generate comparative tables that will fit well with the present analysis.

In order to measure the degree of inequality, the concentration ratios will be calculated for all the 15 states at two points of time for both ownership and operational holdings. However, for 2002-03, the concentration ratios for the operational holding have been calculated for kharif season only.

In order to test certain causal relationships as per the proposed hypotheses, one multiple regression by using linear estimation method and three separate regressions by using probit analysis will be fitted in this study. In case of the multiple regression that is estimated by using linear estimation method, the dependent variable is proportion of leased-in area, and the independent variables are household size, proportion of owned area, number of bullock labor per hectare, proportion of irrigated to owned area and level of mechanization. While, using the probit analysis to fit the three multiple regressions, the dependent variables, namely, whether leased-in under fixed money, whether leased-in under fixed produce, and whether leased-in under share of produce, are basically qualitative (or, responsive) in nature, taking the values

either 0 or 1. Against this, the independent variables are household size, proportion of area leased-in, number of bullock labor per hectare, proportion of irrigated to owned area and level of mechanization. All the regression exercises are run by utilizing the unit level data available for 1991-92.

Plan of Study

The present study is divided into five chapters. Chapter 1 gives a general overview of the entire study. Chapter 2 will deal with the impact of land reforms on the distributional pattern of land (both, ownership and operational). Chapter 3 will explore the magnitude of tenancy and the impact of lease market on the institution of tenancy. In this chapter, the issue of 'reverse tenancy', the seasonality and the type (whether, recorded or not) of lease will also be discussed. In chapter 4, the choice among various terms of lease and determinants of tenancy will be discussed. This chapter will also look into the determinants relating to different lease contracts. Finally, chapter 5 will conclude the present study by summing up the broad findings and recommending some appropriate policy measures.

CHAPTER 2

IMPACT OF AGRARIAN REFORMS ON THE DISTRIBUTIONAL PATTERN OF LAND

Introduction

Land policy in India has been a major topic of government policy discussions since the British rule. The peasants of the country strongly backed the independence movement and the "Land to the Tiller" policy of the Congress Party because of the prevailing agrarian conditions (Deshpande, 1997). The agrarian structure during British administration emerged with a strong historical background (Dutt, 1976; Appu, 1996). Under the various pre- British regimes, land revenues collected by the state confirmed its right to land produces. British rulers took a cue from this system and allowed the existence of noncultivating intermediaries. The existence of these parasitic intermediaries served as an economic instrument to extract high revenues, as well as, sustaining the political hold on the country. Thus, at the time of independence the agrarian structure in India was characterized by parasitic, rent-seeking intermediaries, different land revenue and ownership systems, small numbers of land holders holding a large share of the land, a high density of tenant cultivators, many of whom had insecure tenancy, and exploitative production relations (Appu, 1996). Immediately after independence, a committee was appointed to look into the problems of land. A substantial volume of legislation was adopted, out of which, very little was seriously implemented.

The present chapter will focus on the impact of agrarian reforms on the distributional pattern of land (both ownership and operational holdings). Among various agrarian reforms, the present chapter will concentrate only on the land reform programmes that had been implemented over time across different states through out

India. The main aim will be to present a critical review of the various land reform policies across different states and assess how far the objectives of the aforesaid reforms been achieved. The assessment of the reforms will be done with respect to the land distribution structure prevailing at two points of time, viz., 1991-92 and 2002-03. In order to carry out the proposed task, the present chapter is divided into a number of sections. The second section will present a theoretical discussion on the various land reform policies undertaken across different states. Once an idea about the existing land reform scenario is obtained, this chapter will proceed to assess the success of these policies in the light of the land distribution structure. In section 3, the various aspects pertaining to the distribution of ownership holding of land will be dealt with. Section 4 will deal with a number of issues related to the distribution of operational holding of land. Having categorically put forward the prevailing trends regarding the land distribution system, a comparative analysis between concentration ratios of ownership and operational holdings will be presented in section 5. Finally, section 6 will conclude this chapter.

A Theoretical Discussion on the various Land Reform Policies

In this section, a theoretical background regarding the various land reform policies will be presented. Already, it has been noted in the preceding section that a number of land reform policies were formulated and implemented just after independence. While formulating these policies, the policy-makers were confronted with a number of important issues.

1. Land was mostly concentrated in very few categories and there was a proliferation of intermediaries who had no vested interest in self-cultivation. Moreover, leasing out of land was a common practice.
2. The tenancy contracts were mostly informal and exploitative in nature and the tenants could be evicted-at-will by the landowners.
3. Land records were in extremely bad shape and as a result, it gave rise to a series of litigations. It is quite surprising that in 1989, the Supreme Court of

India commented that the revenue records are not the legal documents of title (Wadhwa, 1989).

It is against this background that the land reform policies have been formulated in India. For the purpose of the present chapter, the first two phases of land reform programmes will only be discussed.

The first phase (1950-72) of land reform programme had three major objectives: (i) abolition of the intermediaries; (ii) tenancy reforms; and, (iii) the redistribution of land using land ceilings. The measures to abolish the intermediaries have many built-in loopholes; but, on the whole, it is relatively more successful than the tenancy reform and land ceiling measures.

The second phase (1972-85) of land reform programme formulated and implemented certain measures to consolidate uncultivated land and use it for cultivation purpose.

All these measures will now be dealt separately so as to get a clear view about the success and/or failure of the same.

(i) Abolition of Intermediaries

During the British period, a large variation in the tenure structure can be broadly classified into three categories – the Zamindari, the Raiyatwari and the Mahalwari systems. The essence of the Zamindari system was the existence of one or more layers of proprietary rights between the state and the actual tillers of the land. This system was prevalent in North India, Bihar, West Bengal, most of Orissa and Rajasthan. On the other hand, in the Raiyatwari system, no intermediary existed between the state and the landholders. The Raiyats were given the status of proprietors of land as long as revenue payments were made. This system existed over most parts of South India, Madhya Pradesh and Assam. In case of Mahalwari system, peasant farmers contributed shares of the total revenue demand for the village in proportion of their respective holdings. All the three settlements ensured steady flow of revenue from agriculture without giving any security to the poor peasants. The Zamindari system was one of the most exploitative land relations in India and it was

in full conformity with the feudal socio-economic structure. In order to curb the powers of the Zaminders, the then Congress government implemented a number of measures. However, due to a number of weaknesses, the success of these implementations fell short of the desired target.

(ii) *Tenancy Reforms*

At the time of independence, the progress of Indian agrarian structure was inhibited because a major part of the land was under tenant cultivation and most of the tenancy contracts were not formal in nature (Gill, 1989). The weakest tillers of land were mostly tenants, sub-tenants and share croppers, who could be evicted at will and exploited by the owners of the land. After independence, the tenants having records of tenurial contracts, received ownership of land upon abolition of the zamindari system. During 50's and 60's, attempts were made to provide security of tenure and fixing fair rents payable by the tenants. Many states implemented tenancy reform laws in the interest of tenants. Most of the state laws protected the tenants from eviction-at-will and some states like West Bengal provided ownership rights on share cropped land. In spite of all these measures, a review of the tenancy reforms bring out the inconsistencies between the provisions of various tenancy reform legislations and the objectives of the land reform policies. Firstly, the legislation that attempted to ban tenancy, as in Orissa, had perverse effects. It inevitably led to concealed tenancy arrangements that tend to be even more informal and less secure than they had been before the reforms (Swain, 1999). Secondly, the definition of 'tenant' often excludes the sharecroppers who constituted a large proportion of tenants in states like West Bengal, Assam, Bihar, Punjab and Haryana. Thirdly, the provision for conferment of ownership rights on the tenants has been far from real. Fourthly, the amount of compensation to be paid by the tenants to acquire the ownership rights was generally high and beyond the capacity of marginal and small tenants. Moreover, because of the fear of tenancy reform legislations, landowners started reverting back to self cultivation by evicting poor tenants (Bhalla, 1977). Over all, it can be observed that most of the states in the matter of tenancy reform

legislations fall far short of the target and the implementation of the reform measures has been unsatisfactory in most parts of the country.

(iii) Ceilings on Landholdings

Land ceiling laws were first enacted in late 1950's and early 1960's. The land ceiling laws were considered to be one of the most important measures of land reform legislation, mainly, due to following reasons. Firstly, the inverse relationship debate between the farm size and productivity during the 60's led to fragmentation and sub-fragmentation of landholdings (Bhalla, 1977). Secondly, large landholders were, mostly, seen to have little interest in farming and hence, kept the cultivable land fallow, which, in turn, reduced the fertility of land (Deshpande, 1997). As a result, land ceiling laws were formulated in order to distribute land to the rural poor, mainly the landless farming households. But, till 1970, the ceiling laws had appropriated only 1 million hectare of land and out of this, only 50% were distributed among the rural poor households. No clear eligibility criterion was prescribed for the landless households in the ceiling laws. There were no proper records on the basis of which ceilings limits were to be set by the government. As a result, different ceiling limits were set by different states. Moreover, the application of land ceiling legislations has not been uniform in all the states. In states like Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Rajasthan and Tamil Nadu, the ceiling laws were applicable for both ownership and operational holdings. While, for states like Assam, Maharashtra, Orissa, Punjab, Uttar Pradesh and West Bengal, the ceiling laws were applicable only for ownership holdings. So, it can be observed that the land ceiling laws remain unimplemented for most parts of the country partly because of the loopholes in the legislations and partly due to the vested interests of the pressure groups belonging to the influential section of the society.

(iv) Consolidation of Holdings

Among all the land reform measures, the consolidation of holdings has received least attention. During the early 70's it was observed that many landowners held several fragmented parcels scattered across the villages. This was an easy escape from the Land Ceiling Act and therefore it was felt that the landholding of an individual holder should be consolidated (Deshpande, 1997). The economic efficiency of small landholdings was also an associated argument (Bhalla, 1977). Legislation on consolidation was adopted in some states in order to increase efficiency in the scale of operation on landholdings. But, in most cases, these laws and associated consolidation programmes have failed to achieve their desired targets due to lack of political will and administrative difficulties.

So, from the previous discussion it can be gathered that most of the measures pertaining to the land reform programmes have not been implemented whole heartedly. Even where, some measures had been implemented, the legislation is characterized by built-in loopholes. Over all, it can be observed that the main objective of the land reform programmes, which is to remove the inequality with respect to land holding, has not been achieved. Put differently, there exists huge concentration of land holdings in a few hands till the present date. This conclusion, however, has been drawn by reviewing the literature and also pursuing empirical analysis. In order to assess the success or failure of the land reform policies, the data analysis will now be presented. A plethora of studies exist on the changing distribution of landholdings over time across different states (Nair *et. al.*; Sanyal, 1977; Sharma, 1992, 1994, 1995). In the present chapter, the data analysis regarding the changing distributional patterns of ownership and operational holdings will be presented. But, first of all, a number of aspects pertaining to the ownership holding of land will be dealt with. This will be taken up in the next section.

Changing Structure of Ownership Holding of Land

In this section, various aspects related to the ownership holding of land will be presented. For the purpose of the present analysis, 15 major states and all-India level will be considered at two points of time – 1991-92 and 2002-03.

Changes in the Percentage Distribution of Ownership Holdings and Area Owned

Table 2.1A (Appendix) gives the percentage distribution of households and area owned over five broad categories of ownership holding for 15 major states. Two points of time – 1991-92 and 2002-03, are taken for the purpose of the present analysis.

In case of marginal category, there has been an appreciable increase in the proportion of households for all the 15 states between 1991-92 and 2002-03. At the all-India level, the increase in the proportion of households in the marginal category is 79.60% in 2002-03 from 71.88% in 1991-92. Coming to the proportion of area owned by the marginal category, a completely different picture can be observed. Even though, the proportion of area owned registered an increase from 1991-92 to 2002-03, still the percentage is quite low in most of the states. For states like Andhra Pradesh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab and Rajasthan, the proportion of area owned by the marginal category is either around 20% or below it. In some cases, the percentage is even below 10%. The proportion is around 40% in states like Assam, Bihar and Orissa. These states are mostly characterized by subsistence farming. In Tamil Nadu and Uttar Pradesh, the marginal category owns an area around 30%. The only two states where the marginal category owns around 60% of the total owned area are Kerala and West Bengal. At the all-India level, the proportion of area owned by the marginal category has increased from 16.93% in 1991-92 to 23.05% in 2002-03.

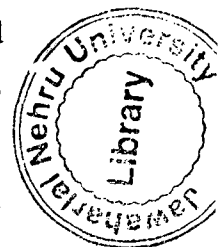
Coming to the small category, it can be observed that in all the 15 states there has been a decline in the proportion of households belonging to this category. At the all-India level, too, the proportion of households under the small category has

declined from 13.42% in 1991-92 to 10.80% in 2002-03. The scenario is not so uniform in case of proportion of area owned. For states like Andhra Pradesh, Kerala, Orissa, Tamil Nadu and West Bengal, the proportion of area owned by the small farming households has registered a decline from 1991-92 to 2002-03. There is, however, an increase in the proportion of area owned over the decade in Assam, Bihar, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan and Uttar Pradesh. At the all-India level, the proportion of area owned registered an increase from 18.59% in 1991-92 to 20.38% in 2002-03.

In case of semi-medium holdings, there has been a decline in the proportion of households for all states over the decade. At the all-India level, the decline in the proportion of households is 6.00% in 2002-03 from 9.28% in 1991-92. Coming to the proportion of area owned, it can be observed that except for states like Madhya Pradesh and Maharashtra, all other states show a more or less marked decline between 1991-92 and 2002-03. At the all-India level, the declining trend in area owned continued for the semi-medium category, the percentage being 21.98% in 2002-03 from 24.58% in 1991-92.

For the medium category, all states except Tamil Nadu show a declining trend with respect to the proportion of households coming under this category between 1991-92 and 2002-03. At the all-India level, the proportion of households falling under this category declined from 4.54% in 1991-92 to 3.00% in 2002-03. Four states, viz., Gujarat, Karnataka, Kerala and Tamil Nadu, show an increasing trend with respect to the proportion of area owned between 1991-92 and 2002-03. All other states show a declining trend over the decade for the proportion of area owned by the households belonging to the medium category. At the all-India level, the proportion of area declined from 26.07% in 1991-92 to 23.08% in 2002-03.

Lastly, for the large category, it can be seen that over the decade, the proportion of households under this category registered a marked decline in all the 15 states. For some states like Assam and Kerala, the large category ceased to exist in 2002-03 as compared with 1991-92. At the all-India level, too, the proportion of households declined from 0.88% in 1991-92 to 0.60% in 2002-03. Coming to the proportion of area owned, we find the same declining trend continued across all the



74-14 966

Diss
333.530954
M2891 Ch

TH14966

15 states. At the all-India level, the proportion of area owned declined from 13.83% in 1991-92 to 11.55% in 2002-03.

So, from the preceding discussion it can be gathered that with respect to the distributions of households and area owned, there exist considerable inequality among all the five categories across different states over the decade. In states like Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu and Uttar Pradesh, we observe that the lower two categories, viz., marginal and small, own only 40% or less of the total owned area given that these two categories constitute more than 80% of the total households owning land. In contrast, the upper three categories, viz., semi-medium, medium and large, own around 60% or more of the total owned area given that these three categories constitute less than 20% of the total households owning land. In the two green revolution states, viz., Haryana and Punjab, the inequality in the distribution of land holdings among the five categories is even more marked. This result shows that the technological break through has gradually made large holdings more efficient, productive and viable. And this finding in one way invalidates the inverse relationship between farm size and productivity. Put differently, it can be said that in these two states, technological deepening, scale effect and mechanization have made large holdings more economically viable than the small ones. However, for states such as Assam, Bihar, Kerala, Orissa and West Bengal, the inequality is quite less as compared with the other states. In all these five states, the lower two categories own near about 70% of the total owned area. The more favorable scenario in these five states can be attributed to the effective reform measures undertaken by the respective state governments. At the all-India level, the inequality regarding the area owned continued across five categories. So, over all inequality exists in most of the states with respect to the ownership structure of land holding.

Average Size of Household Ownership Holdings and Percentage of Landless Households

In this section, the trends regarding the average size of household ownership holdings (with and without landless households) and the percentage of landless households will be presented.

Table 2.1 gives an overview of the average area owned per household, percentage of landless households and average area owned per household owning land for 15 major states at two points of time – 1991-92 and 2002-03. The columns for ‘average area owned per household’ include the landless households. For all the 15 states, there has been a decline in the average area owned per household from 1991-92 to 2002-03. At the all-India level, the average area owned per household declined from 1.01 in 1991-92 to 0.73 in 2002-03. The states, viz., Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab and Rajasthan are those where average area per household is above the national average. The same thing is shown in a graph.

TABLE 2.1: AVERAGE SIZE OF HOUSEHOLD OWNERSHIP HOLDINGS AND PERCENTAGE OF LANDLESS HOUSEHOLDS FOR 15 MAJOR STATES, 1991-92 & 2002-03

RURAL

states	average area (ha) owned		percentage of landless hhs		average area (ha) owned	
	per	hh			per hh owning land	
	1991-92	2002-03	1991-92	2002-03	1991-92	2002-03
Andhra Pradesh	0.78	0.62	11.8	14.33	0.88	0.72
Assam	0.70	0.55	13.4	8.05	0.81	0.60
Bihar	0.64	0.38	8.60	7.60	0.70	0.41
Gujarat	1.38	1.02	16.3	13.60	1.65	1.18
Haryana	1.41	0.83	3.70	9.21	1.46	0.92
Karnataka	1.39	0.98	10.00	14.09	1.54	1.14
Kerala	0.30	0.23	8.40	4.80	0.33	0.25
Madhya Pradesh	1.74	1.31	15.20	12.05	2.05	1.49
Maharashtra	1.59	1.02	19.60	17.66	1.98	1.24
Orissa	0.74	0.48	13.80	9.56	0.86	0.53
Punjab	1.10	0.84	5.90	4.57	1.17	0.88
Rajasthan	2.66	2.08	6.40	5.65	2.84	2.20
Tamil Nadu	0.41	0.34	17.90	16.55	0.50	0.41

Uttar Pradesh	0.83	0.62	4.90	3.82	0.87	0.64
West Bengal	0.46	0.30	11.00	6.15	0.52	0.31
All India	1.01	0.73	11.30	10.04	1.14	0.81

Sources: Computed from (i) Land And Livestock Holdings Survey, NSS 48th Round: Some Aspects Of Household Ownership Holdings; Report No. 399.

(ii) NSS 59th Round: Household Ownership Holdings in India, 2003; Report No. 491.

Note: hhs refers to households.

FIGURE 1: AVERAGE SIZE OF HOUSEHOLD OWNERSHIP HOLDINGS ACROSS 15 MAJOR STATES, 1991-92 AND 2002-03

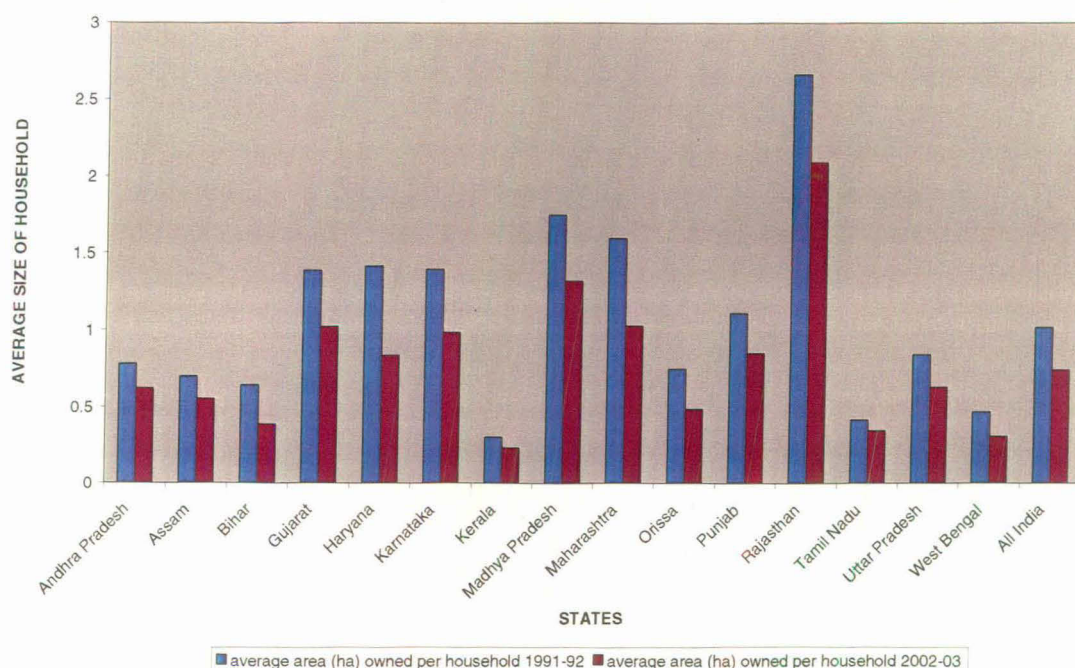


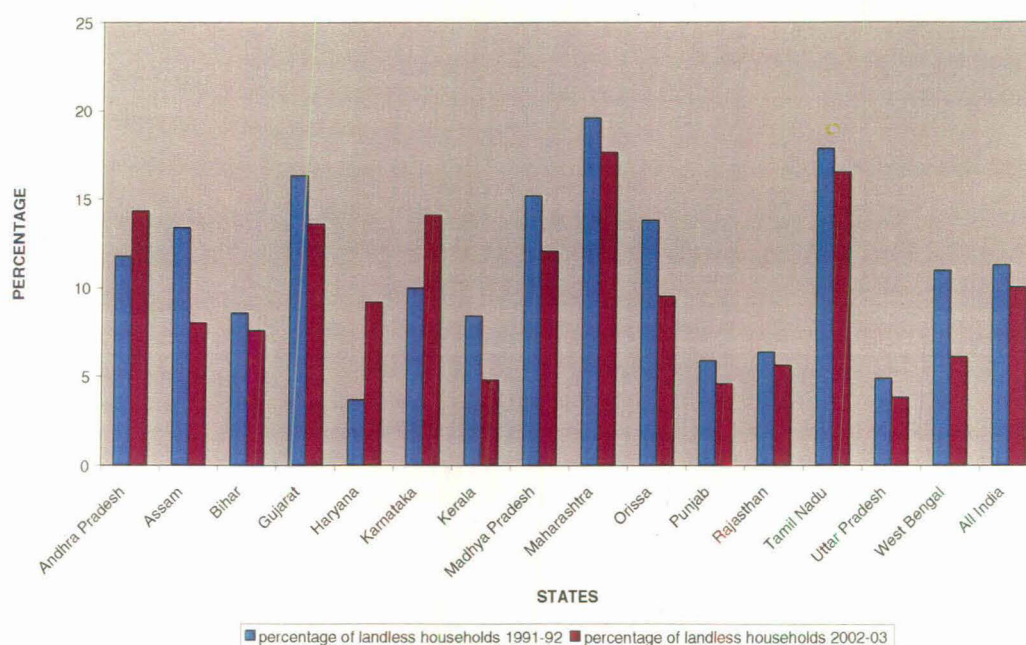
Figure 1 shows the trend in the average size of household ownership holdings for 15 major states at two times of time – 1991-92 and 2002-03.

Now, we will concentrate on the percentage of landless households. Over the decade, the percentage of landless⁴ households has increased in Andhra Pradesh, Haryana and Karnataka. Apart from these three states, the proportion of landless

⁴ Landless households are defined by the two size classes, namely, 'nil' and 'less than 0.002'; and this definition is identical in both the rounds, namely, 48th and 59th.

households has decreased, over the decade, in all other states. At the all-India level, the percentage has declined from 11.30% in 1991-92 to 10.04% in 2002-03. This is shown in Figure 2 given below.

FIGURE 2: CHANGES IN THE PROPORTION OF LANDLESS HOUSEHOLDS ACROSS 15 MAJOR STATES, 1991-92 & 2002-03



Now, we will look into the average area owned per household excluding the landless households. The picture is more or less same as the case when we had included the landless households because the on going demographic pressure and the fixed availability of land have further accentuated the fragmentation of land. As a result, the per capita availability of cultivable land has decreased over the decade. At the all-India level, the average area per household excluding the landless households has declined from 1.14 in 1991-92 to 0.81 in 2002-03.

So, from the previous discussion it can be gathered that even though the proportion of landless households has declined, over the decade, in most of the states,

yet the declining average area per household (both, including and excluding landless households) over the decade indicates that due to excess population pressure and skewed land distribution, holding per household gets fragmented and sub-fragmented. This, in turn, makes the respective holding economically unviable and farming unprofitable mostly, for marginal holdings.

Average Household Size and Per Capita Holding by Size Class of Ownership Holdings at the all-India level

Tables 2.2 and 2.3⁵, respectively, give the average household size and per capita holding by size class of ownership holdings at the all-India level for 1991-92 and 2002-03. In both the tables, it can be observed that as one move towards the upper size classes, all the three variables – (i) average holding per household, (ii) average household size, and (iii) per capita holding, exhibit an increasing trend. This again shows the inequality in the distribution of land holdings.

TABLE 2.2: AVERAGE HOUSEHOLD SIZE AND PER CAPITA HOLDING BY SIZE CLASS OF OWNERSHIP HOLDINGS AT THE ALL-INDIA LEVEL, 1991-92

RURAL

size class (ha)	average holding per hh (ha)	average hh size	per capita holding (ha)
nil	0.00	3.90	0.00
less than 0.002	0.00	4.20	0.00
0.002-0.20	0.04	4.70	0.01
0.21-0.50	0.34	5.10	0.07
0.51-1.00	0.73	5.30	0.14
1.01-2.00	1.40	5.90	0.24
2.01-4.00	2.67	6.40	0.43

⁵ The definition of ownership holding has remained unchanged over the decade; but, there is a change in the number of size classes included in both the rounds. During 1991-92, there were 16 size classes of ownership holding; while only 13 size classes exist during 2002-03.

4.01-10.00	5.78	7.30	0.79
10.00 & above	15.86	8.60	1.84
all classes	1.01	5.30	0.19

Source: Computed from Land And Livestock Holdings Survey, NSS 48th Round: Some Aspects Of Household Ownership Holdings; Report No. 399.

Note: hh refers to households.

TABLE 2.3: AVERAGE HOUSEHOLD SIZE AND PER CAPITA HOLDING BY SIZE CLASS OF OWNERSHIP HOLDINGS AT THE ALL-INDIA LEVEL, 2002-03

RURAL

size class (ha)	average holding per hh (ha)	average hh size	per capita holding (ha)
nil	0.000	3.300	0.000
less than 0.002	0.002	4.000	0.000
0.002-0.005	0.004	4.300	0.000
0.005-0.040	0.015	4.700	0.000
0.040-0.500	0.251	5.000	0.050
0.500-1.000	0.734	5.400	0.140
1.000-2.000	1.366	5.700	0.240
2.000-3.000	2.344	6.000	0.390
3.000-4.000	3.385	6.200	0.540
4.000-5.000	4.393	6.800	0.650
5.000-7.500	6.040	7.000	0.870
7.500-10.000	8.502	7.100	1.190
10.000-20.000	13.484	8.200	1.650
20.000 & above	31.047	11.300	2.750
all sizes	0.725	5.000	0.150

Source: NSS 59th Round: Household Ownership Holdings in India, 2003; Report No. 491.

Note: hh refers to households.

Concentration Ratio: A Measure of Inequality

In order to get an idea about the degree of inequality, Gini's Coefficient (or, the concentration ratio) has been used. It is defined as G and calculated by the formula:

$$G = 1 - \sum_j [(H_j - H_{j-1})(A_j + A_{j-1})] / 10^4$$

where, H_j = cumulative percentage of household for the j^{th} category;
and A_j = cumulative percentage of area owned for the j^{th} category.

Table 2.4 gives the values of G for 15 major states at two points of time – 1991-92 and 2002-03. From the table it can be observed that for states like Andhra Pradesh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan and Tamil Nadu, the value of G has increased from 1991-92 to 2002-03. While for the rest of the states – Assam, Bihar, Kerala, Orissa, Uttar Pradesh and West Bengal, the value of G has declined over the decade. This trend in the value of G is in full conformity with the intensity of inequality as is evident from Table 2.1A, earlier in this chapter. So, over time, inequality with respect to the distribution of ownership holding of land has increased across states. At the all-India level, the value of G has increased from 0.71 in 1991-92 to 0.72 in 2002-03. This increase at the national level is, however, not significant. The increase in the value of G, over the decade, is significant for Andhra Pradesh, Gujarat, Haryana, Karnataka, Punjab and Tamil Nadu. On the other hand, the value of G has declined significantly in Assam, Bihar, Kerala, Orissa, Uttar Pradesh and West Bengal.

TABLE 2.4: CONCENTRATION RATIO (denoted by G) FOR OWNERSHIP HOLDINGS ACROSS 15 MAJOR STATES AND AT THE ALL-INDIA LEVEL, 1991-92 & 2002-03

RURAL

states	G ₁₉₉₁₋₉₂	G ₂₀₀₂₋₀₃
Andhra Pradesh	0.72	0.78
Assam	0.57	0.49
Bihar	0.70	0.67
Gujarat	0.71	0.75
Haryana	0.68	0.78
Karnataka	0.66	0.70
Kerala	0.69	0.54
Madhya Pradesh	0.65	0.67
Maharashtra	0.71	0.72
Orissa	0.66	0.61
Punjab	0.77	0.81

Rajasthan	0.65	0.67
Tamil Nadu	0.75	0.80
Uttar Pradesh	0.63	0.59
West Bengal	0.68	0.59
All-India	0.71	0.72

Sources: Computed from (i) Land And Livestock Holdings Survey, NSS 48th Round: Some Aspects Of Household Ownership Holdings; Report No. 399.

(ii) NSS 59th Round: Household Ownership Holdings in India, 2003; Report No. 491.

An overview of this section shows that with respect to the ownership holding of land, there exists considerable inequality across states. So, with respect to this pattern of land holding, the failure of land reform policies in reducing the skewness in land distribution structure can be clearly perceived. Next, the various aspects related to the operational holdings of land will be dealt with. This will be taken up in the next section.

Changing Structure of Operational Holding of Land

In this section, a number of issues related to the operational holding of land will be discussed. As before, 15 major states at two points of time – 1991-92 and 2002-03, will be considered.

Changes in the Percentage Distribution of Operational Holdings and Area Operated

Table 2.2A (Appendix) gives the percentage distribution of operational holdings and area operated by major categories across 15 major states at two points of time – 1991-92 and 2002-03.

For the marginal⁶ category, it can be observed that for almost all states, the proportion of holdings under this category is over 60%. In some states like Kerala,

⁶ The marginal category is defined by the combined size class ' ≤ 1.00 hectare', and this category also includes the landless category defined by the size classes 'nil' and ' < 0.002 '.

Tamil Nadu, Uttar Pradesh and West Bengal, the proportion of holdings is more than 80%. At the all-India level, the proportion is above 60%. Over all, an increasing trend in the proportion of operational holdings, over the decade, can be observed across the states and also at the all-India level. Coming to the proportion of area operated, it can be observed that except for states like Assam, Bihar, Kerala, Orissa and West Bengal, where, the operated area for this category is over 40%, in most of the other states the operated area is either, below 20% or, even 10%. Tamil Nadu and Uttar Pradesh are the two states where, the operated area is over 30%. Over all, an increasing trend in the proportion of operated area can be seen over the decade. At the all-India level, the proportion of operated area is only over 20%, even though there has been an increase over the decade. So, high inequality can be observed across states and this is more evident for the green revolution states, viz., Haryana and Punjab. For three states – Assam, Bihar and Orissa, it can be seen that the increase in the proportion of operated area is more marked over the decade. These three states, being agriculturally backward, should be credited for such a positive and effective change in their respective agrarian setup.

Coming to the small category, it can be observed that except for states like Karnataka, Kerala and Maharashtra, all other states register a decline in the proportion of operational holdings over the decade. At the all-India level, the proportion of operational holdings declined from 18% in 1991-92 to 16% in 2002-03. In case of proportion of operated area, except for states like Andhra Pradesh, Kerala, Orissa, Tamil Nadu and West Bengal, all other states show an increase over the decade. At the all-India level, the same increasing trend prevailed over the decade.

For the semi-medium category, all states except Tamil Nadu exhibit a declining trend in the proportion of operational holdings over the decade. With respect to the proportion of area operated, except Haryana, Madhya Pradesh, Maharashtra and Rajasthan, the remaining states exhibit marked decline over the time period. At the all-India level, both the proportion of operational holdings and area operated show a decline over the time period.

In case of the medium category, except for Andhra Pradesh, Kerala and Tamil Nadu, all the remaining states show a declining trend in the proportion of operational

holdings over the time period. The same declining trend continues at the all-India level. For the proportion of area operated, all states except Gujarat, Haryana and Tamil Nadu, exhibit a declining trend over the decade. At the all-India level, the declining trend continues.

Coming to the large category, it can be observed that except for states like Andhra Pradesh, Bihar and Punjab, all other states exhibit a declining trend with respect to the proportion of operational holdings over the decade. At the all-India level, the proportion of operational holdings declined from 1.30% in 1991-92 to 0.80% in 2002-03. With respect to the proportion of area operated, all states except Andhra Pradesh and Punjab, have registered a decline over the time period. At the all-India level, the proportion of area operated declined from 15% in 1991-92 to 12% in 2002-03.

So, over all, it can be observed that most states exhibit great inequality with respect to the distribution of operational holdings across major categories. In this case, too, the most agriculturally backward states show a marked improvement with respect to the distribution of operational holdings, over the time period. More specifically, in these states, the marginal and the small categories together constitute over 50% of the total operated area. But mere constituting a sizable proportion of the operated and/or owned area do not signify that inequality is less in these states. For getting a real picture about the degree of inequality, it is imperative to look into the value of the concentration ratio. But, before looking into the value of the concentration ratio, we need to look into some other aspects related to the operational holdings of land.

Changes in the Size Distribution of Operational Holdings and the Percentage Distribution of Operated Area by major categories at the all-India level

Table 2.5 gives an overview of the changes in the size distribution of operational holdings at the all-India level for 1991-92 and 2002-03. For 2002-03, we are looking at both the kharif and the rabi seasons. In this way, an idea can be

obtained about the seasonal variation with respect to changes in the size distribution of operational holdings.

From the table, it can be seen that the marginal category has the highest share among the categories at both points of time. Except for the marginal category, all other categories show a decline, over the time period.

TABLE 2.5: CHANGES IN SIZE DISTRIBUTION OF OPERATIONAL HOLDINGS AT THE ALL-INDIA LEVEL, 1991-92 & 2002-03

(per cent)

categories	1991-92	2002-03	
		kharif	rabi
marginal	62.80	69.70	70.00
small	17.80	16.30	15.90
semi-medium	12.00	9.00	8.90
medium	6.10	4.20	4.40
large	1.30	0.80	0.80
all sizes	100.00	100.00	100.00

Sources: Computed from (i) NSS 48th Round: Operational Land Holdings in India, 1991-92 – Salient Features; Report No. 407

(ii) NSS 59th Round: Some Aspects of Operational Land Holdings in India, 2002-03; Report No. 492.

The preceding findings are now being translated into a graphical format.

FIGURE 3: CHANGES IN THE SIZE DISTRIBUTION OF OPERATIONAL HOLDINGS BY MAJOR CATEGORIES AT THE ALL-INDIA LEVEL, 1991-92 & 2002-03 (SEASON WISE)

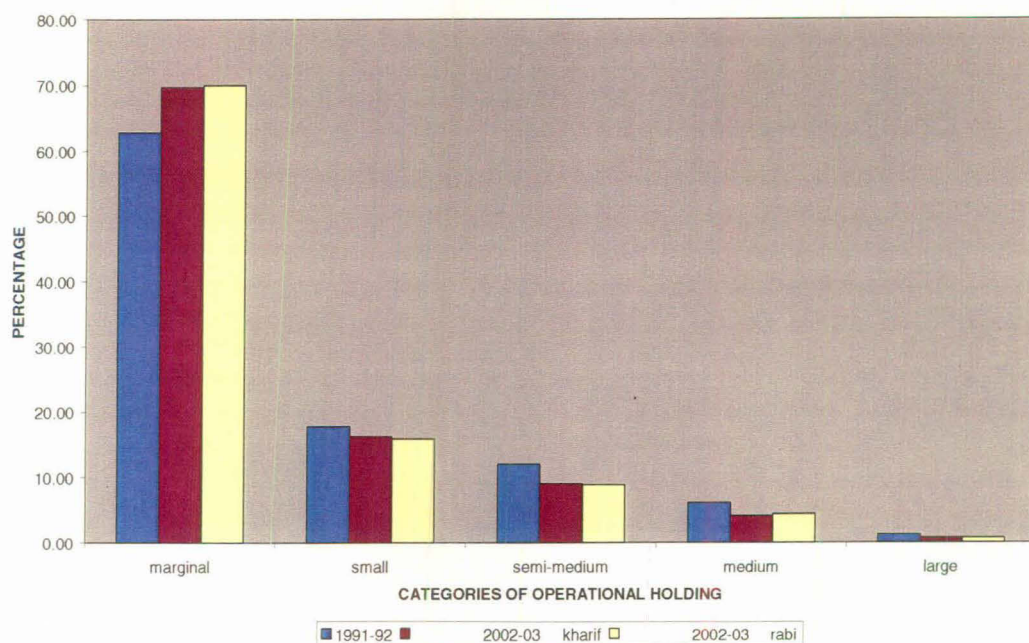


Table 2.6 shows the changes in the percentage distribution of operated area for major categories of operational holding at the all-India level during 1991-92 and 2002-03.

TABLE 2.6: CHANGES IN PERCENTAGE DISTRIBUTION OF OPERATED AREA BY MAJOR CATEGORIES OF OPERATIONAL HOLDING AT THE ALL-INDIA LEVEL, 1991-92 & 2002-03

(per cent)

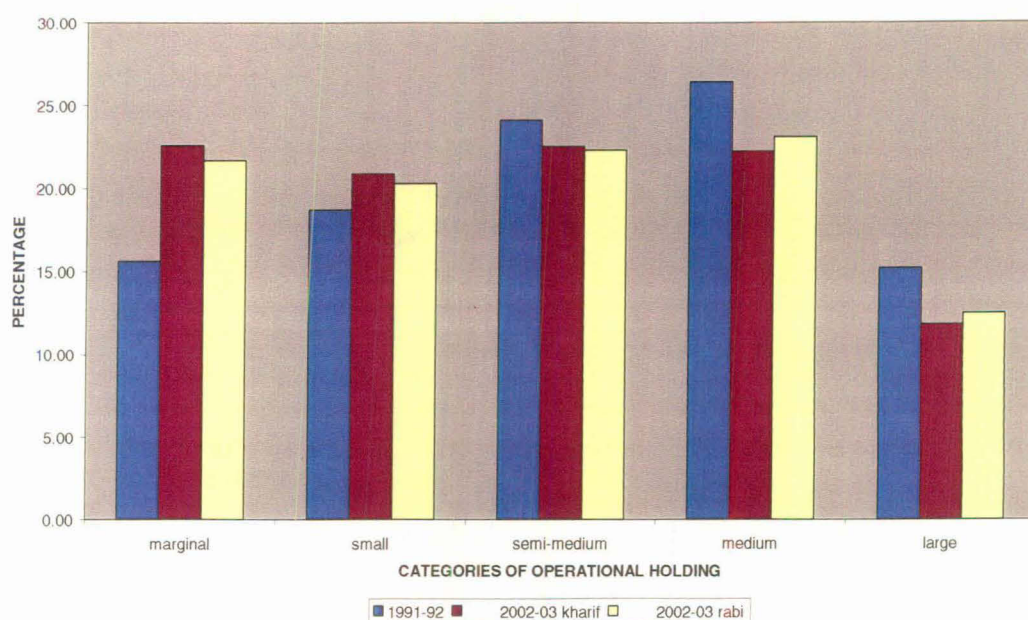
category	1991-92	2002-03	
		kharif	rabi
marginal	15.60	22.60	21.70
small	18.70	20.90	20.30
semi-medium	24.10	22.50	22.30
medium	26.40	22.20	23.10
large	15.20	11.80	12.50
all sizes	100.00	100.00	100.00

Source: Same as Table 2.5.

Over the period, it can be observed that the percentage of operated area increased for marginal and small categories and decreased for other categories. But together the upper three categories account for more than 60% of the total operated area. This, again stress on the unequal status that exists at the all-India level among the categories with respect to the proportion of operated area.

All these findings are shown in Figure 4 given below.

FIGURE 4: CHANGES IN THE PERCENTAGE DISTRIBUTION OF OPERATED AREA BY MAJOR CATEGORIES OF OPERATIONAL HOLDING AT THE ALL-INDIA LEVEL, 1991-92 & 2002-03 (SEASON WISE)



Concentration Ratio: A Measure of Inequality

In order to measure the degree of inequality with respect to the distributional pattern of operational holding, the values of concentration ratio for 15 major states and also at the all-India level are shown in table 2.7 at two points of time – 1991-92 and 2002-03.

From the table, it can be observed that only five states, viz., Andhra Pradesh, Gujarat, Haryana, Punjab and Rajasthan, exhibit an increase in the value of G, over

time. All other states registered a decline in the value of G, over the time period. At the all-India level, too, the value of G declined, over the time period. The three agriculturally backward states, viz., Assam, Bihar and Orissa, exhibit considerable decline in the value of G over the decade.

All these aspects are also presented graphically that is given just after the table 2.7.

TABLE 2.7: CONCENTRATION RATIO (denoted by G) FOR OPERATIONAL HOLDINGS ACROSS 15 MAJOR STATES AND AT THE ALL-INDIA LEVEL, 1991-92 & 2002-03

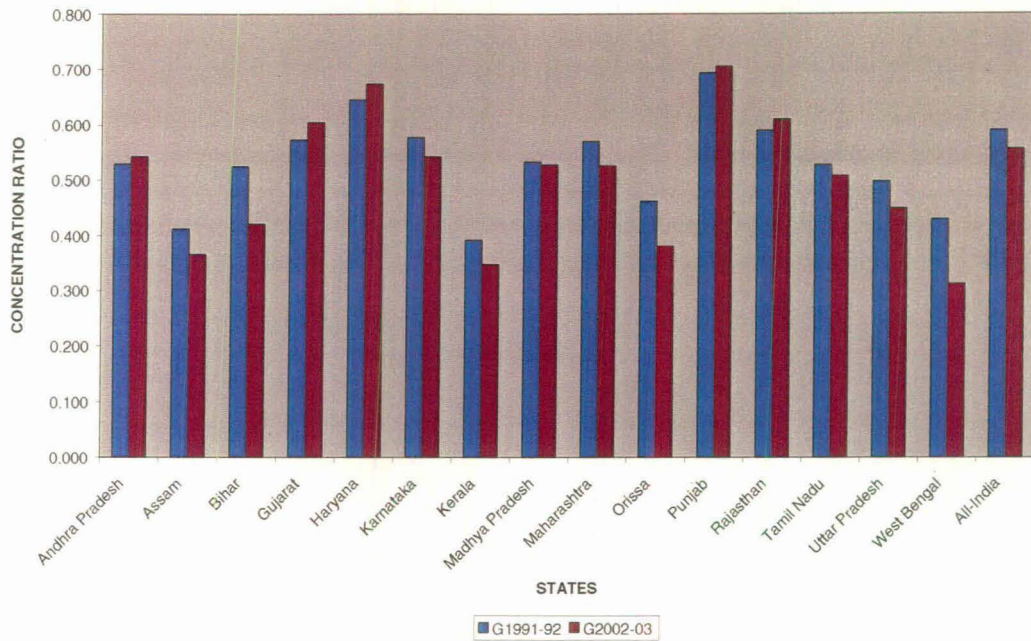
RURAL

states	G ₁₉₉₁₋₉₂	G ₂₀₀₂₋₀₃ *
Andhra Pradesh	0.529	0.543
Assam	0.412	0.366
Bihar	0.525	0.421
Gujarat	0.573	0.605
Haryana	0.645	0.675
Karnataka	0.577	0.543
Kerala	0.392	0.348
Madhya Pradesh	0.533	0.527
Maharashtra	0.570	0.526
Orissa	0.462	0.381
Punjab	0.694	0.706
Rajasthan	0.590	0.610
Tamil Nadu	0.527	0.508
Uttar Pradesh	0.498	0.450
West Bengal	0.430	0.313
All-India	0.591	0.557

**Estimates of 2002-03 relate to area operated during kharif season*

Source: Same as Table 2.5.

FIGURE 5: CHANGES IN THE CONCENTRATION RATIO OF OPERATIONAL HOLDINGS
ACROSS 15 MAJOR STATES, 1991-92 & 2002-03



So, from the preceding discussion, we can gather that inequality exists across all states with respect to the operational holdings of land. The most striking result is that inequality is more marked in the two green revolution states – Haryana and Punjab. This result shows that technological penetration in these states has made the large holdings economically viable and the small holdings non-viable. Thus, we can observe that over time the inverse relationship between farm size and productivity has been invalidated, mainly, in these two states.

In the next section, a comparative analysis between the concentration ratios pertaining to the ownership and operational holdings of land are presented for 15 major states and at the all-India level at two points of time.

A Comparison between the Concentration Ratios pertaining to the Ownership and Operational Holdings of Land

Table 2.8 presents a comparison between the concentration ratios related to the ownership and operational holdings of land across 15 major states and at the national level during 1991-92 and 2002-03.

TABLE 2.8: COMPARISON BETWEEN CONCENTRATION RATIOS FOR OWNERSHIP AND OPERATIONAL HOLDINGS ACROSS 15 MAJOR STATES AND AT THE ALL-INDIA LEVEL, 1991-92 & 2002-03

states	ownership holding		operational holding	
	G ₁₉₉₁₋₉₂	G ₂₀₀₂₋₀₃	G ₁₉₉₁₋₉₂	G ₂₀₀₂₋₀₃ *
Andhra Pradesh	0.72	0.78	0.529	0.543
Assam	0.57	0.49	0.412	0.366
Bihar	0.70	0.67	0.525	0.421
Gujarat	0.71	0.75	0.573	0.605
Haryana	0.68	0.78	0.645	0.675
Karnataka	0.66	0.70	0.577	0.543
Kerala	0.69	0.54	0.392	0.348
Madhya Pradesh	0.65	0.67	0.533	0.527
Maharashtra	0.71	0.72	0.570	0.526
Orissa	0.66	0.61	0.462	0.381
Punjab	0.77	0.81	0.694	0.706
Rajasthan	0.65	0.67	0.590	0.610
Tamil Nadu	0.75	0.80	0.527	0.508
Uttar Pradesh	0.63	0.59	0.498	0.450
West Bengal	0.68	0.59	0.430	0.313
All-India	0.71	0.72	0.591	0.557

**Estimates of 2002-03 relate to area operated during kharif season.*

Sources: Same as Tables 2.4 & 2.5.

From the table, it can be observed that during 1991-92, the concentration ratios pertaining to ownership holding are far greater than the operational holding across 15 major states and also, at the all-India level. During 2002-03, an identical situation prevails across all the states and at the national level. However, a closer look reveals that the value of G, in case of ownership holding, has registered a marginal increase, over the decade; however, in case of operational holding, the value of G

exhibits a decline, over the time period. Moreover, the agriculturally backward states, namely, Assam, Bihar and Orissa, show a marked decline in the value of G for both ownership and operational holdings, over the decade. Also, the two states, namely, Kerala and West Bengal, show a considerable decline in the value of G for both the distributional patterns of landholdings, over the decade. The considerable success in these two states is mainly attributed to the effective governmental initiatives with respect to the implementation of various land reform measures from time to time. For instance, in West Bengal, the initiation and successive implementation of the Operation Barga (O.B.) programme during the 80's, under the Left Front government, has met with considerable success. Under the O.B. programme, the names of the sharecroppers were recorded and they were conferred with the ownership rights of the land cultivated by them. However, it is also true that a large number of share tenants in West Bengal are still outside the purview of the official records. But, on the whole, the land reform programme is relatively successful in West Bengal as compared with other states.

Conclusion

This section will sum up the entire discussion. This chapter has basically attempted to assess the impact of land reform programmes on the distributional pattern (both, ownership and operational holdings) of land. From the preceding discussion, it can be perceived that in most of the states inequality with respect to both ownership and operational holdings of land has increased, over the decade. However, the relatively backward states have shown a considerable decline in the degree of inequality with respect to both the patterns of landholdings, over the decade. Moreover, it can be observed that, over time, the fragmentation of the landholdings has increased in all states; even though, there has been a decline in the proportion of landless households in most of the states.

Thus, in a nutshell, it can be said that even after sixty years of independence, inequality with respect to the land distribution structure persists very prominently

across different states throughout India. However, a thin ray of hope can be seen when it is observed that the relatively backward states are showing much less inequality with respect to the land distributional pattern, over the time period. But, this stage is too premature to comment anything on the relative performance of these backward states. For a more complete judgment it is necessary to look into other aspects apart from the land distribution structure. These aspects will be taken up in the subsequent chapters. Over all, it can only be said that a lot remains to be done in order to curb the inequality across states. But the measures for this, must be implemented whole-heartedly and honestly in order to achieve desired results.

CHAPTER 3

MAGNITUDE OF TENANCY AND THE IMPACT OF THE LEASE MARKET ON THE INSTITUTION OF TENANCY

Introduction

One of the most common place hypotheses regarding Indian agriculture is that family farms, which are economically viable⁷ inspite of their small size, are more efficient than the large farms. So, it is quite legitimate to argue that land should be allocated in favor of small farms either by granting permanent ownership (through buying or selling of land) or temporary land rights (through leasing of land via the land lease market). But, the real picture in Indian agriculture is quite different than what is perceived theoretically. In rural India, land, labor and capital markets are highly imperfect in nature (and, in certain cases non-existent) and their linkages (even though weak) with each other mostly result in the persistence of marginal and small holdings which are, in general, economically non-viable and hence inefficient. The two most important reasons behind this imperfection are – (1) the stringent restrictions on the land lease market imposed by the government, which resulted in the plight of the poor farm households rather than benefiting them in any substantial way; and, (2) the relatively high transaction costs in the land market that severely

⁷ The debate on economic viability of small farms stems from the alleged inverse relationship between farm size and productivity that was supposed to exist during the 60's and early 70's. However, during the late 70's, this relationship gradually turned positive when it was observed that large farms were becoming much more economically efficient and viable in comparison with the small farms. But, again during the late 90's it can be observed that in some states the 'inverse relationship' has reappeared once more. One of the common arguments that are usually advanced to explain the successive appearance and disappearance of the inverse relationship is that over time, the technological advancement in agriculture gives rise to considerable economies of scale. Moreover, certain indivisible inputs also make it imperative to carry out the agricultural activities on a larger scale. So, in a nutshell, as development takes place in an agrarian set up, the large farms become more economically viable than the small farms. However, this argument fails to explain the re-emergence of the inverse relationship in some relatively agriculturally advanced states during the late 90's.

affect the poor farmers. Against this backdrop, the present chapter attempts to look into the magnitude of tenancy and the impact of the lease market on the institution of tenancy. In order to conduct a focused analysis, certain hypotheses will be proposed and tested with the help of the available dataset. For this purpose, both the state-level and household level data pertaining to ownership and operational holdings (as published by NSSO) have been used. The present study concentrates on two points of time – 1991-92 and 2002-03. For 1991-92, both the state-level and the household level data have been used; while, for 2002-03, only state-level data have been used. The present chapter is divided into a number of sections. The trends with respect to the magnitude of tenancy prevailing across states will be discussed in section 2. In section 3, a theoretical background on the nature and performance of the lease market in rural India will be presented. Section 4 will look into the aspect of ‘reverse tenancy’ and attempts to answer the very pertinent question: who leases land and from whom? This section also explores the impact of lease market on the incidence of tenancy. The seasonal variations in the lease market will be dealt in section 4. In section 5, the type (whether, recorded or not) of lease will be discussed. Finally, section 6 will conclude the present chapter. For the purpose of the present analysis, only 15 major states⁸ will be considered, which will be further grouped (in some discussions) into certain zones to get a more clear view.

Magnitude of Tenancy

The incidence of tenancy is measured in terms of changes in the proportion of operational holdings leasing-in land and the operated area leased-in.

⁸ At this point, some caveats are to be noted.

Firstly, during 1991-92, Chhattisgarh, Jharkhand and Uttaranchal were included, respectively, in Madhya Pradesh, Bihar and Uttar Pradesh, unlike 2002-03. But while comparing between the two time periods in this chapter, only the states as a whole has been considered and no separate provision is made for the three newly emerged independent states during 2002-03. This might affect the present analysis to some extent, but since these are mostly tribal areas it is expected that the present analysis won't be substantially affected.

Secondly, during 2002-03, the data on operational holding is given season wise. In order to facilitate comparison with 1991-92, the data on ‘kharif’ season is only considered.

Tables 3.1A and 3.2A (Appendix), respectively, give the percentage distribution of households by types of operational holding across major categories during 1991-92 and 2002-03. In order to get an idea about the magnitude of tenancy, the trends in the percentage of household have been observed under four major heads, viz., entirely owned (EO), entirely leased-in (ELI), both owned & leased-in or mixed holding (MH), and entirely otherwise possessed (EOP).

From both the tables it can be observed that in all states except Bihar, the percentage of households under EO registered an increase, over the time period. This finding is based on 'all sizes' as a whole. If we concentrate our attention separately on the five categories for each state then the trend may vary, but over all EO exhibits an increasing trend and it is evident from the 'all sizes' column. At the all-India level, too, EO exhibits an increasing trend, over the decade.

Coming to the proportion of households under ELI, it can be observed that for states like Andhra Pradesh, Orissa, Punjab and West Bengal, there has been an increment in the percentage, over the decade. All the remaining states have registered a decline in the percentage of households under the ELI, over the time span. At the all-India level, also, the percentage of households under ELI registered a decline, over the decade.

In case of the proportion of households under MH, it can be seen that for the states like Assam, Bihar, Gujarat, Kerala and Madhya Pradesh, the percentage under MH has increased, over time. All the remaining states, including the all-India level, have registered a marked decline in the percentage under MH, over the time period.

As far as the proportion of households under EOP is concerned, it can be observed that all states except Haryana exhibit a marked decline, over the decade. At the all-India level, the same declining trend continued with respect to the percentage under EOP, over the time period.

Over all, the preceding discussion shows that, over time, the incidence of tenancy has decreased in most of the states. In most of the states, over 80% of the households in almost each category are switching to self cultivation. However, in Bihar we can see that the shift is more towards mixed cultivation rather than self cultivation, even though the latter has far more higher percentage than the former. In

states like Orissa, Punjab, West Bengal and Andhra Pradesh, the incidence of tenancy has increased over time. In Punjab, this increment in the incidence of tenancy, over the decade, has been due to the increase in the proportion of households leasing in land under marginal category.

Now, the trends in the percentage distribution of operated area by type of possession across major categories of operational holding will be analyzed at two points of time – 1991-92 and 2002-03. In this case, the analysis is carried out under three major heads, viz., owned (OWN), leased-in (LI) and otherwise possessed (OP). Tables 3.3A and 3.4A (Appendix), respectively, give the necessary information about the operated area under the three heads during 1991-92 and 2002-03.

The proportion of operated area under OWN has registered a marked increase in most of the states and also at the all-India level, over the decade. Only three states, viz., Bihar, Kerala and Orissa, have exhibited a declining trend, over the time period.

As far as the proportion of operated area under LI is concerned, it can be observed that for states like Bihar, Gujarat, Kerala and Orissa, the percentage under LI has registered an increase, over time. In all the remaining states and also, at the all-India level, a declining trend can be observed, over the time period.

Coming to the proportion of operated area under OP, it can be seen that all states including the national figures show a declining trend in the percentage under OP, over time.

From the preceding analysis, it can be gathered that in most states over 80% of the total operated area is under self possession or owned. For most states, the percentage of operated area leased-in has decreased, over time. But, in three states, viz., Bihar, Kerala and Orissa, it can be observed that, over time, the proportion of operated area has decreased under self possession and increased under leased-in type. These three states are the one, where inequality has decreased, over time, with respect to the land distribution structure, as can be observed from chapter 2. So, the prevailing trend with respect to the percentage of operated area in these three states can be attributed to the fact that as the socio-economic status of the marginal and small farming households has improved, over time, hence, more cultivable land is being leased-in by these households. This is one probable explanation for the

emerging trend with respect to the proportion of operated area leased-in in these three states.

A theoretical background on the Nature and Performance of Land Lease Market

Land is considered as one of the most durable assets and is valued as a collateral providing security against unforeseen events (Mearns, 1999). Already, it has been noted that, in rural India, the land market is highly imperfect in nature. The primary reason for this imperfection is attributed to the stringent restrictions put by the government on the land market. Till now, the various tenancy laws and their successive amendments that were proposed at different points of times seemed to have one common premise - the tenants as a class are generally of low economic status and hence, have very weak bargaining power; and, therefore, if large farming households could gain control over tenanted land, then the purpose of providing equity to the marginal and small farming households would itself be defeated (Chadha and Bhaumik, 1992; Gill, 1989; Nadkarni, 1976; and, Vyas, 1970). But, the reforms of the tenancy laws, even, at the present date, have not incorporated any specific regulation that makes it relatively difficult for large farming households to access the lease market. In case of 'reverse tenancy'⁹, too, a relatively well-off lessee is seen to lease-in more land from the petty and small lessors. Empirically, it can be observed that, in generally, the concentration of operational holding is less than the concentration of ownership holding of land. Such concentration can further be reduced if tenancy laws only facilitate the entry of poor peasants in the lease market. According to (Vyas, 1970), an open and regulated tenancy is propagated on the assumption that it would make some of the poor peasants to advance on the agricultural ladder.

⁹ The situation where large (also, semi-medium and medium) farms lease-in land from marginal and small farms is known as 'reverse tenancy'.

An analysis of the various rounds of the NSS data shows that there has been a rise in the percentage of holdings and area under tenancy, particularly, in the 'large' size class during 1991-92 (48th Round) as compared with the earlier rounds. According to (Murty, 2004), 'it is all the more intriguing that "the inverse relationship which had prevailed between the size of holding and the percentage of leased-in area (to total operated area) for two decades since 1960-61 seems to have disappeared with the large holdings reporting the highest proportion (11.4%) of leased-in operated area in 1991-92"'. However, a careful look at the 2002-03 NSS data reveals that the proportion of leased-in operated area by the large holding has declined to 6.1% from 11.4% in 1991-92¹⁰. This trend is encouraging but it is too early to make any final comment, without looking into the trends prevailing in the lease market, over the decade. This will be explored in the next section. Before moving on to the next section, it should be noted that because of technological breakthrough, agricultural activities have become costly and more credit-intensive. As a result, the cultivators with adequate access to credit facility in order to use costly inputs have an edge in the lease market. Because of this change in environment, the big tenants are gradually gaining ground in the lease market over their marginal and small counterparts. This basic proposition will be empirically tested in the next section. Moreover, in order to optimize the use of indivisible inputs and capital resources and exploit the scale effect, large farms lease-in more land as has been shown by Singh (1989), Nadkarni (1976), and Bliss & Stern (1982).

As noted in the introductory section that besides stringent regulations, another very important reason behind the existence of imperfections in the functioning of land markets is due to high transaction costs. A study by Datta, O'Hara and Nugent (1986) analyses the choice of the mode of agricultural tenancy in presence of transaction costs. The choice of agricultural tenancy will be discussed in the next chapter. In this context, it can only be said that transaction costs arise because the factors of production, namely, land and labor are owned by different parties. While entering under a tenurial contract, different parties negotiate with each other and this result in

¹⁰ The data analysis related to the changing structures of ownership and operational holdings during 1991-92 and 2002-03 are presented in Chapter 2.

some positive transaction costs. According to the authors, if all the factors of production are owned by the same party, then transaction costs will be nil and the factor markets will function perfectly. But, in reality, transaction costs exist and are positive in Indian agriculture, there by resulting in imperfect functioning of the factor markets, especially, land and labor markets.

Lease Market Scenario: *Who leases land and from whom?*

One of the most pertinent questions related to the lease market is – who leases land and from whom? Put differently, the question can be rephrased as – in the lease market who are the lessors and the lessees? Since, this question is very important and through its answer an idea about the nature of the lease market can be formed, hence it is necessary to look into both sides, viz., supply and demand, of the lease market. By ‘supply’ side, the market for leasing out of land is implied. And, the market for leasing in of land is implied by ‘demand’ side.

Now, a hypothesis is proposed which will be tested with the available dataset.

With the increase in the scale of operation¹¹, the households belonging to the upper categories lease-in more land from households belonging to the lower categories.

Table 3.5A (Appendix) gives the supply side view of the lease market. Put differently, table 3.5A gives the percentage distribution of total households leasing out land and total area leased out by major categories of ownership holding across 15 major states during 1991-92 and 2002-03. In order to get a clear view of the prevailing trend, the 15 states are further grouped under four zones, namely,

- (1) zone I (Assam, Bihar, Orissa and West Bengal)
- (2) zone II (Haryana, Punjab, Rajasthan and Uttar Pradesh)
- (3) zone III (Gujarat, Madhya Pradesh and Maharashtra)

¹¹ In this context, ‘scale of operation’ is defined by the different farming categories, namely, landless, marginal, small, semi-medium, medium and large.

(4) zone IV (Andhra Pradesh, Karnataka, Kerala and Tamil Nadu).

In zone I, it can be observed that during 1991-92, marginal and small households (consisting more than 70% of the total households) are mostly leasing out land in Assam, Bihar, Orissa and West Bengal. Among these four states, households belonging to the semi-medium category are also seen to be somewhat dominant in leasing out land in Assam, Bihar and West Bengal. Coming to the proportion of area leased out, it can be seen that in Assam, Bihar and West Bengal, households belonging to semi-medium, medium and large categories (consisting less than 20% of the total households) lease out more than 50% of the total area of land leased out during 1991-92. However, in Orissa the marginal and small households leased out more than 80% of the total area of land during 1991-92. In comparison, it can be observed that in all the four states the marginal and small farming households dominate as lessors both as a percentage of total households leasing out land and also as a proportion of total area leased out during 2002-03.

Coming to zone II, a wide variation can be observed among Haryana, Punjab, Rajasthan and Uttar Pradesh during 1991-92. In Haryana, the semi-medium and medium households (comprising of more than 70% of the total households) dominated the lease market as lessors during 1991-92 and these households leased out more than 90% of the total area of land. However, in Punjab and Rajasthan it can be seen that during 1991-92, the marginal, small, semi-medium and medium farms together accounted for more than 90% of the total households leasing out land and the total area leased out by these households is more than 80%. In case of Uttar Pradesh, the marginal, small and semi-medium farms leased out more than 80% of the total area and accounted for more than 90% of the total households leasing out land during 1991-92. Coming to 2002-03, it can be seen that in Haryana the marginal households account for nearly 87% of the total households leasing out land and the total area leased out by these households is nearly 51%. However, the small and semi-medium farms also account for nearly 44% of the total leased out area in Haryana during 2002-03. In Punjab, it can be observed that during 2002-03 the marginal, small and semi-medium farms account for more than 90% of the total households leasing out land. But, coming to the proportion of area leased out, it can be seen that the marginal

farms lease out only 7% of the total area, where as, the small, semi-medium and medium households together constitute more than 80% of the total area leased out in Punjab during 2002-03. In Rajasthan, the marginal and small farms together constitute more than 80% of the total households leasing out land and these households together leased out more than 50% of the total area during 2002-03. However, the semi-medium, medium and large farms also account for nearly 45% of the total area leased out in Rajasthan during 2002-03. Finally, in Uttar Pradesh it can be observed that the marginal and small farms together constitute more than 90% of the total households leasing out land and these households together account for more than 90% of the total area leased out during 2002-03.

In case of zone III, it can be perceived that during 1991-92, the marginal and small farms in Gujarat constitute nearly 80% of the total households leasing out land. But, these households account for only a little more than 30% of the total area leased out. In comparison, the large farms, which constitute only 5% of the total households leasing out land, accounted for 44% of the total area leased out in Gujarat during 1991-92. During 1991-92, the situation in Madhya Pradesh shows that the marginal, small and semi-medium farms together constitute over 80% of the total households leasing out land and the total area leased out by these households is also more than 80%. In Maharashtra, too, the marginal, small and semi-medium households account for more than 80% of the total households leasing out land and the area leased out by these households is nearly 60% during 1991-92. However, the medium households also account for nearly 33% of the total leased out area in Maharashtra during 1991-92. In comparison, during 2002-03, it can be seen that the marginal and small farms are dominant as lessors in Gujarat and Madhya Pradesh. In both the states, these households constitute more than 90% of the total households leasing out land and the area leased out by them is over 70% (in Madhya Pradesh) and over 80% (in Gujarat). In Maharashtra, it can be observed that during 2002-03, the dominant lessor households belong to marginal, small and semi-medium categories which account for more than 90% of the total households leasing out land and the area leased out by these households also constitute more than 90% of the total area leased out.

While dealing with zone IV, it can be observed that the marginal, small and semi-medium farms in Andhra Pradesh constitute more than 90% of the total households leasing out land and the area leased out by these households is also more than 90% during 1991-92. In Karnataka, a somewhat similar picture like Andhra Pradesh is observed in case of percentage of households leasing out land during 1991-92. In terms of area leased out during 1991-92 in Karnataka, it can be seen that the semi-medium and medium farms together account for more than 80% of the total area leased out. In Kerala, the marginal farms are the dominant lessors who constitute nearly 80% of the total households leasing out land and accounted for more than 90% of the total area leased out during 1991-92. The marginal, small and semi-medium farms in Tamil Nadu constitute more than 90% of the total households leasing out land and the area leased out by them is more than 80% during 1991-92. On the other hand, during 2002-03, the marginal and small farms (comprising of over 90% of the total households) are dominant as lessors in Andhra Pradesh and Tamil Nadu. In both these states, the total area leased out by these households is more than 90% during 2002-03. In Kerala, the marginal farms (more than 90% of the total households) remain dominant as lessors in the lease market and the total area leased out by them is 97% during 2002-03. Lastly, in Karnataka, the marginal, small and semi-medium farms together constitute more than 90% of the total households leasing out land and the area leased out by them is more than 70% during 2002-03. However, it can be observed that the medium farms also accounted for 23% of the total area leased out in Karnataka during 2002-03.

At the all-India level, it can be seen that during 1991-92, the marginal, small and semi-medium farms together constitute nearly 90% of the total households leasing out land and the area leased out by them is nearly 70%. However, it can be observed that the medium and large households also account for 32% of the total area leased out during 1991-92. In comparison, during 2002-03, the marginal and small farms together constitute more than 90% of the total households leasing out land and the area leased out by them is more than 80% at the all-India level.

Thus, a detailed trend analysis of the supply side of the lease market does not provide any clear picture regarding the specific trend that is prevailing across the

states. It can be observed that during 1991-92, in most states and also at the national level, the marginal, small and semi-medium farms mostly dominated the lease market as lessors. In agriculturally advanced states (mainly, Punjab and Haryana), a considerable portion of the lease market is dominated by semi-medium and medium (in some cases even, large) farms who leased out land in much higher proportion. But, during 2002-03, in almost all states and also at the all-India level, the marginal and small farms dominated as lessors. However, in some states semi-medium farms also dominated to some extent as lessors besides the lower two categories (that is, marginal and small) during 2002-03. In this context, it should be noted that since the information on leasing out of land is mainly collected from the lessors, hence there is a strong tendency of under reporting on the part of the lessors and this is true even more in case of medium and large landowners (Chadha, *et. al.*, 2004; Srivastava, 2000). This is due to the land ceiling laws and the tenancy laws (that, bans tenancy in most of the states), that is operative across all states in India. The supply side view of the lease market is just the half of the story. In order to get a complete idea about the nature of the lease market, it is imperative to look at the demand side also.

Table 3.6A (Appendix) gives the percentage distribution of total households leasing in land and total area leased-in by major categories of ownership holding across 15 major states during 1991-92 and 2002-03. Table 3.6A basically gives the demand side view of the lease market.

In zone I, it can be observed that during 1991-92, the landless, marginal and small farms constitute more than 90% of the total households leasing in land and the total area leased in amounted to nearly 90% in Assam, Bihar, Orissa and West Bengal. In comparison, during 2002-03, in all the four states the landless and marginal farms together accounted for more than 90% of the total households leasing in land and the proportion of area leased-in by these households is also more than 90%. However, one thing should be noted in this context. In all the four states it is seen that over time the proportion of landless households leasing in land has declined substantially, while the percentage of marginal farms has registered a sharp increase.

Coming to zone II, it can be seen that during 1991-92, the phenomenon of 'reverse tenancy' is clearly observed in Haryana. This is because, the semi-medium and medium farms mostly leased-in land and the total area leased-in by them is more than 75% during 1991-92. In case of Punjab, a tendency towards 'reverse tenancy' is observed since the semi-medium and medium farms are leasing in nearly 44% of the total leased-in area during 1991-92. But the phenomenon is not as strong in Punjab as it is in Haryana. In case of Rajasthan and Uttar Pradesh, the landless, marginal and small farms constitute nearly 80% of the total households leasing in land and the area leased-in by these households is more than 85% during 1991-92. However, during 2002-03, it can be observed that the phenomenon of 'reverse tenancy' has completely disappeared from Haryana and Punjab. In both these states, the marginal and small farms leased-in more than 80% of the total during 2002-03. From this trend, it can be argued that, over time, technological penetration in Haryana and Punjab has gradually made the marginal and small farms economically viable and this argument clearly goes against the popular notion that implies that technological advancement in agriculture generally favors the large holdings over their marginal and small counterparts. Also, it may be the case that because of fragmentation and sub-fragmentation of large holdings into small plots, there has been an increase in the proportion of households leasing in land and the area leased-in among marginal and small farms in Haryana and Punjab, over the decade. Moreover, it has been observed from the preceding discussion on the magnitude of tenancy that there has been an increment in the incidence of tenancy, over the decade, among marginal farms in Punjab. All these developments may attribute to the complete disappearance of the phenomenon of 'reverse tenancy' in Haryana and Punjab. The same trend also prevailed in Rajasthan and Uttar Pradesh, where the marginal and small farms leased-in, respectively, 65% and more than 95% of the total land during 2002-03. However, the semi-medium farms also leased-in nearly 22% of the total area during 2002-03 in Rajasthan.

In case of zone III, it can be seen that during 1991-92, the landless and marginal farms (constituting more than 70% of the total households) leased-in more than 80% of the total area in Gujarat and Madhya Pradesh. In Maharashtra, the

landless, marginal and small farms (accounting for more than 80% of the total households leasing in land) together leased-in more than 70% of the area during 1991-92. In comparison, during 2002-03, it can be observed that the landless households constitute nearly 60% of the total households leasing in land, but the percentage of area leased-in by these households is as low as 0.55% in Gujarat and 8.6% in Maharashtra. Apart from this, the marginal households are the dominant lessees (nearly, 33% of the total households leasing in land) in Gujarat, who leased-in more than 90% of the area. In Maharashtra, besides landless households, the marginal and small farms together constitute nearly 35% of the total households leasing in land and the area leased-in by them amounts to more than 75% during 2002-03. In Madhya Pradesh, the marginal and small farms (more than 80%) are the dominant lessees leasing in more than 80% of the area during 2002-03.

In zone IV, it can be observed that during 1991-92, the landless and marginal farms (constituting more than 80% of the total households leasing in land) together leased-in nearly 80% or more of the total area in Andhra Pradesh, Kerala and Tamil Nadu. The landless, marginal and small farms (more than 80%) together leased-in more than 65% of the total area during 1991-92 in Karnataka. During 2002-03, it can be observed that in Andhra Pradesh, Karnataka and Tamil Nadu, the landless households constitute nearly 35% to 64% of the total households leasing in land, but they only leased-in an area which lies between 4% and 14%. Apart from this, the marginal households dominated as lessees in Andhra Pradesh, Kerala and Tamil Nadu by leasing in an area more than 80% during 2002-03. However, in Karnataka, the marginal and small farms (constituting nearly 60% of the total households leasing in land) together accounted for more than 80% of the total area leased-in during 2002-03.

At the all-India level, it can be seen that the dominant lessees are marginal farms during 2002-03, who leased-in more than 80% of the total area, where as, during 1991-92, the dominant lessees belonged to the landless, marginal and small categories that together accounted for more than 80% of the total area leased-in.

Thus, it can be gathered from the preceding analysis that from the demand side, over time, no specific evidence is obtained as to the emergence of the

phenomenon of 'reverse tenancy' in agriculturally developed states. In fact, the opposite is true. Also, the dominance of landless and marginal farms as lessees can be observed in all the states and also at the national level, over the decade. So, in a nutshell, the lease market is still dominated by landless, marginal and to some extent small farms both as lessees and lessors. So, the hypothesis proposed at the beginning of this section has proved to be wrong. In this context, it may be mentioned that the NSS data has its own limitation in answering the question as to who leases from whom? A careful glance through the literature reveals that while there are a number of studies analyzing different factors for leasing in and leasing out, very few studies have actually looked into the question of 'who leases from whom?' (Chadha *et. al.*, 2004). There are, however, studies to show that the practice of leasing-in and leasing out prevails across the farm sizes but whether small farms lease-in from the small farms or from the medium and large farms has not been investigated (Swain, 1999). However, a recent micro level study by Siddiqui (1999) in two villages of Uttar Pradesh shows that the large landholders lease-in land from small farms with a view to extend their cultivable area. This study, however, found that no large and well-off tenants leased out land to poor and petty peasants even to secure the wage labor during the peak harvesting period.

Impact of the functioning of Lease Market on the Incidence of Tenancy

As a continuation to the discussion on the nature of the lease market, an analysis of the impact of the functioning of lease market on the incidence of tenancy is presented in this sub section. Table 3.7A (Appendix) gives the percentage distribution of households to all households leasing in land and the proportion of leased-in to owned area for major categories of ownership holding across 15 major states during 1991-92 and 2002-03.

In zone I, it can be observed that during 1991-92, the marginal (including landless households) and small farms dominated as lessees, leasing in nearly 20% or more of the leased-in to owned area in Assam, Bihar, Orissa and West Bengal. Whereas, during 2002-03, in all the four states the marginal farms mostly dominated as

lessees leasing in more than 40% and even 60% (as in Bihar) of the leased-in to owned area.

Coming to zone II, it can be seen that during 1991-92, the marginal, small, semi-medium and medium farms are leasing in, respectively, 73%, 46%, 41% and 41% of the leased-in to owned area in Haryana. While, in case of Punjab it can be observed that the marginal and small farms are leasing in, respectively, 130% and 27% of the leased-in to owned area during 1991-92. For Rajasthan and Uttar Pradesh, however, the marginal farms leased-in, respectively, 41% and 32% of the leased-in to owned area during 1991-92. In comparison, during 2002-03, the marginal farms dominate as lessees in all the four states and these households leased-in, respectively, 58%, 166%, 29% and 51% of the leased-in to owned area.

In case of zone III, the marginal households dominated as lessees in Gujarat, Madhya Pradesh and Maharashtra, leasing in, respectively, 102%, 60% and 22% of the leased-in to owned area during 1991-92. The picture is somewhat similar during 2002-03 in all the three states, where, once again, the marginal farms are emerging as a dominant class in the lease market leasing in about 48%, 34% and 26%, respectively, of the leased-in to owned area.

Finally, in zone IV it can be observed that in Andhra Pradesh, Karnataka, Kerala and Tamil Nadu, the marginal farms are the dominant lessees during 1991-92 and 2002-03. During 1991-92, the proportions of leased-in to owned area in all the four states were 29% (Andhra Pradesh), 31% (Karnataka), 62% (Kerala) and 28% (Tamil Nadu); where as, during 2002-03, the percentages are 41% (Andhra Pradesh), 24% (Karnataka), 29% (Kerala) and 21% (Tamil Nadu).

At the all-India level, too, the marginal farms are dominant as lessees during 1991-92 and 2002-03, leasing in, respectively, 28% and 36% of the leased-in to owned area.

Thus, it is quite clear from the preceding discussion that the landless and marginal farms mostly dominate the lease market as lessees. This trend is predominant in almost all the states and also at the all-India level. Even though, during 1991-92, it is observed that in some agriculturally advanced states (as for e.g., Haryana and Punjab), there is a tendency of the relatively well-off tenants to emerge

as the dominant lessee in the lease market. This resulted, to some extent, a greater concentration in the distribution of ownership and operational holdings of land in favor of these well-off tenants and away from poor tenants during 1991-92. However, this trend has been reversed in favor of petty and marginal tenants during 2002-03 with respect to the distributions of ownership and operational holdings of land as is evident from the data analysis in chapter 2.

Seasonal Variations in Leasing Out and Leasing-in of Land during 1991-92

In this section, the seasonal (kharif only, rabi only and both seasons) variations in leasing out and leasing in of land will be successively presented during 1991-92 for 15 major states. The analysis is based on the household level data pertaining to ownership holding of land during 1991-92. First of all, the seasonal variations in the leasing out of land will be presented.

Table 3.1 gives the percentage distribution of area leased out during kharif, rabi and both seasons taken together across 15 major states for all size class of ownership holding during 1991-92. In all the 15 major states, it can be observed that the major proportion of leasing out of land has taken place in both the seasons taken together. However, a considerable proportion of leasing out has also taken place during kharif season only across all the states excepting Punjab, where no land is leased out during the kharif season. Excepting Assam, Madhya Pradesh, Orissa, Tamil Nadu and Uttar Pradesh, all other states leased out less than 1% of land during rabi season.

TABLE 3.1: PERCENTAGE DISTRIBUTION OF AREA LEASED OUT DURING KHARIF, RABI AND BOTH SEASONS FOR ALL SIZE CLASS OF OWNERSHIP HOLDINGS ACROSS 15 MAJOR STATES, 1991-92

states	kharif only	rabi only	both	all
Andhra Pradesh	38.47	0.01	61.52	100.00
Assam	39.15	11.42	49.44	100.00

Bihar	5.35	0.84	93.81	100.00
Gujarat	24.21	0.00	75.79	100.00
Haryana	11.14	0.00	88.86	100.00
Karna- taka	22.99	0.00	77.01	100.00
Kerala	3.99	0.00	96.01	100.00
Madhya Pradesh	15.80	3.69	80.52	100.00
Maharas- htra	21.76	0.38	77.86	100.00
Orissa	53.18	1.82	45.00	100.00
Punjab	0.00	0.79	99.21	100.00
Rajas- than	33.48	0.96	65.56	100.00
Tamil Nadu	27.46	1.18	71.36	100.00
Uttar Pradesh	10.57	2.33	87.11	100.00
West Bengal	25.29	0.87	73.85	100.00

Source: Computed from the household level data pertaining to the Land and Livestock Holdings Survey, Visit # 1 (Ownership Holding); NSS 48th Round – Sch. 18.1.

Table 3.2 gives the percentage distribution of area leased-in during kharif, rabi and both seasons taken together across 15 major states for all size class of ownership holding during 1991-92.

In all the 15 states, it can be observed that the major portion of leasing in of land has taken place in both the seasons taken together. However, a considerable proportion of leasing in has also taken place during kharif season only across all the states excepting Punjab, where no land is leased-in during the kharif season. Also, Bihar and Kerala registered a lower percentage of area leased-in during kharif season. Excepting Andhra Pradesh, Assam, Rajasthan and Uttar Pradesh, all other states leased-in less than 1% of land during rabi season.

TABLE 3.2: PERCENTAGE DISTRIBUTION OF AREA LEASED-IN DURING KHARIF, RABI AND BOTH SEASONS FOR ALL SIZE CLASS OF OWNERSHIP HOLDINGS ACROSS 15 MAJOR STATES, 1991-92

states	kharif only	rabi only	both	all
Andhra Pradesh	35.64	2.18	62.18	100.00
Assam	24.67	10.98	64.35	100.00
Bihar	1.90	0.16	97.95	100.00
Gujarat	54.28	0.00	45.72	100.00
Haryana	2.09	0.00	97.91	100.00
Karnataka	38.97	0.81	60.22	100.00
Kerala	0.64	0.00	99.36	100.00
Madhya Pradesh	35.35	0.51	64.14	100.00
Maharashtra	38.98	0.44	60.59	100.00
Orissa	45.01	0.00	54.99	100.00
Punjab	0.00	0.38	99.62	100.00
Rajasthan	11.83	2.07	86.10	100.00
Tamil Nadu	16.47	0.00	83.53	100.00
Uttar Pradesh	8.25	2.78	88.97	100.00
West Bengal	20.36	0.26	79.38	100.00

Source: Computed from the household level data pertaining to the Land and Livestock Holdings Survey, Visit # 1 (Ownership Holding); NSS 48th Round – Sch. 18.1.

Micro studies throw a considerable light on the labor intensity of the crops grown across different seasons. As for example, a study of three villages in Uttar Pradesh by Srivastava (1989) found that paddy was leased out seasonally on a widespread basis in Western Uttar Pradesh villages. Similar seasonal leases also

existed for other usually more labor intensive crops, namely, onion, potato and sugarcane, in the region. Other studies (Bharadwaj and Das, 1975; Khasnabis, 1995; and, Chadha and Bhaumik, 1992) also report about seasonal leases in states like Orissa and West Bengal.

Recorded and Unrecorded Leasing-in of Land (other than homestead)

While discussing the various land reform policies, the issue of concealed tenancy was once dealt with reference to the tenancy reform measures. There, it has been said that most of the tenurial contract before the reform measures were informal in nature. Even after the implementation of the reform measures, tenancy was banned in many states, which gave birth to concealed tenancy. And, this type of concealed tenancy was much more informal and insecure in nature. Below, the percentage of households reporting recorded and unrecorded lease for 15 major states is presented. Before we proceed, it must be noted that a bare idea of the pattern (whether, recorded or unrecorded) of lease does not tell anything concrete about 'concealed tenancy'. But, nevertheless, an idea can be formed about the type of tenancy from the pattern of lease.

From Table 3.3 it can be observed that in all states except Bihar the percentage of households reporting for both patterns of lease has decreased from 1991-92 to 2002-03. At the all-India level, too, the same declining trend prevails. But, at both points of times it is clearly evident that most of the lease contracts are unrecorded. This shows that even after the tenancy reform measures, most states are having concealed tenancy with very little security of tenure.

TABLE 3.3: PERCENTAGE DISTRIBUTION OF HOUSEHOLDS REPORTING RECORDED AND UNRECORDED LEASING-IN OF LAND (OTHER THAN HOMESTEAD) FOR ALL SIZE CLASS OF OWNERSHIP HOLDING ACROSS 15 MAJOR STATES, 1991-92 & 2002-03

state	year	percentage of reporting households		
		Record- ed lease	Unrecor- ed lease	any lease
Andhra Pradesh	2002-03	0.27	6.70	6.97
	1991-92	0.55	8.38	8.93
Assam	2002-03	0.73	3.87	4.60
	1991-92	3.33	7.94	11.27
Bihar	2002-03	0.46	11.26	11.72
	1991-92	0.64	5.66	6.30
Gujarat	2002-03	0.18	2.85	3.03
	1991-92	0.48	3.30	3.78
Haryana	2002-03	2.26	7.09	9.35
	1991-92	2.36	12.21	14.57
Karnataka	2002-03	0.16	2.87	3.03
	1991-92	1.32	6.10	7.42
Kerala	2002-03	0.55	2.00	2.55
	1991-92	0.16	2.90	3.06
Madhya Pradesh	2002-03	0.71	3.24	3.95
	1991-92	1.35	7.71	9.06
Maharashtra	2002-03	0.29	3.66	3.95
	1991-92	1.11	3.44	4.55
Orissa	2002-03	0.60	12.70	13.30
	1991-92	0.26	13.31	13.57
Punjab	2002-03	0.48	8.08	8.56
	1991-92	2.33	11.47	13.80
Rajasthan	2002-03	0.37	2.64	3.01
	1991-92	1.37	5.26	6.63

Tamil Nadu	2002-03	1.50	2.11	3.61
	1991-92	2.62	6.40	9.02
Uttar Pradesh	2002-03	0.88	10.45	11.33
	1991-92	1.07	13.92	14.99
West Bengal	2002-03	1.85	8.19	10.04
	1991-92	2.89	11.71	14.60
All-India	2002-03	0.74	6.31	7.05
	1991-92	1.31	8.29	9.60

Sources: Computed from (i) Land And Livestock Holdings Survey, NSS 48th Round: Some Aspects Of Household Ownership Holdings; Report No. 399.

(ii) NSS 59th Round: Household Ownership Holdings in India, 2003; Report No. 491.

Conclusion

This section will conclude the present chapter. This chapter has attempted to look into the magnitude of tenancy and the impact of the lease market on the institution of tenancy. From the preceding discussions it can be gathered that, over time, the incidence of tenancy has declined in most of the states. However, till the present day, the lease market is dominated by marginal and small farms both as lessors and lessees. The concentration in tenancy in favor of relatively better-off tenants which was observed during 1991-92 is reversed in favor of marginal and small farmers during 2002-03. It can also be seen that the phenomenon of 'reverse tenancy', which was predominant in Haryana and Punjab during 1991-92, has completely disappeared during 2002-03. Moreover, the concentrations in the ownership and operational holdings which were observed during 1991-92 have come down considerably during 2002-03 and the distribution of land has moved in favor of marginal and small farms. The seasonal variations in the proportion of area leased out and leased-in during 1991-92 showed that the major activity takes place in both seasons and also, to some extent in kharif season also. Finally, it is observed that till the present date, most of the lease contracts are unrecorded and as a result, the phenomenon of 'concealed tenancy' exists in all the states, even though, the

percentage of such households reporting either, recorded or, unrecorded leasing in of land has decreased over the decade.

Before concluding this present chapter we want to focus on one final point. From the analysis in this chapter, it can be observed that the landless households, which constitute a sizeable proportion, are rather deprived when it comes to area leased-in by them. The issue of 'equity' in the distribution of land can never reach a desired target if the landless households continue to remain in stark poverty. So, while formulating policies for the reform of the lease market, be it amendments of tenancy laws or the reduction of transaction costs, adequate attention must be paid so that these reforms benefit the poor tenants rather than be counter-productive for them.

CHAPTER 4

CHOICE OF TENURIAL CONTRACTS AND DETERMINANTS OF TENANCY

Introduction

A plethora of literature exists concerning the choice among various tenurial contracts and the determinants of tenancy. In the neo-classical literature of tenancy, the main focus area has been the persistence of sharecropping tenancy and its static-allocational implications for production efficiency. The neo-classical economists have explained the existence of sharecropping on the basis of risk sharing, incentive effects, asymmetric information, moral hazards and transaction costs. The classical economists, on the other hand, have conducted a dynamic analysis where they focused on the issue of evolution of different forms of lease contracts, over time. Even the Marxian economists have given adequate attention to the dynamic aspect of various forms of lease contracts. According to the Marxists, the emergence of fixed rent lease contract mainly transfers the entire production risk from the landowner to the tenants, but, it also enables the tenants to reap the entire surplus net of the rent. This form of lease contract, according to Marxists, is more compatible with the development of capitalism in agriculture. So, in a nutshell, sharecropping is mainly associated with backward agrarian setup and fixed rent with capitalistic development in agriculture. Against this backdrop, the present chapter attempts to look into the issue of the choice among different tenurial contracts and will specifically enquire into the possible determinants of tenancy, in general, and the determinants of fixed rent and share cropping tenancy, in particular. In order to facilitate the analysis, the present chapter is divided into a number of sections. In section 2, the prevailing trend regarding the different forms of lease contracts will be presented. The duration of lease contracts will be dealt in section 3. The seasonality in the lease market will be

explored in section 4. In this section, seasonal variations with respect to the proportion of operated area irrigated and the proportion of irrigated to operated area under different sources of irrigation will also be discussed. Section 4 will present some regression results that mainly look into the determinants of tenancy. The determinants of different lease contracts will be discussed through probit regression analysis in section 5. Finally, section 6 will conclude the present chapter.

Terms of Lease: *Prevailing Trends*

In this section, the prevailing trends in the lease market will be analyzed at two points of time, *viz.*, 1991-92 and 2002-03. Like the preceding chapters, here also, 15 major states will be considered zone-wise. Tables 4.1A and 4.2A (Appendix), respectively, give the percentage distribution of area leased-in under various terms of lease for major categories of operational holding across 15 major states during 1991-92 and 2002-03. The different terms of lease have been divided into five categories – fixed money (FM), fixed produced (FP), share of produce (SP), usufructuary mortgage (UM) and other terms (OT).

In zone I, it can be seen that during 1991-92, SP is seen to be dominant in case of small farms and FM for large farms in Assam. But, in Bihar, Orissa and West Bengal, SP is seen to be dominant across all size classes during 1991-92. In comparison, during 2002-03, it can be seen that SP is dominant across marginal and small farms, where as, FM is predominant for medium farms in Assam. In case of Bihar, it can be observed that SP is the dominant form of lease contract across marginal, small and semi-medium farms, while, for the large farms, FM is the only form of lease contract during 2002-03. In Orissa, however, SP is the dominant form of lease contract across all size classes during 2002-03. Finally, coming to West Bengal it can be seen that FM and FP is gradually taking over SP across all size classes during 2002-03.

Coming to zone II, it can be perceived that FM is the dominant form of lease contract across all size classes in Haryana during 1991-92. The situation in Punjab is,

however, a little different from that in Haryana. During 1991-92, FP is dominant for marginal farms, where as, for farms belonging to other size classes, FM is seen to be the dominant term of lease in Punjab. For Rajasthan, SP predominated in case of marginal, small and semi-medium farms, where as, FP is dominant for medium and large farms during 1991-92. Uttar Pradesh, on the other hand, has SP as the dominant form of lease across all size classes during 1991-92. On the other hand, during 2002-03, FM is seen to be dominant across all size classes in both Haryana and Punjab. In case of Rajasthan, SP is the main form of lease for the lower three categories, where as, FM predominated for medium and large farms during 2002-03. While, in Uttar Pradesh, SP is seen to be the main form of lease for the first four categories, namely, marginal, small, semi-medium and medium; however, FM is also seen to be an important form of lease for the medium farms during 2002-03.

In case of zone III, it can be observed that during 1991-92, FM is more or less the dominant form of lease contract across all size classes in Gujarat. However, during 1991-92, SP is also seen to be important in case of medium farms in Gujarat. In Madhya Pradesh, SP predominated for marginal, small, semi-medium and medium farms, where as, FM and FP are dominant in case of large farms during 1991-92. For Maharashtra, in the first four categories, namely, marginal, small, semi-medium and large, FM and SP is seen to be dominant, where as, SP is the main form of lease in case of large farms during 1991-92. In comparison, during 2002-03, SP is more or less dominant across all size classes, but FM is seen to predominate in case of small farms and FP for large farms in Gujarat. In Madhya Pradesh, SP is dominant for marginal and small farms; FP for semi-medium and medium farms and FM for large farms during 2002-03. In case of Maharashtra, SP is the major form of lease contract for the first four categories, while, FM dominates for the large farms during 2002-03.

On the other hand, in zone IV, it can be seen that during 1991-92, FM, FP and SP is somewhat dominant across all size classes in Andhra Pradesh. For Karnataka, FM and SP is seen to be dominant across all size classes during 1991-92. During 1991-92, FM predominated across all size classes in Tamil Nadu. However, during 2002-03, FM and FP predominated in case of the first four categories and for large farms SP is dominant in Andhra Pradesh. In Karnataka, FM, FP and SP remain

dominant during 2002-03 across all size classes. During 2002-03, FM is dominant for small farms in Kerala. Finally, in Tamil Nadu, it can be observed that FM, FP and SP are somewhat dominant across all size classes during 2002-03.

During 1991-92, OT is dominant for marginal, semi-medium and medium farms in Assam. In comparison, during 2002-03, OT is prevalent only for semi-medium farms in Assam. In Uttar Pradesh, OT predominated in the large category during 2002-03. During 1991-92, OT is also seen to be important in case of semi-medium farms in Gujarat. In Madhya Pradesh and Maharashtra, OT predominated across all farm sizes during 1991-92. For Karnataka, OT is seen to be dominant across all size classes during 1991-92. During 1991-92, OT is the dominant form of lease across all size classes in Kerala. OT predominated for marginal and semi-medium farms in Kerala during 2002-03. At the all-India level, OT is seen to be somewhat dominant across all size classes during 1991-92.

At the all-India level, it can be seen that SP is somewhat dominant across all size classes during 1991-92. Also, for semi-medium, medium and large holdings it is observed that FM is gradually gaining ground at the all-India level during 1991-92. In comparison, during 2002-03, FM, FP and SP are dominant at the national level across all size classes.

Thus, from the preceding discussion it is clear that fixed rent contracts are gradually replacing sharecropping contracts in many states and also at the national level, over time. And, this change is not taking place only in case medium and large farms, but also for marginal and small holdings in some states.

Duration of Lease Contracts

A number of studies on tenancy have noted that in most states because of strict tenurial legislations, the contractual arrangements between the landowners and the tenants are mostly informal and oral. This is coupled with the increase in insecurity of tenure. Corresponding to these changes, a shortening in the period of lease has also taken place simultaneously in most states over time. Against this

backdrop, the data analysis will be presented to enquire into the true nature of lease durations, over time.

Table 4.1 gives the percentage distribution of area leased-in by period of lease for all size class of operational holdings across major states during 1991-92 and 2002-03. In zone I, it can be observed that in Assam, Bihar, Orissa and West Bengal the duration of the most lease contracts vary among one season but less than one year, or, one to two years, or, two to five years. And, there has been an increase in the percentage of area leased-in under these three periods of lease, over the decade. The situation is identical for Haryana, Punjab, Rajasthan and Uttar Pradesh (zone II), where like zone I most area is leased-in either for one season, or, for one to two years, or, for two to five years. Like zones I and II, the same situation prevails in Andhra Pradesh, Karnataka, Madhya Pradesh and Tamil Nadu. In Kerala and Maharashtra, the period of lease varies from one season to five to twelve years. Finally, in Gujarat the dominant periods of lease, over the decade, are either, two to five years or, twelve years or more. At the all-India level, the dominant periods of lease over the decade vary from one season to two to five years. So, over all, it can be concluded that in majority of states period of lease has increased from one season to as long as five years, over the decade. In some states, it is even observed that the period of lease varies between five years and twelve years or more. So, the hypothesis associated with the shortening of the period of lease contract, over time, is not supported by the present data.

TABLE 4.1: PERCENTAGE DISTRIBUTION OF AREA LEASED-IN BY PERIOD OF LEASE FOR ALL SIZE CLASS OF OPERATIONAL HOLDINGS ACROSS 15 MAJOR STATES, 1991-92 & 2002-03

states	year	less than one season	one season but less than one year	one to two year	two to five years	five to twelve years	twelve years or more	not Report- ed
Andhra	2002-03	6.78	15.33	26.87	24.60	20.88	5.43	0.11
Pradesh	1991-92	2.31	25.50	17.27	28.80	8.42	10.04	7.66
Assam	2002-03	5.57	22.09	25.79	15.29	10.35	4.54	16.36
	1991-92	0.84	29.05	15.26	14.49	1.93	6.33	32.01
Bihar	2002-03	2.21	16.09	45.90	20.40	9.74	5.45	0.22
	1991-92	3.64	9.30	34.26	17.82	7.76	7.55	19.40
Gujarat	2002-03	1.19	11.19	11.42	29.90	0.01	46.29	0.00
	1991-92	3.54	20.33	20.26	15.29	1.17	15.23	24.17
Haryana	2002-03	6.27	17.11	51.70	20.41	4.33	0.17	0.00
	1991-92	10.24	15.43	59.51	0.77	0.04	0.72	13.29
Karna- taka	2002-03	4.79	15.92	35.12	33.21	10.94	0.02	0.00
	1991-92	9.72	25.88	8.92	16.11	5.22	4.45	29.69
Kerala	2002-03	0.00	12.13	14.66	38.95	26.87	7.39	0.00
	1991-92	6.34	10.75	2.90	16.50	24.26	20.84	18.41

Madhya Pradesh	2002-03	12.12	24.21	33.20	14.77	11.21	4.48	0.00
	1991-92	0.95	14.81	25.09	8.77	7.03	20.56	22.78
Maharashtra	2002-03	4.29	31.21	20.06	13.09	19.23	11.53	0.58
	1991-92	9.75	11.12	25.17	19.63	10.90	10.34	13.10
Orissa	2002-03	1.22	23.50	30.85	26.71	8.40	8.33	0.99
	1991-92	1.49	30.88	26.31	14.37	11.32	4.79	10.33
Punjab	2002-03	4.75	10.60	48.97	11.77	20.34	3.57	0.00
	1991-92	6.96	12.12	41.53	11.25	12.92	4.62	10.60
Rajasthan	2002-03	2.73	17.55	48.86	25.02	3.34	2.50	0.00
	1991-92	3.16	15.00	29.25	26.94	10.22	9.29	6.15
Tamil Nadu	2002-03	1.06	3.24	20.57	22.61	25.20	27.32	0.00
	1991-92	3.45	6.76	17.30	23.23	9.34	21.56	18.36
Uttar Pradesh	2002-03	4.28	25.45	34.96	17.34	7.62	8.30	2.05
	1991-92	2.64	15.08	38.83	11.81	10.48	9.43	11.80
West Bengal	2002-03	5.34	16.64	23.51	16.01	14.10	22.57	1.83
	1991-92	3.22	8.45	10.67	18.58	12.67	35.81	10.60
All-India	2002-03	4.72	19.36	32.86	20.27	11.75	9.91	1.14
	1991-92	4.82	16.44	30.67	14.64	7.81	10.87	14.72

Sources: Computed from (i) NSS 48th Round: Operational Land Holdings in India, 1991-92 – Salient Features; Report No. 407
(ii) NSS 59th Round: Some Aspects of Operational Land Holdings in India, 2002-03;

Report No. 492.

Seasonal Variations with respect to Leasing-in of Land

In this section, the seasonal variations with respect to leasing in of land will be discussed.

Table 4.2 gives the percentage distribution of leased-in to actual operated area during kharif and rabi seasons for all size class of operational holding across 15 major states during 1991-92. This table is computed from the household level data (published by NSS) pertaining to the operational holding of land during 1991-92. From the table, it can be observed that during kharif season, the proportion of leased-in to operated area is more than 10% in Punjab and Tamil Nadu. In Haryana, the proportion is nearly 30% during the kharif season. In the remaining states the proportion is less than 10% during the kharif season. Coming to the rabi season, it can be seen that in most of the states the proportion of leased-in to operated area is less than 1%. In Assam and Punjab this proportion is around 2% and in case of Haryana it is nearly 15% during the rabi season.

TABLE 4.2: PERCENTAGE DISTRIBUTION OF LEASED-IN TO ACTUAL AREA OPERATED DURING KHARIF AND RABI SEASONS FOR ALL SIZE CLASS OF OPERATIONAL HOLDINGS ACROSS 15 MAJOR STATES, 1991-92

states	% of leased-in to actual area operated	
	kharif	rabi
Andhra	8.04	0.64
Pradesh		
Assam	7.44	2.96
Bihar	3.34	0.98
Gujarat	2.39	0.04
Haryana	29.46	14.59
Karna- taka	4.72	0.29
Kerala	1.77	0.95

Madhya Pradesh	3.86	0.76
Maharashtra	4.12	0.66
Orissa	6.29	0.30
Punjab	13.29	2.21
Rajasthan	3.15	0.04
Tamil Nadu	10.59	0.30
Uttar Pradesh	6.01	0.53
West Bengal	7.62	0.47

Source: Computed from the household level data pertaining to the Land and Livestock Holdings Survey, Visit # 2 (Operational Holding); NSS 48th Round – Sch. 18.1.

Table 4.3 gives the percentage distribution of area leased-in during kharif and rabi seasons for all size class of operational holding across 15 major states during 2002-03. From the table, it can be observed that in all the 15 states the proportion of area leased-in varies marginally during kharif and rabi seasons. At the all-India level, too, the percentage of area leased-in is marginally higher during rabi than in kharif season.

TABLE 4.3: PERCENTAGE DISTRIBUTION OF AREA LEASED-IN DURING KHARIF AND RABI SEASONS FOR ALL SIZE CLASS OF OPERATIONAL HOLDINGS ACROSS 15 MAJOR STATES, 2002-03

states	% of area leased-in	
	kharif	rabi
Andhra Pradesh	8.95	11.08
Assam	5.31	4.79
Bihar	11.74	11.78

Gujarat	5.12	5.03
Haryana	14.40	14.36
Karna- taka	3.55	3.81
Kerala	4.00	4.35
Madhya Pradesh	2.76	2.84
Maharas- htra	4.66	4.52
Orissa	13.00	13.32
Punjab	16.83	18.82
Rajas- than	2.77	2.86
Tamil Nadu	6.03	6.18
Uttar Pradesh	9.63	9.96
West Bengal	9.29	9.55
All-India	6.45	6.75

Source: NSS 59th Round: Some Aspects of Operational Land Holdings in India, 2002-03; Report No. 492.

Seasonality with respect to the Proportion of Operated Area Irrigated

In this section, the seasonality with respect to the proportion of operated area irrigated will be examined across 15 major states at two points of time – 1991-92 and 2002-03.

Table 4.4 gives the necessary information about the percentage distribution of irrigated area during kharif and rabi seasons for all size class of operational holding across 15 major states during 1991-92 and 2002-03. From the table, it can be observed that during 1991-92, the proportion of irrigated area was more during kharif than in rabi season at the all-India level. However, during 2002-03, the proportion of irrigated area is more during rabi than in kharif season at the national level. In all states, excepting, Haryana, Madhya Pradesh, Rajasthan and Uttar Pradesh, the

proportion of irrigated area was more in kharif than in rabi season during 1991-92. In Haryana and Punjab, it is seen that during 1991-92, more than 70% to 80% of the operated area was irrigated in both the seasons. During 2002-03, all states, except, Assam, Bihar, Haryana, Madhya Pradesh, Rajasthan, Uttar Pradesh and West Bengal, exhibit an increase of the proportion of area irrigated in kharif over rabi season. During 2002-03, over 90% of the operated area is seen to be under irrigation facility in Punjab. In Haryana, this percentage is around 70% during 2002-03. Thus, the hypothesis – in agriculturally developed states, more operated area comes under irrigation facility, is supported by the present data set in case of Haryana and Punjab, the two green revolution states.

TABLE 4.4: PERCENTAGE DISTRIBUTION OF IRRIGATED AREA DURING KHARIF AND RABI SEASONS FOR ALL SIZE CLASS OF OPERATIONAL HOLDING ACROSS 15 MAJOR STATES, 1991-92 & 2002-03

states	1991-92		2002-03	
	kharif	rabi	kharif	rabi
Andhra Pradesh	38	25	34	19
Assam	6	2	6	11
Bihar	43	42	70	74
Gujarat	32	28	31	30
Haryana	70	71	70	80
Karnataka	16	12	23	19
Kerala	20	16	22	21
Madhya Pradesh	20	22	25	41
Maharashtra	18	15	28	22
Orissa	16	11	18	10
Punjab	87	85	95	94
Rajasthan	22	27	15	20
Tamil Nadu	49	26	61	41
Uttar Pradesh	65	70	67	79
West Bengal	40	37	43	50
All-India	34	32	36	38

Sources: (i) *Seasonal Variation in the Operation of Land Holdings in India, 1991-92 – Land and Livestock Holdings Survey, NSS 48th Round, Jan – Dec 1992, Report No. 414.*

(ii) *Seasonal Variation in the Operational Land Holdings in India, 2002-03 – NSS 59th Round, Jan – Dec 2003, Report No. 494.*

Seasonality with respect to Irrigated to Operated Area under different sources of Irrigation

Tables 4.3A and 4.4A (Appendix), respectively, give the percentage distribution of irrigated to operated area by different sources of irrigation during kharif and rabi seasons for all size class across 15 major states during 1991-92 and 2002-03. At both the time periods, out of the various sources of irrigation, canal, tube well and well are seen to be the dominant sources of irrigation in all the states and also, at the all-India level, since, the major proportion of irrigated to operated area comes under these sources. However, tank is also seen to be used in some states as a source of irrigation during the two points of time.

Determinants of Tenancy

In the empirical research on the determinants of tenancy, while some old studies [Bardhan (1976) and Bliss & Stern (1982)] reported certain indivisible inputs and cropping pattern as the important determinants of the magnitude of tenancy, the more recent studies [Singh (1989) and Sharma (2000)] have pinpointed new agricultural technology as an important factor in influencing different aspects of tenancy relations. The effect of new agricultural technology and indivisible inputs on the magnitude of tenancy has been studied in this section by fitting multiple linear regression models across all farm sizes for 15 states taken as a whole and also for individual zones. For this purpose, the household level data on Land and Livestock Holding have been utilized because the main purpose of this section is to have a general view on the relative importance of the various determinants of tenancy. And, the household level data helps to get a closer and in-depth view of any aspect under consideration. The agricultural technology is surrogated by the proportion of irrigated to owned area and the level of mechanization; while, the indivisible inputs have been captured by the number of bullock labor per hectare and the household size.

Firstly, the regression results related to the determinants of tenancy, for 15 major states taken as a whole across all farm sizes, are presented in table 4.1R.

TABLE 4.1R: DETERMINANTS OF TENANCY FOR 15 MAJOR STATES TAKEN AS A WHOLE ACROSS ALL FARM SIZES

Dependent Variable	Independent Variables					R ²
	Household Size	Proportion of Owned Area	No of bullock labor per hectare	Proportion of irrigated to owned area	Level of mechanization	
	Standardized Coefficients					
Proportion of area leased-in	-0.104* (-4.323)	0.487* (18.744)	-0.035 (-1.488)	0.159* (6.878)	0.104* (4.221)	0.267

Source: Computed from the household level data pertaining to the Land and Livestock Holdings Survey, Visit # 1 (Ownership Holding); NSS 48th Round – Sch. 18.1.

** implies that the coefficients are significant at 1% level.*

t-values are given in parentheses.

From table 4.1R, it can be observed that the dependent variable (proportion of area leased-in) is regressed on five independent variables (household size, proportion of owned area, number of bullock labor per hectare, proportion of irrigated to owned area and level of mechanization). The number of family labor used in agriculture is surrogated by the household size. In each regression model, only the values of the standardized coefficients have been reported. Put differently, none of the regression models have the constant term and hence, all the regression lines pass through the origin. From table 4.1R, it can be seen that the proportion of area leased-in is negatively related to the household size (significant) and number of bullock labor per hectare; and, positively related to the proportion of owned area (significant), proportion of irrigated to owned area (significant) and level of mechanization (significant). These results imply that as the households across all farm sizes increase their scale of operation by leasing in more land, they use less of family labor and number of bullock labor per hectare, and more of irrigation facility and mechanization on the farm lands. Moreover, proportion of leased-in area is seen to be positively related with the proportion of owned area, which implies that households

with more owned area are likely to lease-in more land for cultivation. All these findings are in full conformity with the literature on tenancy.

Next, the regression results related to the determinants of tenancy will be presented zone wise. This will further clarify the picture prevailing across all farm sizes in specific states grouped together.

TABLE 4.2R: DETERMINANTS OF TENANCY FOR EASTERN AND NORTH-EASTERN STATES TAKEN AS A WHOLE ACROSS ALL FARM SIZES

Independent Variables						
	Household Size	Proportion of Owned Area	No of bullock labor per hectare	Proportion of irrigated to owned area	Level of mechanization	R ²
Dependent Variable	Standardized Coefficients					
Proportion of area leased-in	0.156*** (2.724)	0.031 (0.513)	-0.194** (-3.006)	0.307* (4.766)	0.091 (1.622)	0.110

Source: Same as Table 4.1R.

* implies that the coefficients are significant at 1% level; ** implies that the coefficients are significant at 5% level; and, *** implies that the coefficients are significant at 10% level. t-values are given in parentheses.

Table 4.2R presents the regression results related to the determinants of tenancy for zone I – Eastern and North-Eastern states (Assam, Bihar, Orissa and West Bengal) taken together across all farm sizes. Here, the proportion of area leased-in is negatively related to the number of bullock labor per hectare (significant), and, positively with the household size (significant), proportion of owned area, proportion of irrigated to owned area (significant) and level of mechanization. All these four states are characterized mainly by subsistence farming and the proportion of landless, marginal and small farms is higher in these four states. As a result, it is expected that as more area is leased-in (due to improved socio-economic conditions of the marginal and petty farms), less of bullock labor per hectare and more of modern technology is used on the farm lands. But, since most of the farming households in these four states belong to the marginal and small category, hence, the preference will be more towards the use of irrigation facility than towards agricultural equipments, as is

evident from the table where, proportion of owned area is positive and significant, and level of mechanization is only positive. Also, as more land is leased-in, more of family labor is seen to be utilized in these states.

TABLE 4.3R: DETERMINANTS OF TENANCY FOR NORTHERN AND NORTH-WESTERN STATES TAKEN AS A WHOLE ACROSS ALL FARM SIZES

Independent Variables						
	Household Size	Proportion of Owned Area	No of bullock labor per hectare	Proportion of irrigated to owned area	Level of mechanization	R ²
Dependent Variable	Standardized Coefficients					
Proportion of area leased-in	-0.065 (-1.756)	0.229* (5.240)	-0.072 (-2.099)	0.171* (5.086)	0.212* (5.400)	0.155

Source: Same as Table 4.1R.

* implies that the coefficients are significant at 1% level.

t-values are given in parentheses.

Table 4.3R presents the regression results related to the determinants of tenancy for zone II – Northern and North-Western states (Haryana, Punjab, Rajasthan and Uttar Pradesh) taken together across all farm sizes. The proportion of area leased-in is negatively related to the household size and number of bullock labor per hectare; and, positively and significantly related with the proportion of owned area, proportion of irrigated to owned area and level of mechanization. These results are expected since this zone consists of the two green revolution states (Haryana and Punjab) and western Uttar Pradesh within Uttar Pradesh (Srivastava, 1989), where, technological penetration have resulted in the use of more modern inputs, mechanization and irrigation facility in order to reap the scale economies. As a result, in this zone, the semi-medium, medium and large farms assume more importance and hence, the preceding findings are quite in agreement with the findings in the empirical studies. Moreover, it is observed from the table that the households with more owned area is leasing in more land in these states.

TABLE 4.4R: DETERMINANTS OF TENANCY FOR CENTRAL AND WESTERN STATES TAKEN AS A WHOLE ACROSS ALL FARM SIZES

Independent Variables						
	Household Size	Proportion of Owned Area	No of bullock labor per hectare	Proportion of irrigated to owned area	Level of mechanization	R ²
Dependent Variable	Standardized Coefficients					
Proportion of area leased-in	-0.099 (-0.953)	0.345** (2.996)	0.020 (0.199)	0.179 (1.717)	0.053 (0.501)	0.134

Source: Same as Table 4.1R.

*** implies that the coefficients are significant at 5% level. t-values are given in parentheses.*

Table 4.4R presents the regression results related to the determinants of tenancy for zone III – Central and Western states (Gujarat, Madhya Pradesh and Maharashtra) taken together across all farm sizes. In this case, the proportion of area leased-in is negatively related with the household size and positively related with the rest of the variables. None of the coefficients except the proportion of owned area are statistically significant. The regression results imply that as the households lease-in more land, they employ less of family labor and more of bullock labor per hectare along with more of irrigation facility and level of mechanization. The probable reason behind these results is that in these three states there exists a mixture of households belonging to five major farm sizes. Since, there is a lack of dominance of any one or two categories, hence a mixed causality is observed in case of these states.

Finally, table 4.5R presents the regression results related to the determinants of tenancy for zone IV – Southern states (Andhra Pradesh, Karnataka, Kerala and Tamil Nadu) taken together across all farm sizes. In this case, too, the signs of the coefficients are same as that of table 4.4R. Here, the proportion of owned area and proportion of irrigated to owned area are seen to be statistically significant.

TABLE 4.5R: DETERMINANTS OF TENANCY FOR SOUTHERN STATES TAKEN AS A WHOLE ACROSS ALL FARM SIZES

Independent Variables						
	Household Size	Proportion of Owned Area	No of bullock labor per hectare	Proportion of irrigated to owned area	Level of mechanization	R ²
Dependent Variable	Standardized Coefficients					
Proportion of area leased-in	-0.022 (-0.680)	0.838* (23.462)	0.010 (0.295)	0.161* (4.628)	0.044 (1.195)	0.702

Source: Same as Table 4.1R.

** implies that the coefficients are significant at 1% level.*

t-values are given in parentheses.

Thus, from the preceding findings it can be observed that in case of Southern states as more area is leased-in, more of irrigation facility is being availed along with the increased use of agricultural equipments and bullock labor.

Determinants of Choice among different Lease Contracts

In this section, probit analysis (Gujarati, 2003; Kamenta, 1986) is presented that will look into some specific determinants related to different forms of lease contracts, namely, fixed money, fixed produce and share of produce. For this purpose, the household level data related to Land and Livestock Holding Survey during 1991-92 have been utilized.

Table 4.6R presents the probit analysis related to different forms of lease contracts. Here, household size and number of bullock labor per hectare are taken under the indivisible and the non-tradable input category; where as, the proportion of irrigated to owned area and level of mechanization fall under the technological factor; and, apart from these variables, proportion of area leased-in under different forms of lease contracts has been taken as a separate independent variable. The three dependent variables (as seen from table 4.6R), respectively, take either, the value 1 or, 0. In the probit analysis, the regressand is a qualitative or a response variable

taking only two values. From the table, it can be observed that the fixed cash lease is positively related to the household size, proportion of area leased-in, proportion of irrigated to owned area and level of mechanization (significant); where as, it is negatively related to the number of bullock labor used per hectare(significant), across different size classes of households. This result is expected as fixed cash lease is mostly chosen by medium and large farms, who apply more of modern technology in agriculture and less of bullock labor. However, the positive relation with the household size (surrogated for family labor) implies that under fixed cash lease contract, households use more of family labor in agricultural activities. The fixed produce lease contract, on the other hand, is negatively related with the proportion of area leased-in, number of bullock labor per hectare and level of mechanization; while, it is positively related with the household size and use of irrigation facility. Since, fixed produce lease contract is chosen by medium as well as marginal and small farms, hence, less of bullock labor per hectare, adequate (with varying degree across farm sizes) irrigation facility and less of mechanization is used in agricultural activities. Coming to share lease, it can be seen that a positive relation exists with the household size, proportion of area leased-in and number of bullock labor used per hectare (significant); and a negative relationship exists between the use of irrigation facility and level of mechanization, across all size classes. These results are expected since households who lease-in under sharecropping make intensive use of family labor and bullock labor per hectare. Moreover, during 1991-92, leasing under share contract is seen to be dominant across most of the states. As a result, proportion of area leased-in is positively related to the lease under sharecropping. Finally, lack of mechanization and less use of irrigation facility can be observed under share contract because this term of lease is mostly preferred by poor and petty peasants and they are unable to afford expensive inputs and technology.

TABLE 4.6R: DETERMINANTS OF LEASE CONTRACTS BY USING PROBIT ANALYSIS FOR 15 MAJOR STATES TAKEN AS A WHOLE ACROSS ALL FARM SIZES

	Independent Variables					
	Household Size	Proportion of Leased-in Area	No of bullock labor per hectare	Proportion of irrigated to owned area	Level of mechanization	Chi-Square
Dependent Variable	Standardized Coefficients					
Whether Leased-in under Fixed Money	0.235 (1.781)	0.083 (0.947)	-0.217* (-3.755)	0.049 (0.714)	1.246* (9.104)	Significant
Whether Leased-in under Fixed Produce	0.110 (0.758)	-0.164 (-1.670)	-0.106 (-1.689)	0.184 (2.573)	-0.367 (-2.727)	Significant
Whether Leased-in under Share of Produce	0.353 (2.914)	0.017 (0.217)	0.199* (3.838)	-0.105 (-1.783)	-0.194 (-1.657)	Not Significant

Source: Same as Table 4.1R.

* implies that the coefficients are significant at 1% level.

t-values are given in parentheses.

If leased-in under fixed money = 1; otherwise = 0.

If leased-in under fixed produce = 1; otherwise = 0.

If leased-in under share of produce = 1; otherwise = 0.

Conclusion

This section will sum up the entire discussion. From the preceding analysis it can be gathered that over time the lease contract under fixed cash tenancy is gaining importance over share of produce in most states. This trend gives an indication towards the gradual transition of Indian agriculture to capitalistic mode of production. Moreover, in most states it can be seen that the duration of lease is for one season or more than five years (more dominant) or even more than twelve years (in few states). So, over all, it can be concluded that over time Indian agriculture has climbed up the development ladder but a lot remains to be done in order to push up the poor and marginal peasants along the agricultural ladder.

CHAPTER 5

CONCLUSION

Introduction

The present chapter will sum up the entire discussion. This chapter is divided into three sections. The broad findings of the study will be presented in the second section. The third section will deal with certain policy recommendations and its possible implications on the present agrarian set up in India.

Some Broad Findings from the Study

In this section, some broad findings from the preceding chapters will be presented.

Chapter 1 gave a general overview of the entire study. There, apart from giving the major objectives and proposed hypotheses, a review of literature on tenancy is presented in some details. Moreover, the methodological aspect used in the present study is also incorporated in that chapter.

Chapter 2, mainly, dealt with the impact of agrarian reforms on the distribution of land. In this chapter, first of all, a theoretical background is presented regarding the success and/or failure of the various land reform policies. From the discussion it becomes clear that most of the land reform policies implemented by central and/or state governments from time to time have failed to achieve the desired target. Put differently, due to the existence of the build-in loopholes in the legislative mechanism, the main objective behind the land reform policies, that is, to reduce and ultimately, remove the inequality with respect to the land holding (both, ownership

and operational) across all size classes, has not been achieved. It came out that till the present date, there exists a huge concentration of land holding in a few hands.

Once, a general overview regarding the land reform policies is obtained, a number of issues related to the ownership holding of land are examined. By analyzing the trends with respect to the percentage distribution of households and area owned, it is observed that considerable inequality exists across all farm sizes in most of the states, over the decade. For states like Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu and Uttar Pradesh, it is seen that the marginal and small farms own only 40% or less of the total owned area given the fact that these households constitute more than 80% of the total households owning land. On the other hand, households belonging to the semi-medium, medium and large categories (constituting less than 20% of the total households owning land) own around 60% or more of the total owned area. The inequality in the distribution of ownership holding is seen to be even more pronounced for the two green revolution states, viz., Haryana and Punjab. However, for states such as Assam, Bihar, Kerala, Orissa and West Bengal, the inequality is quite less as compared with other states. In all these five states, the marginal and small farms own near about 70% of the total owned area. Thus, it is observed that the relatively backward states have fared much better than the relatively advanced states with respect to the distribution of ownership holding of land, over the time period, under consideration.

Next, it is observed that the average area owned per household (both, including landless and excluding landless households) has declined, over time, in all the states and also at the national level. The proportion of landless households has declined in most of the states except, in Andhra Pradesh, Haryana and Karnataka, over the decade.

In order to measure the degree of inequality, concentration ratio (defined by G) pertaining to the ownership holding of land is calculated for all the 15 states and also, at the all-India level. At the all-India level, it is observed that the value of G has increased marginally from 0.71 in 1991-92 to 0.72 in 2002-03. The increase in the value of G, over the decade, is significant for Andhra Pradesh, Gujarat, Haryana, Karnataka, Punjab and Tamil Nadu. On the other hand, the decline in the value of G

is significant for states like Assam, Bihar, Kerala, Orissa, Uttar Pradesh and West Bengal, over the decade.

A number of findings related to the operational holding of land are presented next. A careful look at the percentage distribution of the operational holding and area operated reveals that considerable inequality exists in most states with respect to the proportion of area operated by marginal and small farming households. However, the most agriculturally backward states show a marked improvement with respect to the distribution of operational holding, over the time period. In these states, the marginal and small categories together constitute over 50% of the total operated area.

In order to measure the degree of inequality, concentration ratio (denoted by G) pertaining to the operational holding of land is calculated for 15 major states and also, at the all-India level. At the national level, the value of G has declined from 0.591 in 1991-92 to 0.557 in 2002-03. Most of the states except, Andhra Pradesh, Gujarat, Haryana, Punjab and Rajasthan, have exhibited a decline in the value of G, over time. The three agriculturally backward states, namely, Assam, Bihar and Orissa, report a considerable decline in the value of G, over the decade.

Next, a comparison between the concentration ratios of ownership and operational holdings is presented. It can be observed that during 1991-92, the concentration ratios pertaining to ownership holding are far greater than the operational holding across 15 major states and also, at the all-India level. During 2002-03, an identical situation prevails across all the states and at the national level. However, a closer look reveals that the value of G, in case of ownership holding, has registered a marginal increase, over the decade; however, in case of operational holding, the value of G exhibits a decline, over the time period. Moreover, the agriculturally backward states, namely, Assam, Bihar and Orissa, show a marked decline in the value of G for both ownership and operational holdings, over the decade. Also, the two states, namely, Kerala and West Bengal, show a considerable decline in the value of G for both the distributional patterns of landholdings, over the decade. The considerable success in these two states is mainly attributed to the effective governmental initiatives with respect to the implementation of various land reform measures from time to time. For instance, in West Bengal, the initiation and

successive implementation of the Operation Barga (O.B.) programme during the 80's, under the Left Front government, has met with considerable success. Under the O.B. programme, the names of the sharecroppers were recorded and they were conferred with the ownership rights of the land cultivated by them. However, it is also true that a large number of share tenants in West Bengal are still outside the purview of the official records. But, on the whole, the land reform programme is relatively successful in West Bengal as compared with other states.

In chapter 3, first of all, we have dealt with the magnitude of tenancy. It is seen that, over time, the incidence of tenancy has decreased in most of the states. In most of the states, over 80% of households in almost each category are switching to self cultivation. However, in Bihar, it is observed that the shift is more towards mixed cultivation rather than self cultivation when compared, over time. In states like Orissa, Punjab, West Bengal and Andhra Pradesh, the incidence of tenancy has increased over time.

With respect to the proportion of area operated, it is seen that in most states over 80% of the actual operated area is owned. For most states, the percentage of operated area leased-in has decreased over time. But, in three states, namely, Bihar, Kerala and Orissa, it is observed that, over time, the proportion of operated area has decreased under self possession and increased under leased-in type.

After looking at the magnitude of tenancy, we have dealt with the lease market scenario that is prevailing in Indian agriculture, in some details. There, the nature of the lease market is examined both from the supply (leasing out) and the demand (leasing in) side. By looking at the supply side of the lease market, no clear picture is obtained regarding the specific trend that is prevailing across the states. It is observed that during 1991-92, in most states and also at the national level, the marginal, small and semi-medium farms mostly dominated the lease market as lessors. In agriculturally advanced states (mainly, Punjab and Haryana), a considerable portion of the lease market is dominated by semi-medium and medium (in some cases even, large) farms, who leased out land in much higher proportion. But, during 2002-03, in almost all states and also at the all-India level, the marginal and small farms dominated as lessors. However, in some states semi-medium farms

also dominated to some extent as lessors besides the lower two categories (that is, marginal and small) during 2002-03.

From the demand side, it is seen that, over time, no specific evidence is obtained as to the emergence of the phenomenon of 'reverse tenancy' in agriculturally developed states. In fact, the opposite is true. Also, the dominance of landless and marginal farms as lessees can be observed in all the states and also at the national level, over the decade. So, in a nutshell, the lease market is still dominated by landless, marginal and, to some extent, small farms both as lessees and lessors.

Regarding the impact of the functioning of lease market on the incidence of tenancy, it is quite clearly observed that the landless and marginal farms mostly dominate the lease market as lessees. This trend is predominant in almost all the states and also at the all-India level. Even though, during 1991-92, it is observed that in some agriculturally advanced states (as for e.g., Haryana and Punjab) there is a tendency of the relatively well-off tenants to emerge as the dominant lessee in the lease market. This resulted, to some extent, a greater concentration in the distribution of ownership and operational holdings of land in favor of these well-off tenants and away from poor tenants during 1991-92. However, this trend is reversed in favor of petty and marginal tenants during 2002-03 with respect to the distributions of ownership and operational holdings of land.

Coming to the seasonal variations in leasing out and leasing in¹² of land, it is observed that during 1991-92, almost all states mostly leased out and leased-in land in both the seasons taken together. However, some leasing operation is also carried out during kharif season, only.

While dealing with the various land reform policies, the issue of 'concealed tenancy' was mentioned with reference to the tenancy reform measures. There, it has been said that most of the tenurial contracts before the reform measures were informal in nature. Even after the implementation of the reform measures, tenancy was banned in many states, which gave birth to concealed tenancy. In order to get an idea about concealed tenancy, the percentage distribution of households reporting

¹² In case of both leasing out and leasing in, unit level data related to the ownership holding of land has been used to show the seasonal variations during 1991-92, only. Since, unit level data for 2002-03 was not available; hence, only 1991-92 has been focused.

recorded and unrecorded leasing in of land is considered. There, it is observed that in all states except, Bihar, the percentage of households reporting for both the patterns of lease has decreased from 1991-92 to 2002-03. At the all-India level, too, the same declining trend prevails. It is, however, clear that at both points of time, most of the lease contracts are unrecorded. So, it is perceived that with respect to the distribution of ownership holding of land, considerable inequality exists across states and, hence, it is concluded that the land reform policies have failed in reducing skewness in the land distribution structure.

In chapter 4, we have focused on the choice of tenurial contracts across farm sizes. There, from the data analysis, it is clearly observed that, over time, fixed rent contracts are gradually replacing sharecropping contracts in many states and also at the national level. And, this change is not taking place only in case medium and large farms, but also for marginal and small holdings in some states.

Regarding the duration of lease contract, it is seen that in majority of states, the period of lease has increased from one season to as long as five years, over the decade. In some states it is even observed that the period of lease varies between five years and twelve years or more. So, the hypothesis associated with the shortening of the period of lease contract, over time, is not supported by the present data set.

With respect to the seasonal variations in leasing-in of land, it is observed that during 1991-92, the proportion of leased-in to operated area dominated during kharif rather than rabi season across all states. Coming to 2002-03, it is seen that the percentage of area leased-in is marginally higher during rabi than in kharif season for almost all states. With respect to the seasonality in the proportion of operated area irrigated, it is seen that during 1991-92, the proportion of irrigated area was higher in kharif than rabi season at the national level. Where as, the opposite picture prevails during 2002-03 at the all-India level.

In order to look into the determinants of tenancy, five multiple regression models, based on the unit level data, are fitted across all size classes by taking proportion of area leased-in as the dependent variable and the household size, proportion of area owned, number of bullock labor per hectare, proportion of irrigated to owned area and level of mechanization as the independent variables. One

regression equation is fitted by taking together all the 15 states. The remaining five regression equations are fitted zone wise. Over all, it can be observed that as proportion of area leased-in rises, households make use of less family labor and bullock labor per hectare; and, make more use of irrigation facility and farm equipments. Moreover, it can be seen that households with more owned area are likely to lease-in more land.

In order to look into some specific determinants related to fixed rent (both, cash and kind) and sharecropping lease contracts, three multiple regression models, based on the household level data, are fitted using probit regression analysis. There, the three dependent variables, namely, whether leased-in under fixed money, whether leased-in under fixed produce, and whether leased-in under share of produce, are basically response variables taking the values 1 or 0. For all the three multiple regression exercises, the independent variables are the household size, proportion of area leased-in under a specific lease contract, number of bullock labor per hectare, proportion of irrigated to owned area and level of mechanization. It can be observed that the fixed cash lease is positively related to the household size, proportion of area leased-in, proportion of irrigated to owned area and level of mechanization (significant); where as, it is negatively related to the number of bullock labor used per hectare (significant), across different size classes of households. This result is expected as fixed cash lease is mostly chosen by medium and large farms, who apply more of modern technology in agriculture and less of bullock labor. However, the positive relation with the household size (surrogated for family labor) implies that under fixed cash lease contract, households use more of family labor in agricultural activities. The fixed produce lease contract, on the other hand, is negatively related with the proportion of area leased-in, number of bullock labor per hectare and level of mechanization; while, it is positively related with the household size and use of irrigation facility. Since, fixed produce lease contract is chosen by medium as well as marginal and small farms, hence, less of bullock labor per hectare, adequate (with varying degree across farm sizes) irrigation facility and less of mechanization is used in agricultural activities. Coming to share lease, it can be seen that a positive relation exists with the household size, proportion of area leased-in and number of bullock

labor used per hectare (significant); and a negative relationship exists between the use of irrigation facility and level of mechanization, across all size classes. These results are expected since households who lease-in under sharecropping make intensive use of family labor and bullock labor per hectare. Moreover, during 1991-92, leasing under share contract is seen to be dominant across most of the states. As a result, proportion of area leased-in is positively related to the lease under sharecropping. Finally, lack of mechanization and less use of irrigation facility can be observed under share contract because this term of lease is mostly preferred by poor and petty peasants, who are unable to afford expensive inputs and technology.

Having categorically put forward the broad findings of the present study, we will now trace out some policy recommendations and the possible implications of the same. This is taken up in the next section.

Some Policy Recommendations

In this section, some policies will be recommended. These policies are recommended on the basis of the findings of the present study and also, from the vast pool of literature that exist on land reforms and tenancy.

Already, it is seen that the policy initiatives that have been taken and implemented from time to time to make the land reforms programme more effective have not achieved the desired targets. In many states and also, at the national level, the measure of consolidation of holdings has not been implemented satisfactorily. Moreover, the implementation of the land ceiling programme bring out the inconsistency between area declared surplus and surplus area actually distributed, both, as a proportion of net operated area. A relatively large portion of land is involved in litigation that needs to be taken out of courts' jurisdiction or get freed through proper legal methods. However, measures, such as, consolidation of holdings and land ceilings, can only succeed if adequate and reliable land records are available. The recently launched programme for computerization of land records needs to be implemented vigorously. In this

respect, the involvement of local and/or grass root level institutions like panchayats and the community involvement through the maintenance of farm lands as rural common property resources is preferable (Jodha, 1990).

The unrelenting population pressure on land leads to fragmentation and sub-fragmentation of holdings on a continuing basis. This is coupled with lack of alternative employment opportunities that, in turn, have led to a huge proliferation of extremely small and economically non-viable holdings. The proportion of such holdings is likely to increase further, if not checked, through appropriate legal and other institutional interventions. As a result, urgent policy interventions are called for to make these extremely small land holdings economically viable. This can be achieved through diversification of the production base of these holdings to high-value cash crops and agriculture-based enterprises (Bhal *et. al.*, 1997; Chand, 1996; De, 2000; Subrahmanyam and Sudha, 1997; Verma and Mishra, 1997). In the present context, involvement of private sector through contract farming is also suggested as a strategy for their technology-cum-marketing upgradation and economic improvement (Singh, 2000).

In most of the states, the proportion of land actually leased-in remained very high, despite the stringent tenancy legislations including, the complete banning of tenancy. The land lease market operates in the concealed manner in most of the states. The concealed lease contracts are, generally, characterized by exploitation and insecurity of tenure; and, this holds even more strongly in case of petty and marginal tenants. So, as an urgent policy requirement, the institution of tenancy should be legalized rather than totally banned across states (Haque, 2001). This is because, the marginal and petty peasants do not possess adequate resources to buy land; rather, they prefer to enter into tenancy contract that best suits them. In this context, another important development in Indian agriculture deserves special emphasis. Over time, there has been a significant decline in the importance of sharecropping tenancy, both in terms of the number of holdings involved and area leased-in by them. The fixed rent tenancy, including, fixed produce, is emerging as a more important form of lease contract in most of the states. Thus, a tendency

towards capitalistic mode of production structure is gradually observed in Indian agriculture in the post liberalization period (Johl, 1995; Mishra, 1997).

The important phenomenon of 'reverse tenancy' does not prevail in most of the states. In fact, in a majority of states, households belonging to the marginal and small farms mostly dominate the lease market. During 1991-92, in terms of households leasing in and leasing out, the traditional¹³ mode of tenancy relations was evident only in Karnataka and Rajasthan. In six states, namely, Andhra Pradesh, Assam, Orissa, Tamil Nadu, Uttar Pradesh and West Bengal, most of the leased-in and leased out area is accounted for by marginal and small farming households during 1991-92. In contrast, during 1991-92, the traditional form of lease with respect to leased-in area is found in Bihar, Gujarat, Karnataka, Madhya Pradesh, Maharashtra and Rajasthan. Finally, the phenomenon of 'reverse tenancy' is observed in Haryana and Punjab during 1991-92, where the extent is much stronger in Haryana than in Punjab. But, during 2002-03, it is seen that in all the states, the lease market is dominated by landless, marginal and small farms both as lessees and lessors. The much discussed phenomenon of 'reverse tenancy' has completely disappeared during 2002-03 from Haryana and Punjab. Thus, the lease market, till date, seems to be functioning on the principle of demand-supply balance, irrespective of the stringent restrictions that are operative in the lease market. Hence, given the current scenario, a strong case in favor of controlled liberalization of lease market within the existing ceiling laws can be advocated, that will not only, activate the land market but also help a tenant farmer to access land and increase his efficiency via production (Hirashima, 2000).

Leasing-in of land becomes even more important if the tenant farmer have access to modern technology. In order to exploit the benefits of scale economies, the costs related to transaction in the lease market must be made as low as possible by proper governmental and institutional interventions. Moreover, the use of irrigation facility is all the more imperative with the use of modern input package (Dhawan, 1985). This will help the farmers to vary the cropping intensity

¹³ By 'traditional' mode of tenancy relations, we mean a situation where a majority of the lessees belong to lower categories and lessors from higher categories.

on their farm land (Dev, 1989; Dhawan, 1991; Dhawan and Datta, 1991; Ghosh, 1990; Karunakaran and Palanisami, 1998). As a result, adequate credit facility should be extended through regional rural banks (RRB) and cooperative credit societies mostly to marginal and small farms, who are generally deprived of these facilities. Also, appropriate insurance scheme should be formulated to insure the poor farmers against crop failures and other risks and uncertainties associated with the irrigated crops (Baliga and Tambad, 1964). For achieving these targets, the primary target should be to legalize the institution of tenancy.

The preceding discussion tried to trace out some policy recommendations which could further help the Indian agriculture to develop, in general, and the marginal and small farms, in particular. The achievement of this very important target crucially depends on the proper implementation of the various policy initiatives.

APPENDIX TABLES

TABLE 2.1A: PERCENTAGE DISTRIBUTION OF HOUSEHOLDS AND AREA OWNED ACROSS MAJOR CATEGORIES OF OWNERSHIP HOLDING, 1991-92 & 2002-03

state	year	marginal		small		semi-medium		medium		large	
		hhs	area	hhs	area	hhs	area	hhs	area	hhs	area
Andhra Pradesh	2002-03	82.70	21.87	9.10	19.95	5.30	21.16	2.60	22.91	0.50	14.05
	1991-92	76.41	21.30	12.35	22.44	7.46	24.15	3.38	24.06	0.39	8.06
Assam	2002-03	81.80	44.42	14.20	34.87	3.60	16.36	0.50	4.32	0.00	0.00
	1991-92	77.69	38.05	14.82	29.07	6.29	23.06	1.13	8.53	0.08	1.29
Bihar	2002-03	89.40	42.07	7.10	25.29	2.70	18.53	0.70	9.56	0.10	4.63
	1991-92	80.56	28.58	11.10	23.84	6.00	24.45	2.14	18.68	0.20	4.44
Gujarat	2002-03	73.30	13.60	11.90	16.05	7.20	18.96	6.50	39.12	1.00	12.28
	1991-92	63.33	9.55	15.18	15.44	12.19	24.78	7.62	31.99	1.67	18.24
Haryana	2002-03	77.20	13.15	9.80	15.83	7.70	24.62	4.90	34.14	0.40	12.26
	1991-92	59.04	7.96	13.49	13.43	18.19	33.54	8.53	37.17	0.77	7.91
Karnataka	2002-03	71.00	16.65	14.10	19.45	8.80	23.18	5.40	29.52	0.70	11.20
	1991-92	58.72	11.05	18.27	18.35	14.95	27.82	6.58	26.62	1.48	16.16
Kerala	2002-03	95.30	60.72	3.50	21.13	0.90	10.78	0.30	7.16	0.00	0.00
	1991-92	92.66	54.51	5.32	24.19	1.66	14.32	0.34	6.33	0.02	0.66
Madhya Pradesh	2002-03	61.70	11.61	18.00	19.07	12.10	25.80	7.10	31.25	1.10	12.29

	1991-92	52.38	7.61	19.19	15.49	16.20	24.97	10.34	35.38	1.88	16.57
Maharashtra	2002-03	69.00	12.38	13.10	17.57	12.00	30.88	5.10	27.35	0.80	11.78
	1991-92	59.47	7.02	14.19	12.61	15.14	25.54	9.14	33.43	2.05	21.41
Orissa	2002-03	85.50	41.52	9.70	27.06	3.70	19.72	0.90	9.98	0.10	1.78
	1991-92	75.71	26.37	14.42	27.16	7.34	25.99	2.40	18.08	0.12	2.40
Punjab	2002-03	76.30	9.16	9.50	15.63	7.90	25.30	5.10	34.50	1.00	15.31
	1991-92	69.63	7.18	9.98	12.35	12.21	30.21	7.11	38.04	1.08	12.22
Rajasthan	2002-03	55.20	9.26	16.50	11.19	14.00	18.61	10.10	28.40	4.10	32.52
	1991-92	44.50	5.42	18.53	10.04	17.71	18.90	13.89	31.55	5.37	34.10
Tamil Nadu	2002-03	90.10	33.21	5.70	23.10	2.90	22.09	1.20	20.57	0.04	1.23
	1991-92	87.13	33.28	8.01	26.24	3.81	24.15	0.92	12.15	1.11	4.18
Uttar Pradesh	2002-03	81.00	34.89	12.30	27.38	4.80	20.74	1.60	14.65	0.10	2.34
	1991-92	74.40	27.42	14.73	24.88	7.92	25.82	2.76	18.14	0.21	3.73
West Bengal	2002-03	92.06	58.23	5.70	25.71	1.40	11.88	0.20	4.02	0.00	0.00
	1991-92	85.88	41.29	9.48	28.11	3.94	22.98	0.71	7.62	0.00	0.00
All India	2002-03	79.60	23.05	10.80	20.38	6.00	21.98	3.00	23.08	0.60	11.55
	1991-92	71.88	16.93	13.42	18.59	9.28	24.58	4.54	26.07	0.88	13.83

Sources: Computed from (i) Land And Livestock Holdings Survey, NSS 48th Round: Some Aspects Of Household Ownership Holdings; Report No. 399.

(ii) NSS 59th Round: Household Ownership Holdings in India, 2003; Report No. 491.

Note: hhs refers to households.

TABLE 2.2A: PERCENTAGE DISTRIBUTION OF HOUSEHOLDS AND AREA OPERATED ACROSS MAJOR CATEGORIES OF OPERATIONAL HOLDING, 1991-92 & 2002-03

state	year	marginal		small		semi-medium		medium		large	
		no	area	no	area	no	area	no	area	no	area
Andhra Pradesh	2002-03	60.70	18.60	20.70	21.20	12.00	22.80	5.50	22.10	1.10	15.50
	1991-92	59.30	17.50	21.40	23.30	13.20	26.20	5.40	23.50	0.80	9.40
Assam	2002-03	76.20	42.00	18.40	36.00	4.70	17.10	0.60	4.90	0.00	0.00
	1991-92	70.80	34.20	20.00	31.20	7.50	22.90	1.50	9.10	0.20	2.60
Bihar	2002-03	82.60	43.00	12.20	27.40	4.00	17.60	1.00	8.70	0.20	3.20
	1991-92	76.80	29.00	13.70	25.10	6.90	23.70	2.50	18.20	0.20	3.90
Gujarat	2002-03	60.00	13.10	17.30	15.00	11.10	19.00	9.80	37.30	1.80	15.60
	1991-92	47.90	8.50	19.90	13.80	17.70	24.90	12.10	35.00	2.50	17.80
Haryana	2002-03	66.30	10.40	12.80	13.50	12.30	26.00	7.80	35.00	0.90	15.10
	1991-92	50.70	5.30	13.50	8.80	20.30	25.50	11.50	29.40	4.00	31.00
Karnataka	2002-03	58.20	16.20	20.40	20.00	13.20	24.80	7.10	27.80	1.10	11.10
	1991-92	49.70	9.60	20.30	15.40	18.00	25.20	9.80	30.80	2.30	19.00
Kerala	2002-03	91.80	57.80	6.20	23.30	1.50	11.70	0.50	7.20	0.00	0.00
	1991-92	91.60	53.30	5.90	23.40	2.00	14.90	0.50	8.10	0.00	0.40
Madhya	2002-03	51.20	13.10	23.30	20.30	16.70	28.50	7.70	27.00	1.20	11.20

Pradesh											
	1991-92	38.70	6.70	24.40	15.60	20.90	25.50	13.50	35.90	2.50	16.40
Maharashtra	2002-03	49.50	12.00	21.40	17.70	19.10	30.40	8.80	29.20	1.20	10.70
	1991-92	43.60	6.70	18.90	11.80	20.40	24.70	14.10	36.60	3.00	20.30
Orissa	2002-03	78.40	43.00	15.20	28.70	5.20	18.80	1.10	8.60	0.10	0.90
	1991-92	60.00	22.10	24.30	30.20	12.00	27.90	3.40	16.20	0.30	3.70
Punjab	2002-03	66.30	7.30	11.20	11.70	12.90	26.20	7.80	36.40	1.90	18.50
	1991-92	63.20	6.20	11.40	10.70	13.90	26.70	9.80	40.60	1.70	15.80
Rajasthan	2002-03	49.40	9.00	18.50	10.90	15.90	18.60	11.50	28.40	4.70	33.10
	1991-92	39.30	5.60	19.90	9.40	18.50	17.30	15.20	30.20	7.10	37.70
Tamil Nadu	2002-03	77.10	30.90	13.40	24.20	6.70	23.00	2.70	20.40	0.10	1.50
	1991-92	77.20	28.90	14.10	28.10	6.60	24.70	1.80	13.20	0.30	5.10
Uttar Pradesh	2002-03	76.70	35.70	15.90	29.20	5.60	19.80	1.70	12.50	0.10	2.80
	1991-92	68.00	25.00	18.50	26.30	9.90	26.30	3.30	18.20	0.30	4.30
West Bengal	2002-03	88.80	58.30	8.90	26.70	2.10	12.20	0.20	2.70	0.00	0.00
	1991-92	80.70	40.00	13.40	30.70	5.00	22.10	0.90	7.30	0.00	0.00
All-India	2002-03	69.80	22.60	16.20	20.90	9.00	22.50	4.20	22.20	0.80	11.80
	1991-92	62.80	15.60	17.80	18.70	12.00	24.10	6.10	26.40	1.30	15.20

Sources: Computed from (i) NSS 48th Round: Operational Land Holdings in India, 1991-92 – Salient Features; Report No. 407

(ii) NSS 59th Round: Some Aspects of Operational Land Holdings in India, 2002-03; Report No. 492.

Note: no = number.

TABLE 3.1A: PERCENTAGE DISTRIBUTION OF HOUSEHOLDS BY TYPES OF OPERATIONAL HOLDINGS ACROSS MAJOR CATEGORIES, 1991-92

states		marginal	small	semi-medium	medium	large	all sizes
Andhra Pradesh	EO	85.68	75.56	72.62	87.90	78.05	81.33
	ELI	1.56	1.44	0.00	0.17	0.00	2.43
	MH	8.75	19.09	20.93	11.20	21.95	11.68
	EOP	4.01	3.91	6.45	0.73	0.00	4.07
	NR	0.00	0.00	0.00	0.00	0.00	0.49
Assam	EO	82.66	78.86	83.72	81.49	21.32	82.21
	ELI	3.73	0.89	0.12	0.00	60.99	7.35
	MH	5.60	16.56	8.60	13.94	17.69	2.74
	EOP	8.01	3.69	7.56	4.57	0.00	7.04
	NR	0.00	0.00	0.00	0.00	0.00	0.66
Bihar	EO	91.07	90.83	92.11	93.75	91.57	87.86
	ELI	1.61	0.00	0.47	0.00	0.00	5.56
	MH	4.49	6.80	3.75	0.81	0.00	0.06
	EOP	2.83	2.37	3.67	5.44	8.43	2.80
	NR	0.00	0.00	0.00	0.00	0.00	3.72
Gujarat	EO	95.36	93.03	94.85	94.58	97.71	93.85
	ELI	0.61	0.00	2.68	0.39	0.00	2.35
	MH	2.73	3.46	2.47	4.64	1.23	1.34
	EOP	1.30	3.51	0.00	0.39	1.06	1.33
	NR	0.00	0.00	0.00	0.00	0.00	1.13
Haryana	EO	95.51	85.68	73.41	62.29	17.81	79.10
	ELI	1.24	2.45	0.00	0.00	0.00	4.83
	MH	3.25	11.59	26.31	37.71	82.19	12.27
	EOP	0.00	0.28	0.28	0.00	0.00	0.09
	NR	0.00	0.00	0.00	0.00	0.00	3.71
Karnataka	EO	86.77	75.33	81.06	80.19	86.47	82.18
	ELI	3.42	2.58	0.27	0.00	0.00	3.73
	MH	2.10	8.30	7.84	14.49	10.21	4.31
	EOP	7.71	13.79	10.83	5.32	3.32	9.05
	NR	0.00	0.00	0.00	0.00	0.00	0.73
Kerala	EO	92.51	86.68	91.26	76.86	39.66	91.59
	ELI	2.86	1.66	0.45	0.00	0.00	3.21
	MH	2.02	6.23	4.85	17.14	60.34	1.94

	EOP	2.60	5.43	3.44	6.00	0.00	2.80
	NR	0.00	0.00	0.00	0.00	0.00	0.46
Madhya Pradesh	EO	84.52	82.11	83.30	87.45	84.32	81.95
	ELI	2.33	3.63	3.26	0.59	0.00	6.48
	MH	5.73	7.88	7.53	7.49	10.89	2.53
	EOP	7.43	6.38	5.91	4.47	4.79	6.09
	NR	0.00	0.00	0.00	0.00	0.00	2.95
Maharashtra	EO	92.01	92.67	92.23	84.38	86.98	90.24
	ELI	2.86	0.91	0.70	0.19	0.00	2.40
	MH	2.54	4.17	5.02	13.77	12.06	4.51
	EOP	2.59	2.25	2.05	1.66	0.96	2.51
	NR	0.00	0.00	0.00	0.00	0.00	0.34
Orissa	EO	76.05	66.07	73.21	82.94	87.77	73.48
	ELI	2.27	0.64	0.29	0.00	0.00	1.70
	MH	12.06	22.15	16.04	9.03	4.63	14.67
	EOP	9.62	11.14	10.46	8.03	7.60	9.99
	NR	0.00	0.00	0.00	0.00	0.00	0.16
Punjab	EO	89.31	82.06	72.72	50.21	51.46	81.43
	ELI	1.17	0.00	0.48	0.00	0.98	1.43
	MH	6.60	17.94	25.15	49.15	46.58	14.44
	EOP	2.92	0.00	1.65	0.64	0.98	2.05
	NR	0.00	0.00	0.00	0.00	0.00	0.65
Rajasthan	EO	92.56	93.18	93.70	88.35	87.88	91.58
	ELI	0.73	0.98	0.00	0.00	1.68	1.48
	MH	4.76	2.73	5.90	11.37	8.55	5.03
	EOP	1.95	3.11	0.40	0.28	1.89	1.61
	NR	0.00	0.00	0.00	0.00	0.00	0.30
Tamil Nadu	EO	76.99	69.51	78.06	78.58	79.85	76.06
	ELI	7.09	0.03	1.86	0.64	0.00	5.82
	MH	7.24	19.59	18.25	17.66	16.33	9.52
	EOP	8.68	10.87	1.83	3.12	3.82	8.30
	NR	0.00	0.00	0.00	0.00	0.00	0.30
Uttar Pradesh	EO	85.77	75.36	79.60	82.57	79.52	82.45
	ELI	2.33	0.42	0.70	0.91	0.00	2.64
	MH	10.62	23.52	18.29	15.23	20.48	12.86
	EOP	1.28	0.70	1.41	1.29	0.00	1.16
	NR	0.00	0.00	0.00	0.00	0.00	0.89

West Bengal	EO	78.61	73.95	87.21	85.99	0.00	72.61
	ELI	5.76	0.07	0.89	0.00	0.00	5.27
	MH	7.77	22.15	10.46	9.34	0.00	9.10
	EOP	7.85	3.83	1.44	4.67	0.00	6.84
	NR	0.00	0.00	0.00	0.00	0.00	6.18
All-India	EO	86.01	80.56	83.91	84.49	81.15	83.64
	ELI	3.60	1.06	1.00	0.29	0.82	3.85
	MH	5.98	13.88	11.24	12.79	15.86	7.14
	EOP	4.41	4.50	3.85	2.43	2.17	4.14
	NR	0.00	0.00	0.00	0.00	0.00	1.23

Source: Computed from NSS 48th Round: Operational Land Holdings in India, 1991-92 – Salient Features; Report No. 407.

Note: EO = Entirely Owned; ELI = Entirely Leased-in; MH = Mixed Holding or Both Owned and Leased-in; EOP = Entirely Otherwise Possessed; NR = Not Reported.

TABLE 3.2A: PERCENTAGE DISTRIBUTION OF HOUSEHOLDS BY TYPES OF OPERATIONAL HOLDINGS ACROSS MAJOR CATEGORIES, 2002-03

states		marginal	small	semi-medium	medium	large	all sizes
Andhra Pradesh	EO	85.16	85.00	84.69	91.37	70.04	85.20
	ELI	6.75	2.30	3.32	0.65	0.00	5.00
	MH	5.11	12.60	11.89	7.53	29.96	7.90
	EOP	3.01	0.10	0.08	0.39	0.00	1.90
	NR	0.00	0.00	0.00	0.00	0.00	0.00
Assam	EO	86.98	87.20	88.46	88.41	0.00	87.10
	ELI	3.81	1.80	0.00	0.00	0.00	3.20
	MH	4.18	10.90	9.82	11.59	0.00	5.70
	EOP	5.06	0.10	0.77	0.00	0.00	3.90
	NR	0.05	0.00	0.86	0.00	0.00	0.10
Bihar	EO	82.92	82.60	87.09	96.19	100.00	83.60
	ELI	5.19	1.30	3.36	0.00	0.00	4.50
	MH	11.45	15.10	9.55	3.81	0.00	11.40
	EOP	0.42	1.00	0.00	0.00	0.00	0.50
	NR	0.01	0.00	0.00	0.00	0.00	0.00

Gujarat	EO	94.45	94.20	96.12	95.18	81.20	94.00
	ELI	1.47	1.90	1.58	0.21	9.90	2.00
	MH	3.00	4.00	2.29	4.03	8.80	3.30
	EOP	1.11	0.00	0.00	0.61	0.00	0.70
	NR	0.00	0.00	0.00	0.00	0.00	0.00
Haryana	EO	94.05	85.60	70.17	76.44	46.53	88.30
	ELI	0.89	0.20	1.29	0.00	0.00	0.80
	MH	3.59	13.80	28.47	23.56	53.47	9.90
	EOP	1.44	0.50	0.06	0.00	0.00	1.00
	NR	0.00	0.00	0.00	0.00	0.00	0.00
Karnataka	EO	94.33	95.60	95.51	96.62	86.95	94.80
	ELI	4.23	1.10	0.66	0.22	4.03	2.90
	MH	0.67	2.50	3.83	3.15	9.02	1.70
	EOP	0.77	0.80	0.00	0.00	0.00	0.60
	NR	0.00	0.00	0.00	0.00	0.00	0.00
Kerala	EO	93.32	92.90	91.77	100.00	0.00	93.30
	ELI	1.52	1.50	5.97	0.00	0.00	1.60
	MH	3.36	5.20	2.26	0.00	0.00	3.50
	EOP	1.73	0.50	0.00	0.00	0.00	1.70
	NR	0.00	0.00	0.00	0.00	0.00	0.00
Madhya Pradesh	EO	92.72	92.30	92.28	94.96	93.42	92.50
	ELI	1.25	1.10	1.45	0.17	0.30	1.20
	MH	3.33	5.90	5.80	4.50	6.28	4.60
	EOP	2.70	0.80	0.52	0.38	0.00	1.80
	NR	0.00	0.00	0.00	0.00	0.00	0.00
Maharashtra	EO	91.15	92.20	89.82	90.54	100.00	90.80
	ELI	3.53	2.00	2.84	0.79	0.00	2.80
	MH	2.46	3.50	6.12	8.46	0.00	3.80
	EOP	2.90	1.90	1.15	0.20	0.00	2.40
	NR	0.00	0.40	0.00	0.00	0.00	0.10
Orissa	EO	76.34	81.00	86.58	100.00	100.00	78.10
	ELI	11.18	6.30	3.43	0.00	0.00	9.90
	MH	9.22	12.00	9.92	0.00	0.00	9.50
	EOP	3.18	0.60	0.00	0.00	0.00	2.60
	NR	0.02	0.00	0.00	0.00	0.00	0.00
Punjab	EO	92.89	86.10	67.20	64.79	70.10	86.20

	ELI	4.04	0.00	1.00	1.75	0.00	2.90
	MH	2.13	13.90	31.80	33.47	29.90	10.20
	EOP	0.93	0.00	0.00	0.00	0.00	0.60
	NR	0.00	0.00	0.00	0.00	0.00	0.00
Rajasthan	EO	97.92	97.70	95.62	94.87	90.79	96.80
	ELI	0.83	0.90	1.69	0.94	0.00	1.00
	MH	0.76	1.50	2.76	3.84	8.02	1.90
	EOP	0.46	0.00	0.00	0.35	1.19	0.30
	NR	0.00	0.00	0.00	0.00	0.00	0.00
Tamil Nadu	EO	89.43	88.10	91.53	96.04	95.35	89.60
	ELI	4.53	3.70	0.17	0.00	4.65	4.00
	MH	4.80	7.80	7.74	3.96	0.00	5.40
	EOP	1.29	0.40	0.46	0.00	0.00	1.10
	NR	0.00	0.00	0.00	0.00	0.00	0.00
Uttar Pradesh	EO	88.37	84.00	84.43	90.02	70.98	87.50
	ELI	3.09	1.30	2.06	0.00	0.00	2.60
	MH	7.98	14.70	13.48	9.02	29.02	9.40
	EOP	0.36	0.00	0.00	0.00	0.00	0.30
	NR	0.20	0.00	0.00	1.01	0.00	0.20
West Bengal	EO	83.02	86.10	90.20	93.51	0.00	83.40
	ELI	5.77	1.20	0.92	3.11	0.00	5.30
	MH	8.51	12.10	8.79	3.37	0.00	8.80
	EOP	2.47	0.20	0.00	0.00	0.00	2.30
	NR	0.15	0.30	0.08	0.00	0.00	0.20
All-India	EO	88.40	88.80	89.27	91.83	86.56	88.70
	ELI	4.09	1.70	1.95	0.46	1.28	3.30
	MH	5.81	9.00	8.37	7.30	11.73	6.60
	EOP	1.62	0.50	0.35	0.24	0.43	1.30
	NR	0.09	0.00	0.00	0.08	0.00	0.10

Source: Computed from NSS 59th Round: Some Aspects of Operational Land Holdings in India, 2002-03; Report No. 492.

Note: EO = Entirely Owned; ELI = Entirely Leased-in; MH = Mixed Holding or Both Owned and Leased-in; EOP = Entirely Otherwise Possessed; NR = Not Reported.

TABLE 3.3A: PERCENTAGE DISTRIBUTION OF OPERATED AREA BY TYPE OF POSSESSION ACROSS MAJOR CATEGORIES OF OPERATIONAL HOLDING, 1991-92

states		marginal	small	semi-medium	medium	large	all sizes
Andhra Pradesh	OWN	88.00	86.23	87.27	93.51	85.81	88.49
	LI	10.72	10.22	10.65	5.26	13.61	9.57
	OP	1.28	3.55	2.08	1.23	0.58	1.94
Assam	OWN	88.81	87.16	87.71	79.74	34.85	85.84
	LI	6.96	8.74	5.38	9.55	65.14	8.87
	OP	4.22	4.10	6.91	10.71	0.01	5.29
Bihar	OWN	90.95	91.50	94.68	95.86	89.51	92.81
	LI	6.18	5.47	2.86	0.34	0.00	3.91
	OP	2.87	3.03	2.46	3.80	10.49	3.28
Gujarat	OWN	93.52	92.86	93.29	90.18	96.32	92.70
	LI	2.89	1.74	5.84	3.88	0.21	3.34
	OP	3.59	5.40	0.87	5.94	3.47	3.96
Haryana	OWN	93.43	90.85	80.86	79.42	29.45	66.07
	LI	6.48	9.13	19.09	20.04	70.54	33.74
	OP	0.09	0.02	0.05	0.54	0.01	0.19
Karnataka	OWN	85.51	81.75	87.18	81.76	87.26	84.53
	LI	5.43	7.55	3.65	11.18	7.28	7.43
	OP	9.06	10.70	9.17	7.06	5.46	8.04
Kerala	OWN	95.83	93.98	96.68	96.02	49.36	95.37
	LI	2.11	3.75	2.60	3.83	50.63	2.88
	OP	2.07	2.27	0.72	0.15	0.01	1.75
Madhya Pradesh	OWN	83.79	83.93	83.82	88.91	89.09	86.53
	LI	7.83	7.48	8.80	5.13	3.24	6.30
	OP	8.39	8.59	7.38	5.96	7.67	7.17
Maharashtra	OWN	92.64	93.34	93.19	90.34	85.17	90.50
	LI	3.29	2.88	3.69	6.35	8.33	5.48
	OP	4.07	3.78	3.12	3.31	6.50	4.02

Orissa	OWN	81.74	78.26	87.35	93.99	86.49	84.41
	LI	11.05	14.35	7.97	2.98	0.26	9.48
	OP	7.22	7.39	4.68	3.03	13.25	6.11
Punjab	OWN	82.46	88.29	84.52	79.19	72.99	80.82
	LI	17.34	11.70	15.01	20.41	26.71	18.83
	OP	0.20	0.01	0.47	0.40	0.30	0.35
Rajasthan	OWN	88.62	94.65	95.80	92.20	91.02	92.41
	LI	6.51	2.82	3.74	5.22	6.22	5.19
	OP	4.87	2.53	0.46	2.58	2.76	2.40
Tamil Nadu	OWN	83.88	83.11	86.93	85.13	90.23	84.91
	LI	10.79	10.92	10.87	12.17	7.98	10.89
	OP	5.33	5.97	2.20	2.70	1.79	4.20
Uttar Pradesh	OWN	88.38	86.76	88.79	90.59	88.20	88.45
	LI	11.17	12.39	10.07	8.29	6.66	10.49
	OP	0.45	0.85	1.14	1.12	5.14	1.06
West Bengal	OWN	82.12	85.79	90.39	91.31	0.00	85.74
	LI	13.20	12.09	5.78	1.88	0.00	10.40
	OP	4.68	2.12	3.83	6.81	0.00	3.86
All-India	OWN	87.80	87.30	89.21	89.33	84.27	87.91
	LI	8.66	8.53	7.41	6.90	11.37	8.28
	OP	3.54	4.17	3.38	3.77	4.36	3.81

Source: Same as Table 3.1A.

Note: OWN = Owned Area; LI = Leased-in Area; OP = Area Otherwise Possessed.

TABLE 3.4A: PERCENTAGE DISTRIBUTION OF OPERATED AREA BY TYPE OF POSSESSION ACROSS MAJOR CATEGORIES OF OPERATIONAL HOLDING, 2002-03

states		marginal	small	semi-medium	medium	large	all sizes
Andhra Pradesh	OWN	86.91	87.81	88.98	94.48	92.69	90.13
	LI	11.96	11.05	10.10	4.38	7.31	8.95
	OP	1.14	1.15	0.93	1.14	0.00	0.92
Assam	OWN	93.76	92.64	93.47	87.28	0.00	92.99
	LI	4.00	6.46	6.13	5.29	0.00	5.31
	OP	2.24	0.90	0.41	7.42	0.00	1.70
Bihar	OWN	83.49	88.38	91.34	98.46	100.00	88.08
	LI	16.38	11.49	8.50	0.74	0.00	11.74
	OP	0.12	0.13	0.15	0.80	0.00	0.18
Gujarat	OWN	96.47	97.22	95.22	98.21	79.00	94.27
	LI	2.43	2.77	3.14	1.37	21.00	5.12
	OP	1.10	0.01	1.63	0.42	0.00	0.61
Haryana	OWN	92.72	92.20	79.64	87.30	80.23	85.47
	LI	7.23	7.01	20.36	12.66	19.77	14.40
	OP	0.05	0.79	0.00	0.04	0.00	0.13
Karnataka	OWN	94.46	94.90	96.03	97.85	93.10	95.73
	LI	4.69	2.79	3.80	1.96	6.61	3.55
	OP	0.85	2.31	0.17	0.19	0.29	0.73
Kerala	OWN	95.13	94.73	92.05	100.00	0.00	95.03
	LI	3.53	4.44	7.94	0.00	0.00	4.00
	OP	1.34	0.83	0.01	0.00	0.00	0.97
Madhya Pradesh	OWN	93.17	95.06	95.39	97.83	95.13	95.74
	LI	3.84	4.06	2.99	1.41	2.35	2.76
	OP	2.99	0.88	1.62	0.76	2.51	1.50
Maharashtra	OWN	92.87	94.35	93.31	93.60	98.20	94.05
	LI	4.16	3.62	5.26	6.20	1.06	4.66
	OP	2.97	2.03	1.43	0.21	0.73	1.29

Orissa	OWN	76.49	85.09	89.71	99.97	100.00	83.68
	LI	17.02	13.50	9.64	0.00	0.00	13.00
	OP	6.50	1.41	0.65	0.03	0.00	3.32
Punjab	OWN	93.92	89.92	81.06	78.46	86.88	83.16
	LI	6.01	10.08	18.94	21.54	13.12	16.83
	OP	0.07	0.00	0.00	0.00	0.00	0.00
Rajasthan	OWN	98.96	97.99	96.66	96.36	96.88	97.00
	LI	0.99	1.70	2.73	3.46	3.05	2.77
	OP	0.05	0.32	0.61	0.18	0.07	0.23
Tamil Nadu	OWN	90.24	91.48	94.98	99.07	84.51	93.34
	LI	8.66	7.90	4.57	0.79	15.49	6.03
	OP	1.10	0.61	0.45	0.14	0.00	0.62
Uttar Pradesh	OWN	88.47	89.34	91.25	96.10	82.07	90.08
	LI	11.18	10.47	8.37	3.64	17.93	9.63
	OP	0.35	0.19	0.38	0.26	0.00	0.29
West Bengal	OWN	88.11	92.08	93.25	93.40	0.00	89.94
	LI	11.03	6.95	6.72	6.59	0.00	9.29
	OP	0.86	0.97	0.03	0.01	0.00	0.77
All-India	OWN	89.97	92.29	92.70	95.37	93.44	92.68
	LI	8.65	6.83	6.26	4.23	6.12	6.45
	OP	1.38	0.88	1.04	0.41	0.45	0.87

Source: Same as Table 3.2A.

Note: OWN = Owned Area; LI = Leased-in Area; OP = Area Otherwise Possessed.

TABLE 3.5A: PERCENTAGE DISTRIBUTION OF TOTAL HOUSEHOLDS LEASING OUT LAND AND TOTAL AREA LEASED OUT BY MAJOR CATEGORIES OF OWNERSHIP HOLDINGS ACROSS 15 MAJOR STATES, 1991-92 & 2002-03

states		marginal		small		semi-medium		medium		large	
		1991-92	2002-03	1991-92	2002-03	1991-92	2002-03	1991-92	2002-03	1991-92	2002-03
Andhra	hhs	72.71	93.74	13.20	5.38	11.55	0.64	2.26	0.19	0.28	0.06
Pradesh	area	53.47	69.90	15.15	23.64	28.72	4.48	2.16	1.67	0.49	0.32
Assam	hhs	64.37	85.50	20.11	13.69	12.75	0.81	2.70	0.00	0.00	0.00
	area	30.25	79.00	18.06	19.25	41.99	1.75	9.70	0.00	0.00	0.00
Bihar	hhs	46.35	94.02	24.29	5.08	18.88	0.89	8.63	0.01	1.85	0.00
	area	5.42	78.38	14.84	18.16	25.94	3.22	26.36	0.14	27.44	0.00
Gujarat	hhs	48.32	41.70	24.96	54.76	10.23	0.90	11.52	2.64	4.97	0.00
	area	19.86	16.59	13.35	70.34	5.47	0.97	17.26	12.10	44.06	0.00
Haryana	hhs	16.32	87.23	11.88	8.32	44.24	3.77	26.67	0.67	0.89	0.01
	area	5.96	50.94	1.57	22.30	28.58	21.95	62.92	4.51	0.97	0.30
Kar-nataka	hhs	29.25	72.73	18.04	16.99	39.75	5.72	11.50	4.47	1.46	0.09
	area	3.47	30.94	6.47	28.13	68.46	17.07	19.81	23.01	1.78	0.86
Kerala	hhs	79.54	99.33	14.29	0.61	4.91	0.06	0.23	0.00	0.00	0.00
	area	96.73	97.00	1.93	2.61	1.33	0.32	0.00	0.00	0.00	0.00
Madhya	hhs	29.45	32.07	26.86	58.56	29.29	5.78	12.03	3.50	2.37	0.09

Pradesh	area	41.37	14.72	12.55	62.71	27.35	8.66	15.25	13.41	3.48	0.51
Maharashtra	hhs	38.35	51.11	22.36	32.27	24.06	15.44	13.01	1.03	2.22	0.15
	area	8.70	28.58	17.25	37.86	34.80	29.71	32.61	2.21	6.64	1.64
Orissa	hhs	63.51	92.52	26.28	6.50	7.09	0.93	2.43	0.04	0.69	0.00
	area	29.40	74.54	51.18	20.34	11.51	4.64	3.53	0.45	4.39	0.00
Punjab	hhs	35.85	63.80	22.94	22.36	28.74	11.77	10.79	2.01	1.68	0.06
	area	12.28	7.25	22.21	39.79	44.07	40.85	15.68	11.17	5.77	0.94
Rajasthan	hhs	18.98	35.47	22.87	47.65	29.56	8.53	20.55	5.65	8.04	2.70
	area	23.86	12.73	5.31	41.21	20.58	16.80	26.72	15.24	23.53	14.01
Tamil Nadu	hhs	71.39	96.67	17.02	2.61	9.05	0.62	2.05	0.11	0.49	0.00
	area	34.08	86.29	20.45	10.04	31.07	2.93	8.08	0.74	6.33	0.00
Uttar Pradesh	hhs	58.10	87.60	20.27	10.95	15.81	1.36	5.51	0.08	0.31	0.00
	area	19.46	66.49	19.29	27.48	42.99	5.21	17.24	0.81	1.02	0.00
West Bengal	hhs	67.36	96.74	19.35	3.02	11.00	0.23	2.09	0.01	0.00	0.00
	area	30.79	87.92	17.90	11.12	40.29	0.79	11.01	0.18	0.00	0.00
All-India	hhs	51.30	85.32	20.32	12.01	19.09	2.27	7.83	0.37	1.34	0.03
	area	11.31	56.15	15.90	30.87	40.55	9.36	25.37	3.22	6.88	0.40

Sources: Computed from (i) Land And Livestock Holdings Survey, NSS 48th Round: Some Aspects Of Household Ownership Holdings; Report No. 399.

(ii) NSS 59th Round: Household Ownership Holdings in India, 2003; Report No. 491; hhs = households.

TABLE 3.6A: PERCENTAGE DISTRIBUTION OF TOTAL HOUSEHOLDS LEASING IN LAND AND TOTAL AREA LEASED-IN BY MAJOR CATEGORIES OF OWNERSHIP HOLDING ACROSS 15 MAJOR STATES, 1991-92 & 2002-03

states		landless		marginal		small		semi-medium		medium		large	
		1991-92	2002-03	1991-92	2002-03	1991-92	2002-03	1991-92	2002-03	1991-92	2002-03	1991-92	2002-03
Andhra	hhs	38.92	43.63	44.55	53.00	10.25	2.75	5.12	0.57	1.08	0.05	0.08	0.01
Pradesh	ar	34.72	4.04	41.88	88.72	14.37	5.09	7.16	1.65	1.66	0.47	0.21	0.03
Assam	hhs	43.47	12.99	45.64	80.89	9.42	5.86	0.89	0.26	0.58	0.00	0.00	0.00
	ar	60.07	2.83	30.84	88.91	7.82	7.97	0.25	0.29	1.03	0.00	0.00	0.00
Bihar	hhs	13.54	1.06	76.38	98.66	8.07	0.24	1.71	0.03	0.30	0.00	0.00	0.00
	ar	21.84	0.48	72.82	99.01	4.34	0.49	0.92	0.02	0.08	0.00	0.00	0.00
Gujarat	hhs	61.73	58.47	25.03	33.20	6.22	6.68	6.08	0.47	0.94	1.09	0.00	0.10
	ar	28.90	0.55	60.63	92.67	7.70	1.54	2.51	1.86	0.26	2.46	0.00	0.92
Haryana	hhs	4.45	11.96	28.75	76.28	19.86	8.55	40.25	2.93	6.40	0.26	0.29	0.01
	ar	0.00	0.28	6.24	68.82	16.46	22.92	56.30	6.61	20.96	1.21	0.05	0.16
Kar-nataka	hhs	35.47	35.37	30.10	53.97	17.92	8.80	10.09	0.79	5.65	1.04	0.77	0.04
	ar	20.94	9.23	23.77	64.96	22.67	20.84	17.86	1.67	13.35	3.24	1.43	0.05
Kerala	hhs	57.98	10.64	38.26	89.33	2.42	0.03	0.87	0.00	0.47	0.00	0.00	0.00
	ar	24.43	6.92	73.37	93.05	0.68	0.02	0.85	0.00	0.67	0.00	0.00	0.00
Madhya	hhs	38.68	14.58	36.58	56.99	12.91	24.68	7.04	3.14	3.53	0.61	1.26	0.00

Pradesh	ar	51.93	7.43	32.11	61.31	7.37	23.22	4.46	5.14	2.46	2.91	1.68	0.00
Mahara-shtra	hhs	63.60	60.00	16.80	29.99	9.25	4.84	5.82	4.92	4.33	0.25	0.20	0.00
	ar	33.24	8.61	12.49	55.57	30.37	19.79	11.07	14.88	12.69	1.14	0.14	0.00
Orissa	hhs	38.52	5.41	50.69	93.19	6.42	1.40	3.56	0.00	0.81	0.00	0.00	0.00
	ar	11.23	2.02	78.53	96.90	5.61	1.07	4.16	0.00	0.47	0.00	0.00	0.00
Punjab	hhs	12.90	6.08	42.35	80.66	13.03	9.80	16.74	1.62	14.32	1.81	0.66	0.03
	ar	28.74	0.10	16.62	79.14	10.63	13.00	16.70	3.07	26.94	4.67	0.37	0.02
Rajas-than	hhs	35.50	6.67	31.42	49.58	14.88	22.81	10.40	15.71	7.05	2.66	0.75	2.56
	ar	61.85	0.46	15.11	41.94	9.21	22.15	9.26	21.45	4.37	6.68	0.20	7.31
Tamil Nadu	hhs	47.14	63.99	44.79	35.21	5.46	0.66	2.17	0.14	0.35	0.00	0.09	0.00
	ar	23.61	13.88	54.54	82.95	13.47	2.37	6.42	0.55	1.80	0.00	0.17	0.00
Uttar Pradesh	hhs	14.71	0.77	66.84	95.30	14.31	3.64	3.01	0.26	0.94	0.02	0.19	0.00
	ar	14.87	0.12	63.36	94.81	17.93	4.44	2.03	0.56	0.45	0.06	1.36	0.00
West Bengal	hhs	24.41	2.72	69.29	96.85	4.26	0.41	1.92	0.02	0.12	0.00	0.00	0.00
	ar	21.05	1.09	72.23	98.03	3.08	0.83	1.39	0.04	2.26	0.00	0.00	0.00
All-India	hhs	34.62	16.57	47.89	79.22	9.96	3.50	5.26	0.61	2.03	0.09	0.24	0.01
	ar	32.29	2.33	38.18	88.21	14.12	7.11	9.31	1.80	5.74	0.47	0.36	0.07

Source: Same as Table 3.5A; hhs = households, ar = area leased-in.

TABLE 3.7A: PERCENTAGE DISTRIBUTION OF HOUSEHOLDS REPORTING TO ALL HOUSEHOLDS LEASING-IN LAND AND THE PROPORTION OF LEASED-IN TO OWNED AREA FOR MAJOR CATEGORIES OF OWNERSHIP HOLDING ACROSS 15 MAJOR STATES, 1991-92 & 2002-03

states		marginal		small		semi-medium		medium		large		all	
		1991-92	2002-03	1991-92	2002-03	1991-92	2002-03	1991-92	2002-03	1991-92	2002-03	1991-92	2002-03
Andhra	hh	17.41	17.50	13.23	4.50	10.91	1.62	5.09	0.31	3.44	0.31	15.94	14.97
Pradesh	ar	29.40	40.98	7.56	2.47	4.37	0.75	2.13	0.20	1.25	0.02	9.65	9.13
Assam	hh	19.18	24.15	10.65	8.70	2.37	1.56	8.49	0.00	0.00	0.00	16.73	21.04
	ar	16.00	41.93	4.40	4.64	0.82	0.36	2.42	0.00	0.00	0.00	7.98	16.39
Bihar	hh	7.86	26.37	5.12	0.80	2.00	0.29	0.98	0.03	0.00	0.00	7.04	23.63
	ar	14.13	60.10	1.80	0.49	0.72	0.03	0.20	0.01	0.00	0.00	4.35	24.64
Gujarat	hh	14.47	13.11	4.32	5.90	5.26	0.68	1.29	1.73	0.00	1.00	10.56	10.49
	ar	101.5	47.84	6.05	0.67	1.12	0.68	0.41	0.44	0.00	0.53	4.23	5.62
Haryana	hh	10.28	14.11	26.89	10.70	40.42	4.66	13.72	0.66	6.77	0.39	18.27	12.32
	ar	72.85	58.27	45.83	16.06	41.41	2.98	41.17	0.39	0.80	0.14	41.08	12.54
Karna-taka	hh	14.63	11.30	12.85	5.60	8.84	0.81	11.23	1.74	6.80	0.44	13.10	8.98
	ar	31.11	23.84	10.69	5.73	8.36	0.39	5.00	0.59	2.12	0.02	10.22	4.18
Kerala	hh	9.96	23.69	4.35	0.20	5.03	0.12	13.57	0.00	0.00	0.00	9.59	22.58
	ar	61.99	29.31	1.36	0.02	2.53	0.03	1.86	0.00	0.00	0.00	3.23	15.05
Madhya	hh	17.71	11.72	8.30	13.90	5.35	2.61	4.20	0.88	8.23	0.00	12.33	10.11

Pradesh	ar	60.26	34.43	6.55	7.08	3.64	1.16	1.77	0.54	1.40	0.00	7.38	5.26
Maharashtra	hh	21.41	14.50	10.33	4.10	6.09	4.56	7.48	0.56	1.59	0.09	15.84	11.12
	ar	21.77	25.49	13.69	5.54	4.04	2.37	2.98	0.21	0.26	0.00	5.18	5.10
Orissa	hh	26.28	23.21	9.92	2.90	10.81	0.00	7.47	0.00	0.00	0.00	22.30	20.15
	ar	35.02	47.00	4.44	0.78	3.10	0.00	0.74	0.00	0.00	0.00	11.39	18.73
Punjab	hh	12.08	15.31	19.85	13.90	20.87	2.77	30.64	4.74	9.43	0.41	15.22	13.50
	ar	130.0	166.1	26.71	15.97	16.06	2.33	14.09	2.60	2.03	0.03	18.19	21.73
Rajasthan	hh	16.37	8.34	8.74	11.30	6.39	9.17	5.52	2.16	1.52	5.16	10.89	8.19
	ar	41.05	29.08	10.97	12.56	8.06	7.32	2.57	1.49	0.44	1.43	5.83	6.59
Tamil Nadu	hh	20.56	18.09	13.28	1.90	11.08	0.81	7.25	0.05	14.34	0.00	19.49	16.44
	ar	27.56	20.48	7.34	0.72	4.54	0.18	3.86	0.08	0.58	0.00	12.34	7.05
Uttar Pradesh	hh	18.09	26.87	16.04	6.70	6.26	1.25	5.65	0.30	15.22	0.00	16.50	22.68
	ar	31.99	50.72	8.95	3.02	2.60	0.51	0.88	0.08	4.96	0.00	11.82	18.68
West Bengal	hh	19.36	28.16	7.97	1.90	8.65	0.33	3.13	0.05	0.00	0.00	17.75	26.22
	ar	24.84	42.02	3.28	0.80	1.40	0.09	0.15	0.02	0.00	0.00	12.02	24.09
All-India	hh	16.87	17.47	10.92	4.70	8.33	1.48	6.54	0.42	3.96	0.26	14.69	14.53
	ar	28.44	36.30	8.39	3.22	5.68	0.76	4.07	0.19	0.83	0.06	9.01	8.90

Source: Same as Table 3.5A.

Note: hh = households reporting leasing in to all households; ar = leased-in to owned area.

TABLE 4.1A: PERCENTAGE DISTRIBUTION OF AREA LEASED-IN BY VARIOUS TERMS OF LEASE FOR MAJOR CATEGORIES OF OPERATIONAL HOLDING ACROSS 15 MAJOR STATES, 1991-92

states		marginal	small	semi-medium	medium	large	all sizes
Andhra Pradesh	FM	19.06	20.77	35.69	40.08	16.00	25.87
	FP	28.50	29.71	33.25	18.55	4.30	26.79
	SP	29.77	43.59	16.97	17.04	63.35	28.91
	UM	2.15	0.00	0.00	0.00	0.00	0.80
	OT	20.51	5.92	14.10	24.33	16.35	17.63
Assam	FM	10.07	26.78	14.46	21.20	68.64	17.00
	FP	0.00	9.71	9.17	0.00	0.00	4.05
	SP	27.42	41.44	18.82	26.07	15.68	27.81
	UM	0.00	0.00	1.01	0.00	0.00	0.10
	OT	62.52	22.07	56.53	52.73	15.68	51.03
Bihar	FM	9.59	11.88	8.30	11.08	0.00	9.54
	FP	11.18	18.59	1.63	0.00	0.00	12.81
	SP	51.41	26.19	30.36	38.82	0.00	43.51
	UM	0.42	0.00	0.00	0.00	0.00	0.90
	OT	27.39	43.32	59.72	50.10	0.00	33.25
Gujarat	FM	47.45	42.98	27.92	21.24	79.44	39.91
	FP	0.00	0.00	5.29	0.00	0.00	1.65
	SP	17.11	39.10	22.78	34.06	20.56	23.74

	UM	2.10	0.00	0.00	0.00	0.00	0.46
	OT	33.34	17.91	44.00	44.70	0.00	34.24
Haryana	FM	57.64	70.83	69.63	51.95	61.33	61.44
	FP	4.56	23.27	0.00	8.05	0.00	5.19
	SP	37.28	5.90	30.37	26.58	4.70	19.86
	UM	0.00	0.00	0.00	0.00	0.00	0.00
	OT	0.53	0.00	0.00	13.42	33.97	13.51
Karnataka	FM	27.44	5.01	37.78	6.20	19.63	20.45
	FP	3.02	36.46	4.30	16.11	6.64	14.65
	SP	38.92	38.69	16.29	42.76	16.26	28.61
	UM	0.00	0.00	0.00	0.00	0.00	0.00
	OT	30.62	19.84	41.63	34.92	57.47	36.29
Kerala	FM	21.17	8.99	2.42	24.61	0.00	15.95
	FP	0.00	0.00	0.00	0.00	0.00	0.00
	SP	0.31	11.59	0.00	40.65	0.00	2.13
	UM	0.00	0.00	0.00	0.00	0.00	0.00
	OT	78.53	79.42	97.57	34.74	100.00	81.92
Madhya Pradesh	FM	19.85	8.46	18.18	15.59	25.94	15.26
	FP	27.78	24.81	18.53	16.19	24.71	21.44
	SP	20.27	34.20	21.82	25.70	14.08	24.85
	UM	4.66	2.41	1.20	0.00	0.00	2.54
	OT	27.43	30.12	40.26	42.53	35.28	35.91

Maharashtra	FM	39.78	33.17	41.71	29.14	1.19	36.17
	FP	5.49	1.59	17.48	2.78	3.68	6.52
	SP	8.08	23.48	24.88	28.89	44.58	20.91
	UM	0.00	0.00	0.00	0.00	0.00	0.00
	OT	46.65	41.77	15.92	39.19	50.56	36.39
Orissa	FM	20.72	19.56	9.10	9.51	0.00	19.66
	FP	4.48	5.43	7.82	0.00	0.00	4.68
	SP	55.40	47.60	50.21	29.47	0.00	50.88
	UM	0.00	0.00	1.82	0.00	0.00	0.22
	OT	19.41	27.41	31.05	61.02	100.00	24.55
Punjab	FM	25.73	40.61	49.54	70.63	64.24	49.17
	FP	43.22	10.46	17.12	6.66	7.38	18.24
	SP	17.16	10.36	12.50	11.45	11.55	11.31
	UM	0.00	0.00	0.00	0.00	0.00	0.00
	OT	13.89	38.58	20.84	11.26	16.83	21.28
Rajasthan	FM	14.61	14.82	10.87	19.09	17.34	15.20
	FP	11.02	3.88	17.93	33.85	46.73	19.42
	SP	20.49	31.15	38.84	21.78	16.46	23.39
	UM	0.00	0.00	0.00	1.05	0.00	0.27
	OT	53.88	50.14	32.36	24.21	19.46	41.74
Tamil Nadu	FM	25.39	21.84	36.05	36.42	34.61	32.44
	FP	23.70	33.35	16.67	5.53	5.14	20.48
	SP	26.25	12.39	26.05	1.87	29.93	16.12
	UM	8.09	5.48	0.00	1.64	0.00	4.59

	OT	16.58	26.92	21.23	54.53	30.31	26.37
Uttar Pradesh	FM	8.16	6.64	8.31	3.84	0.00	9.24
	FP	14.19	20.86	13.23	14.46	13.02	15.20
	SP	48.51	51.09	43.83	35.86	38.02	46.45
	UM	0.17	0.61	0.00	0.00	0.00	0.27
	OT	28.97	20.80	34.64	45.84	48.96	28.84
West Bengal	FM	7.28	13.35	11.64	44.08	0.00	8.64
	FP	14.75	8.55	4.25	0.00	0.00	11.66
	SP	46.29	55.91	45.12	55.92	0.00	46.47
	UM	1.18	0.25	3.71	0.00	0.00	1.53
	OT	30.50	21.94	35.28	0.00	0.00	31.71
All-India	FM	14.40	15.11	24.18	26.39	35.49	18.97
	FP	14.78	19.09	14.76	12.31	11.06	14.51
	SP	39.40	40.92	30.15	27.17	19.03	34.39
	UM	1.28	0.81	0.46	0.17	0.00	0.98
	OT	30.14	24.06	30.45	33.96	34.41	31.14

Source: Computed from NSS 48th Round: Operational Land Holdings in India, 1991-92 – Salient Features; Report No. 407.
Note: FM = Fixed Money; FP = Fixed Produce; SP = Share of Produce; UM = Usufructuary Mortgage; OT = Other Terms.

TABLE 4.2A: PERCENTAGE DISTRIBUTION OF AREA LEASED-IN BY VARIOUS TERMS OF LEASE FOR MAJOR CATEGORIES OF OPERATIONAL HOLDING ACROSS 15 MAJOR STATES, 2002-03

states		marginal	small	semi-medium	medium	large	all sizes
Andhra Pradesh	FM	27.80	25.16	41.90	49.08	11.59	31.62
	FP	44.93	49.86	37.81	25.08	11.28	37.88
	SP	17.74	17.83	12.93	21.38	77.13	24.02
	UM	2.41	0.00	0.00	0.00	0.00	0.56
	OT	7.12	6.97	7.36	4.50	0.00	5.92
Assam	FM	2.36	22.48	11.18	84.05	0.00	15.82
	FP	4.13	4.65	0.00	0.00	0.00	3.58
	SP	59.06	58.14	34.20	14.57	0.00	54.99
	UM	0.00	0.00	0.00	0.00	0.00	0.00
	OT	34.67	14.73	54.55	1.38	0.00	25.61
Bihar	FM	15.74	8.53	3.33	100.00	0.00	12.70
	FP	20.36	13.84	18.46	0.00	0.00	18.33
	SP	59.21	76.59	76.39	0.00	0.00	65.64
	UM	0.20	0.26	0.00	0.00	0.00	0.17
	OT	4.48	0.70	1.82	0.00	0.00	3.07
Gujarat	FM	13.18	72.56	8.63	36.68	0.00	10.74
	FP	0.00	3.97	11.11	6.00	67.43	46.29
	SP	59.59	22.02	56.77	57.24	31.90	37.89
	UM	0.00	0.00	0.00	0.00	0.00	0.00

	OT	27.23	1.44	23.49	0.00	0.67	5.08
Haryana	FM	64.78	90.44	63.62	80.20	63.71	71.18
	FP	16.45	0.00	7.02	1.11	34.32	9.79
	SP	18.19	6.42	25.91	14.50	0.00	15.83
	UM	0.00	0.00	0.00	0.00	0.00	0.00
	OT	0.48	3.00	3.46	4.16	1.97	3.26
Karnataka	FM	3.01	48.75	57.90	46.23	5.22	32.39
	FP	70.90	24.37	17.60	5.14	94.78	41.13
	SP	25.36	26.52	22.46	48.62	0.00	24.79
	UM	0.00	0.00	0.00	0.00	0.00	0.00
	OT	0.77	0.00	2.04	0.00	0.00	1.69
Kerala	FM	29.39	75.68	13.01	0.00	0.00	39.75
	FP	7.60	13.96	0.00	0.00	0.00	7.50
	SP	17.17	10.14	0.00	0.00	0.00	12.00
	UM	0.00	0.00	0.00	0.00	0.00	0.00
	OT	45.83	0.00	86.99	0.00	0.00	40.75
Madhya Pradesh	FM	10.58	4.93	23.14	6.48	100.00	24.28
	FP	27.24	18.72	49.97	62.17	0.00	30.43
	SP	58.65	65.02	23.44	31.61	0.00	40.58
	UM	0.00	0.00	0.00	0.00	0.00	0.00
	OT	3.35	11.08	3.36	0.00	0.00	4.71
Maharashtra	FM	17.84	11.05	22.61	27.68	100.00	26.18

	FP	0.18	33.98	2.60	12.76	0.00	9.01
	SP	49.79	35.91	31.31	48.00	0.00	37.55
	UM	0.00	0.00	1.10	0.00	0.00	0.43
	OT	32.14	18.78	42.20	11.49	0.00	26.82
Orissa	FM	6.82	13.41	23.35	0.00	0.00	11.08
	FP	9.12	6.15	5.71	0.00	0.00	7.77
	SP	77.20	72.07	58.71	0.00	0.00	73.08
	UM	0.14	2.00	0.00	0.00	0.00	0.69
	OT	6.73	6.37	12.15	0.00	0.00	7.46
Punjab	FM	69.46	70.04	89.11	76.47	68.71	79.14
	FP	6.40	0.00	0.70	1.82	0.00	1.54
	SP	17.06	29.86	0.00	20.40	30.04	15.33
	UM	0.00	0.00	0.00	0.00	0.00	0.00
	OT	7.09	0.00	10.19	1.31	1.20	3.98
Rajasthan	FM	17.58	32.35	21.92	54.12	31.62	35.02
	FP	0.00	7.06	0.00	3.54	54.78	17.69
	SP	54.39	47.65	78.08	30.73	10.13	39.35
	UM	0.00	0.00	0.00	10.53	2.99	5.78
	OT	28.03	12.35	0.00	1.08	0.39	2.17
Tamil Nadu	FM	38.00	28.73	35.89	13.36	0.00	32.01
	FP	33.11	42.28	10.77	2.06	0.00	30.02
	SP	18.03	10.25	41.67	0.33	100.00	22.89
	UM	8.01	3.04	0.00	0.00	0.00	4.64
	OT	2.90	15.57	11.66	84.77	0.00	10.45

Uttar Pradesh	FM	16.97	22.49	36.29	42.82	4.19	23.62
	FP	11.64	14.83	18.26	0.64	0.00	12.90
	SP	63.51	57.13	40.35	46.41	0.00	53.17
	UM	0.19	0.29	0.00	0.00	0.00	0.21
	OT	7.75	5.17	5.10	10.13	95.81	10.20
West Bengal	FM	24.36	13.75	43.89	53.80	0.00	23.73
	FP	27.42	32.56	35.00	0.00	0.00	28.48
	SP	37.87	39.22	1.59	6.59	0.00	34.95
	UM	0.69	0.43	0.00	0.00	0.00	0.54
	OT	9.53	14.18	19.61	39.66	0.00	12.41
All-India	FM	18.60	22.87	36.50	52.44	28.41	29.46
	FP	20.73	22.43	17.35	8.84	36.16	20.31
	SP	51.26	47.07	31.09	31.44	26.96	40.31
	UM	0.78	0.44	0.11	1.33	1.34	0.62
	OT	8.51	7.18	14.90	5.85	7.29	9.30

Source: Computed from NSS 59th Round: Some Aspects of Operational Land Holdings in India, 2002-03; Report No. 492.

Note: FM = Fixed Money; FP = Fixed Produce; SP = Share of Produce; UM = Usufructuary Mortgage; OT = Other Terms.

TABLE 4.3A: PERCENTAGE DISTRIBUTION OF IRRIGATED TO OPERATED AREA BY DIFFERENT SOURCES OF IRRIGATION DURING KHARIF AND RABI SEASONS FOR ALL SIZE CLASS ACROSS 15 MAJOR STATES, 1991-92

states	season	canal	tank	tube well	well	others	not reported	all
Andhra Pradesh	<i>kharif</i>	13	7	5	9	2	2	38
	<i>rabi</i>	9	4	3	7	1	1	25
Assam	<i>kharif</i>	3	0	1	0	1	1	6
	<i>rabi</i>	1	0	0	0	1	0	2
Bihar	<i>kharif</i>	7	1	22	3	9	1	43
	<i>rabi</i>	6	1	24	3	7	1	42
Gujarat	<i>kharif</i>	4	0	9	17	2	1	33
	<i>rabi</i>	4	0	9	13	1	3	30
Haryana	<i>kharif</i>	14	0	33	0	1	24	72
	<i>rabi</i>	34	0	35	0	1	3	73
Karnataka	<i>kharif</i>	4	3	4	3	2	0	16
	<i>rabi</i>	3	2	3	3	1	1	13
Kerala	<i>kharif</i>	6	1	0	8	3	1	19
	<i>rabi</i>	4	1	0	7	3	1	16
Madhya Pradesh	<i>kharif</i>	6	1	3	7	3	0	20
	<i>rabi</i>	7	0	4	8	3	1	23

Maharashtra	kharif	4	1	0	10	2	1	18
	rabi	3	0	0	9	2	0	14
Orissa	kharif	9	2	0	0	3	1	15
	rabi	7	1	0	0	2	1	11
Punjab	kharif	15	1	73	0	5	2	96
	rabi	13	0	71	0	0	1	85
Rajasthan	kharif	7	0	4	8	1	1	21
	rabi	9	1	6	9	1	1	27
Tamil Nadu	kharif	14	6	5	22	2	1	50
	rabi	5	2	3	16	1	0	27
Uttar Pradesh	kharif	14	1	42	1	6	2	66
	rabi	15	1	47	2	4	1	70
West Bengal	kharif	13	4	14	1	7	2	41
	rabi	7	3	15	1	8	3	37
All-India	kharif	9	2	13	6	3	2	35
	rabi	8	1	14	6	2	1	32

Source: Seasonal Variation in the Operation of Land Holdings in India, 1991-92 – Land and Livestock Holdings Survey, NSS 48th Round, Jan – Dec 1992, Report No. 414.

TABLE 4.4A: PERCENTAGE DISTRIBUTION OF IRRIGATED TO OPERATED AREA BY DIFFERENT SOURCES OF IRRIGATION DURING KHARIF AND RABI SEASONS FOR ALL SIZE CLASS ACROSS 15 MAJOR STATES, 2002-03

states	season	canal	tank	tube well	well	others	not reported	all
Andhra Pradesh	<i>kharif</i>	12	3	12	6	1	0	34
	<i>rabi</i>	4	2	9	4	1	0	20
Assam	<i>kharif</i>	2	0	2	0	2	0	6
	<i>rabi</i>	2	0	5	1	3	0	11
Bihar	<i>kharif</i>	11	1	53	0	4	0	69
	<i>rabi</i>	11	1	59	0	3	1	75
Gujarat	<i>kharif</i>	5	0	15	11	0	0	31
	<i>rabi</i>	4	0	19	7	0	0	30
Haryana	<i>kharif</i>	18	1	51	0	0	0	70
	<i>rabi</i>	17	1	61	0	0	0	79
Karnataka	<i>kharif</i>	8	1	8	4	2	0	23
	<i>rabi</i>	7	1	7	4	1	0	20
Kerala	<i>kharif</i>	8	1	2	8	3	0	22
	<i>rabi</i>	7	1	2	8	3	0	21
Madhya Pradesh	<i>kharif</i>	2	1	7	12	3	0	25
	<i>rabi</i>	4	2	17	15	3	0	41

Maharashtra	kharif	4	1	3	17	3	0	28
	rabi	3	0	2	12	3	0	20
Orissa	kharif	14	1	0	0	2	1	18
	rabi	8	1	0	1	1	0	11
Punjab	kharif	8	1	86	0	0	0	95
	rabi	8	1	85	0	0	0	94
Rajasthan	kharif	4	0	6	4	0	0	14
	rabi	5	0	11	4	0	0	20
Tamil Nadu	kharif	10	6	14	27	3	0	60
	rabi	3	1	14	22	1	0	41
Uttar Pradesh	kharif	11	1	53	0	1	0	66
	rabi	13	1	63	3	1	0	81
West Bengal	kharif	10	2	24	2	5	0	43
	rabi	9	3	30	2	6	0	50
All-India	kharif	8	1	19	6	2	0	36
	rabi	6	1	23	6	2	0	38

Source: Seasonal Variation in the Operational Land Holdings in India, 2002-03 – NSS 59th Round, Jan – Dec 2003, Report No. 494.

BIBLIOGRAPHY

Appu, P.S. (1996): *Land Reforms in India*, Vikas Publishing House, New Delhi.

Bagchi, A.K. (1975): 'Cropsharing Tenancy in Agriculture: A Rejoinder', *EPW*, Vol.10, No. 30, 26 July.

_____ (1976): 'Cropsharing Tenancy and Neoclassical Economics', *EPW*, Vol.11, No. 3, 17 Jan.

Baliga, B.V.S. and S.B. Tambad (1964): 'Risk and Uncertainty in Irrigated Crops', *IJAE*, 19(1).

Bardhan, P.K. (1976): 'Variations in Extent and Forms of Agricultural Tenancy: Analysis of Indian Data across Region and Over time', *EPW*, 11 (37 and 38).

_____ (1980): 'Interlocking Factor Markets and Agrarian Development: A Review of Issues', *OEP*, Vol.32, No. 1.

_____ (1984): *Land, Labor and Rural Poverty: Essays in Development Economics*, OUP, Delhi.

Bardhan, P.K. and A. Rudra (1978): 'Interlinkages of Land, Labor and Credit Relations: An analysis of Village Survey Data in East India', *EPW*, Annual Number, February.

Bardhan, P.K. and T.N. Srinivasan (1971): 'Cropsharing Tenancy in Agriculture: A Theoretical and Empirical Analysis', *AER*, Vol.41, No.1.

_____ (1974): 'Cropsharing Tenancy in Agriculture: Rejoinder', *AER*, Vol.64, Dec.

Basu, K. (1998): *Analytical Development Economics*, OUP, New Delhi.

Bhaduri, A. (1973): 'A Study in Agricultural Backwardness under Semi- feudalism', *EJ*, Vol. 83, No.329, March.

_____ (1983): *Economic Structure of Backward Agriculture*, Macmillan Press, Delhi.

Bhal, S.K., R.S. Prasher and P. Mehta (1997): 'Diversification of Indian Agriculture: Issues and Perspectives', *IEJ*, 78(308).

Bhalla, S. (1977): 'Changes in Acreage and Tenure Structure of Land Holdings in Haryana, 1962-72', *EPW*, 12(13).

Bharadwaj, K. (1974): *Production conditions in Indian Agriculture: A Study Based On Farm Management Surveys*, CUP, London.

Bharadwaj, K. and P.K. Das (1975): 'Tenurial Conditions and Mode of Exploitations: A Study of Some Villages in Orissa', *EPW*, Annual No., Feb. and Review of Agriculture, June.

Bhaumik, S.K. (1994): 'Tenancy, Efficiency and Agricultural Development: A Survey of Research', *IEJ*, Vol.41, No. 4, April.

Birthal, P.S. and R.P. Singh (1991): 'Land-Lease Market, Resource Adjustment and Agricultural Development', *IJAE*, Vol.46, No. 3, July-Sept.

Bliss, C.J. and N.H. Stern (1982): *Palanpur: The Economy of an Indian Village*, OUP, Delhi.

Braverman, A. and J. Stiglitz (1982): 'Share Cropping and Interlinking of Agrarian Markets', *AER*, Vol. 72, Sept.

Byres, T.J. (1983): 'Historical Perspective on Sharecropping', *JPS*, Vol. 10, Nos. 2-3.

Chadha, G.K. and S.K. Bhaumik (1992): 'Changing Tenancy Relations in West Bengal: Popular Notions, Grass Root Realities', *EPW*, 27 (19-20).

Chadha, G.K. *et. al.* (2004): *State of the Indian Farmer – A Millennium Study: Land Resources*, # 2; Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India, New Delhi.

Chakravarty, A. and A. Rudra (1973): 'Economic Effects of Tenancy: Some Negative Results', *EPW*, Vol. 13, No.28, July 14.

Chand, R. (1996): 'Diversification through High Value Crops in Western Himalayan Region: Evidence from Himachal Pradesh', *IJAE*, 51(4).

Chandra, N.K. (1974): 'Farm Efficiency under Semi-Feudalism: A Critique of Marginalist Theories and some Marxist Formulations', *EPW*, Vol.9, Nos. 32-34.

Chattopadhyay, M. and S.K. Ghosh (1983): 'Tenurial Contracts in a Peasant Movement Belt: Field Survey Data on Naxalbari, Kharibari and Phansidewa Region', *EPW*, Vol.18, No. 26, 25 June.

Cheung, Steven S. (1969): *Theory of Share Tenancy*, University of Chicago Press.

Datta, S.K., D.J. O'Hara and J.B. Nugent (1986): 'Choice of Agricultural Tenancy in the Presence of Transaction Costs', *LE*, Vol. 62, No. 2, May.

De, U.K. (2000): 'Diversification of Crops in West Bengal: A Spatio-Temporal Analysis', *AV*, 42(2).

Deshpande, R.S. (1997): *Current Land Policy Issues in India*, Working Paper, ISEC, Bangalore.

Dev, S.M. (1989): 'Towards an Explanation of Spatial and Temporal Variations in Cropping Intensity in India', *IJAE*, 44(1).

Dhawan, B.D. (1985): 'Questionable Conceptions and Simplistic Views about Irrigated Agriculture of India', *IJAE*, 40(1).

_____ (1991): 'Role of Irrigation in Raising Intensity of Cropping', *JISPE*, 3(4).

Dhawan, B.D. and H.S. Datta (1991): 'Impact of Irrigation on Multiple Cropping', *EPW*, 27(3).

Dutt, R.C. (1976): *Economic History of India*, Publications Division, Government of India, New Delhi.

Dwivedi, H. and A. Rudra (1973): 'Economic Effects of Tenancy: Some Further Negative Results', *EPW*, Vol.8, No. 29, 21 July.

Ghosh, N. (1990): 'Role of Fertilizer and Irrigation in Determining Cropping Intensity: A Region-wise Study of Andhra Pradesh', *IJAE*, 45(4).

Gill, S.S. (1989): 'Changing Land Relations in Punjab and Implications for Land Reforms', *EPW*, Vol. 34, No. 25, June 24.

Gujarati, D.N. (2003): *Basic Econometrics*, 4th Edition, McGraw-Hill/Irwin, New York.

Hallagan, W. (1978): 'Self-selection by Contractual Choice and the Theory of Sharecropping', *BJE*, Vol.9, Autumn.

Haque, T. (2001): *Impact of Tenancy Reforms on Productivity Improvement and Socio-Economic Status of Poor Tenants*, National Centre for Agricultural Economics and Policy Research, New Delhi.

Hirashima, S. (2000): 'Issues in Agricultural Reforms – Public Investment and Land Market Development', *EPW*, 35(43-44).

Hsiao, J.C. (1975): 'The Theory of Share Tenancy Revisited', *JPE*, Vol.83, No. 5.

Jaynes, G.D. (1982): 'Production and Distribution in Agrarian Economies', *OEP*, Vol.34, No. 2.

Jodha, N.S. (1990): 'Rural Common Property Resources: Contributions and Crisis', *EPW*, 25(26).

Johl, S.S. (1995): 'Agricultural Sector and New Economic Policy', *IJAE*, 50(3).

Johnson, D.G. (1950): 'Resource Allocation under Share Contracts', *JPE*, Feb-Dec.

Kamenta, J. (1986): *Elements of Econometrics*, 2nd Edition, Macmillan, New York.

Karunakaran, K.R. and K. Palanisami (1998): 'An Analysis of Impact of Irrigation on Cropping Intensity in Tamil Nadu', *IER*, 33(2).

Khasnabis, R.C. (1995): 'Empowering People: Panchayats and Rural Development in West Bengal', Appendix 1: *Tenurial Conditions in West Bengal – Continuity and Change*, Report of IDPAD Project 3.2.1, Calcutta.

Khasnabis, R.C. and J. Chakravarty (1982): 'Tenancy, Credit and Agrarian Backwardness: Results of a Field Survey', *EPW*, Review of Agriculture, Vol. 17, March.

Lucas, R.E.B. (1979): 'Sharing, Monitoring and Incentives: Marshallian Misallocation Reassessed', *JPE*, Vol.87, No. 3.

Marshall, A. (1890): *Principles of Economics*, Macmillan, London.

Mearns, R. (1999): *Access to Land in Rural India*; Policy Research Working Paper # 2123, Washington DC, World Bank.

Mill, J.S. (1904): *Principles of Political Economy*, Longman, London.

Mishra, S.N. (1997): 'Agricultural Liberalization and Development Strategy in Ninth Plan', *EPW*, 32(13).

Murty, C.S. (2004): 'Large Farmers in Lease Market: Are Marginal Farmers Affected?', *EPW*, July, 17.

Nabi, I. (1985): 'Rural Factor Market Imperfections and the Incidence of Tenancy in Agriculture', *OEP*, Vol.37, No. 2.

Nadkarni, M.V. (1976): 'Tenants from the Dominant Class: A Developing Contradiction in Land Reforms', *EPW*, Dec.

Nair, K.N. *et. al.* (1990): *Structural Changes in Landholdings in India: A Study Based on NSS Data*; Working Paper # 237, CDS, Trivandrum.

NSSO (1995): *Some Aspects of Household Ownership Holdings*, Report No. 399, 48th Round, 1992, Government of India, New Delhi.

_____ (1995): *Some Aspects of Operational Holdings*, Report No. 407, 48th Round, 1992, Government of India, New Delhi.

_____ (1997): *Livestock and Agricultural Implements in Household Operational Holdings*, Report No. 408, 48th Round, 1992, Government of India, New Delhi.

_____ (1997): *Seasonal Variation in the Operation of Land Holdings in India – 1991-92*, Report No. 414, 48th Round, 1992, Government of India, New Delhi.

_____ (2006): *Household Ownership Holdings in India - 2003*, Report No. 491, 59th Round, 2003, Government of India, New Delhi.

_____ (2006): *Some Aspects of Operational Holdings in India – 2002-03*, Report No. 492, 59th Round, 2003, Government of India, New Delhi.

_____ (2006): *Livestock Ownership across Operational Land Holding Classes in India – 2002-03*, Report No. 493, 59th Round, 2003, Government of India, New Delhi.

_____ (2006): *Seasonal Variation in the Operational Land Holdings in India – 2002-03*, Report No. 494, 59th Round, 2003, Government of India, New Delhi.

Newbery, D.M.G. (1977): 'Risk Sharing, Sharecropping and Uncertain Labor Markets', *RES*, Vol.44, No. 138.

Otsuka, K. *et. al.* (1992): 'Land and Labor Contracts in Agrarian Economies: Theories and Facts', *JEL*, Vol.30, No. 4, Dec.

Pearce, R. (1983): 'Sharecropping: Towards a Marxist View', *JPS*, Vol.10, Nos. 2-3.

Rao, C.H.H. (1971): 'Uncertainty, Entrepreneurship and Sharecropping in India', *JPE*, Vol.79, No.580.

Reid, J.D. (1976): 'Sharecropping and Agricultural Uncertainty', *EDCC*, Vol. 24, No.3.

_____ (1977): 'The Theory of Share Tenancy Revisited Again', *JPE*, Vol.85, No. 2.

Rudra, A. (1992): *Political Economy of Indian Agricultural*, K.P. Bagchi & Co., Calcutta.

Sanyal, S.K. (1977): 'Trends in Some Characteristics of Landholdings: An Analysis', *Sarvekshna*, 1 (I and II).

Sau, R. (1975): 'Farm Efficiency under Semi-Feudalism: A Critique of Marginalist Theories and Some Marxist Formulations – A Comment', *EPW*, Vol.10, No. 13.

Shaban, R.A. (1987): 'Testing Between Competing Models of Sharecropping', *JPE*, Vol.95, No. 5.

Sharma, H.R. (1992): 'Agrarian Relations in India since Independence', *JISPE*, 4(1).

_____ (1994): 'Distribution of Landholdings in Rural India, 1953-54 to 1981-82: Implications for Land Reforms', *EPW*, 29(13).

_____ (1995): *Agrarian Relations in India: Patterns and Implications*, Har Anand Publications, New Delhi.

_____ (2000): 'Tenancy Relations in Rural India: A Temporal and Cross-sectional Analysis', *IJAE*, 55(3).

Siddiqui, K. (1999): 'New Technology and Process of Differentiation: Two Sugarcane Cultivating Villages in Uttar Pradesh', *EPW*, 34(52).

Singh, Iqbal (1989): 'Reverse Tenancy in Punjab Agriculture: Impact of Technological Change', *EPW*, Vol.24, No.25, June.

Singh, S. (2000): 'Contract Farming for Agricultural Diversification in Indian Punjab', *IJAE*, 55(3).

Smith, A. (1776): *Wealth of Nations*, Chicago, 1952 ed.

Srivastava, R. (1989): 'Tenancy Transactions During Transition: A Study Based on Field Work in Uttar Pradesh (India)', *JPS*, 16(3).

_____ (2000): 'Changes in Contractual Relations in Land and Labor in India', *IJAE*, 55(3), July-Sept.

Stiglitz, J. (1974): 'Incentives and Risk Sharing', *RES*, No.126.

Subrahmanyam, K.V. and M. Sudha (1997): 'Enhancing the Viability of Small Farms: Diversification through Horticultural Crops (Present Status and Future Scope)', *Agricultural Situation in India*, 54(1).

Swain, M. (1999): 'Tenancy Structure in Orissa: Implications for Agricultural Growth', *AV*, Vol. XLI, No.3, September.

_____ (1999): 'Agricultural Tenancy and Interlinked Transactions: Neo-classical and Marxist Approaches', *EPW*, 34 (37 and 38).

Verma, B.N. and R.R. Mishra (1997): 'Crop Diversification and Related Issues on Small Farms in North Bihar', *Agricultural Situation in India*, 54(4).

Vyas, V.S. (1970): 'Tenancy in a Dynamic Setting', *EPW*, Survey of Agriculture, Vol. 5, No.26, June.

Wadhwa, D.C. (1989): 'Guaranteeing Title to Land: A Preliminary Study', *EPW*, October.

