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## **Changing Agrarian Structure in Rural India, 1953-54 to 2012-13: Evidence from NSS Data**

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### **ABSTRACT**

The study examines changes in the salient features of agrarian structure in rural India since 1953-54 using NSS data. The study, *inter alia*, shows increasing marginalization of holdings, growing concentration of land at the middle thirty and forty percent levels, decrease in the incidence of tenancy, increasing prominence of fixed money contracts, increase in the duration of tenancy contracts and prevalence of traditional tenancy relations. It shows that factors like household size, number of marginal holdings and proportion of area under non-foodgrain crops are significant determinants of tenancy and share tenancy. The study raises some concerns and outlines policy options.

**Key Words: Ownership Holdings, Operational Holdings, Land Concentration, Tenancy, Share Tenancy and Reverse Tenancy**

**JEL Classification: Q1, Q15**

### **I**

#### **INTRODUCTION**

In agrarian economies, access to land determines to a varying degree the entitlement, power, privileges and social status of a household. Not only that, land ownership in such economies is essential to the most disadvantaged and vulnerable groups like scheduled caste, scheduled tribe and pastoralists for earning their livelihoods. Ownership is also considered essential for making permanent improvements on land and is an important pre-requisite for adopting technological innovations. In the case of Indian economy, numerous changes during the last six decades notwithstanding, the importance of land in the countryside has not diminished. Indian agriculture has witnessed profound changes during the last sixty years. For example, it has turned from a food deficit economy to a food surplus economy. On the institutional front also, numerous changes have happened. For example, while the fifties and the sixties were characterised by the enactment and implementation of numerous land reform measures and community development programmes, the sixties were marked by profound technological changes with far

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reaching implications towards agrarian structure. In a similar vein, the decade of the eighties marked the beginning of the growth of rural non-farm sector with perceptible increase in the proportion of workers employed in the rural non-farm sector thereby providing an alternative source of employment to the rural poor. Again, the agricultural sector experienced different phases of development in the aftermath of the liberalisation of the economy since the early nineties. For example, while it recorded a fairly reasonable growth till the late nineties, the period from 1998-99 till 2004-05 was characterised by agrarian distress attributed to both technological and policy fatigue. This was followed by reasonable rates of growth of the agricultural sector from 2004-05 to 2008-09 and from 2009-10 to 2013-14. Further, there have also been significant demographic changes over the years. For example, India currently enjoys demographic dividend with the proportion of population below 35 years of age accounting for as high as 65 per cent of the total population. With jobs in the formal sector growing sluggishly, agricultural sector is the residual sector in which the growing workforce tends to be absorbed. Another noticeable development over the period has been the increasing demand for land from the corporate sector, growing urbanisation, for infrastructural facilities and also for a variety of other non-agricultural uses. All these changes have profound implications towards different aspects of agrarian structure such as proliferation of different categories of holdings, changes in the concentration of land at different levels of hierarchy, the extent and forms of tenancy, reverse tenancy, factors affecting tenancy and types of tenancy, and so on.

There is a plethora of empirical studies in the literature that have examined different aspects of agrarian structure at different points in time since the enactment and implementation of numerous land ceilings and tenancy legislations in the fifties and the sixties (Vyas, 1970; Raj, 1970; Rao, 1971; Appu, 1975; Bardhan and Srinivasan, 1971; Bharadwaj and Das, 1975; Bardhan, 1976a,b; Laxminarayan & Tyagi, 1977; Jodha, 1981; Bhalla, 1983; Srivastava, 1989; Singh, 1989; Sawant, 1990; Nair *et al.*, 1990; Chadha-Bhaumik, 1992; Otsuka *et al.*, 1992; Sarap, 1998; Sharma *et al.*, 1995; Sharma, 1994, 2000, 2006, 2007, 2010; Chadha *et al.*, 2004; Vijay, 2012; Vijay and Sreenivasulu, 2013; Bhue and Vijay, 2016; Murali and Vijay, 2017). A thorough review of these studies shows that most of these have used NSS and agricultural census data, though a few of these are also based on primary surveys. Furthermore, most of these studies pertain to the seventies, the eighties and the nineties. There are very few studies that have looked into the more recent changes in different aspects of the agrarian structure. As mentioned above, there have been significant changes in the agricultural sector in the last two decades since 2000 having important consequences for agrarian structure. Some of these are increase in the non-farm employment opportunities, increasing commercialization of agriculture, increasing tendency of households to leave agricultural land fallow rather than leasing it out due to restrictive tenancy laws, increasing uncertainty due to erratic weather conditions and growing agrarian distress manifested in rising cost of

production, falling output prices, falling incomes, increasing indebtedness, increasing farmers suicides, and so on. It is against this background this study seeks to examine the changes in different aspects of agrarian structure in rural India at the all-India level in terms of land distribution among households of different farm size categories, land concentration at different levels of hierarchy, magnitude of tenancy, forms of tenancy, reverse tenancy, and factors affecting tenancy and types of tenancy since as early as from 1953-54 (the 8<sup>th</sup> NSS Round) to as recent as 2012-13 (the 70<sup>th</sup> NSS Round).

## II

### THE DATA AND METHODS

The National Sample Survey reports on landholdings and tenancy and agricultural censuses are the two major sources of data on landholdings and tenancy. Of these two sources, the data thrown up by National Sample Surveys (NSS) is collected following a more scientific methodology and allow us to build a temporal profile of different aspects of agrarian structure such as land distribution structure both ownership and operational holdings and tenancy and types of tenancy since the beginning of the fifties. The data emanating from these two sources has been examined from time to time in terms of its temporal comparability and other methodological limitations by different scholars (Sanyal, 1976; Sawant, 1991; Chadha-Sharma, 1992; Kumar, 2016). These studies have shown that the data emanating from agricultural censuses not only suffer some serious methodological flaws, these are re-tabulation of outdated revenue records and do not provide data on different aspects of tenancy relations. In comparison, NSS data is available on three main aspects of agrarian structure, namely, ownership holdings, operational holdings and tenancy relations. In brief, though the data from agricultural census may help us in understanding the trend in the number and proportion of operational holdings over a period of time, this data is grossly inadequate to analyse the changes in the whole gamut of agrarian relations including tenancy relations. It is against this background that we use NSS data. To begin with, a review of some concepts and definitions used in different NSS rounds is in order. The ownership holding in the 8<sup>th</sup> Round was defined as the land owned by a person if he had the permanent heritable possession with or without the right to transfer the title. The concept of ownership holdings was broadened in the 16<sup>th</sup> and 17<sup>th</sup> rounds to include (i) land held from government under a grant of lease of assignment with the right of permanent heritable and transferrable possession and such land without transferrable possession. (ii) Land held from a person other than government with permanent heritable possession and such land without the right to transfer the land. There was, however, no change in the concept of ownership holdings in the subsequent rounds including the latest 70<sup>th</sup> round.

Likewise, the concept of operational holdings in the 8<sup>th</sup> round was defined to include all land whether cultivable or not whether put to agricultural use or not

directed and managed by one or more persons or with the assistance of other persons without regard to title, size and location, provided these holdings come under the management of a distinct technical and economic unit. However, the data on agricultural holdings was separately available in the 8<sup>th</sup> round whose definition was comparable to the definition of operational holdings in the subsequent rounds. The definition was, however, drastically changed in the 16<sup>th</sup> and 17<sup>th</sup> rounds to include only the land wholly or partly put to agricultural use operated by one person alone or with the assistance of others without regard to size, title and location provided the holding might consist of one or more parcels and provided they come under the same state. There was no change in the 26<sup>th</sup> round except that location of a parcel within a state was changed to within a country and form part of the same technical unit. In the context of agricultural operations, a technical unit is a unit with more or less independent technical resources covering items like land, agricultural equipment and machinery, draught animals, etc. The 37<sup>th</sup> round included the holdings put exclusively to livestock raising and pisciculture under the scope of operational holdings which were excluded under the earlier rounds. The concept of operational holdings in the 48<sup>th</sup> round also defined operational holdings as techno-economic unit used wholly or partly for agricultural production and operated by one person alone. Similarly, in the 59<sup>th</sup> round holdings used partly or exclusively for livestock and poultry raising and for production of livestock and poultry products and/or pisciculture were considered as operational holdings. Further, if a household forming a single economic unit undertakes some crop production and at the same time is engaged in livestock/poultry raising or pisciculture during the reference period, he is considered to possess a single operational holding, even if the technical unit used for crop production is distinctly different from the technical unit used for livestock/poultry raising or pisciculture. In the 70<sup>th</sup> round, the definition of operational holdings remained the same as was in the 59<sup>th</sup> round except that it has been mentioned that when the household was found to grow vegetables in kitchen garden only or flowers in the courtyard, he was considered to possess an operational holding. No such information is available for the earlier rounds. This addition may have inflated the number of operational holdings in the recent 70<sup>th</sup> round affecting the comparability of data with the previous rounds to some extent.

The data on tenancy are broadly comparable over different rounds. However, we have made some adjustments to make it temporarily comparable. The adjustments made are (i) the holdings reported under the head others in the 37<sup>th</sup> round have been included with those reported as neither owned nor reported. (ii) Similarly, in the 48<sup>th</sup> round, the holdings and the area reported as 'not recorded' have been included in neither owned nor leased-in but otherwise possessed. (iii) In a similar vein, different tenancy contracts have been clubbed under four major heads such as fixed money, fixed produce, share of produce and other terms to ensure temporal comparability.

Besides using the data available in various published reports on landholdings for different NSS rounds, we have also used unit level data for three decennial rounds,

i.e., 48th (1992), 59th (2003) and 70th (2013) on *Land and Livestock Holdings* for estimating regression models to quantify the effect of different factors on the magnitude of tenancy and share tenancy. Unit level data refers to the detailed data for each sampled unit at the ultimate stage, along with sampling weights for that stage. For example, in the case of NSS household surveys, unit level data means all data records in respect of each sample household. The unit level data has been accessed from MOSPI, New Delhi which was available in CDs in .txt format. The datasets were generated through extraction of data with the help of Stata individually for all three rounds. After extraction, merging and appending of different blocks/levels was done for each round from the available datasets. Since the present study focuses on rural areas, the data on urban areas has not been used. The data for all India has been generated by merging all states and union territories.

Gini index has been calculated to measure the extent of inequality in the distribution of owned and operated land at the all-India level. However, Gini coefficient is a summary measure and does not reveal as at what levels in the land ownership/operational hierarchy, land concentration has tended to increase or diminish. We, therefore, computed land concentration at different levels of hierarchy say at the top one per cent, five per cent, ten per cent and twenty per cent, at the middle thirty per cent and forty per cent and at the bottom forty per cent and fifty per cent using Lagrangian interpolation method (Carnham, *et al*, 1969). The land concentration at these levels has been computed using the following form of Lagrange's interpolating polynomial:

$$P_n(x) = \sum_{i=0}^n L_i(x) f(x_i) \quad \dots(1)$$

$$\bar{y}(\bar{x}) = \sum_{i=\min}^{\min+d} L_i(\bar{x}) y_i \quad \dots(2)$$

Where  $L_i(x) = \prod_{\substack{j=0 \\ j \neq i}}^n \frac{x-x_j}{x_i-x_j}$ ,  $i=0, 1, \dots, n$

$i=\min, \min+1, \dots, \min+d$ .

For exploring the effect of different factors on the extent of tenancy and share tenancy, a multi-variate regression model has been estimated. The dependent variable in case of factors determining the extent of tenancy is defined as the proportion of operated area leased-in while in case of determinants of share tenancy it is the proportion of area leased in under share tenancy. The functional form of the multiple linear regression model is given below.

$$Y_i = \alpha + \beta_1 x_{1i} + \beta_2 x_{2i} + \dots + \beta_k x_{ki} + \varepsilon_i \text{ for } i=1,2,\dots,n.$$

where  $Y_i$  is dependent variable,  $x_i$ 's are independent variables and  $\alpha$ ,  $\beta_1, \beta_2$  and  $\beta_k$  are parameters, and  $\varepsilon_i$  is a stochastic disturbance term.

### III

#### DISTRIBUTION OF OWNERSHIP HOLDINGS

The temporal changes in some salient aspects of household ownership holdings during the last around sixty years since 1953-54 have been given Table 1. As may be seen from the table, the estimated number of households increased two and half times from 63.53 million in 1953-54 to 156.04 in 2012-13 whereas the amount of area owned declined continuously and came down from 123.70 million hectares in 1953-54 to 92.16 million hectares in 2012-13 registering a decrease of 25.49 per cent. The number of landless households has fluctuated between around 11 million to around 15 million. In per cent terms, there was no consistent pattern in the decadal changes; though over a sixty years period it decreased from 23 per cent in 1953-54 to 7.41 per cent in 2012-13. There has, however, been a huge proliferation of sub-marginal holdings owning half a hectare of land; the number of such holdings increased from 39.18 million in 1981-82 to as much as 96.44 million in 2012-13 and in percentage terms, their share in the total holdings increased from around 42 per cent to around 62 per cent. The continuous increase in the number of ownership holdings coupled with a decrease in the amount of area owned led to decrease in the average size of holdings from 1.95 ha in 1953-54 to 0.59 ha including landless households and from 2.53 ha to 0.64 ha in 2012-13 excluding them. The trend in the changes in the concentration of landholdings, measured by Gini ratio, was not consistent; though, taking a long period view, it declined. The concentration of land at different levels of land ownership hierarchy further shows that it consistently declined at the top 1 per cent and 10 per cent levels but increased at the top 5 per cent. The concentration of land at the bottom fifty per cent did not change much. The concentration at the middle forty and the fifty per cent levels, however, increased. On the whole, the decrease in the concentration of land at the top one per cent and ten percent levels was accompanied by an increase in the concentration of land at the middle forty and fifty per cent levels leaving concentration of land at the bottom fifty per cent nearly unchanged. Insofar as number of different size categories of holdings was concerned, the number of marginal holdings increased more than four and half times from 24.24 million in 1953-54 to 117.67 million in 2012-13. In percentage terms, their share during the period increased from around 50 per cent to around 75 per cent. The number of small holdings also nearly doubled from 8.56 million in 1953-54 to 15.60 million in 2012-13. There was not much change in the number of medium holdings (2.01-4.00 ha) but the large holdings (above 4.01 ha) registered a huge decrease from 8.12 million to 3.39 million. Regarding changes in the amount of area owned by different categories of holdings and its distribution, the table shows that the area

TABLE 1. CHANGING STRUCTURE OF OWNERSHIP HOLDINGS IN RURAL INDIA: 1953-54 TO 2012-13

Particulars	1953-54 (1)	1960-61 (2)	1971-72 (3)	1981-82 (4)	1991-92 (5)	2002-03 (6)	2012-13 (7)	2012-13 (8)
Estimated number of households (m)	63.53	72.46	78.37	83.85	116.41	147.84	156.04	156.04
Estimated amount of area owned (m/ha)	123.70	128.73	119.64	119.77	117.35	107.23	92.16	92.16
Estimated number of landless households (m)	14.67	8.46	7.56	7.56	13.09	14.84	11.56	11.56
Percentage of landless households	23.09	11.68	9.64	9.64	11.34	10.00	7.41	7.41
Estimated number of sub-marginal households (0.002-0.50 ha) (in million)	-	-	-	-	39.18	53.55	83.08	96.44
Area owned by sub-marginal households (0.002-0.50 ha) (in million ha)	-	-	-	-	(41.74)	(46.00)	(56.19)	(61.80)
Average size of area owned: Including landless (ha) Excluding landless (ha)	1.95	1.78	1.53	1.53	1.28	1.01	0.73	0.59
Gini ratio	2.53	2.01	1.69	1.69	1.44	1.14	0.81	0.64
In the area owned, per cent share of	0.7511	0.7174	0.7062	0.7062	0.7132	0.7393	0.7159	0.7159
Bottom 50 per cent	2.08	3.31	3.86	3.86	3.52	3.33	1.89	2.35
Middle 40-80 per cent	22.26	25.37	26.02	26.02	25.61	26.68	21.99	24.67
Middle 50-80 per cent	20.54	22.91	23.31	23.31	24.22	24.22	21.64	22.96
Top 20 per cent	77.38	73.78	72.83	72.83	73.19	72.45	72.62	74.61
Top 10 per cent	58.80	54.60	53.75	53.75	53.78	54.08	57.95	54.61
Top 5 per cent	42.71	38.56	37.66	37.66	37.55	38.22	41.76	46.09
Top 1 per cent	18.41	16.51	15.20	15.20	14.35	14.96	16.97	15.73
Number of different categories of households (million)	24.24	35.06	41.51	41.51	51.91	70.57	102.89	117.67
Marginal (Up to 1.00 ha)	(49.61)	(54.780)	(58.62)	(58.62)	(62.38)	(68.30)	(69.62)	(75.41)
Small (1.01-2.00 ha)	8.56	10.98	12.14	12.14	13.79	15.62	16.00	15.60
Medium (2.01-4.00 ha)	7.94	9.32	9.36	9.36	10.12	10.81	8.87	10.00
Large (above 4.01 ha)	(16.25)	(14.56)	(13.22)	(13.22)	(12.16)	(10.46)	(6.00)	(5.01)
Amount of area owned by different categories of households (million ha)	8.12	8.64	7.80	7.80	7.39	6.32	5.20	3.39
Marginal (Up to 1.00 ha)	4.55	9.39	11.67	11.67	14.64	19.86	24.70	27.28
Small (1.01-2.00 ha)	(3.68)	(7.59)	(9.76)	(9.76)	(12.22)	(16.93)	(23.04)	(29.60)
Medium (2.01-4.00 ha)	8.81	15.34	17.56	17.56	19.73	21.82	21.84	21.74
Large (above 4.01 ha)	(7.12)	(12.40)	(14.68)	(14.68)	(16.49)	(18.59)	(20.37)	(23.59)
Amount of area owned by different categories of households (million ha)	21.75	25.41	26.30	26.30	27.97	28.83	23.56	20.38
Marginal (Up to 1.00 ha)	(17.59)	(20.54)	(21.92)	(21.92)	(23.38)	(24.57)	(21.97)	(22.12)
Small (1.01-2.00 ha)	88.59	73.56	64.17	64.17	57.31	46.82	37.13	22.75
Medium (2.01-4.00 ha)	(71.61)	(59.47)	(53.64)	(53.64)	(47.90)	(39.90)	(34.62)	(24.69)

Source: (i) Report on Landholdings (3); 8<sup>th</sup> Round, 1953-54, NSS Report No.36; (ii) Report on Landholdings (4); 8<sup>th</sup> Round, 1953-54, NSS Report No. 66  
 (iii) Report on Some Aspects of Landholdings in Rural Areas; 17<sup>th</sup> Round 1961-62, NSS Report No.144; (iv) Report on Some Aspects of Landholdings; 26<sup>th</sup> Round 1971-72, NSS Report No 215 (v) Report on Some Aspects of Ownership Holdings (1); 37<sup>th</sup> Round, 1982, NSS Report No.330; (vi) Report on Some Aspects of Household Ownership Holdings (1); 48<sup>th</sup> Round 1992, NSS Report No. 399 (vii) Report on Household Ownership Holdings in India: 59<sup>th</sup> Round, 2003, NSS Report No. 491; (viii) Report on Household Ownership and Operational Holdings in India: 70<sup>th</sup> Round, 2013, NSS Report No. 571

Notes: 1. Near landless households are those who own land between 0.002 - 0.20 hectare ii. Figures in parentheses are percentages.

owned by all categories of holdings has increased by varying amount with the notable exception of large holdings where it declined to nearly one-fourth from 88.59 million ha in 1953-54 to 22.75 million ha in 2012-13. In terms of per cent distribution, share of marginal holdings increased from a low of 3.68 per cent in 1953-54 to 29.60 per cent in 2012-13 and that of small holdings from 7.12 per cent to 23.59 per cent. The per cent share of large holdings declined to nearly one-third between 1953-54 and 2012-13. Comparing the per cent increase in the area owned by marginal holdings with increase in their share in owned land, there have been no net gains to these holdings in that increase in their share in area has merely kept pace with the increase in their numerical proportions. In comparison, increase in the per cent share of land of small and medium holdings has been much higher in comparison to increase in their share in the total holdings. Thus, land concentration over a long period of 60 years has increased among small and medium holdings and these holdings have emerged as net gainers in the massive reshuffle of agrarian relations.

## IV

## DISTRIBUTION OF OPERATIONAL HOLDINGS

Table 2 shows changes in some aspects of operational holdings between 1953-54 and 2012-13. The table shows that the number of operational holdings during the period increased from 44.35 million in 1953-54 to 108.78 in 2012-13 recording an increase of more than two and half times. In comparison, the amount of operated area decreased from 135.27 million ha in 1953-54 million ha to 94.48 million ha in 2012-13 recording a huge decrease of 30.15 per cent and affecting the availability of land for cultivation. Although no data is available as to which purposes this land has been diverted, a large part of this diversion could be attributed to increase in the demand for land for infrastructure and other non-agricultural uses including that from the corporate sector and also on account of growing urbanisation. Resultantly, the average size of holdings during the period decreased from 3.05 ha to 0.87 ha. Among different categories, the number of small holdings increased from 9.25 million in 1953-54 to 16.64 million in 2012-13. There was, however, a huge decrease in the number of large holdings (above 4.01ha) which decreased to nearly one-third from 8.99 million to 3.71 million. The number of marginal holdings increased more than four times from 17.36 million in 1953-54 to 79.63 million in 2012-13. In terms of percent share, it increased from 39.12 per cent to as high as 73.20 per cent. And small and marginal holdings taken together accounted for as high as 88 per cent of the total holdings. It is important to mention here that Nadkarni (2018) using agricultural census data have reported broadly similar trend in the number and proportion of marginal and small holdings and the average size of such holdings. There was no clear trend in the extent of concentration of operational holdings; measured by Gini ratio, it fluctuated from one period to the other with the notable exception between 2002-03 and 2012-13 when it recorded a significant decrease from 0.6303 to 0.5034. Insofar as the concentration of operated land at different levels was concerned, unlike owned land, the concentration at the top one per cent, five per cent and ten percent did not change much. And taking a long period view, the concentration of land increased at the top 1 per cent, decreased at the top 5 per cent, 10 per cent and 20 per cent. There was no change in the concentration of land at the bottom 50 per cent which remained at around 9 per cent.



TABLE 2. CHANGING STRUCTURE OF OPERATIONAL HOLDINGS IN RURAL INDIA, 1953-54 TO 2012-13

Particulars	1953-54 (2)	1960-61 (3)	1971-72 (4)	1981-82 (5)	1991-92 (6)	2002-03 (7)	2012-13 (8)
Estimated number of holdings (m)	44.35	50.77	57.07	71.04	93.45	101.27	108.78
Percentage increase	-	14.50	12.40	24.50	31.50	8.40	7.42
Total area operated (m/ha)	135.27	133.48	125.68	118.57	125.10	107.65	94.48
Average area operated (ha)	3.05	2.63	2.20	1.67	1.34	1.06	0.87
Number of sub-marginal holdings in million (0.002-0.50 ha)	-	-	-	26.83	41.52	50.39	56.76
Amount of area operated sub-marginal holdings (0.002-0.50 ha) Area in million ha	-	-	-	(37.77)	(44.43)	(49.76)	(52.18)
Concentration of operational holdings (Gini Ratio)	0.6212	0.5831	0.5876	0.6332	0.6406	0.6303	0.5034
In the area operated, per cent share of							
Bottom 50 per cent	9.71	12.12	11.74	8.44	8.26	8.53	9.50
Middle 40-80 per cent	28.92	30.53	30.40	29.94	29.52	29.42	31.93
Middle 50-80 per cent	24.98	25.71	25.60	25.88	25.26	25.16	27.25
Top 20 per cent	65.35	62.17	62.66	65.69	66.48	66.31	63.25
Top 10 per cent	47.88	44.52	44.71	47.24	48.28	48.90	45.75
Top 5 per cent	33.24	30.63	30.69	32.39	33.63	34.49	31.51
Top 1 per cent	10.97	11.25	12.07	11.57	12.63	13.36	11.22
Number of different categories of holdings (m)	17.36	19.84	26.12	39.79	58.69	70.99	79.63
Marginal (Up to 1.00 ha)	(39.12)	(39.08)	(45.77)	(56.01)	(62.80)	(69.64)	(73.20)
Small (1.01-2.00 ha)	9.25	11.48	12.77	13.72	16.62	16.59	16.64
Medium (2.01-4.00 ha)	8.75	10.05	10.08	10.10	11.21	11.21	8.81
Large (above 4.01 ha)	(19.73)	(19.79)	(17.66)	(14.22)	(12.00)	(9.03)	(8.10)
Area operated by different categories of holdings (million ha)	8.99	9.40	8.10	7.43	6.93	5.14	3.71
Marginal (Up to 1.00 ha)	(20.27)	(18.52)	(14.19)	(10.46)	(7.42)	(5.04)	(3.41)
Small (1.01-2.00 ha)	7.98	9.15	11.57	13.63	19.51	24.30	26.18
Medium (2.01-4.00 ha)	(5.90)	(6.86)	(9.21)	(11.50)	(15.60)	(22.57)	(27.71)
Large (above 4.01 ha)	14.41	16.45	18.60	19.67	23.39	22.49	22.15
Area operated by different categories of holdings (million ha)	(10.65)	(12.33)	(14.80)	(16.59)	(18.70)	(20.89)	(23.44)
Small (1.01-2.00 ha)	25.89	27.63	28.30	27.92	30.18	24.18	22.20
Medium (2.01-4.00 ha)	(19.14)	(20.70)	(22.52)	(23.55)	(24.13)	(22.46)	(23.50)
Large (above 4.01 ha)	86.99	80.23	67.20	57.34	52.00	36.69	23.95
	(64.31)	(60.11)	(53.47)	(48.36)	(41.57)	(34.08)	(25.35)

Sources: (i) Report on Landholdings (4); 8<sup>th</sup> Round, 1953-54, NSS Report No. 66; (ii) Report on Landholdings (4); 8<sup>th</sup> Round, 1953-54, NSS Report No. 74 (iii) Report on Some Aspects of Landholdings in Rural Areas; 1<sup>st</sup> Round 1961-62, NSS Report No. 144; (iv) Report on Some Aspects of Landholdings; 26<sup>th</sup> Round 1971-72, NSS Report No. 215;(v) Report on Some Aspects of Operational Holdings (2); 3<sup>rd</sup> Round, 1982, NSS report No.331; (vi) Report on Some Aspects of Operational Holdings (1); 48<sup>th</sup> Round 1992, NSS Report No. 407;(v) Report on Some Aspects of Operational Holdings in India, 2002-03, 59<sup>th</sup> Round, NSS Report No. 492; (vi) Report on Household Ownership and Operational Holdings in India; 70<sup>th</sup> Round, 2013, NSS Report No. 57

Note: Figures in parentheses are percentages.

Thus, among holdings at different levels of hierarchy, land concentration became more pronounced at the middle forty per cent whose share in operated land increased around 29 per cent to 32 per cent. Insofar as changes in the area operated by different categories of holdings between 1953-54 and 2012-13 are concerned, the area operated by marginal holdings increased three times from 7.98 million hectares to 26.18 million hectares while in case of small holdings it increased from 14.41 million hectares to 22.15 million hectares. In terms of per cent share, while the share of marginal holdings increased from 5.90 per cent in 1953-54 to 27.71 per cent in 2012-13, that of small holdings increased from 10.65 per cent to 23.44 per cent. The amount of area operated by medium holdings decreased from 25.89 million hectares in 1953-54 to 22.20 million hectares in 2012-13 where as in case of large holdings the extent of decrease was huge from 86.99 million hectares to 23.95 hectares. In per cent terms, the share of medium holdings increased from 19.14 per cent to 23.50 per cent while the share of large holdings decreased from nearly two-thirds in 1953-54 to nearly one-fourth in 2012-13. However, juxtaposing changes in per cent share in the holdings and area operated, the increase in the share of marginal holdings in the total holdings has been comparatively higher than increase in their share in area operated implying further marginalization of these holdings. In comparison, a reverse pattern is noticed in case of small and medium holdings; while their share in the total holdings decreased between 1953-54 and 2012-13, their share in the operated land increased significantly indicating increase in the concentration of land among these categories of holdings. As expected, there was a huge decrease in the share of large holdings both in terms of holdings and area operated.

## V

### STRUCTURE OF TENANCY RELATIONS

Over the years, tenancy relations in terms of magnitude of tenancy, terms of tenancy, reverse tenancy and determinants of tenancy have undergone qualitative changes thanks to the institutional, technological and demographic factors. For example, while in the fifties and the sixties the institutional factors like enactment and implementation of tenancy legislations by different states affected the incidence and forms of tenancy, the technological factors became more important in the seventies and the eighties leading to the emergence of reverse tenancy in some states/regions. Some other changes in the Indian economy which became more pronounced since the beginning of the eighties as mentioned above also had direct implications towards different aspects of tenancy relations. We first discuss the change in the magnitude of tenancy. The information given in Table 3 reveals that the incidence of tenancy in different manifestations has decreased over the period. For example, table shows that while the number of households leasing out land decreased from 7.64 million in 1953-54 to 4.96 million in 2012-13, the amount of land leased-out during the period decreased from 14.13 million ha to 3.91 million ha. In percentage terms while the

TABLE 3. CHANGING STRUCTURE OF TENANCY RELATIONS IN RURAL INDIA: 1953-54 TO 2012-13

Particulars (1)	1953-54 (2)	1960-61 (3)	1971-72 (4)	1981-82 (5)	1991-92 (6)	2002-03	2012-13
Number of households leasing-out land (m)	7.64	5.09	7.74	5.86	5.64	4.14	4.96
Percent of households leasing-out land	12.03	7.03	9.87	6.24	4.85	2.80	3.18
Amount of land leased-out (m)	14.13	5.70	6.90	5.15	6.01	3.28	3.91
Percent of owned land leased-out	11.42	4.43	5.77	4.30	5.12	3.06	4.23
Number of households leasing-in (m)	-	-	19.82	16.69	17.11	17.03	20.88
Per cent of households leasing in	-	-	25.29	17.78	14.70	11.52	13.38
Amount of land leased-in (m/ha)	-	-	13.87	8.93	10.49	7.56	10.27
Per cent of Owned land leased-in	-	-	11.59	7.46	8.94	7.05	11.12
Percentage of operational holdings with partly or wholly							
(a) Land owned	-	94.86	95.64	92.91	96.15	95.33	97.29
(b) Leased-in land	-	23.52	24.68	15.20	11.00	9.99	13.69
In the area operated, per cent share of							
(a) Area owned	79.48	89.30	89.43	91.08	90.44	92.7	87.75
(b) Area leased-in	20.52	10.70	10.57	7.20	8.30	6.5	11.30
(c) Area otherwise possessed	-	-	-	1.74	1.04	0.8	0.95

Sources: (i) Report on Landholdings (3); 8<sup>th</sup> Round, 1953-54, NSS Report No.36

(ii) Report on Landholdings (4); 8<sup>th</sup> Round, 1953-54, NSS Report No. 66

(iii) Report on Some Aspects of Landholdings in Rural Areas, 17<sup>th</sup> Round 1961-62, NSS Report No.144

(iv) Report on Some Aspects of Landholdings: 26<sup>th</sup> Round 1971-72, NSS Report No.215

(v) Report on Some Aspects of Ownership Holdings (1); 37<sup>th</sup> Round, 1982, NSS report No.330

(vi) Report on Some Aspects of Household Ownership Holdings (1); 48<sup>th</sup> Round 1992, NSS Report No. 399

(vii) Report on Household Ownership Holdings in India: 59<sup>th</sup> Round, 2003, NSS Report No. 491

(viii) Report on Household Ownership and Operational Holdings in India: 70<sup>th</sup> Round, 2013, NSS Report No. 571

TABLE 4 DISTRIBUTION OF OPERATIONAL HOLDINGS BY TYPE OF HOLDINGS; 1981-82 TO 2012-13

Year (1)					(per cent)			
	Entirely Owned (2)	Mixed (3)	Entirely Leased-in (4)	Neither Owned Nor Leased-in holdings (5)	Owned area (6)	Leased-in area (7)	Neither owned nor Leased-in area (8)	
1981-82	80.58	16.24	2.37	0.81	91.08	7.18	1.74	
1991-92	81.98	8.87	3.85	5.30	87.91	8.28	3.81	
2002-03	88.73	3.06	7.00	1.20	92.57	6.60	0.84	
2012-13	85.73	2.09	11.61	0.57	88.30	10.74	0.96	

Sources: (i) Report on Landholdings (2); 37<sup>th</sup> Round 1981-82, Report No. 331

(ii) Report on Some Aspects of Operational Holdings; 48<sup>th</sup> Round 1991-92, Report No. 407

(iii) Report on Some Aspects of Operational Land Holdings in India; 59<sup>th</sup> Round 2002-03, Report No. 492.

(iv) Report on Household Ownership and Operational Holdings in India; 70<sup>th</sup> Round 2012-13, Report No. 571.

per cent of households leasing out land decreased from 12.03 per cent in 1953-54 to 3.18 per cent in 2012-13, the per cent of owned land leased out declined from 11.42 per cent to 4.23 per cent. In comparison, the number of households leasing in land increased from 19.82 million in 1971-72 to 20.88 million in 2012-13 whereas the amount of land leased in during the period declined from 13.87 million hectares to 10.27 million hectares. In terms of per cent changes, households leasing in land during the period decreased from 25.29 per cent to 13.38 per cent though the per cent of leased-in land to owned land remained practically unchanged at around 11 per cent. As a proportion of operated land, the leased in land decreased from 20.52 per cent in 1953-54 to 11.30 per cent in 2012-13.

Incidence of tenancy may also be studied in terms of distribution of holdings into entirely owned holdings, mixed holdings, entirely leased in holdings and neither owned nor leased in holdings. The entirely owned holdings are those holdings which do not have leased in land, mixed holdings have both leased in and owned land and entirely leased in holdings are those where all cultivated land is leased in. As may be seen from Table 4, more than four-fifths of the holdings were operated as entirely owned holdings. The proportion of mixed holdings declined from 16.24 per cent in 1981-82 to as low as 2.09 per cent in 2012-13. However, the proportion of entirely leased-in holdings recorded a significant increase after 1991-92; it increased from 3.85 per cent in 1991-92 to 7.00 per cent in 2002-03 and to 11.61 per cent in 2012-13. In terms of changes in the proportion of area owned leased-in, there was no clear pattern. For example, while proportion of area owned in the operated land decreased from 91.08 per cent in 1981-82 to 88.30 per cent in 2012-13, the proportion of area leased in increased from 7.18 to 10.74 per cent during the period. The proportion of holdings and area neither owned nor leased in but otherwise possessed did not change much and remained very small at around one per cent or even less.

The changes in the terms of tenancy have been brought out in Table 5. As mentioned above, we have clubbed different terms of tenancy into four major terms such as fixed money, fixed produce, share of produce and others to make these terms comparable over time. The table shows that the area leased in under fixed money increased marginally from 3.65 million hectares in 1961-62 to 3.85 hectares in 2012-13. The year 1981-82 was exceptional when the area under fixed money was as low as 0.93 million hectare. In terms of per cent share, the leased in area under fixed money accounted for nearly one-fourth of the total leased in area in 1961-62 which over the period of fifty years increased to 42.16 per cent. The area leased in under fixed produce declined from 1.84 million hectares in 1961-62 to 1.49 million hectares in 2012-13 but in per cent terms, it increased from 12.89 per cent to 16.34 per cent. The amount of area leased in under share tenancy decreased continuously over the years to nearly half, from 5.45 million hectare in 1961-62 to 2.64 million hectares in 2012-13. In per cent terms, the leased in area accounted for by share tenancy over the period declined from 38.16

TABLE 5 CHANGES IN TENANCY BY TERMS OF TENANCY: 1961-62 TO 2012-13

Terms of Tenancy (1)	<i>(area in million hectares)</i>					
	1961-62 (2)	1970-71 (3)	1981-82 (4)	1991-92 (5)	2002-03 (6)	2012-13 (7)
Fixed money	3.65 (25.56)	2.04 (15.36)	0.93 (10.93)	2.02 (18.95)	2.09 (30.15)	3.85 (42.16)
Fixed produce	1.84 (12.89)	1.54 (11.60)	0.54 (6.35)	1.55 (14.54)	1.38 (19.90)	1.49 (16.34)
Share of produce	5.45 (38.16)	6.36 (47.89)	3.56 (41.83)	3.67 (34.43)	2.81 (40.59)	2.64 (28.99)
Others	3.34 (23.39)	3.34 (25.15)	3.48 (40.89)	3.42 (32.08)	0.65 (9.36)	1.14 (12.50)
Total leased-in area	14.28 (100.00)	13.28 (100.00)	8.51 (100.00)	10.66 (100.00)	6.92 (100.00)	9.13 (100.00)

*Sources:* (i) Report on Some Aspects of Landholdings in Rural Areas; 17<sup>th</sup> Round 1961-62, NSS Report No 144  
(ii) Report on Some Aspects of Landholdings; 26<sup>th</sup> Round 1971-72, NSS Report No 215  
(iii) Report on Some Aspects of Operational Holdings; 37<sup>th</sup> Round, 1982, NSS report No.331  
(iv) Report on Some Aspects of Operational Holdings; 48<sup>th</sup> Round 1992, NSS Report No. 407  
(v) Report on Some Aspects of Operational Holdings in India, 2002-03, 59<sup>th</sup> Round, NSS Report No. 492  
(vi) Report on Household Ownership and Operational Holdings in India: 70<sup>th</sup> Round, 2013, NSS Report No. 571

*Notes:* (i) Figures in parentheses are percentages

(ii) Others include usufructuary mortgage, relatives, service contract, etc.

per cent to 28.99 per cent. The area leased in on other terms also decreased from 3.34 million hectares in 1961-62 to 1.14 million hectare in 2012-13. On the whole, the data shows that share tenancy is being increasingly replaced with fixed rent tenancy, in particular with fixed money which accounts for more than two-fifths of the total area leased-in in 2012-13 as compared to share tenancy whose share in the leased in area is less than 30 per cent. Another important aspect of tenancy relations is the period of lease which affects incentive of the tenants to make permanent improvements on land. It is generally believed that land is mostly leased out on short terms contracts and that the tenants are frequently rotated from one plot to another to prevent them staking claim to occupancy rights on the leased in land. The evidence from NSS data on the distribution of leased in land according to duration of tenancy contracts since 1991-92 has been given in Table 6. The table shows that there has been a significant increase in the per cent of area leased in accounted for by the contracts which are for two agricultural years or more between 1991-92 and 2012-13. For example, the per cent share of area leased in under such contracts increased from 48.04 per cent in the former year to 64.02 per cent in the latter year.

TABLE 6. DISTRIBUTION OF AREA LEASED IN BY PERIOD OF LEASE; 1991-92 TO 2012-13

Year (1)	<i>(per cent)</i>				
	Less than one agricultural season (2)	One agricultural season but less than one agricultural year (3)	One to less than two agricultural years (4)	Two agricultural years or more (5)	All (incl. n. r.) (6)
1991-92	4.82	16.44	30.67	48.04	100.00
2002-03	4.61	17.96	32.91	44.51	100.00
2012-13	6.43	13.16	16.59	64.02	100.00

*Sources:* (i) Report on Some Aspects of Operational Holdings; 48<sup>th</sup> Round 1992, NSS Report No. 407  
(ii) Report on Some Aspects of Operational Holdings in India, 2002-03, 59<sup>th</sup> Round, NSS Report No. 492  
(iii) Report on Household Ownership and Operational Holdings in India: 70<sup>th</sup> Round, 2013, NSS Report No. 571

The next important aspect of tenancy is as to who leases from whom. The micro studies from different regions have reported emergence of reverse tenancy whereby the medium and large farmers are increasingly entering the lease market as lessees and that the marginal and small farmers are increasingly leasing out their land because of, among other things, increasing cost of cultivation, increasing non-farm employment opportunities, increasing weather uncertainties, and so on. The pattern of tenancy has been analysed in terms of the distribution of land leased in and land leased out across households of different farm size categories. The results are presented in Table 7. Table shows that at the all-India level in 1981-82 around 70 per cent of the leased in land was accounted for by holdings less than 2 hectares. Likewise, a little less than around 70 per cent of the leased out land was accounted for by the medium and large holdings. This pattern of leasing in and leasing out conforms broadly to a traditional pattern of tenancy relations where lessees are small and marginal farmers while lessors are the medium and large ones. The tenancy relations broadly continued to be traditional during the eighties, the nineties and also thereafter. For example, in 2012-13, the small and marginal farmers still accounted for more than 70 per cent of the total leased in land. However, despite decrease in the per cent share of leased out land by the medium and large farmers they still continued to account for more than fifty per cent of the total leased out land. In broad terms, what is becoming more evident over the period since 1981-82 is that the practice of leasing out land is being increasingly resorted to by the households of lower size categories, namely, small and marginal farmers. This is evident from decrease in the share of medium and large farmers in the total leased out land which was around 70 per cent in 1981-82 but declined to around 50 per cent over a period of thirty years in 2012-13. The extent of reverse tenancy has also been analyzed in terms of changes in the concentration of leased in land and leased out land at different levels of land ownership hierarchy such as at the bottom, the middle and the top. This becomes important in that over the period there has been huge decrease in the number and proportion of large and medium holdings thanks to increasing sub-division of holdings. The results are presented in Table 8. The data presented in the table supports the results presented in the previous table and broadly confirms the prevalence of traditional tenancy relations in rural India. As may be seen from the table, the share of the bottom 50 per cent households, which include landless, sub-marginal and marginal households, in the total leased in land, though declined during the eighties, has tended to remain almost constant at 35 per cent since then. This was accompanied by decrease in the share of top 20 per cent households in the total leased in land from around 48.94 per cent in 1991-92 to 42.83 per cent in 2012-13. This also becomes evident from the changes in concentration of leased out land at different

TABLE 7. DISTRIBUTION OF LEASED-IN LAND AND LEASED-OUT LAND AND THE EXTENT OF REVERSE TENANCY, 1981-82 TO 2012-13 (per cent)

Size class of ownership holdings (ha.)	1981-82		1991-92		2002-03		2012-13	
	Leased-in land (1)	Leased-out land (2)	Leased-in land (3)	Leased-out land (4)	Leased-in land (5)	Leased-out land (6)	Leased-in land (7)	Leased-out land (8)
Less than 0.002	0.00	0.00	8.31	0.00	0.00	6.15	0.00	0.00
0.002 - 0.500	34.98	4.88	33.21	9.27	53.32	9.84	59.96	11.76
0.501 - 1.00	15.26	8.70	12.53	13.24	12.12	14.77	10.66	14.56
1.01 - 2.00	19.54	17.55	17.38	20.33	9.92	23.03	11.00	23.11
2.01 - 4.00	15.00	26.32	15.50	29.55	8.05	20.91	8.94	19.49
Above 4.01	15.22	42.55	13.06	27.60	9.91	30.89	3.84	31.09
All sizes	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Sources: (i) Report on Some Aspects of Ownership Holdings (1): 37<sup>th</sup> Round, 1982, NSS report No.330

(ii) Report on Some Aspects of Household Ownership Holdings, 48<sup>th</sup> Round 1992, NSS Report No. 399

(iii) Report on Household Ownership Holdings in India: 59<sup>th</sup> Round, 2003, NSS Report No. 491

(iv) Report on Household Ownership and Operational Holdings in India: 70<sup>th</sup> Round, 2013, NSS Report No. 571.

TABLE 8. CHANGES IN THE CONCENTRATION OF LEASED-IN LAND AND LEASED-OUT LAND AT DIFFERENT LEVELS OF LAND OWNERSHIP HIERARCHY, 1981-82 TO 2012-13

Share of leased-in and leased-out land at (1)	1981-82		1991-92		2002-03		2012-13		1981-82		2002-03		2012-13	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Bottom 40 per cent	28.42	16.35	10.80	14.27	2.43	7.21	7.69	8.87	2.43	7.21	7.69	8.87	2.43	7.21
Bottom 50 per cent	37.89	26.73	24.81	25.54	5.54	10.82	12.76	13.96	5.54	10.82	12.76	13.96	5.54	10.82
Middle 40-80 per cent	42.50	34.71	44.69	42.90	27.83	34.47	35.10	32.11	27.83	34.47	35.10	32.11	27.83	34.47
Middle 50-80 per cent	33.03	24.33	30.68	31.63	24.72	30.86	30.03	27.02	24.72	30.86	30.03	27.02	24.72	30.86
Top 20 per cent	29.08	48.94	44.51	42.83	69.74	58.32	57.21	59.02	69.74	58.32	57.21	59.02	69.74	58.32
Top 10 per cent	16.84	31.68	30.60	29.24	50.82	34.68	38.43	43.26	50.82	34.68	38.43	43.26	50.82	34.68
Top 5 per cent	9.59	23.26	20.59	19.07	35.34	21.92	26.80	31.09	35.34	21.92	26.80	31.09	35.34	21.92
Top 1 per cent	2.16	6.20	7.68	5.12	13.51	5.21	7.82	10.91	13.51	5.21	7.82	10.91	13.51	5.21

Sources: (i) Report on Some Aspects of Ownership Holdings (1): 37<sup>th</sup> Round, 1982, NSS report No.330

(ii) Report on Some Aspects of Household Ownership Holdings, 48<sup>th</sup> Round 1992, NSS Report No. 399

(iii) Report on Household Ownership Holdings in India: 59<sup>th</sup> Round, 2003, NSS Report No. 491

(iv) Report on Household Ownership and Operational Holdings in India: 70<sup>th</sup> Round, 2013, NSS Report No. 571

levels. In broad terms over the years, the share of leased out land by the bottom 50 per cent households remained at around 12-13 per cent. In a similar vein, around three-fourths of the total leased out land was accounted for by households at the top 20 per cent. More importantly, however, a significant per cent of the total leased in and leased out land was concentrated among the middle 30 per cent households. On the whole, it appears that the practice of leasing in and leasing out land in rural India at the all-India level pervades all through farm size continuum.

## VI

## DETERMINANTS OF TENANCY AND SHARE TENANCY

A variety of factors influence the household's decision to participate in the lease market. While those who own indivisible and non-tradable resources like machinery and bullocks lease in land to utilise these inputs more optimally, the landless, sub-marginal and marginal households lease in land to earn livelihood in the absence of alternative employment opportunities. In broad terms, both supply side and demand side factors influence the amount of land leased in and leased out. In a similar vein, as argued in the literature, households chose different forms of tenancy contracts according to their risk bearing abilities; those who are risk takers chose fixed rent tenancy while risk averters opt for share tenancy (Hallangan, 1978; Ray, 1998). Studies in the past have considered factors such as indivisible and non-tradable inputs, nature of crops grown, area under irrigation, and so on while explaining the factors determining the extent and form of tenancy (Bliss and Stern, 2018; Bardhan, 1976a, b; Laxminarayan and Tyagi, 1977). For the present study, the choice of considering different factors affecting magnitude and form of tenancy was limited to the variables on which data was available in the NSS rounds. Accordingly, the factors included in the regression model are household size, marginal holdings, ownership of livestock, type of crops grown, social category of lessees and households self-employed in agriculture, self-employed in non-agriculture, agricultural labour and others. Further, since the importance of different factors affecting the amount of leased in land changes from time to time, separate regression models have been estimated for 1991-92, 2002-03 and 2012-13. The results of the regression models are given in Table 9. The table shows that household size and number of marginal holdings have a positive and statistically significant effect on the amount of leased in land in all three points in time except in 2002-03 when the coefficient associated with number of marginal holdings was statistically insignificant. The effect of ownership of livestock was negative in 1992 which turned positive in 2002-03 and 2012-13 though the regression coefficients remained statistically insignificant in all the three years. As expected, the area under non-foodgrain crops had a positive and statistically significant effect on the amount of leased in land except for 1992 when the coefficient was statistically insignificant. Likewise, households employed in agriculture tended to lease in more land as is evident from the positive and statistically significant regression coefficient in all the three years. The effect of a household belonging to OBC and other categories



had negative though statistically insignificant effect on the amount of leased in land which turned positive and statistically significant in the year 2012-13. Table 10 presents the results of the regression model estimated to quantify the factors affecting the proportion of area leased in under share tenancy. The table shows that the effect of household size on the proportion of the area leased in under share tenancy was negative but statistically insignificant in 1992 which turned positive and statistically significant in 2002-03. The effect of the household size continued to be positive in 2012-13 but coefficient became statistically insignificant. As expected, the effect of marginal holdings was positive and statistically significant in all the three years implying that the marginal holdings oblige households to lease in land on share

TABLE 9. FACTORS AFFECTING MAGNITUDE OF TENANCY: RESULTS OF REGRESSION ANALYSIS:  
1991-92 TO 2012-13

Explanatory variables (1)	1991-92 (2)	2002-03 (3)	2012-13 (4)
Constant	0.354*** (2.91)	0.027 (0.19)	-0.273*** (-6.27)
Household size	0.025*** (3.58)	0.048** (2.31)	0.034*** (4.70)
Marginal holding	0.067** (2.22)	0.062 (0.90)	0.221*** (6.37)
Livestock: Yes=1, else=0	-0.100 (-0.96)	0.048 (0.68)	0.032 (1.12)
Type of crop: Non-foodgrains=1, else=0	0.002 (0.03)	0.942*** (3.01)	0.473*** (5.88)
Social category: Others/OBC=1, else=0	-0.038 (-0.92)	-0.127 (-0.97)	0.239*** (7.20)
Household classification: Self-employed in agriculture=1, else=0	0.322*** (9.59)	0.272*** (5.17)	0.373*** (10.98)
R-squared	0.0226	0.0673	0.2328
No. of observations	4250	2781	4923

Notes: (i) Figures in parentheses are 't' values

(ii) \*, \*\* and \*\*\* denote level of significance at 1, 5 and 10 per cent respectively.

TABLE 10. DETERMINANTS OF SHARE TENANCY: RESULTS OF REGRESSION ANALYSIS:  
1991-92 TO 2012-13

Explanatory variables (1)	1991-92 (2)	2002-03 (3)	2012-13 (4)
Constant	0.311*** (5.24)	0.289*** (4.01)	0.170** (2.28)
Household size	-0.007 (-1.10)	0.034* (1.84)	0.013 (1.39)
Marginal holding	0.241*** (5.89)	0.189*** (4.61)	0.143*** (2.65)
Type of crop: Commercial crops=1, else=0	0.001 (0.12)	-0.061 (-0.33)	-0.235** (-2.47)
Social category: ST/SC=1, else=0	0.003 (0.05)	-0.156*** (-2.73)	-0.232*** (-3.71)
Household classification: Self-employed in agriculture=1, else=0	0.212*** (3.87)	0.073 (0.71)	0.315*** (5.37)
R-squared	0.0208	0.017	0.1146
No. of observations	1074	1153	971

Note: (i) Figures in parentheses are 't' values.

(ii) \*, \*\* and \*\*\* denote level of significance at 1 per cent, 5 per cent and 10 per cent, respectively.

tenancy. Again, as expected, the farmers growing commercial crops tend not to lease in on share tenancy as this entails sharing of the profits earned from commercial agriculture with the landlord; it was evident from the negative signs of the coefficients though these were statistically insignificant for all the three years. However, the results show that belonging to SC/ST category imply not leasing in land on share tenancy which is contrary to the expectations. For example, the regression coefficients not only had negative signs for all the three years, these were statistically significant for the years 2002-03 and 2012-13. Likewise, the fact that households self-employed in agriculture lease in land on share tenancy was evident from positive coefficients associated with this variable which were statistically significant for 1992 and 2012-13.

## VI

## CONCLUSIONS, CONCERNS AND POLICY OPTIONS

In sum, the analysis of changes in different aspects of agrarian structure in Rural India at the all India level shows that over the period despite enactment and implementation of numerous land reforms measures, the share of the households at the bottom of the land ownership hierarchy has remained more or less unchanged. There has been a huge proliferation of sub-marginal and marginal holdings in comparison to increase in the proportion of area owned by them. Taking a long period view, the inequality of land, measured by Gini ratio, has decreased. Along the land ownership hierarchy, the land concentration has become more pronounced at the middle 40 per cent and in terms of different farm size categories among holdings owning between 4 to 10 hectares. The incidence of landlessness has also declined. The concentration of operated land has become more pronounced at the middle forty per cent level and the share of the bottom 50 per cent of holdings remained almost constant. Taking a long period view, the incidence of tenancy in different manifestations like proportion of operated area leased in and the proportion of entirely leased in and mixed holdings has decreased over the period. Importantly, the duration of tenancy contracts has increased over the period; a very large proportion of the leased in land was accounted for by tenancy contracts of two agricultural years or even more. The nature/ forms of tenancy contracts have also changed. Though share tenancy still continues to account for a significant proportion of leased in land, over the period, fixed rent contracts, especially fixed money contracts, have gained prominence. Further, the evidence from NSS data shows that despite the fact that the proportion of the total leased out land accounted for by marginal and small farmers have increased over the period, the tenancy relations continued to be traditional where in marginal and small farmers account for most of the leased in land and medium and large account for most of the leased out land. Further, factors like household size, number of marginal holdings and proportion of area under non-foodgrain crops have had positive and significant effect on the proportion of area leased in and also on the proportion of area leased in under share tenancy.

The findings of the study throw up some serious concerns like huge proliferation of sub-marginal and marginal holdings owning/operating less than half a hectare of land. As mentioned above in 2012-13, these households account for two-thirds of total households while their share in the owned land is around 13 per cent. In terms of operational holdings in 2012-13, the proportion of sub-marginal holdings operating up to half a hectare of land was 52.12 per cent and accounted for around 11 per cent of the total operated land. These are tiny pieces of land/holdings grossly inadequate to provide a reasonable level of living to these households. This also implies that most of the land owned/operated by these households/holdings is not being utilised optimally. Further, since these are tiny holdings with no or very little amount of marketable surplus, the minimum support price announced for different crops is not of much use to them. Another important concern which warrants attention is the decrease in the amount of operated land over a period of time; the per cent rate of decrease has accelerated since 1991-92 which was -12.28 per cent between 2002-03 and 2012-13. Low incidence of reported tenancy is yet another concern. It is well known that because of restrictions on leasing in and leasing out land in many states, the tenancy estimates reported by NSS data are gross underestimates. The micro studies have reported that incidence of tenancy is very high and that the tenancy contracts are largely informal and not recorded. And because of restrictions on leasing in and leasing out land the tenants do not benefit from government schemes like for example more recently announced PM KissanSamman Nidhi Yojana. More importantly, however, there are some changes in the tenancy relations which augur well for Indian agriculture like decrease in the incidence of share tenancy, increase in the duration of tenancy contracts and emerging pattern of leasing in and leasing out land across farm size continuum indicating active functioning of lease market notwithstanding restrictions as mentioned above. In view of these emerging concerns/patterns, policy measures like formulation of land use policy in consultation with stakeholders to check diversion of agricultural land to non-agricultural uses and legalizing leasing in and leasing out land to activate the lease market for promoting efficient use of scarce land resources are needed. It may, however, be mentioned that most of these agrarian problems, in particular extreme proliferation of tiny holdings, have arisen because of the stunted structural changes in the Indian economy, in particular because of the failure of non-farm sector including manufacturing and service sectors to absorb the ever growing workforce. Therefore, long term solution to lessen the extreme dependence of population on /agriculture/land lies in creating alternative job opportunities in the non-agricultural sectors.

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