Indian Journal of Agricultural Economics 81: 1(2026):001-053
DOI:10.63040/25827510.2026.01.001

PRESIDENTIAL ADDRESS

Changing Land Relations in Rural India

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It is a matter of great privilege and honour to deliver a presidential address at the 85th annual conference of the Indian Society of Agricultural Economics. I am grateful to the esteemed members of the Society, the members of the executive committee, and the President of the Society, Professor D.K. Marothia, for giving me this honour. My association with the Society dates back to 1982, when I became a life member. The Society, over a period, has provided a platform for numerous researchers like me to publish their research works and hone their research skills from the critical comments and observations of the learned referees of the esteemed Journal. On this occasion, I pay my deep respects and heartfelt gratitude to all past presidents of the society who have served it with great dedication and commitment and nurtured it to its present status and glory. On a personal note, I am deeply indebted to Professor S.S. Johl, who has been my mentor, guide, philosopher and a constant source of inspiration and wisdom for more than thirty years and my esteemed teachers, late Professor G.K. Chadha and Professor G.S. Bhalla and my mentor, guide and well-wisher, late Professor B.D. Dhawan for encouraging and supporting me in the pursuits of my research activities. I am also grateful to my former Vice Chancellors, Professors Kuldeep Chand Agnihotri, Furqan Qamar, S K Sharma, Tej Pratap, P K Khosla and Late Professors H.R. Kalia and R.P.S. Tyagi, with whom I have worked at different times during my forty-four years of service, for their support and encouragement. I also remain indebted to my students and research partners, Shakir Hussian Malik, Rajeev Sharma, Archi Bhatia, and Ayushee Gautam, for their unwavering support and confidence in me. Useful comments from D.K. Marothia, H.S. Shergill, M.S. Rathore, Y.S. Negi, D.M. Diwakar and Furqan Qamar on the earlier draft of the address are gratefully acknowledged.

I

GENESIS OF THE INQUIRY

In agrarian economies, access to land determines to a varying degree the entitlement, political power, privileges and social status of a household. Its ownership determines to a considerable degree, widening in some cases and restricting in others, the range of choices available to different members of agrarian societies (Raj, 1971, p. 7). Also, to own land in such societies is the highest mark of esteem; to perform manual labour, the lowest (Myrdal, 1968, p.1057). According to Platteau (1995, p.

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23), "the Ownership of land enhances the political power and prestige of the owners and may bring control of local institutions. Moreover, land is a source of identity and self-esteem to the holder, such that he may be extremely keen to retain or buy ancestral land". The ownership of land provides value as collateral, serving as an inflation hedge, a tax shelter and collateral to obtain access to subsidized credit (Binswanger et al, 1995; Binswanger and Deininger, 1997). Likewise, Pritchard et al. (2017, P. 54) conclude "land is an asset that could be leased, a source of identity and comfort, a marker of social status that shaped relationships with other households, a de facto form of insurance against idiosyncratic shocks such as ill health, and a base for elderly parents when their children have migrated to cities or other places". There is also evidence to show that even small endowments of land can make a significant contribution to the welfare of its owner and reduce the variability of consumption (Deininger and Jin, 2005). Land ownership is also considered essential for making permanent improvements on land and an important prerequisite for adopting technological innovations. A tenant cultivator may not generally undertake big capital investment on land like an owner cultivator may do[1]. It has been shown that the lack of landownership may contribute to high fertility, low capital investment and thus low living standards, whereas its ownership stimulates capital investment and eases the poverty trap (Cellarier, 2021). It has also been argued that inequality in the landownership distribution negatively affects the emergence of human capital promoting institutions and thus the transition from an agricultural to an industrial economy, contributing to the great divergence in income per capita across countries (Galor et al., 2009).

TABLE 1. IMPORTANCE OF LAND IN THE INDIAN ECONOMY, 1960-61 TO 2020-21

Year	Per cent share of agriculture in NSDP	Per cent share of rural workforce employed in agriculture	Per cent share of land in total assets
1960-61	54.08	69.5	66.49
1970-71	45.99	69.7	66.70
1980-81	39.68	60.5	62.10
1990-91	32.27	59.0	68.30
2000-01	24.63	58.2	66.60
2010-11	17.01	54.6	72.60
2020-21	15.15	44.1	69.20

Source: (i) https://www.rbi.org.in/ (ii) Agricultural Statistics at a Glance, 2023, Ministry of Agriculture, Govt. of India. (ii) World Bank. (iii)Report on Assets and Liabilities of Rural and Urban Households; NSS 37th Round 1982, NSS Report No. 318. (iv) Report on Household Assets and Liabilities in India; NSS 48th Round 1992, Report No. 419.

On the eve of Independence, land tenure system in rural India crystallized into three main varieties, viz. the zamindari, the ryotwari, and the mahalwari each respectively accounting for 57 per cent, 38 per cent and 5 per cent of the total privately owned land. Notwithstanding differences in nomenclature, agrarian

relations under all three varieties were a variant of semi-feudal production relations characterized by an extremely skewed distribution of land, rack renting, subinfeudation, usury, forced labour, and so on (Baden-Powell, 1892; Malvia, 1954; National Commission on Agriculture (NCA) 1976; Nanavati and Anjaria, 1970; Sen, 1962; Sharma, 1992a, 1995b). These archaic semi-feudal production relations created a 'built-in depression' (Thorner and Thorner, 1962, p. 56-57) that resulted in an impoverishment of the peasantry on the one hand and stagnation in the agricultural production, on the other. It has been reported that while total crop output between 1891 and 1947 grew at the rate of just 0.37 per cent, the output of foodgrains grew at 0.11 per cent, which was much lower than the rate of growth of population at 0.67 per cent (Blyn, 1966). The then prevailing state of agrarian affairs, therefore, entailed a complete restructuring of agrarian relations both in the interest of liberating rural peasantry from the stranglehold of semi-feudal production relations and spurring agricultural development.

Accordingly, immediately after independence, policymakers initiated comprehensive agrarian reforms to accomplish the desired objectives. Indeed, these measures, *a la* Thorner, constituted the largest body of agrarian legislations to have been enacted in so brief a span of time in any country whose history has been recorded (Thorner, 1976, p. 18). The abolition of zamindary system was one of the most important measures. The states of Uttar Pradesh, Madhya Pradesh, Bihar, Assam and Bombay enacted Zamindari Abolition Legislations based on the recommendations of the United Province Zamindari Abolition Committee, 1948 chaired by G.B. Pant. UP Zamindari Abolition and Land Reforms Act 1950 was the first of such Acts. It is claimed that consequent to this measure 20 million cultivators came into direct contact with the government (NCA, 1976, p. 50). Despite criticism of the legislation and its implementation, it has been indisputably hailed as a through agrarian revolution liberating cultivators from a long period of subjugation (Myrdal, 1968, p. 1306). Other notable measures were tenancy legislations of the fifties and the sixties enacted, among other things, to regulate rent, provide security of tenure and confer ownership to tenants followed by land ceiling legislations of Phase I (before 1972) and Phase II (after 1972)[2]. The effectiveness of these legislations in achieving their objectives has been comprehensively examined both by individual scholars and official agencies such as the erstwhile planning commission (Joshi, 1975; Appu, 1975; King, 1977; Bandopadhyay, 1986; Sharma, 1992b, 1997).

In addition to institutional reforms, Indian agriculture also experienced far reaching technological changes since the mid-sixties having profound implications for the whole gamut of agrarian relations in general and tenancy and terms of tenancy, in particular. A number of empirical studies from different parts of the country in the seventies and the eighties have examined changes in diverse aspects of agrarian relations consequent to the enactment and implementation of land ceiling and tenancy legislations in the sixties and the seventies and the spread of new

agricultural technology to different parts of the country since the mid-sixties (Vyas, 1970; Laxminarayan & Tyagi, 1977a, 1977b; Bhalla, 1977, 1983; Ray, 1978; Griffin, 1979; Rao, 1974; Nadkarni, 1976; Singh and Kahlon, 1976; Bardhan, 1976a, 1976b, 1979;Bardhan and Srinivasan, 1971; Bharadwaj and Das, 1975; Jodha, 1981a, 1981b,1984; Singh, 1989; Murty 1987a, 1987b; Swamy, 1988; Srivastava, 1989; Sawant, 1990; Nair & Dhas, 1990; Parthasarathy, 1991a, 1991b; Chadha & Bhaumik, 1992). Additionally, 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.

Yet another noticeable development over the period has been an ever-increasing demand for acquisition of land for creating infrastructural facilities and also for a variety of other non-agricultural uses including demand from the corporate sector. Further, there have also been some significant changes in agricultural sector since the dawn of new millennium such as increasing diversification and commercialization of agriculture, increasing uncertainty due to erratic weather conditions and growing agrarian distress manifested in rising cost of production, falling output prices, falling incomes, increasing indebtedness and increasing farmers suicides besides an increase in the non-farm employment opportunities. All these developments have profound implications towards different aspects of agrarian relations. For example, with agriculture becoming more remunerative, an increasing tendency for self-cultivation, subdivision and marginalization of holdings, changes in the extent, types and duration of tenancy, participation of large farmers in the lease market as lessees and growing concentration of operated land have been reported from different states and regions of the country by a plethora of studies (Murty, 2004; Sharma, 2007, 2008, 2009, 2010, 2011, 2012; Bhue and Vijay, 2016; Murali and Vijay, 2017; Vijay and Sreenivasulu, 2013; Sharma and Malik, 2019, 2021a, 2021b, 2022b). It has also been reported that households are leaving agricultural land fallow rather than leasing out due to restrictive tenancy legislations (Ranganathan and Pandey, 2017; Stickler and Chaudhury, 2020, 2021)[3].

A thorough review of studies on land distribution structure and tenancy relations cited above since the beginning of the 1970s shows that most of these are disjointed bits and are confined to examining changes either in the distribution of landholdings or different aspects of tenancy relations for a particular time period, such as the seventies, the eighties and the nineties, and so on. In fact, we have not come across any study that has examined changes in different aspects of agrarian relations over a long period, from the early 1950s, when a massive agrarian reshuffle began in rural India, down to the beginning of the 2020s. The contribution of the present study, therefore, lies in analyzing and building a scientific data-based logical story of changes in the whole gamut of agrarian relations consequent to the combined

effect of the institutional, technological and demographic changes in rural India as outlined above during the last more than six and half decades. More precisely, the present study, using data emanating from different NSS rounds, seeks to examine, understand and explain changes in various aspects of agrarian relations in terms of distribution of household ownership holdings, operational holdings, extent of inequality and concentration of owned and operated land at different levels of hierarchy, distribution of household ownership holdings and operational holdings among different farm size categories, distribution of ownership holdings among different social groups like scheduled tribe, scheduled caste, other backward castes and others in terms of the extent of inequality and concentration of land at different levels, tenancy relations in diverse manifestations such as magnitude of tenancy, terms of tenancy, reverse tenancy, duration of tenancy, allocative/productive efficiency of different land tenure systems and factors affecting magnitude of tenancy and probability of a household opting for share tenancy since as early as from 1953-54 (the 8th NSS Round) to as recent as 2018-19 (the 77th NSS Round).

II

DATA BASE: CONCEPTS, DEFINITIONS AND TEMPORAL COMPARABILITY

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) are collected following a scientific methodology and allow us to build a temporal profile of different aspects of agrarian relations, such as land distribution structure of both ownership and operational holdings, tenancy and types of tenancy since the beginning of the fifties till as recent as 2018-19. The data emanating from these two sources have been critically examined by different scholars from time to time in terms of its temporal comparability and other methodological limitations (Sanyal, 1976; Sanyal and Sinha, 1977; Sinha, 1982; Sawant, 1991; Chadha and Sharma, 1992; Kumar, 2016; Rawal and Vaishali, 2021). These studies have shown that the data available from agricultural censuses suffer from some serious methodological flaws, are re-tabulation of outdated revenue records and the methodology adopted to arrive at number of operational holdings leave much to be desired. The agricultural census reports also do not provide data on ownership holdings and some important aspects of tenancy relations[4]. In comparison, NSS data are available on three main aspects of agrarian relations, namely, ownership holdings, operational holdings and tenancy relations. In brief, though the data from agricultural census may help us understanding trend in the number and proportion of operational holdings over a period of time, it is grossly inadequate to analyze changes in the whole gamut of agrarian relations including diverse aspects of tenancy relations. It is against this background that we use NSS data from different rounds to understand changes in land distribution structure and tenancy relations during more than last six and half decades.

To begin with, a review of some concepts and definitions used in different NSS rounds is in order[5]. The ownership holding in the 8th 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 holding was broadened in the 16th and 17th rounds to include (i) land held from the government under a grant of lease or assignment with the right of permanent heritable and transferable possession, and (ii) such land without transferable possession. (ii) Land held from a person other than the government with permanent heritable possession, and such land without the right to transfer the land. There was no change in the concept of ownership holdings in the 26th round. However, the 37th round further liberalized the concept of ownership holding to include land possessed by a person who had paid full compensation, land held by tribals with traditional tribal rights from the local chief or village or district council and land held by a tenant though ownership vested in the community. This liberalization of definition inflated the number of ownership holdings. In the 48th round, while there was no change in the concept of ownership holding, two basic concepts were involved in determining the ownership of a plot, namely, (a) land owned by the household i.e. the land on which he had the right of permanent heritable possession with or without the right to transfer the title; (b) land held under special conditions such that the holder did not possess the title of ownership (for example the land possessed under perpetual lease, hereditary tenure and long term lease for 30 years or more) was considered as being held like ownership possession. In states where land reform legislation has provided for full proprietorship to erstwhile tenants, they were considered having owner like possessions, even if they have not paid full compensation. There was no change in the concept of ownership holding in three subsequent rounds, i.e. the 59th, the 70th, and the 77th NSS rounds. Further, while data for scheduled tribe, scheduled caste and others were collected in the 37th round for the first time, separate data on all four social groups, namely, scheduled tribe, scheduled caste, other backward castes and others, became available only from the 59th round.

Likewise, the concept of operational holdings in the 8th 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 8th round, whose definition was comparable to the definition of operational holdings in the subsequent rounds. The definition was, however, drastically changed in the 16th and the 17th 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 definition of operational holdings in the 26th round, except that the location of a parcel within a state was changed to within a country and

forms 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 such as land, agricultural equipment and machinery, draught animals, etc. The 37th round included the holdings put exclusively to livestock raising and pisciculture under the scope of operational holdings, which were excluded in the earlier rounds. The concept of operational holding in the 48th round also defined operational holding as a techno-economic unit used wholly or partly for agricultural production and operated by one person alone. Similarly, in the 59th round holding 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 70th round, the definition of operational holding remained same as was in the 59th 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 70th round affecting the comparability of data with the previous rounds to some extent. There was no change in the concept of operational holding in the most recent 77th round.

The data on tenancy is broadly comparable over different rounds. However, we have made some adjustments to make it temporally comparable. The adjustments made are (i) the holdings reported under the head others in the 37th round have been included in those reported as neither owned nor reported. (ii) Similarly, in the 48th 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 terms of tenancy on which data are available in different rounds have been clubbed under four major heads such as fixed money, fixed produce, share of produce and other terms to ensure temporal comparability and facilitate discussion. Again, for the brevity of analysis and discussion, different size categories of household ownership and operational holdings on which data are available have been condensed into five broad groups, namely, landless households owning less than 0.002-hectare, marginal owning and operating up to 1.00-hectare, small holdings owning and operating between 1-2 hectares, medium holdings owning and operating between 2 to 4 hectares and large holdings owning and operating more than 4 hectares.

Besides using data available in various published reports on landholdings for different NSS rounds, we have also used unit level data for four decennial rounds, i.e., 48th (1991-92), 59th (2002-03), 70th (2012-13) on Land and Livestock Holdings and 77th (2018-19) rounds for (i) building estimates on some aspects of holdings and

tenancy on which estimates are not available in the NSS reports and (ii) estimating regression models to quantify the effect of different factors on the magnitude and type of tenancy. Unit-level data refer 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 with respect to each sample household. The unit-level data have been accessed from MOSPI, New Delhi, which was available on CDs in .txt format. The datasets were generated by extracting data in Stata, individually for all four 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 have not been used. The data for all India has been generated by merging unit-level data of all states and union territories.

Gini ratio has been calculated to measure the extent of inequality in the distribution of ownership and operational holdings. However, Gini coefficient, a summary measure, does not reveal at what levels in the land ownership/operational hierarchy, land concentration has tended to increase or diminish. Furthermore, since different size categories of holdings in one state cannot be compared with other state because of differences in soil structures and fertility, agroclimatic conditions and infrastructural facilities like irrigation, we have 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 fifty per cent to gauge the extent of land concentration using Lagrangian interpolation method (Carnham et al., 1969). The land concentration at different levels has been computed using the following form of Lagrange's interpolating polynomial:

$$P_n(x) = \sum_{i=0}^{n} L_i(x) f(x_i) \ldots\ldots\ldots\ldots\ldots\ldots\text{(i)}$$

$$\bar{y}(\bar{x}) = \sum_{i=min}^{min+d} L_i(\bar{x})\, y_i \ldots\ldots\ldots\ldots\ldots\ldots\text{(ii)}$$

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

i=min, min+1, ….. , min+d.

To explore the effect of different factors on the extent of tenancy measured by the proportion of operated area leased in, a double log regression model of the following form has been estimated using ordinary least square (OLS) method:

$$\ln(y) = \propto + \beta_1 \ln(x_1) + \beta_2 \ln(x_2) + \beta_3 \ln(x_3) + \beta_4 \ln(x_4) + \beta_5 \ln(x_5) + \beta_6 \ln(x_6) + \cdots + \varepsilon \quad (1)$$

where y is the proportion of operated area leased in $x_1, x_2, x_3, x_4, x_5, x_6, \ldots$ are independent variables like worker dependent ratio, age of the head of the household, gender of the head of the household, literacy of the head of the household, etc. and ε is the error term. We have checked the presence of multicollinearity by applying variance inflation factor (VIF) test.

A binomial logit model has been estimated to determine factors affecting a household's probability of opting for a share tenancy contract. The functional form of logistic regression is given below:

$$Logit(p) = a_0 + a_1x_1 + a_2x_2 + \ldots\ldots\ldots + b_kx_{i;}$$

Where x_{is} are independent variables and the dependent variable is binary taking the value 1 or 0.

III

DISTRIBUTION OF OWNERSHIP HOLDINGS

The temporal changes in salient aspects of household ownership holdings between 1953-54 and 2018-19 have been given in Table 2. The table shows that the number of households increased two and half times from 63.53 million in 1953-54 to 172.74 million in 2018-19. The amount of area owned declined continuously during the period from 123.70 million ha to 87.83 million ha registering a decrease of around 29 per cent. The number of landless households decreased from 14.67 million in 1953-54 to around 14.44 million in 2018-19; in per cent terms, the landless households decreased from 23 per cent of the total rural households in 1953-54 to 8.36 per cent in 2018-19.The continuous increase in the number of ownership holdings coupled with a decrease in the amount of area owned by them led to a decrease in average size of holdings from 1.95 ha in 1953-54 to 0.51 ha in 2018-19 including landless households and from 2.53 ha to 0.55 ha excluding such households. The extent of inequality in the distribution of ownership holdings, measured by Gini ratio, declined from 0.75 in 1953-54 to 0.71 in 2018-19. The concentration of owned land at the top one per cent, five per cent and ten per cent declined respectively from 18.41 per cent, 42.71 per cent and 58.80 per cent in 1953-54 to 14.77 per cent, 37.19 per cent and 53.99 in 2018-19. The concentration of land at middle forty per cent and thirty per cent during the period increased from 22.26 per cent and 20.54 per cent to 25.84 per cent and 22.97 per cent. The concentration of land at the bottom fifty per cent increased, albeit marginally, from 2 per cent in 1953-54 to 3.55 per cent in 2018-19.

TABLE 2. CHANGING STRUCTURE OF OWNERSHIP HOLDINGS IN RURAL INDIA; 1953-54 TO 2018-19

Particulars	1953-54	1960-61	1971-72	1981-82	1991-92	2002-03	2012-13	2018-19
Estimated number of households (m)	63.53	72.46	78.37	93.85	116.41	147.80	156.04	172.74
Estimated amount of area owned (m/ha)	123.70	128.64	119.70	119.65	117.33	105.61	92.37	87.83
Estimated number of landless households (m)	14.67	8.46	7.56	10.64	13.09	14.84	11.56	14.44
Percentage of landless households	23.09	11.68	9.64	11.34	11.24	10.03	7.41	8.2
Average size of area owned: Including landless (ha)	1.95	1.78	1.53	1.28	1.01	073	0.59	0.51
Excluding landless (ha)	2.53	2.01	1.69	1.44	1.14	0.81	0.64	0.55
Gini ratio	0.7511	0.7174	0.7062	0.7076	0.7132	0.7393	0.7159	0.7087
In the area owned, per cent share of								
Bottom 50 per cent	2.08	3.31	3.86	3.52	3.33	1.89	2.35	3.55
Middle 40-80 per cent	22.26	25.37	26.02	25.61	26.68	21.99	24.67	25.84
Middle 50-80 per cent	20.54	22.91	23.31	23.29	24.22	21.64	22.96	22.97
Top 20 per cent	77.38	73.78	72.83	73.19	72.45	72.62	74.61	73.48
Top 10 per cent	58.80	54.60	53.75	53.78	54.08	57.95	54.61	53.99
Top 5 per cent	42.71	38.56	37.66	37.55	38.22	41.76	46.09	37.19
Top 1 per cent	18.41	16.51	15.20	14.35	14.96	16.97	15.73	14.77
Number of different categories of households (million)								
Marginal (Up to 1.00 ha)	24.24	35.06	41.51	51.91	70.57	102.89	117.67	132.0
	(49.61)	(54.78)	(58.62)	(62.38)	(68.30)	(77.38)	(81.44)	(83.38)
Small (1.01-2.00 ha)	8.56	10.98	12.14	13.79	15.62	16.00	15.60	16.07
	(17.52)	(17.16)	(17.14)	(16.58)	(15.12)	(12.03)	(10.80)	(10.15)
Medium (2.01-4.00 ha)	7.94	9.32	9.36	10.12	10.81	8.87	7.82	7.64
	(16.25)	(14.56)	(13.22)	(12.16)	(10.46)	(6.67)	(5.41)	(4.82)
Large (above 4.01 ha)	8.12	8.64	7.80	7.39	6.32	5.20	3.39	2.59
	(16.62)	(13.50)	(11.02)	(8.88)	(6.12)	(3.92)	(2.35)	(1.65)
Amount of area owned by different categories of households (million ha)								
Marginal (Up to 1.00 ha)	4.55	9.76	11.67	14.64	19.86	22.20	27.49	30.29
	(3.68)	(7.59)	(9.76)	(12.24)	(16.93)	(21.01)	(29.76)	(34.49)
Small (1.01-2.00 ha)	8.81	15.95	17.56	19.73	21.82	22.08	21.74	21.87)
	(7.12)	(12.40)	(14.68)	(16.49)	(18.59)	(20.91)	(23.54)	(24.91)
Medium (2.01-4.00 ha)	21.75	26.43	26.30	27.97	28.83	23.49	20.38	19.33
	(17.59)	(20.54)	(21.96)	(23.38)	(24.58)	(22.24)	(22.06)	(22.00)
Large (above 4.01 ha)	88.59	76.50	64.17	57.31	46.82	37.84	22.76	16.34
	(71.61)	(59.47)	(53.60)	(47.89)	(39.90)	(35.83)	(24.64)	(18.60)

Note: Figures in parentheses are percentages

Source: (i) Report on Landholdings (3): 8th Round, 1953-54, NSS Report No.36; (ii) Report on Landholdings (4); 8th Round, 1953-54, NSS Report No. 66 (iii) Report on Some Aspects of Landholdings in Rural Areas; 17th Round 1961-62, NSS Report No.144; (iv) Report on Some Aspects of Landholdings; 26th Round 1971-72, NSS Report No 215 (v) Report on Some Aspects of Ownership Holdings (1); 37th Round, 1982, NSS report No.330; (vi) Report on Some Aspects of Household Ownership Holdings (1); 48th Round 1992, NSS Report No. 399 (vii) Report on Household Ownership Holdings in India: 59th Round, 2003, NSS Report No. 491; (viii) Report on Household Ownership and Operational Holdings in India: 70th Round, 2013, NSS Report No. 571; (ix) Report on Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India: 77th Round, 2018-19, NSS Report No. 587.

In so far as changes in the number of different size categories of holdings are concerned, the number of marginal holdings including submarginal holdings (up to 1 ha) increased more than five times from 24.24 million in 1953-54 to 132.00 million in 2018-19 while the share of these holdings in total holdings increased from around 50 per cent to around 83 per cent. In comparison, area owned by them increased from 4.55 million ha in 1953-54 to 30.29 million ha in 2018-19; however, the share of these holdings in the total owned land also increased significantly from as low as around 4 per cent to around 35 per cent. Comparing increase in the area owned by marginal holdings with increase in their numbers over the period, they have emerged as the net gainers in terms of increase in the area owned by them leading to a modest increase in the average size from 0.18 ha in 1953-54 to 0.22 ha in 2018-19. The number of small holdings nearly doubled from 8.56 million in 1953-54 to 16.07 million in 2018-19 while the area owned by them went up from 8.81 million ha to 21.87 million ha. Further, while the share of these holdings in the total holdings decreased from around 18 per cent in 1953-54 to around 10 per cent in 2018-19, their share in the total area increased significantly from around 7 per cent to 25 per cent. In comparative terms, increase in the area owned by these holdings during the period was higher than increase in their numbers resulting in an increase in their average size from 1.03 ha to 1.36 ha. There was not much change in the number of medium holdings between 1953-54 and 2018-19 which remained at around 8 million though the area owned by them declined from around 22 million ha to around 19 million ha. The share of these holdings in total holdings decreased hugely from around 16 per cent in 1953-54 to around 5 per cent in 2018-19 though their share in the area owned increased from around 18 per cent to 22 per cent. Consequent to small decrease in the number of medium holdings and a larger decrease in the area owned by them, the average size of such holdings plummeted from 2.74 ha in 1953-54 to 2.53 ha in 2018-19.

3.1 Distribution of Ownership Holdings Among Different Social Groups

To check alienation of land belonging to scheduled tribe, the official policy has been to impose ban on the transfer of tribal land to non-tribals. Following the recommendations of several committees and commissions, namely, the Dhebar Commission 1961, the Shilu AO Committee 1969 and the concern voiced in five-year plan documents, the states with substantial scheduled tribe population, namely, Andhra Pradesh, Madhya Pradesh, Odisha, West Bengal, Rajasthan, Gujarat and Himachal Pradesh have enacted and implemented laws prohibiting alienation of tribal land and also the restoration of alienated land. However, no such provision to prevent alienation of scheduled caste land exists in any state. The data presented in Table 3 show that there has been an increase of varying degree in the number of households of different social groups between 2002-03 and 2018-19. For example, the number of STs, SCs and OBCs increased respectively from 15.59 million, 31.90 million and

61.51 million in 2002-03 to 21.14 million, 37.25 million and 76.45 million in 2018-19 while in case of Others it decreased from 38.81 million to 37.19 million.

TABLE 3. NUMBER OF HOUSEHOLDS AND AMOUNT OF AREA OWNED BY DIFFERENT SOCIAL GROUPS IN RURAL INDIA; 2002-03 TO 2018-19

Social group/year	Households			Area		
	2002-03	2012-13	2018-19	2002-03	2012-13	2018-19
Scheduled Tribe	15.59	18.55	21.14	11.95	12.07	12.15
	(10.55)	(11.88)	(12.29)	(11.15)	(13.07)	(13.94)
Scheduled Caste	31.90	31.49	37.25	9.69	8.52	8.69
	(21.58)	(20.17)	(21.65)	(9.03)	(9.22)	(9.97)
Other Backward	61.51	69.81	76.45	46.65	42.19	41.16
Caste	(41.61)	(44.73)	(44.44)	(43.51)	(45.68)	(47.22)
Others	38.81	36.25	37.19	38.93	29.59	25.17
	(26.26)	(23.22)	(21.62)	(36.31)	(32.03)	(28.87
All	147.81	156.10	172.03	107.22	92.37	87.17
	(100)	(100)	(100)	(100)	(100)	(100)

Note: Figures in parentheses are percentages

Source: i. Report on Household Ownership Holdings in India: 59th Round, 2003, NSS Report No. 491 ii Report on Household Ownership and Operational Holdings in India: 70th Round, 2013, NSS Report No. 571 iii Report on Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India: 77th Round, 2018-19, NSS Report No. 587.

Similarly, while the amount of area owned by STs and SCs during the period remained at around 12 million ha, it decreased from 9.69 million ha to 8.69 million ha in case of SCs, from 46.65 million ha to 41.16 million ha in case of OBCs and from 38.93 million ha to 25.17 million ha in case of others. In terms of per cent shares households, the share of STs remained at 11-12 per cent, SCs at 21-22 per cent, while in case of OBCs it increased from around 42 per cent to around 44 per cent and decreased in of case Others from around 26 per cent to around 22 per cent. Likewise, the share of area owned during the period increased from around 11 per cent to 14 per cent for STs, from around 9 per cent to 9.97 per cent in respect of SCs, from around 44 per cent to 47 per cent in case of OBCs and decreased significantly from around 36 per cent to 29 per cent in respect of Others. The incidence of landless households also from declined between 2002-03 and 2018-19 from 12.79 per cent to 9 per cent among STs, from 11.30 per cent to 9 per cent among SCs, from 9.52 per cent to 8.50 per cent among OBCs and from 8.70 per cent to 6.40 per cent among Others. The extent of inequality, measured by Gini ratio (Table 4), was very high among SCs followed by OBCs, Others and STs albeit among different social groups the level of inequality among different social groups remained nearly unchanged between 2002-03 and 2018-19. In terms of concentration of land at different levels, (Table 5) it was very high at the one per cent, five per cent and ten per cent among SCs followed by those of OBCs, Others and STs. The concentration at the middle was also, more pronounced among SCs as compared to households of other social

groups whereas among households at the bottom fifty per cent it was negligible among SCs as compared to households of others groups. For example, in 2018-19, SCs at the bottom fifty per cent accounted for around 2 per cent of the total land, STs around 9 per cent, OBCs at around 4 per cent and Others at around 7 per cent.

TABLE 4. INEQUALITY (GINI RATIO) IN THE DISTRIBUTION OF OWNERSHIP HOLDING AMONG DIFFERENT SOCIAL GROUPS IN RURAL INDIA, 2002-03 TO 2018-19

Social Group	2002-03	2012-13	2018-19
ST	0.60	0.62	0.62
SC	0.74	0.75	0.75
OBC	0.69	0.71	0.71
Others	0.68	0.70	0.68

Source: Author's estimates using unit level data from 77th Round, (2018-19), NSS Report No. 587

The distribution of households and area owned among different size categories of different social groups between 2002-03 and 2018-19 has been given in Table 6. The table shows that the proportion of landless households among all four social groups decreased by varying degree between 2002-03 and 2018-19 and was about 9 per cent among SCs, STs and OBCs and around 6 per cent among Others. The share of marginal households and area owned by them in all four groups increased significantly during the period. However, while the share of small households registered marginal decrease, the area owned by them increased by varying degree except for those belonging to SC where it declined. The proportion of medium households of all groups also decreased by varying degree while the proportion of area owned by them witnessed a significant decrease in respect of STs and SCs, practically no change in case of OBCs and significant increase for those belonging to Others. The large households across all four groups experienced decrease of varying degree both in their numerical proportions and the area owned accounted for by them. In brief, distribution of land was much less skewed among STs as compared to other social groups which could be attributed to legislative measures to prevent alienation of tribal land. The Gini ratio and concentration of land was also very high at different levels at top among SCs as compared to households of other groups. The concentration of land at the bottom fifty per cent was negligible among SCs and highest among STs. The incidence of landless households, however, declined among households of all social groups.

TABLE 5. CONCENTRATION OF LAND AT DIFFERENT LEVELS OF HIERARCHY AMONG DIFFERENT SOCIAL GROUPS IN RURAL INDIA, 2002-03 TO 2018-19 (%)

Social group	2002-03						2012-13						2018-19					
	Top			Middle		Bottom	Top			Middle		Bottom	Top			Middle		Bottom
	1	5	10	30	40	50	1	5	10	30	40	50	1	5	10	30	40	50
ST	11.21	29.57	42.87	26.12	31.43	12.03	9.51	26.50	41.31	29.87	34.20	7.92	11.13	27.78	40.38	29.08	33.53	8.69
SC	16.80	42.33	58.88	23.69	24.33	2.00	15.78	43.87	57.62	20.82	21.36	1.80	14.61	43.12	58.97	19.46	19.33	1.73
OBC	14.95	37.59	52.23	21.13	26.07	7.24	14.79	37.78	53.06	21.35	24.10	3.68	15.15	37.23	52.11	21.81	24.66	3.59
Others	14.40	37.32	52.19	19.79	23.47	7.96	14.31	38.69	53.83	21.78	24.77	5.86	12.37	33.29	49.38	23.39	26.78	6.86

Source: Author's estimation using unit level data from 77th Round, (2018-19), NSS Report No. 587

TABLE 6. PER CENT DISTRIBUTION OF OWNERSHIP HOLDINGS AMONG DIFFERENT SIZE CATEGORIES ACROSS SOCIAL GROUPS IN RURAL INDIA, 2002-03 TO 2018-19

Year/category	2002-03	2012-13	2018-19	2002-03	2012-13	2018-19	2002-03	2012-13	2018-19	2002-03	2012-13	2018-19
	Households			Area			Households			Area		
	Scheduled Tribe						Scheduled Caste					
Landless	12.79	9.41	9.00	0.00	0.00	0.00	11.30	7.18	9.00	0.00	0.00	0.00
Marginal	63.21	68.83	71.80	27.00	34.69	38.90	80.06	85.70	84.80	42.13	48.63	52.20
Small	14.20	14.64	13.50	25.17	31.02	30.30	5.83	4.77	4.20	25.67	23.43	23.80
Medium	7.30	5.72	4.60	24.55	22.25	18.84	2.21	1.84	1.70	19.06	17.64	17.20
Large	2.50	1.40	1.10	23.28	12.04	11.96	0.60	0.51	0.30	13.14	10.30	6.80
All	100	100	100	100	100	100	100	100	100	100	100	100
	Other Backward Castes						Others					
Landless	9.52	6.98	8.50	0.00	0.00	0.00	8.70	7.40	6.40	0.00	0.00	0.00
Marginal	69.23	75.25	75.70	20.96	28.88	33.40	64.23	70.22	72.40	17.25	23.55	27.80
Small	11.43	10.43	9.50	21.11	24.24	24.00	12.64	11.31	11.80	17.31	19.53	24.10
Medium	6.22	5.12	4.50	21.86	22.37	21.40	8.28	7.18	7.00	21.87	22.83	26.20
Large	3.60	2.22	1.80	36.07	24.51	21.20	6.15	3.89	2.40	43.57	34.09	21.90
All	100	100	100	100	100	100	100	100	100	100	100	100

Source: (i) Report on Household Ownership Holdings in India: 59th Round, 2003, NSS Report No. 491

(ii) Report on Household Ownership and Operational Holdings in India: 70th Round, 2013, NSS Report No. 571

(iii) Report on Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India: 77th Round, 2018-19, NSS Report No. 587

IV

DISTRIBUTION OF OPERATIONAL HOLDINGS

In agrarian economies where land rental market is functional, the distribution of operational holdings tends to be less unequal as compared to the distribution of ownership holdings because of leasing in and leasing out land by households of different categories to equilibrate the ratio of their family resource endowment to operated land. According to Binswanger et al. (1995, p. 2707), "for any given distribution of ownership holdings, one would expect tenancy and land rental markets to bring the distribution of operational holdings close to optimal distribution. If incentive problems associated with tenancy are minor and can be ignored, the distribution of ownership holdings would be independent of the distribution of operational holdings, since large landholders would simply rent out their land with no loss in efficiency". Table 7 shows changes in salient aspects of operational holdings between 1953-54 and 2018-19. The table shows that the number of these holdings increased by about two and half times from 44.35 million in 1953-54 to 101.98 million in 2018-19 while the amount of operated area decreased from 135.27 million ha to 84.97 million ha recording a decrease of 37.19 per cent. Resultantly, average size of operational holdings during the period decreased from 3.05 ha to 0.83 ha[6]. Although no data are available as to which purposes this land has been acquired and diverted, a large part of this diversion is believed to have taken place for creating infrastructural facilities like roads and highways and also for other non-agricultural uses including demand from the corporate sector and also on account of growing urbanization. The extent of inequality in the distribution of operational holdings, measured by Gini ratio, decreased from 0.6212 in 1953-54 to 0.5406 in 2018-19. The changes in the concentration of operated land at different levels further show that the share of land accounted for by holdings land at the top twenty per cent, top ten per cent and five per cent decreased significantly between 1953-54 and 2018-19 from 65.35 per cent to 59.36 per cent, from 47.88 per cent to 41.51 per cent and 33.24 per cent to 28.85 per cent while concentration at the top one per cent remained practically unchanged at around 11 per cent. The concentration of land also increased during the period at the middle forty per cent and thirty per cent levels from 28.92 per cent to 33.48 per cent and from 24.98 per cent to 27.79 per cent whereas at the bottom fifty per cent it increased from 9.71 per cent in 1953-54 to 12.85 per cent in 2018-19. Across size categories, the marginal holdings recorded more than fourfold increase from 17.36 million in 1953-54 to 74.04 million in 2018-19 raising their share in total holdings from around 39 per cent to around 73 per cent. In contrast, the area operated by them increased a little more than three times from 7.98 million ha in 1953-54 to 26.97 million ha in 2018-19 which accounted for around 32 per cent of the total operated land.

TABLE 7. CHANGING STRUCTURE OF OPERATIONAL HOLDINGS IN RURAL INDIA, 1953-54 TO 2018-19

Particular	1953-54	1960-61	1971-72	1981-82	1991-92	2002-03	2012-13	2018-19
Estimated number of holdings (m)	44.35	50.77	57.07	71.04	93.45	101.93	108.79	101.95
Percentage increase	-	14.50	12.40	24.50	31.50	8.40	7.42	-6.25
Total area operated (m/ha)	135.27	133.46	125.67	118.56	125.08	107.66	94.48	84.97
Average area operated (ha)	3.05	2.63	2.20	1.67	1.34	1.06	0.87	0.83
Concentration of operational holdings (Gini Ratio)	0.6212	0.5831	0.5876	0.6332	0.6406	0.6303	0.5034	0.5406
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	12.85
Middle 40-80 per cent	28.92	30.53	30.40	29.94	29.52	29.42	31.93	33.48
Middle50-80 per cent	24.98	25.71	25.60	25.88	25.26	25.16	27.25	27.79
Top 20 per cent	65.35	62.17	62.66	65.69	66.48	66.31	63.25	59.36
Top 10 per cent	47.88	44.52	44.71	47.24	48.28	48.90	45.75	41.51
Top 5 per cent	33.24	30.63	30.69	32.39	33.63	34.49	31.51	28.85
Top 1 per cent	10.97	11.25	12.07	11.57	12.63	13.36	11.22	10.99
Number of different categories of holdings (m)								
Marginal (Up to 1.00 ha)	17.36	19.84	26.12	39.79	58.69	70.99	79.63	74.04
	(39.13)	(39.08)	(45.77)	(56.01)	(62.80)	(69.66)	(73.20)	(72.61)
Small (1.01-2.00 ha)	9.25	11.48	12.77	13.72	16.62	16.59	16.64	16.73
	(20.86)	(22.61)	(22.38)	(19.31)	(17.78)	(16.28)	(15.30)	(16.41)
Medium (2.01-4.00 ha)	8.75	10.05	10.08	10.10	11.21	9.21	8.81	8.13
	(19.73)	(19.79)	(17.66)	(14.22)	(12.00)	(9.03)	(8.10)	(7.98)
Large (above 4.01 ha)	8.99	9.40	8.10	7.43	6.93	5.14	3.71	3.05
	(20.28)	(18.52)	(14.19)	(10.46)	(7.42)	(5.04)	(3.40)	(3.00)
Area operated by different categories of holdings (million ha)								
Marginal (Up to 1.00 ha)	7.98	9.15	11.57	13.63	19.51	24.30	26.18	26.97
	(5.90)	(6.86)	(9.21)	(11.50)	(15.60)	(22.57)	(27.71)	(31.74)
Small (1.01-2.00 ha)	14.41	16.45	18.60	19.67	23.39	22.49	22.15	20.96
	(10.65)	(12.33)	(14.80)	(16.59)	(18.70)	(20.89)	(23.44)	(24.67)
Medium (2.01-4.00 ha)	25.89	27.63	28.30	27.92	30.18	24.18	22.20	18.67
	(19.14)	(20.70)	(22.52)	(23.55)	(24.13)	(22.46)	(23.50)	(21.97)
Large (above 4.01 ha)	86.99	80.23	67.20	57.34	52.00	36.69	23.95	18.37
	(64.31)	(60.11)	(53.47)	(48.36)	(41.57)	(34.08)	(25.35)	(21.62)

Note: Figures in parentheses are percentages

Source: (i) Report on Landholdings (4): 8th Round, 1953-54, NSS Report No.66; (ii) Report on Landholdings (4); 8th Round, 1953-54, NSS Report No. 74

(iii) Report on Some Aspects of Landholdings in Rural Areas; 17th Round 1961-62, NSS Report No 144; (iv) Report on Some Aspects of Landholdings; 26th Round 1971-72, NSS Report No 215

(v) Report on Some Aspects of Operational Holdings (2); 37th Round, 1982, NSS report No.331; (vi) Report on Some Aspects of Operational Holdings (1); 48th Round 1992, NSS Report No. 407

(v) Report on Some Aspects of Operational Holdings in India, 2002-03, 59th Round, NSS Report No. 492; (vi) Report on Household Ownership and Operational Holdings in India: 70thRound, 2013, NSS Report No. 571; (ix) Report on Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India: 77th Round, 2018-19, NSS Report No. 587.

The greater increase in the number of these holdings, relative to the increase in the area operated during the period, led to a decrease in their average size from 0.46 ha to 0.36 ha[7]. The number of small holdings increased from 9.25 million in 1953-54 to 16.73 million in 2018-19 while the area operated by them rose from 14.41 million ha to 20.96 million ha causing decrease in their average size from 1.55 ha to 1.25 ha. Further, the share of these holdings in the total holdings decreased from around 21 per cent in 1953-54 to around 16 per cent in 2018-19 while their share in the area operated more than doubled from around 11 per cent to around 25 per cent. There was not much change in the number of medium holdings which remained at around 8 to 9 million albeit the area under these holdings decreased significantly from around 26 million ha in 1953-54 to around 19 million ha in 2018-19 causing decrease in their average size from 2.96 ha to 2.30 ha. Furthermore, while the share of these holdings in the total holdings decreased from about 20 per cent to around 8 per cent, their share in the area operated increased from around 19 per cent in 1953-54 to around 22 per cent in 2018-19. The number of large holdings decreased from 8.99 million in 1953-54 to 3.05 million in 2018-19 whereas the area operated by them nosedived from around 87 million ha to around 18 million ha with a resultant decrease in their average size from 9.67 ha to 6.02 ha[8]. The share of large holdings in the total holdings plummeted from around 20 per cent in 1953-54 to 3 per cent in 2018-19, whereas the area operated accounted for by them fell hugely from around 64 per cent to around 22 per cent. In brief, as expected distribution of operational holdings is much less skewed as compared to ownership holdings as is evident from a significantly lower value of Gini ratio as compared ownership holdings. The concentration of land also declined at top five per cent, ten per cent and twenty per cent but remained nearly unchanged at top one per cent. The concentration at the middle forty per cent, thirty per cent and bottom fifty per cent also increased by varying levels. There was huge proliferation of and sub-marginal, marginal and small holding accounting for around eighty-nine per cent of all holdings and fifty-seven per cent of the total operated area albeit the share of area operated by them also increased significantly.

V

DIMENSIONS OF VIABILITY CRISIS IN INDIAN AGRICULTURE

As alluded, there has been a huge proliferation of small and tiny holdings at the bottom of the pyramid over a period of time due to unrelenting population pressure on land and consequent subdivision and fragmentation of holdings thanks to liberal law of inheritance posing a serious viability crisis to Indian agriculture. The extent of proliferation of extremely small and tiny ownership and operational holdings of different size categories below one hectare, per cent share these holdings in total holdings and their average size from 2002-03 to 2018-19 are given in Table 8 and Table 9.

TABLE 8. DIMENSIONS OF VIABILITY CRISIS IN INDIAN AGRICULTURE, 2002-03 TO 2018-19: OWNERSHIP HOLDINGS

Size Category (ha)	Per Cent Share of Holdings			Per Cent Share of Area			Average Size of Holdings (ha)		
	2002-03	2012-13	2018-19	2002-03	2012-13	2018-19	2002-03	2012-13	2018-19
0.002-0.005	10.72	10.00	9.37	0.05	0.07	0.07	0.004	0.004	0.004
0.005-0.040	22.91	24.77	25.60	0.43	0.61	0.63	0.02	0.02	0.01
0.040-0.500	28.87	31.97	33.55	8.99	12.13	14.01	0.25	0.24	0.23
0.500-1.00	14.90	14.70	14.81	15.56	16.95	19.78	0.73	0.74	0.74
Up to 1.00	77.40	81.45	83.33	23.03	29.75	34.49	0.21	0.23	0.19
Above 1.00	22.60	18.55	16.67	76.97	70.25	65.51	2.78	2.25	2.19

Source: (i) Report on Household Ownership Holdings in India: 59th Round, 2003, NSS Report No. 491; (ii) Report on Household Ownership and Operational Holdings in India: 70th Round, 2013, NSS Report No. 571; (iii) Report on Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India: 77th Round, 2018-19, NSS Report No. 587.

TABLE 9. DIMENSIONS OF VIABILITY CRISIS IN INDIAN AGRICULTURE, 2002-03 TO 2018-19: OPERATIONAL HOLDINGS

Size Category (ha)	Per Cent Share of Holdings			Per Cent Share of Area			Average Size of Holdings (ha)		
	2002-03	2012-13	2018-19	2002-03	2012-13	2018-19	2002-03	2012-13	2018-19
0.00-0.002	1.16	0.02	0.04	0.00	0.00	0.00	0.002	0	0
0.002-0.005	4.22	1.35	0.52	0.02	0.00	0.00	0.004	0	0
0.005-0.040	10.77	10.01	4.74	0.16	0.10	0.03	0.002	0.001	0.001
0.040 -0.500	33.93	40.79	43.16	8.39	10.71	11.85	0.26	0.22	0.22
0.500-1.00	19.78	21.01	24.18	13.60	16.91	19.87	0.73	0.69	0.68
Up to 100 ha	69.78	73.18	72.64	22.17	27.72	31.73	0.34	0.32	0.36
Above 1.00 ha	30.22	26.82	27.36	77.83	72.28	68.27	2.69	2.34	2.08

Source: (i) Report on Some Aspects of Operational Holdings (1); 48th Round 1992, NSS Report No. 407 (ii) Report on Household Ownership and Operational Holdings in India: 70th Round, 2013, NSS Report No. 571; (iii) Report on Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India: 77th Round, 2018-19, NSS Report No. 587.

Table 8 shows that the proportion of ownership holdings of different size categories below one hectare in total holdings increased from around 77 per cent in 2002-03 to around 83 per cent in 2018-19 as compared to area owned which increased from around 23 per cent to around 34 per cent. Further, around one fourth of total holdings are in the size category of 0.005-0.040 ha and around one third are in the range of 0.04-0.50 ha. More importantly, these holdings in two size categories account for around three-fifths of the total ownership holdings whereas their share in the total owned area is very low, around 15 per cent. Consequently, the average size of holdings in these categories is extremely small and decreased to 0.10 and 0.23 hectare, respectively. Similarly, the extent of proliferation of operational holdings between 2002-03 and 2018-19, presented in Table 9, shows that holdings below one hectare in the total holdings increased from around 70 per cent in 2002-03 to 73 per cent in 2018-19 while the proportion of total operated area accounted for by them increased from around 22 per cent to around 32 per cent. During this period, the proportion of holdings in the size category 0.040-0.500 hectare and 0.500-1.00 hectare respectively increased from around 33 per cent to around 43 per cent and from around 20 per cent to 24 per cent. In comparison, the proportion of area operated by these two categories of holdings respectively increased from 8 per cent to around 12 per cent and from around 14 per cent to around 20 per cent. Since increase in the number of holdings in these two categories of holdings was much higher than increase in the amount of area owned by them, their average size respectively decreased to 0.22 ha and 0.68 ha.

VI

TENANCY RELATIONS

In an agrarian economy, inalienable land ownership rights coupled with freely tradable land use rights, inter alia, facilitate transfer of land from less productive users to more productive users enhancing productive and allocative efficiency, encourage small and marginal farmers with economically non-viable holdings to lease out land and take up employment in the non-farm sector and medium and large farmers to lease in land to utilize their indivisible resources like machinery optimally, promote long term rental contracts incentivizing lessees to make investment on land boosting its productivity and transform highly unequal distribution of ownership holdings to a more egalitarian distribution of operational holdings (Deninger, 2003). In other words, well-functioning land rental market leads to factor equalization effect, diversification effect and transaction cost effect (Deininger et al. 2007). A number of theoretical and empirical studies have shown that where markets for indivisible lumpy inputs like management skills, family labour and draft animals are imperfect, households tend to lease in and lease out land according to their resource endowment to achieve optimal operational holdings (Bliss and Stern,1982; Pant, 1983; Nabi, 1985; Binswanger and Rosenzweig, 1982; Shaban,1987). Tenancy has also been described as a rung on the "agricultural ladder"

that rises from worker to share tenant, to fixed rent tenant, to owner and permits farmers to acquire capital and agricultural knowledge (Binswanger et al., 1995, p. 2717). In the literature, the effect of tenancy on agricultural development has remained a persistent theme of discussion since the days of Adam Smith. The moot point among classical economists was the relative efficiency of different land tenure systems, namely, fixed rent tenancy and share tenancy. The debate was carried forward by Alfred Marshal whose tax equivalent approach of share rent tenancy is well known. In more recent times, the debate has branched into two schools: while one school supports the Marshallian inefficiency proposition, other school has sought to demonstrate that resource allocation must be equally efficient regardless of the type of land tenure system[9]. Against this background, we discuss changes in the diverse manifestations of tenancy relations over a period of time.

6.1 Tenancy by Household Ownership Holdings

The magnitude of tenancy may be studied both in terms of household ownership holdings and operational holdings. We begin with changes in the incidence of tenancy in terms of household ownership holdings, presented in Table 10. The table shows that while number of households leasing out land decreased from 7.64 million in 1953-54 to 6.14 million in 2018-19, the amount of land leased-out decreased from 14.13 million ha to 4.14 million ha. In percentage terms, households leasing out land decreased from 12.03 per cent in 1953-54 to 3.57 per cent in 2018-19 whereas the percentage of land leased out declined from 11.42 per cent to 4.71 per cent. On the other hand, the number of households leasing in land increased from19.82 million in 1971-72 to 24.71 million in 2018-19, though the amount of land leased in declined from 13.87 million ha to 12.23 million ha. In per cent terms, households leasing in land during the period decreased from 25.19 per cent to 14.36 per cent whereas the per cent of owned land leased in increased from 11.59 per cent to 13.92 per cent. The distribution of households leasing in and area leased in and households leasing out and area leased out among different size categories since 1991-92 (Table 11) shows that landless, marginal and small households accounted for most of the households leasing in and land leased in all the periods. However, lower category households, namely, marginal and small households also accounted for most of the lessors in all years since 1991-92 while area leased out by these categories of households increased from around 43 per cent in 1991-92 to 54 in 2018-19. Consequently, the proportion of total leased out land by medium and large households declined from around 57.0 per cent in 1991-92 to 46 per cent in 2018-19. The changes in the distribution of households leasing in, area leased in and households leasing out and area leased out among households of different size categories across social groups (Table 12) further shows that households of all size categories across social groups lease in and lease out land.

TABLE 10. MAGNITUDE OF TENANCY BY HOUSEHOLD OWNERSHIP HOLDINGS IN RURAL INDIA: 1953-54 TO 2018-19

Particulars	1953-54	1960-61	1971-72	1981-82	1991-92	2002-03	2012-13	2018-19
Number of households leasing-out land (m)	7.64	5.09	7.74	5.86	5.64	4.14	4.96	6.14
Percent of households leasing-out land	12.03	7.03	9.87	6.24	4.85	2.80	3.18	3.57
Amount of land leased-out (m)	14.13	5.70	6.90	5.15	6.01	3.28	3.91	4.14
Percent of owned land leased-out	11.42	4.43	5.77	4.30	5.12	3.06	4.23	4.71
Number of households leasing-in (m)	-	-	19.82	16.69	17.11	17.03	20.88	24.71
Per cent of households leasing in	-	-	25.29	17.78	14.70	11.52	13.38	14.36
Amount of owned land leased-in (m/ha)	-	-	13.87	8.93	10.49	7.56	10.27	12.23
Per cent of Owned land leased-in	-	-	11.59	7.46	8.94	7.05	11.12	13.92

Source: (i) Report on Landholdings (3): 8th Round, 1953-54, NSS Report No.36; (ii) Report on Landholdings (4); 8th Round, 1953-54, NSS Report No. 66

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

(iv) Report on Some Aspects of Landholdings; 26th Round 1971-72, NSS Report No 215

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

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

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

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

(ix) Report on Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India: 77th Round, 2018-19, NSS Report No. 587.

TABLE 11. PER CENT DISTRIBUTION OF HOUSEHOLDS LEASING IN AND LEASING OUT LAND AND AREA LEASED IN AND LEASED OUT BY OWNERSHIP HOLDINGS AMONG DIFFERENT SIZE CATEGORIES IN RURAL INDIA, 1991-92 TO 2018-19

Year/Category	1991-92	2002-03	2012-13	2018-19	1991-92	2002-03	2012-13	2018-19	1991-92	2002-03	2012-13	2018-19	1991-92	2002-03	2012-13	2018-19
	Households Leasing In				Area Leased In				Household Leasing Out				Area Leased Out			
Landless	34.62	37.16	31.97	33.17	10.69	6.33	4.48	8.17	0	0	0	0	0	0	0	0
Marginal	47.89	54.24	60.88	59.33	43.37	65.79	71.74	63.23	51.37	65.23	69.83	69.80	22.52	25.17	26.31	30.55
Small	9.97	4.70	4.35	4.80	17.38	9.92	11.00	13.83	20.34	18.24	17.37	17.38	20.33	23.03	23.11	23.25
Medium	5.26	2.50	1.90	2.10	15.50	8.05	8.94	10.60	19.11	10.22	9.50	9.49	29.55	20.91	19.49	22.64
Large	2.26	1.40	0.90	0.60	13.06	9.99	3.84	4.17	9.18	6.31	3.30	3.33	27.60	30.89	31.09	23.56
All	100.00	100.00	100.00	100.00	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	(17.1)	(17.0)	(20.9)	(24.7)	(10.5	(7.5)	(10.3)	(12.2)	(5.6)	(4.14)	(4.9)	(6.1)	(6.0)	(3.3)	(3.9)	(4.1)

Note: Figures in parentheses are total number households and amount of area in million

Source: (i) Report on Some Aspects of Household Ownership Holdings; 48th Round 1992, NSS Report No. 399

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

(iii) Report on Household Ownership and Operational Holdings in India: 70th Round, 2013, NSS Report No. 571

(iv) Report on Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India: 77th Round, 2018-19, NSS Report No. 587

TABLE 12. PER CENT DISTRIBUTION OF HOUSEHOLDS LEASING-IN AND LEASING-OUT AND AREA LEASED-IN AND LEASED-OUT AMONG HOUSEHOLDS OF DIFFERENT CATEGORIES BY SOCIAL GROUPS IN RURAL INDIA, 2002-03 TO 2018-19

Size category/social group	2002-03								2002-03							
	Households Leasing in				Area Leased in				Households Leasing Out				Area Leased Out			
	ST	SC	OBC	Other	ST	SC	OBC	Other	ST	SC	OBC	Other	ST	SC	OBC	Other
Landless	39.80	32.26	37.40	37.13	5.16	6.18	5.69	6.56	-	-	-	-	-	-	-	-
Marginal	49.70	64.73	53.80	54.28	70.90	83.58	64.24	54.01	57.36	75.08	71.90	65.20	24.89	38.66	31.92	16.69
Small	6.60	2.11	4.50	4.67	10.02	3.93	10.19	12.83	21.12	17.02	15.40	18.22	27.46	26.78	23.48	21.25
Medium	2.90	0.80	3.00	2.45	6.95	6.01	8.05	8.43	16.02	5.00	8.20	10.21	23.78	13.73	19.21	22.78
Large	1.00	0.10	1.30	1.47	6.97	0.30	11.83	18.17	5.50	2.90	4.50	6.37	23.70	20.83	25.39	39.28
All	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	2012-13								2012-13							
Landless	36.17	24.56	32.14	36.33	7.45	2.65	5.38	6.94	-	-	-	-	-	-	-	-
Marginal	56.35	72.49	60.30	53.71	79.18	87.30	67.69	62.29	47.56	80.39	69.13	65.17	21.27	48.95	28.37	20.39
Small	6.08	2.15	4.76	4.81	10.20	5.47	11.38	13.88	35.17	13.00	18.78	14.41	36.27	27.90	29.08	13.05
Medium	1.20	0.60	2.00	3.15	3.12	2.80	11.56	10.72	13.07	5.61	8.59	11.51	21.79	20.90	21.89	18.06
Large	0.20	0.20	0.80	2.00	0.05	1.78	3.99	6.17	4.20	1.00	3.50	8.91	20.67	2.25	20.66	48.50
All	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	2018-19								2018-19							
	Households Leasing in				Area Leased in				Households Leasing Out				Area Leased Out			
Landless	38.60	34.53	34.53	26.27	17.84	10.43	46.46	3.53	-	-	-	-	-	-	-	--
-Marginal	56.40	62.26	58.16	60.34	72.86	80.55	39.06	45.44	49.40	89.60	69.80	61.80	21.11	60.97	32.31	22.16
Small	4.30	2.11	4.71	8.09	5.57	5.74	7.76	21.80	36.58	5.70	17.10	19.20	43.56	11.09	23.06	22.65
Medium	0.70	0.80	2.10	3.80	3.73	2.24	4.99	19.38	10.34	4.10	8.20	13.20	21.73	22.34	19.63	25.46
Large	0.00	0.30	0.50	1.50	0.00	1.04	1.73	9.85	3.68	060	4.90	5.80	13.60	5.60	25.00	29.73
All	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Source: (i) Report on Household Ownership Holdings in India: 59th Round, 2003, NSS Report No. 491

(ii) Report on Household Ownership and Operational Holdings in India: 70th Round, 2013, NSS Report No. 571

(iii) Report on Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India: 77th Round, 2018-19, NSS Report No. 587.

The data shows that the lease market is mainly dominated by the households of lower size category of STs, SCs and OBCs, namely, landless, marginal and small both as lessors and lessees accounting for most of the households leasing in and leasing out land and more than fifty per cent or even higher proportion of the land leased out during all three periods. However, in case of Others while the majority of the lessors, lessees and total land leased in was accounted for by lower category households, around three-fifths of the total land leased out was contributed by the medium and large households.

6.2 Tenancy by Operational Holdings

As alluded above, incidence of tenancy may also be examined in terms of operational holdings and the proportion of leased in land in the total operated area. In this context, Table 13 shows changes in different types of operational holdings, namely, entirely owned, mixed holdings, entirely leased in and neither owned nor leased in and the proportion of owned area and leased in area in the total operated area since 1953-54. The table reveals that the proportion of entirely owned holdings in the total holdings increased continuously and account for more than four-fifths of the total holdings suggesting a very high incidence of self-cultivation which may be attributed to the enactment and implementation of tenancy laws, growing diversification and commercialization of agriculture consequent upon widespread adoption of new agricultural technology. The proportion of mixed holdings decreased continuously till 2002-03 but increased thereafter while that of entirely leased in holdings remained small at around two-three per cent. The proportion of owned area in the total operated area increased over the period and remained more than eighty per cent for most of the years. Consequently, the incidence of tenancy, measured by the proportion of operated area leased in decreased in the sixties, the seventies and the eighties but increased thereafter despite decrease in the total operated area leased in from 14.28 million hectares in 1960-61 to 11.01 million hectares in 2018-19. The distribution of different types of holdings and area operated by them across size categories since 2002-03, given in Table 14, further shows that more than eighty per cent of operational holdings are entirely owned holdings across all size categories, though in recent periods there was a significant increase in the proportion of mixed holdings. Resultantly, the proportion of leased in area to the total operated area has also increased across all size categories of operational holdings between 2002-03 and 2018-19. In sum, the proportion of operated area leased in declined continuously till the nineties but increased to 12.54 per cent in 2018-19.

6.3 Terms of Tenancy

Fixed rent tenancy and share tenancy have been the two popular modes of land leasing across different countries including developed countries like USA where share tenancy accounts for around half of the total land leasing (Cheung, 1969; Allen and Leuck, 1992; Young and Burke, 2001).

TABLE 13. PER CENT DISTRIBUTION OF OPERATIONAL HOLDINGS BY TYPE OF HOLDINGS AND AREA OWNED AND AREA LEASED IN IN RURAL INDIA; 1953-54 TO 2018-19

Year/holdings/area	Distribution of Holdings				Distribution of operated area			Percent of operational holdings with partly or wholly		Amount of Operated area leased in (million ha)
	Entirely owned	Mixed	Entirely leased-in	Neither owned nor leased-in holdings	Owned area	Leased-in area	Neither owned nor leased-in area	Area owned	Area leased in	
1953-54	60.63	26.79	12.58	-	79.48	20.52	-	-	-	-
1971-72	74.31	21.83	3.86	-	89.43	10.57	-	95.64	24.68	13.28
1981-82	80.58	16.24	2.37	0.81	91.08	7.18	1.74	92.91	15.20	8.53
1991-92	81.98	8.87	3.85	5.30	87.91	8.28	3.81	96.15	11.00	10.38
2002-03	88.73	7.14	3.26	0.87	92.57	6.60	0.83	95.13	9.99	6.99
2012-13	85.73	11.59	2.08	0.60	88.30	10.74	0.96	97.29	13.69	10.67
2018-19	82.26	15.44	1.90	0.40	86.02	12.54	1.44	97.69	17.29	11.01

Source: (i) Report on Landholdings (4):8th Round 1953-54, NSS Report No.66; (ii) Report on Landholdings (5): 8th Round 1953-54, NSS Report No. 74

(iii) Report on Some Aspects of Landholdings; 26th Round 1971-72, NSS Report No. 215. (iv) Report on Landholdings (2); 37th Round 1981-82, Report No. 331

(v) Report on Some Aspects of Operational Holdings; 48th Round 1991-92, Report No. 407.

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

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

(v) Report on Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India: 77th Round, 2018-19, NSS Report No. 587.

TABLE 14. PER CENT DISTRIBUTION OF TYPES OF HOLDINGS AND AREA OWNED LEASED IN BY SIZE CATEGORIES OF HOLDINGS IN RURAL INDIA, 2002-03 TO 2018-19

Category of holdings/year/area	Holdings				Area		
	Entirely owned	Mixed	Entirely Leased in	Neither Owned nor Leased in	Owned	Leased in	Neither Owned nor Leased in
				2002-03			
Landless	84.41	0.81	8.06	6.72	87.90	5.22	6.88
Marginal	87.91	6.79	4.14	1.16	91.52	7.25	1.23
Small	88.06	9.41	1.98	0.55	91.92	7.13	0.95
Medium	88.43	9.27	2.00	0.30	92.04	6.12	1.84
Large	89.15	9.16	1.22	0.47	94.39	5.23	0.38
				2012-13			
Landless	96.80	0.00	2.60	0.60	98.48	1.52	0.00
Marginal	86.23	10.46	2.60	0.71	87.62	11.00	1.38
Small	86.00	12.60	0.90	0.50	88.39	10.52	1.09
Medium	82.04	17.51	0.45	0.00	87.63	11.54	0.83
Large	84.33	15.32	0.35	0.00	89.59	9.90	0.51
				2018-19			
Landless	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Marginal	82.53	14.65	2.34	0.48	85.98	13.23	0.79
Small	82.70	16.20	0.90	0.20	88.38	10.40	1.22
Medium	81.98	17.38	0.56	0.08	87.30	11.22	1.48
Large	74.17	25.36	0.47	0.00	80.84	16.86	2.30

Source: (i) Report on Operational Holdings in India: 59th Round, 2003, NSS Report No. 492; (ii) Report on Household Ownership and Operational Holdings in India: 70th Round, 2013, NSS Report No. 571; (iii) Report on Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India: 77th Round, 2018-19, NSS Report No 587

The persistence of share tenancy despite prediction by the classical economists that it would disappear because of its being inefficient has been attributed to, *inter alia*, the practice of input cost sharing which incentivizes share tenants to use resources efficiently (Heady, 1947; Adams and Rusk, 1968), the practice of short-term lease (Johnson, 1950), a mechanism of risk sharing and overcoming constraints of imperfect credit and insurance markets (Stiglitz, 1974), low cost of supervision and enforcement of share tenancy (Alston et al., 1984), kinship ties with the landlord as a key determinant of cooperative behaviour by sharecroppers and efficiency (Sadoulet et al., 1997) and interlinking of land and credit markets (Bardhan, 1980; Braverman and Stiglitz, 1982). Share tenancy with interlinked contracts or cost sharing arrangements overcome the labour supervision cost and credit or insurance problems and offer higher incentives compared to a wage labour contract (Binswanger et al., 1993; Binswanger and Deininger, 1997). Cheung (1969) has

shown that share tenancy and fixed rent tenancy are equally efficient under conditions of competitive market and strict supervision and enforcement of the efforts of the tenants by the landlords. However, it has been argued that despite disincentives associated with tenancy and sharecropping, their widespread use all over the world suggests that in an environment where capital constraints and risk considerations make fixed rent tenancy contracts infeasible or undesirable, share rental contracts may in fact emerge as efficiency enhancing, especially if the incentive problems associated with them are low (Binswanger et al., 1995, p. 2712). It has also been argued that "share rental contracts can serve as a device for landlords to protect their land against degradation by mitigating tenants' incentives to over exploit soils. The marginal return to effort is lower under a share contract than under a cash rental contract because tenant appropriate only part of the rent generated during the period" (Lichtenberg, 2007, p. 298). Against this background, we discuss changes in different terms of tenancy in rural India over different time periods beginning with 1961-62. To recall, we have clubbed different terms of tenancy into four major types such as fixed money, fixed produce, share of produce and other terms to make these terms temporally comparable. Table 15 shows that the area leased in under fixed money increased marginally from 3.65 million ha in 1961-62 to 4.38 million ha in 2012-13 with the exception of 1981-82 when was as low as 0.93 million ha which is difficult to explain and appears to be gross underestimate. In terms of per cent share, the leased in land under fixed money accounted for nearly one-fourth of the total leased in land in 1961-62 which increased to 41.27 per cent in 2018-19. The land leased in under fixed produce declined from 1.84 million ha in 1961-62 to 1.46 million ha in 2018-19 though in per cent terms, it increased marginally from 12.89 per cent to 13.71 per cent. However, the amount of land leased in under share tenancy decreased from 5.45 million ha in 1961-62 to 3.06 million ha in 2018-19; the share of land leased in accounted for by share tenancy declined from 38.16 per cent to 28.83 per cent. The operated land leased in under other terms decreased from 3.34 million ha in 1961-61 to 1.78 million ha in 2018-19 while its share in the leased in land decreased from 23.39 per cent to 16.19 per cent. The distribution of operated area leased in under different terms of tenancy across size categories of holdings, given in Table 16, shows that over the period while more than half of the land leased in under fixed money was accounted for by medium and large holdings, marginal and small holdings accounted for around half or even more of the operated land leased in under fixed produce. This is because the land leased in under fixed money entails advance payment of rent which the medium and large farmers can afford to pay while the payment of rent for land leased in under fixed produce is made after the harvest which is more convenient to pay for marginal and small farmers. Similarly, more than half of the leased in land under share tenancy during all these years except 1991-92 was accounted for by marginal and small farmers. The land leased in under other terms shows no neat pattern; while in 1991-92 and 2002-03 more than half of such land was leased in by the medium and large farmers, in the latter years most of the

land leased in under these terms was accounted for by marginal and small holdings. In brief, the data show that share tenancy is being increasingly replaced with fixed rent tenancy, in particular with fixed money, which is emerging as dominant more of leasing in land in Indian agriculture.

TABLE 15. TERMS OF TENANCY IN RURAL INDIA: 1961-62 TO 2018-19 (OPERATED AREA LEASED (IN MILLION HECTARES)

Term of tenancy	1961-62	1970-71	1981-82	1991-92	2002-03	2012-13	2018-19
Fixed money	3.65	2.04	0.93	1.97	2.10	4.50	4.55
	(25.56)	15.36)	(10.93)	(18.95)	(30.15)	(42.16)	(41.27)
Fixed produce	1.84	1.54	0.55	1.51	1.39	1.74	1.51
	(12.89)	(11.60)	(6.35)	(14.54)	(19.90)	(16.34)	(13.71)
Share of	5.45	6.36	3.56	3.57	2.84	3.09	3.17
produce	(38.16)	(47.89)	(41.83)	(34.43)	(40.59)	(29.00)	(28.83)
Others	3.34	3.34	3.49	3.33	0.66	1.34	1.78
	(23.39)	(25.15)	(40.89)	(32.08)	(9.36)	(12.50)	(16.19)
Total operated	14.28	13.28	8.53	10.38	6.99	10.67	11.01
area leased-in	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

Note: (i) Figures in parentheses are percentages; (ii) Others include usufructuary mortgage, relatives, service contract, etc.

Source:(i) Report on Some Aspects of Landholdings in Rural Areas; 17th Round 1961-62, NSS Report No 144; (ii) Report on Some Aspects of Landholdings; 26th Round 1971-72, NSS Report No. 215; (iii) Report on Some Aspects of Operational Holdings; 37th Round, 1982, NSS report No.331; (iv) Report on Some Aspects of Operational Holdings; 48th Round 1992, NSS Report No. 407; (v) Report on Some Aspects of Operational Holdings in India, 2002-03, 59th Round, NSS Report No. 492; (vi) Report on Household Ownership and Operational Holdings in India: 70th Round, 2013, NSS Report No. 571; (vii) Report on Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India: 77th Round, 2018-19, NSS Report No. 587.

A number of empirical studies from different parts of the country have also reported that share tenancy is being increasingly replaced with fixed rent tenancy. For example, Shergill (2019) reports that in Punjab, an agriculturally developed state, share tenancy has almost been completely replaced with fixed rent tenancy because of elimination of production risk and price and marketing certainty, change in the profile of lessors, rise of entrepreneurial tenants, easing of liquidity constraint and interlinking of credit and marketing of produce by the commission agents. Mandal et al., (2019) in a recent study in Uttar Pradesh has reported dominance of fixed rent tenancy in agriculturally developed districts where land is leased in by the medium and large farmers and leased out by the marginal and small farmers and that of share tenancy in agriculturally backward districts where land is leased in by the poor lessees from the upper caste affluent landowners. Sarap (1998) in a village study in Odisha reported fixed rent tenancy with a variety of payments in cash and kind as a common mode of leasing land as compared to share tenancy. Similarly, Awasthi (2009) in a study of 20 villages in Bundelkhand Uttar Pradesh found that landless and marginal farmers prefer leasing in land on share tenancy while medium and large farmers prefer leasing in on cash rent tenancy. A more recent village study in

Maharashtra reported that around 90 per cent of the total area leased out was under fixed rent contracts (Ramakumar and Raut, 2024).

6.4 Reverse Tenancy

The next important aspect of tenancy relations is "who leases from whom", the so-called reverse tenancy. Micro studies from different regions have reported emergence of reverse tenancy whereby medium and large farmers are increasingly entering lease market as lessees to utilize their indivisible inputs like machinery more efficiently and marginal and small farmers as lessors because of, among other things, increasing cost of cultivation, increasing weather uncertainties, availability of non-farm employment opportunities, and so on. For example, in a recent village study in district Patiala (Punjab) Rathi (2019) reports the rise of new form of dominant class tenancy wherein the big farmers lease in land from small farmers to utilise their agricultural machinery more efficiently and earn profits while marginal and small farmers lease out land to big farmers as their landholdings are too small for an economically efficient technology-based farming. Similarly, Ramakumar and Raut (2024) have reported that reverse tenancy has become a significant phenomenon in banana growing villages in Maharashtra. We analysed the distribution of land leased in and leased out across households of different size categories to find out their share in the total land leased in and leased out. The results, presented in Table 17, show that at the all-India level, tenancy relations do not confirm neatly to traditional pattern wherein most of the land leased in is accounted for by households of lower size category and land leased out by households of higher size category. The data show that while most of the land leased in in all these years is accounted for by households of lower size categories including landless, sub-marginal, marginal and small, the distribution of land leased out among households of different size categories shows no neat pattern. For example, the proportion of total land leased out by medium and large households decreased continuously from around 70 per cent in 1981-82 to around 46 per cent in 2018-19 with a concomitant increase in the share of total land leased out by sub-marginal, marginal and small households from around 30 per cent to 54 per cent. The extent of reverse tenancy has also been analyzed in terms of changes in concentration of land leased in and leased out at different levels of land ownership hierarchy such as the bottom, the middle and the top. The data given in Table 18 show that the share of the bottom 80 per cent of households which include landless, marginal and small households in total land leased in declined from around 70 per cent in 1981-82 to around 58 per cent in 2018-19 with a concomitant increase in the share of share of top 20 per cent households from around 29 per cent in 1981-82 to 42 per cent in 2018-19.

TABLE 16. PER CENT DISTRIBUTION OF OPERATED AREA LEASED-IN UNDER DIFFERENT TERMS OF TENANCY AMONG SIZE CATEGORIES OF HOLDINGS IN RURAL INDIA, 1991-92 TO 2018-19

Year/Category/	Fixed Money				Fixed Produce				Share of Produce				Others			
Term of Tenancy	1991-92	2002-03	2012-13	2018-19	1991-92	2002-03	2012-13	2018-19	1991-92	2002-03	2012-13	2018-19	1991-92	2002-03	2012-13	2018-19
Marginal	9.92	15.98	14.95	19.61	16.87	26.08	52.37	32.95	20.90	32.05	40.12	49.91	16.39	25.14	28.27	62.58
Small	12.28	17.54	27.52	11.77	25.72	26.40	14.03	24.07	25.61	27.38	18.07	27.19	15.31	20.77	38.18	13.23
Medium	22.05	27.15	24.95	21.38	22.32	19.73	22.55	22.64	21.18	17.47	26.01	13.37	21.35	29.11	18.88	12.74
Large	55.75	39.33	32.57	47.23	35.09	27.79	11.05	20.34	32.31	23.09	15.81	9.53	46.95	24.97	14.67	11.45
All	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Note: Others include area leased on service contract, share of produce with other terms, usufructuary mortgage, relatives under no specific terms, others and not recorded

Source: (i) Report on Household Ownership Holdings in India: 59th Round, 2003, NSS Report No. 491

(ii) Report on Household Ownership and Operational Holdings in India: 70th Round, 2013, NSS Report No. 571

(iii) Report on Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India: 77th Round, 2018-19, NSS Report No. 587.

TABLE 17. REVERSE TENANCY: PER CENT DISTRIBUTION OF LAND LEASED-IN AND LAND LEASED-OUT AMONG DIFFERENT SIZE CATEGORIES OF HOUSEHOLD OWNERSHIP HOLDINGS: 1981-82 TO 2018-19

Size category	1981-82		1991-92		2002-03		2012-13		2018-19	
(ha.)/year	Land leased-in	Land leased-out	Land leased-in	Land leased-out	Land leased-in	Land leased-out	Land leased-in	Land leased-out	Land leased-in	Land leased out
Less than 0.002	0.00	0.00	8.31	0.00	6.15	0.00	5.59	0.00	8.18	0.00
0.002 – 0.500	34.98	4.88	33.21	9.30	53.38	9.84	59.97	11.76	52.15	13.72
0.501 – 1.00	15.26	8.70	12.53	13.22	12.12	14.77	10.66	14.56	11.08	16.83
1.01 – 2.00	19.54	17.55	17.38	20.33	9.94	23.03	11.00	23.11	13.82	23.25
2.01 – 4.00	15.00	26.32	15.50	29.55	8.50	20.91	8.94	19.49	10.60	22.64
Above 4.01	15.22	42.55	13.05	27.60	9.91	30.89	3.84	31.08	4.17	23.56
All sizes	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source:(i) Report on Some Aspects of Ownership Holdings (1); 37th Round, 1982, NSS report No.330; (ii) Report on Some Aspects of Household Ownership Holdings; 48th Round 1992, NSS Report No. 399 (iii) Report on Household Ownership Holdings in India: 59th Round, 2003, NSS Report No. 491; (iv) Report on Household Ownership and Operational Holdings in India: 70th Round, 2013, NSS Report No. 571; (v) Report on Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India: 77th Round, 2018-19, NSS Report No. 587.

The changes in the concentration of land leased out at different levels further show that the share of bottom 80 per cent of the households in total leased out land increased from around 30 per cent in 1981-82 to around 42 per cent in 2018-19 with an accompanying decrease in the share of top 20 per cent from 70 per cent to 58 per cent. More importantly, however, a significant proportion of the total land leased in and leased out was accounted for by households at the middle 30 per cent. For example, while their share in the land leased in during the period varied from around 24 per cent to around 33 per cent, they also accounted for 25 per cent to 33 per cent of the total land leased out.

In brief, the practice of leasing in and leasing out land pervades all along the farm size continuum implying that majority of the households in all size categories participate in the lease market both as lessees and lessors depending upon their resource endowment. The increase in the participation of households of all size categories both as lessors and lessees in the lease market could be attributed to factors such as increasing rural nonfarm employment opportunities, agriculture becoming less profitable due to increase in the cost of cultivation, increase in the migration of rural households, growing urbanization, and so on. In sum, lease market appears to function on the principle of demand and supply wherein households of all size categories are increasingly participating both as lessees and lessors to equilibrate the ratio of their inputs to operated land.

6.5 Duration of Tenancy

Another important aspect of tenancy relations is the period of lease. It is generally believed that land is mostly leased out on short term contracts and that the tenants are frequently rotated from one plot to another to prevent them from staking claim to occupancy rights on the land leased in. The evidence from NSS data regarding duration of tenancy contracts since 1991-92 (Table 19) shows that the share of land leased in for less one agricultural season remained insignificant at around 6 per cent between 1991-92 and 2018-19. However, share of leased in land for one season to one agricultural year increased from around 19 per cent in 1991-92 to 31 per cent in 2018-19 while share of land leased in for one to less than two agricultural years decreased from around 36 per cent to around 21 per cent. There has also been an increase in the share of total land leased in for two or more than two agricultural years from 39 per cent to around 42 per cent with the notable exception in 2012-13 when it its share was around 64 per cent. Across size categories, all holdings leased in most of their land for two agricultural years or more except in 2018-19 when medium and large holdings leased in most of their land for one season but less than one year. The data thus do not support the commonly held belief that the lessors/landowners rotate tenants frequently from one plot to others to prevent them staking claim to occupancy rights on the leased in land. In fact, data show that holdings of all categories including marginal and small lease in most of the land on medium to long-term basis to reap scale economies.

TABLE 18. CHANGES IN THE CONCENTRATION OF LEASED-IN LAND AND LEASED-OUT LAND AT DIFFERENT LEVELS OF LAND OWNERSHIP HIERARCHY; 1981-82 TO 2018-19 (%)

Share of leased-in and leased-out land at	Land leased-in					Land leased-out				
	1981-82	1991-92	2002-03	2012-13	2018-19	1981-82	1991-92	2002-03	2012-13	2018-19
Bottom 40 per cent	28.42	16.35	10.80	14.27	14.93	2.43	7.21	7.69	8.87	8.06
Bottom 50 per cent	37.89	26.73	24.81	25.54	26.65	5.54	10.82	12.76	13.96	13.75
Middle 40-80 per cent	42.50	34.71	44.69	42.90	43.11	27.83	34.47	35.10	32.11	34.36
Middle 50-80 per cent	33.03	24.33	30.68	31.63	31.39	24.72	30.86	30.03	27.02	28.67
Top 20 per cent	29.08	48.94	44.51	42.83	41.96	69.74	58.32	57.21	59.02	57.58
Top 10 per cent	16.84	31.68	30.60	29.24	33.59	50.82	34.68	38.43	43.26	38.33
Top 5 per cent	9.59	23.26	20.59	19.07	22.53	35.34	21.92	26.80	31.09	26.13
Top 1 per cent	2.16	6.20	7.68	5.12	6.54	13.51	5.21	7.82	10.91	7.73

TABLE 19. PER CENT DISTRIBUTION OF AREA LEASED IN BY PERIOD OF LEASE IN RURAL INDIA, 1992 TO 2018-19

Duration/ size category/year	Less than one agricultural season	One agricultural season but less than one agricultural year	One to less than two agricultural years	Two agricultural years or more	Less than one agricultural season	One agricultural season but less than one agricultural year	One to less than two agricultural years	Two agricultural or more
	1991-92				2002-03			
Landless	-	-	-	-	6.56	5.95	10.30	77.19
Marginal	5.80	20.83	28.28	45.09	5.83	17.56	30.22	46.39
Small	2.50	14.82	33.67	49.01	2.75	21.35	35.67	40.23
Medium	3.89	24.00	29.37	42.74	7.31	21.28	34.06	37.35
Large	7.94	18.55	44.12	29.39	3.10	10.21	30.16	56.53
All	5.62	19.38	36.19	38.81	4.69	17.11	32.30	45.90
	2012-13				2018-19			
Landless	2.37	11.38	20.46	65.79	8.25	15.03	13.61	63.11
Marginal	3.97	13.15	13.33	69.55	5.25	24.94	22.04	47.77
Small	7.69	10.71	16.57	65.03	3.01	36.02	23.53	37.44
Medium	2.85	12.58	26.15	58.42	4.78	42.15	26.70	26.37
Large	1.41	16.31	15.97	66.31	2.80	47.23	34.31	15.66
All	6.43	13.06	16.49	64.02	5.98	31.01	21.46	41.55

Source: (i) Report on Some Aspects of Operational Holdings; 48th Round 1992, NSS Report No. 407 (ii) Report on Some Aspects of Operational Holdings in India, 2002-03, 59th Round, NSS Report No. 492 (iii) Report on Household Ownership and Operational Holdings in India: 70th Round, 2013, NSS Report No. 571 (iv) Report on Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India: 77th Round, 2018-19, NSS Report No. 587.

VII

ALLOCATIVE/PRODUCTION EFFICIENCY OF LAND TENURE ARRANGEMENTS

A plethora of empirical studies from different countries including India have empirically examined the allocative/productive efficiency of different types of land tenure systems by comparing the inputs used and output produced on owner cultivated land, leased in land and also on the land leased in on fixed rent tenancy and share cropping. The findings have been a mixed bag; while some studies support Marshallian inefficiency proposition, others have found no significant difference in production and use of inputs on the owned and rented land and also on the land leased in on fixed rent and share tenancy. In the Indian context, Bell (1977) and Shaban (1987) found that the use of inputs like family labour and draft animals was significantly lower on share cropped plots as compared to owned plots lending credence to inefficiency proposition. Sharma et al. (1995a) found no significant difference in the allocative/productive efficiency of tenant operated farms and self-operated farms in the irrigated villages of Odisha. Bhaumik (1993) also did not find significant difference in the use of inputs on owned and leased in land. Awasthi (2009) also reported that differences in productivities across different land lease arrangements are relatively small and lower inputs use cannot be attributed to different tenurial systems. However, some studies from other countries have reported that tenants leasing in on fixed money and share cropping are less likely to adopt practices that yield returns in the long run (Soule et al., 2000), and that farmers who cultivate both leased in and owned land use more manure on the former (Gavian and Fafchamps, 1996). Deininger et al. (2008) found that in Ethiopia input and output intensities were indeed statistically significantly lower on sharecropped than on owned plots. Jacoby and Mansuri (2006) found that gross productivity of land cultivated by sharecroppers differs little from that of land cultivated by owners and fixed renters in Pakistan. Otsuka and Hayami (1988) after reviewing literature on the theories of share tenancy found small efficiency losses associated with tenancy. Deininger et al. (2013) found that continued inefficiency of sharecropping in West Bengal is exacerbated by strong disincentives to make investment in soil fertility and irrigation. According to Otsuka, et al. (1992, p. 2013) "significant inefficiency of share tenancy is not common in areas where both share rent contracts and fixed rent contracts are available options; inefficiency tend to arise where contract choice is institutionally restricted ---- evidence on the dynamic inefficiency of alternative contracts is meagre". It may, however, be underlined that the allocative and productive efficiency/inefficiency of different land tenure systems need to be viewed in the context of changes in institutional, technological and demographic factors.

TABLE 20. EXPENDITURE ON INPUTS AND RETURNS OF HOUSEHOLDS ACCORDING TO THEIR TENURIAL STATUS IN RURAL INDIA, 2018-19

Particular	Pure owners	Owner cum tenants	Fixed rent tenants	Share tenants
Average operated land (ha)	0.72	0.59	0.72	0.95
Fertilizers (Rs/ha)**	1885	1914	1540	2058
Chemicals and pesticides (Rs/ha)**	1077	1174	1051	925
Human labour (Rs/ha)**	2899	2924	2410	3105
Irrigation (Rs/ha)**	1878	1609	1352	1996
Manure (Rs/ha)**	1435	1197	931	1177
Animal labour (Rs/ha)**	1154	1023	867	963
Seed (Rs/ha) **	929	853	730	1066
Expenditure on other inputs	7624	10841	9922	15827
Total expenditure (Rs/ha)**	18802	21535	18802	27115
Gross returns (Rs/ha) **	38876	39533	48164	33584
Net Returns over A1**	20074	17998	21049	15778
Poverty	29.24	31.94	30.70	30.99
Average household income	144455	145464	177180	113553

*Note: *High value crops include vegetables, fruits, condiments and spices, flowers, aromatic and medicinal plants, and plantation crops. (**) These are at constant prices that have been calculated by using consumer price index (Rural) with 2012=100. The value of CPI (Rural) for 2018 has been collected from Ministry of Statistics and Programme Implementation, Central Statistical Office, press release dated 13th August, 2018 which is 140.5 for June 2018.*

Source: Author's estimates using unit level data from 77th Round, (2018-19), NSS Report No. 587

Further, most of the studies in the Indian context reviewed above are confined to few villages in few states and are very old whose findings cannot be generalised. In view of this, despite limitations of using unit level data available in 77th NSS round to examine allocative/productive efficiency of different land tenure arrangements, we have compared expenditure on inputs and net returns of pure owners, owner cum tenants, fixed rent tenants and share tenants in rural India to gain a bird eye view of the allocative efficiency/inefficiency of different land tenure arrangements. The results, presented in Table 20, show that there is no neat pattern in the expenditure on different inputs among households operating land under different land tenurial arrangements. For example, while expenditure incurred by pure owners on inputs like fertilisers, chemicals and insecticides, and human labour was marginally higher as compared to owner cum tenants, this was significantly lower on other inputs like irrigation, animal labour and seeds. However, expenditure on other inputs was significantly higher in case of owner cum tenants as compared to pure owners resulting into lower net returns for owner cum tenants in comparison to pure owners. The fixed rent tenants spent significantly lower amount on different inputs as compared to pure owners though there was no significant difference in the net returns between them. Similarly, expenditure incurred by share tenants as compared to pure

owners was higher on inputs like fertilisers, human labour, irrigation, seeds and other inputs and lower on chemicals, manure and animal labour. The net returns for share tenants were, however, significantly lower as compared to pure owners. Between fixed rent tenants and share tenants, while expenditure on most of the inputs was higher in case of share tenants as compared to fixed rent tenants, the net returns realised by them were significantly lower. Insofar as average annual income of households operating land under different land tenure arrangements is concerned, it is higher for households leasing in land on fixed rent and as compared to share tenants. There was, however, no difference in the incidence of poverty across households operating land under different land tenure arrangements[10]. On the whole, expenditure on different inputs and net returns for households under different land tenure arrangements show that pure owners are more efficient as compared to owner-cum-tenants while fixed rent tenants are more efficient as compared to share rent tenants.

TABLE 21. EXPENDITURE ON INPUTS AND RETURNS OF HOUSEHOLDS LEASING IN LAND FOR DIFFERENT DURATION IN RURAL INDIA, 2018-19

Particulars	Leasing for a season	For one year	Two years	More than two years
Average operated land (ha)	0.47	0.80	0.73	0.61
Fertilizers (Rs/ha) **	2577	2144	1755	1760
Chemicals and pesticides (Rs/ha) **	1444	1419	953	875
Human Labour(Rs/ha) **	3584	3580	2456	2957
Irrigation (Rs/ha) **	2422	1665	1507	1730
Manure (Rs/ha) **	944	1959	1032	1373
Animal labour(Rs/ha) **	2833	1069	791	976
Seed (Rs/ha) **	1013	1001	949	798
Expenditure on other inputs (Rs/ha)	13716	12502	11371	9823
Total expenditure on inputs (Rs/ha) **	28533	25339	20815	19752
Gross returns (Rs/ha) **	44400	42466	40885	35376
Net Returns (Rs/ha) **	15867	17127	20070	15624

*Note: *High value crops include vegetables, fruits, condiments and spices, flowers, aromatic and medicinal plants, and plantation crops. (**) These are at constant prices that have been calculated by using consumer price index (Rural) with 2012=100. The value of CPI (Rural) for 2018 has been collected from Ministry of Statistics and Programme Implementation, Central Statistical Office, press release dated 13th August, 2018 which is 140.5 for June 2018.*
Source: Author's estimates unit level data from 77th Round, (2018-19), NSS Report No. 587

Furthermore, as mentioned above, it has been argued that short term tenancy arrangements do not encourage tenants to make production augmenting improvements on the leased in land. To test this proposition, we have estimated expenditure incurred on different inputs and net returns of households leasing in land for different durations. In this regard, Table 21 shows that per hectare expenditure on most of the inputs was higher for households leasing land for one season and one year

as compared to those leasing for one year or more than two agricultural years. However, the net returns were maximum for those who leased in land for one year and two years or more as compared to those leasing in for one agricultural season or for one season and less than one year. Thus, the data show that that households leasing in land on a medium and long-term basis get higher returns as compared to those leasing in for one season and/or one year.

VIII

DETERMINANTS OF TENANCY AND SHARE TENANCY

A variety of factors influence a household decision to participate in the lease market. While those who own indivisible and non-tradable resources like machinery and bullocks lease in land to utilize these inputs more optimally, landless, marginal and small households do so to earn livelihood in the absence of alternative employment opportunities. It has been argued in the literature that households chose different forms of tenancy contracts according to their risk bearing abilities; risk takers chose fixed rent tenancy while risk averters opt for share tenancy (Hallangan, 1978). 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 examining determinants of the extent and form of tenancy (Bliss & Stern, 1982; Bardhan, 1976a, 1976b; Laxminarayan & Tyagi, 1977a, 1977b). For the present study, a number of variables which are likely to affect leasing in and terms of tenancy such as worker dependent ratio, age of the head of the household, household head being literate, social category to which a household belongs, household self-employed in agriculture, ownership of livestock, growing high value crops, access to irrigation and poverty status have been considered. Further, all states and union territories have been included as independent binary variables along with other variables to control the state/union territory level differences in tenancy legislations and agro-climatic conditions which have significant influence on households leasing in land. A double loglinear regression model with robust standard errors is estimated to quantify the effect of different variables on the amount of land leased in after correcting for multicollinearity. Variance Inflation factor had a value close to one for all independent variables indicating no correlation.

The results of log linear regression model are presented in Table 22. The perusal of the table reveals that most of the variables have expected signs and have statistically significant coefficients as well. For example, factors like age of the head of the household, land owned, head of the household being male and self-employed in agriculture have positive and statistically significant effect on the amount of land leased in. However, factors like worker dependent ratio, head of the household being literate, household belonging to scheduled caste and tribe, ownership of livestock, household growing high value crops, access to irrigation, and below poverty line have negative and statistically significant effect on the amount of land leased in.

TABLE 22. DETERMINANTS OF MAGNITUDE OF TENANCY IN RURAL INDIA: RESULTS OF LOG LINEAR REGRESSION ANALYSIS

Independent variable	Coefficients	t-value	Robust SE
Constant	-1.658*	-15.17	0.109
Log of worker-dependent ratio	-0.043*	-3.47	0.012
Log of age of the head of family	0.194*	8.16	0.023
Log of land owned	0.032*	4.18	0.007
Gender: Male=1, otherwise=0	0.272*	7.62	0.035
Education of head of the family: Literate=1, Illiterate=0	-0.091*	-4.82	0.018
Social category: ST/SC=1, otherwise=0	-0.108*	-5.52	0.019
Self-employed in agriculture=1, otherwise=0	0.547*	23.16	0.023
Livestock: Own=1, otherwise=0	-0.220***	-1.91	0.115
Grow high value crops=1, otherwise=0	-0.284*	-6.34	0.044
Access to irrigation=1, otherwise=0	-0.092*	-3.34	0.027
Poverty: BPL=1, otherwise=0	-0.319*	-16.05	0.019
Andhra Pradesh=1; Else=0	0.159**	2.08	0.076
Assam =1; Else=0	-0.290*	-3.84	0.075
Bihar =1; Else=0	-0.494*	-6.67	0.741
Chhattisgarh=1; Else=0	0.135***	1.65	0.082
Gujarat =1; Else=0	-0.217*	-2.21	0.098
Haryana =1; Else=0	0.609*	7.04	0.086
Himachal Pradesh=1; Else=0	-0.506*	-5.20	0.097
Jammu & Kashmir=1; Else=0	-0.999*	-10.64	0.093
Jharkhand=1; Else=0	-0.554*	-6.11	0.090
Karnataka=1; Else=0	0.661*	6.23	0.106
Kerala=1; Else=0	-0.629*	-7.12	0.088
Madhya Pradesh=1; Else=0	0.167***	1.79	0.093
Maharashtra=1; Else=0	0.337*	4.07	0.082
Odisha =1; Else=0	-0.359*	-4.78	0.075
Punjab =1; Else=0	0.428*	4.36	0.098
Rajasthan=1; Else=0	0.200***	1.91	0.105
Tamil Nadu =1; Else=0	0.370*	3.44	0.107
Telangana=1; Else=0	0.049	0.54	0.093
Uttarakhand=1; Else=0	-0.708*	-3.72	0.190
Uttar Pradesh=1; Else=0	-0.548*	-7.32	0.074
West Bengal=1; Else=0	-1.002*	-13.47	0.074
Sikkim =1; Else=0	1.297*	7.46	0.173
Arunachal Pradesh=1; Else=0	-0.778*	-2.95	0.263
Nagaland=1; Else=0	0.231*	2.64	0.087
Manipur=1; Else=0	-0.618*	-2.68	0.230
Tripura=1; Else=0	-0.438*	-5.21	0.084
Meghalaya=1; Else=0	-0.806*	-10.06	0.080
Delhi =1; Else =0	-0.593*	-4.77	0.124
D & Nagar Haveli=1; Else=0	-0.242*	-3.09	0.078
Goa=1; Else=0	0.381*	2.91	0.131
Puducherry=1; Else=0	-0.059	-0.64	0.093
No. of observations		35581	
R-squared		0.2377	
F (42,35538)		156.17	
Prob>F		0.0000	

*Note: *, ** and *** denotes the level of significance at 1 per cent, 5 per cent and 10 per cent, respectively.*

The coefficients associated with states like Andhra Pradesh, Chhattisgarh, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Telangana, Sikkim, Nagaland and Goa are statistically significant and positive indicating that households in these states find favourable conditions including legislative regime to lease in land. The coefficients associated with remaining states and union territories were negative and statistically significant implying that households in these states are constrained to lease in land because of, among others, restrictive tenancy legislations, agroclimatic conditions, low productivity, etc.

A logit model with robust standard errors has been estimated to quantify factors affecting odds of a household opting for share tenancy. The results presented in Table 23 show that the odds of a household opting for share tenancy are two times higher for a 1 per cent increase in the age of the head of the family and when the head of the household is male. A 1 percentage increase in the area under irrigation increases the odds of a household opting for share tenancy by 1.35 times. While a 1 per cent increase in the values of factors like owned land, literacy of the head of the household, self-employment in agriculture, ownership of livestock, growing high value crops and falling below poverty line reduce the odds of a household opting for share tenancy. Among different states, a unit increase in household in the states of Bihar, Madhya Pradesh, Odisha, Uttarakhand and Uttar Pradesh increases the odds of a household opting for share tenancy by 2 to 3 times while a unit increase in household in Assam, Jharkhand and Meghalaya increases the odds of a household opting for share tenancy by 10, 5, and 7 times, respectively. In other states and union territories, the odds for opting share tenancy are negative.

IX

POLICY INITIATIVES

9.1 Consolidation of Holdings

Sub-division and fragmentation of holdings have been serious problems with Indian agriculture. Considering seriousness of problem, consolidation of holdings was suggested way back in the first five-year plan. It was stated that the programme for the consolidation of holdings should be expanded and pursued with vigor in different states. However, while the legislative provisions have been made in most of the states except Tamil Nadu, Kerala, Arunachal Pradesh, Manipur, Meghalaya, Nagaland and Tripura, the progress in implementation is extremely low and uneven except in the states of Punjab, Haryana, Western Uttar Pradesh, Maharashtra and in Bihar and Gujarat to some extent. It has been argued that a strong base of irrigation among small and marginal farmers in Punjab became possible only due to consolidation of holdings. The estimates of the area cumulatively consolidated show that by 2000 around 40 per cent of the cultivated area was brought under consolidation (Chadha, Sen and Sharma, 2005). The psychological, physical and institutional factors such as lack of legal provision for compulsory consolidation of

holdings in some states, problem of proper valuation of land, inadequate availability of trained staff, lack of adequate financial resources, and so on have been responsible for slow and uneven implementation of this extremely important legislative measures.

TABLE 23. FACTORS AFFECTING PROBABILITY OF A HOUSEHOLD OPTING FOR SHARE TENANCY IN RURAL INDIA: RESULTS OF LOGIT REGRESSION MODEL

Dependent Variable: Households opting for share tenancy = 1; Others = 0			
Independent Variable	Odd ratios	Robust SE	Z value
Constant	0.010*	0.005	-8.98
Log of age of the head of family	2.051*	0.142	10.35
Log of owned land	0.947*	0.017	-2.95
Gender: Male=1, otherwise=0	2.388*	0.226	9.19
Education of head of the family: Literate=1, Illiterate=0	0.836*	0.042	-3.52
Social category: ST/SC=1, otherwise=0	0.816*	0.041	-3.94
Self-employed in agriculture=1, otherwise=0	0.876**	0.052	-2.22
Livestock: Own=1, otherwise=0	0.626**	0.145	-2.01
Grow high value crops=1, otherwise=0	0.623*	0.079	-3.69
Access to irrigation=1, otherwise=0	1.356*	0.089	4.65
Poverty: BPL=1, otherwise=0	0.866*	0.841	-2.97
Andhra Pradesh=1; Else=0	0.187*	0.085	-3.66
Assam =1; Else=0	10.147*	4.456	5.28
Bihar =1; Else=0	2.899**	1.225	2.52
Chhattisgarh=1; Else=0	1.975	0.876	1.53
Gujarat =1; Else=0	1.269	0.606	0.50
Haryana =1; Else=0	0.357**	0.159	-2.30
Himachal Pradesh=1; Else=0	0.018*	0.017	-4.40
Jammu & Kashmir=1; Else=0	0.338**	0.174	-2.10
Jharkhand=1; Else=0	5.190*	2.328	3.67
Karnataka=1; Else=0	1.664	0.773	1.10
Kerala=1; Else=0	0.106*	0.049	-4.78
Madhya Pradesh=1; Else=0	2.100***	0.924	1.69
Maharashtra=1; Else=0	0.665	0.295	-0.92
Odisha =1; Else=0	2.951**	1.257	2.54
Punjab =1; Else=0	0.032*	0.018	-6.07
Rajasthan=1; Else=0	1.173	0.513	0.37
Tamil Nadu =1; Else=0	0.267**	0.155	-2.27
Telangana=1; Else=0	0.682	0.327	-0.80
Uttarakhand=1; Else=0	3.450*	1.656	2.58
Uttar Pradesh=1; Else=0	2.158***	0.911	1.82
West Bengal=1; Else=0	1.156	0.490	0.34
Sikkim =1; Else=0	0.023*	0.013	-6.35
Arunachal Pradesh=1; Else=0	0.087*	0.050	-4.25
Tripura=1; Else=0	0.318*	0.143	-2.54
Meghalaya=1; Else=0	6.907*	2.973	4.49
Delhi =1; Else =0	1.250	0.629	0.44
Goa=1; Else=0	0.144***	0.163	-1.71
No. of observations	35356		
Wald chi^2	1991.68		
P value	0.0000		
Pseudo R^2	0.39		

Note: *, ** and *** denotes the level of significance at 1 per cent, 5 per cent and 10 per cent, respectively

9.2 Ceiling on Landholdings

As mentioned above, ceiling laws were enacted in two phases. While Phase I covered the ceiling laws during the late fifties and the sixties, phase II came in 1972 when more stringent ceiling laws were enacted to plug the loopholes of phase I laws. However, while the laws enacted in phase II were more ambitious, their implementation also failed in most parts of rural India. The dismal progress in the implementation of these laws has been discussed, among others, by Sharma, 1992, 1997 and Chadha, Sen and Sharma, 2005. The latest available data on the progress of the implementation of ceiling laws across major states is provided in Table 24. The table shows that a very small proportion of net sown area has been declared surplus across most of the states with the notable exceptions of Andhra Pradesh, Assam, Bihar, Himachal Pradesh, and West Bengal. However, the area distributed as a per cent of net sown area is negligible, less than one per cent, in ten states (Chhattisgarh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Punjab, Rajasthan, Tripura), and varies between around one per cent to around three per cent in four states (Uttar Pradesh, Tamil Nadu, Odisha and Himachal Pradesh). In the remaining states, it was as high as around sixty per cent in West Bengal, sixteen per cent in Assam, nine per cent in Bihar and eight per cent each in Andhra Pradesh and Kerala. At the all-India level, around 5 per cent of the net sown area has been declared surplus, 4.42 per cent has been taken possession and 4.12 per cent has been actually distributed to 57.25 lakh beneficiaries.

9.3 Computerization of Land Records

It has been universally recognized that recording of land rights and their periodic updating is an essential pre-requisite for effective land record strategy. Keeping this in mind, a centrally sponsored scheme on the computerization of land records was launched in 1977-78 with 100 per cent central government financial assistance in eight districts of as many states viz Rangareddy (Andhra Pradesh), Sonitpur (Assam), Singhbhum (Bihar), Gandhinagar (Gujarat), Morena (Madhya Pradesh), Wardha (Maharashtra) Mayurbhanj (Odisha) Dungarpur (Rajasthan). These initiatives aimed at removing the problem of manual maintenance and updating of land records for ensuring timely and accurate copies of record of right to the landowners. The scheme was later extended to whole country. The Ministry of Rural Development provided funds to the state governments for site preparation, data entry work and other miscellaneous expenditure. Though land and its management are state subjects, Central government has been assisting the states and union territories by providing financial assistance and technical support to digitize the land records.

TABLE 24. PROGRESS OF IMPLEMENTATION OF LAND CEILING LAWS IN SELECTED STATES OF INDIA, 2015

State	Area declared surplus (ha)	Area taken possession (ha)	Area distributed (ha)	Total beneficiaries	Area declared surplus a % of net sown area	Area taken possession as % of net sown area	Area distributed as % of net sown area
Andhra Pradesh	791638	643948	561717	466803	12.75	10.37	7.52
Assam	613405	575337	545875	445862	21.90	20.54	15.92
Bihar	523504	431310	353358	461136	10.06	8.29	8.86
Chhattisgarh	75081	72183	60681	27452	1.61	1.55	0.59
Gujarat	237547	181410	163050	37219	2.43	1.86	0.38
Haryana	105783	101932	101166	29351	3.00	2.89	0.83
Himachal Pradesh	316556	304895	6167	6259	57.45	55.33	1.14
Karnataka	174087	166793	235458	57667	1.74	1.67	0.58
Kerala	133399	100017	70833	168841	6.59	4.94	8.35
Madhya Pradesh	223264	190449	134202	47061	1.47	1.26	0.31
Maharashtra	725078	670815	634158	139755	4.22	3.90	0.81
Manipur	1830	1685	1682	1258	0.42	0.39	0.29
Odisha	184713	175066	160633	143474	4.40	4.17	3.42
Punjab	144999	104315	98691	28334	3.50	2.52	0.68
Rajasthan	592927	564464	453531	77655	3.29	3.13	0.43
Tamil Nadu	208442	200312	190703	150905	4.31	4.14	3.12
Tripura	1995	1994	466803	1424	0.78	0.78	0.56
Uttar Pradesh	371323	343047	267248	305934	2.25	2.08	1.86
West Bengal	1407927	1317214	1051731	3126727	26.85	25.12	59.64
All-India	6845000	6148000	5094000	5725000	4.93	4.42	4.12

Source: (i) Department of Land resources, Ministry of Rural development, Government of India

(ii) Data on Net Sown Area for different states has been taken from Hand Book of Statistics on Indian States (2024), Reserve Bank of India, Mumbai

Digital India Land Records Modernization Programme (DILRMP), a revamped version of old National Land Records Modernization Programme (NILRMP) approved in 2008 as centrally sponsored scheme, is a Government of India initiative launched in 2016 to modernize the management of land records, minimize the scope of land/property disputes and enhance transparency in land records maintenance system. The Ministry of Finance has extended the scheme from 2021-22 to 2025-26 with an outlay of Rs.875.00 crores adding two new components, namely, computerization of all revenue courts in the country and their integration with land records and consent based linking of Aadhaar number with Records of Rights (RoR). A significant progress in the computerisation of land records has been made across states and union territories. Table 25 shows that twenty-nine states and union territories have completed equal to 90 per cent or above the task of computerisation of their land records while in five states and union territories the computerisation of land records is going on and has been completed more than ninety per cent. Only in two states, namely, Arunachal Pradesh and Meghalaya the computerisation of land records is yet to start.

TABLE 25. PROGRESS OF COMPUTERIZATION OF LAND RECORDS ACROSS STATES AND UNION TERRITORIES OF INDIA, AS ON 31-12 2022

Completed equal to or above 90 %	Ongoing and above 90 %	Not started
Andaman and Nicobar Islands, Andhra Pradesh, Bihar, Chandigarh, Chhattisgarh, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Kerala, Lakshadeep, Madhya Pradesh, Maharashtra, NCT of Delhi, Odisha, Puducherry, Punjab, Rajasthan, Sikkim, Tamil Nadu, Telangana, The Dadar Nagar Haveli and Daman and Diu, Tripura, Uttarakhand, Uttar Pradesh and West Bengal	Assam, Ladakh, Manipur, Mizoram and Nagaland	Arunachal Pradesh and Meghalaya

Source: Annual Report, 2022-23 Annexure XXX, p. 407, Ministry of Rural Development, Government of India, New Delhi

X

LIBERALIZATION OF LEASE MARKET

Agrarian structure in rural India today is characterized by the preponderance of extremely small and tiny holdings that are increasingly becoming non-viable. Factors like increasing population pressure coupled with general lack of rural non-farm employment opportunities, liberal land inheritance laws, the precarity of informal sector non-farm livelihoods, absence of social safety nets and land being an important

source of security to fall back upon in case of emergency as happened during covid-19 pandemic with reverse migration of workers from towns and cities to their villages and a hedge against inflation will contribute towards persistence and proliferation of extremely small and tiny holdings (Rigg et al., 2016). While legal ban on sub-division of holdings below a certain level may not be politically advisable in a society where attachment to land continues to be very high for a variety of socio-cultural-demographic and economic factors, it may provide a useful countervailing effect in a society where inheritance customs lead to extremely small farms (Binswanger at al. 1995).A well-functioning liberalized lease market with certain safeguards like allowing resumption of leased out land for personal cultivation after the expiry of lease period, as has been suggested in the model land leasing law of the NITI Aayog, 2016, may be a more viable option in today's context where households of different size categories participate in lease market according to their resource endowment and nature of their livelihoods. National Agricultural Policy (2000) also emphasises need for the development of lease market for raising the size of holdings. It has been argued from time to time that the goal to promote agricultural efficiency, equity and poverty reduction and realizing economies of scale can be accomplished through liberalizing lease markets where ownership rights are inalienable and use rights are freely tradable without any encumbrances (Mishra, 1997; Rao 1995; Rao and Gulati, 1994 and Stickler and Chaudhury, 2021)[11]. Since land sales markets in rural India are extremely thin and a farmer sells land only as the last resort, liberalization of lease market with adequate safeguards would encourage smallholders to migrate and exit agriculture without fear of losing their ancestral land.

A plethora of micro studies from different regions of the country have shown that today's lessors are different from those in the fifties, the sixties and the seventies when many amongst them did not take interest in agricultural operations and were leasing out land to control tenants by exploiting them through a variety of interlinked contracts in the land, labour and credit markets (Datta et al., 2014; Sharma, 2005; Sharma, 2005; Rathi, 2019). It has been reported that the medium and large lessors are themselves taking keen interest in the cultivation of leased out land, most notably, in terms of input cost sharing and thus absorbing greater risks and uncertainty. There is, however, a need for introducing certain safeguards while liberalizing lease markets so that the fears of small and marginal farmers losing their land to lessors from medium and large farmers are allayed. For example, it is suggested that a provision should be made in the amended legislations that under no circumstance lessees from medium and large farmers be allowed to buy land from small and marginal lessors. Another apprehension expressed by the farmers is the repayment of loan raised by the lessees against the leased in land. It is, therefore, suggested that it should be clearly provided in the legislation that lessees will be squarely responsible for the repayment of any such outstanding loan after the expiry of period of lease period and resumption of land by the lessors. Besides, it has also been suggested to fix a lease period, beyond which lessor is allowed to resume land for personal cultivation, defining as to

what constitutes the damage to soil, provision for termination of lease with the change in land ownership on account of sale or gift unless new landowner and lessee mutually decide to continue the lease and termination of lease if the lessee keeps the land fallow (Mani, 2016). It is also suggested that different states and union territories should amend their tenancy legislations in view characteristics of tenants and landlords, prevailing local tenancy practices and agricultural production systems.

XI

KEY MESSAGES AND POLICY OPTIONS

The key messages and the policy implications following from the preceding analysis are summarized follow:

First, despite the fact that enactment and implementation of land ceiling acts did not make significant impact in terms of the amount of land declared surplus and actually distributed to the beneficiaries due to ineffective and half-hearted implementation, it succeeded in halting increase in concentration of land. As a matter of fact, the extent of inequality in the distribution of landholdings, measured by Gini ratio, has declined significantly over the period. The concentration of land at top levels has also declined fairly significantly. Nevertheless, these measures have not led to an increase in the land base of multitude of landless and near landless households; there has been a very small increase in area owned accounted for by households at the bottom fifty per cent. The gains from these measures have percolated down to the middle level peasantry. In brief, even though the land ceiling laws have reached dead end in terms of insignificant proportion of net sown area declared surplus and actually distributed to the beneficiaries and little gains to the households at bottom of land ownership hierarchy, their removal at this juncture may prove to be counterproductive because of unrelenting population pressure on land on the one hand and general lack of alternative sources of employment, on the other.

Second, unrelenting population pressure on land and consequent subdivision and fragmentation of holdings has led to a huge proliferation of extremely small and tiny holdings of less than half a hectare posing a serious challenge for the viability of Indian agriculture; these holdings account for around two-thirds of the total holdings and are likely to increase further if not checked through legal and other institutional means. In net terms, the huge presence of these holdings is becoming a major agrarian handicap; in fact, improving the livelihood standard of this multitude of farmers poses a major challenge for policy makers. The urgent policy measures are, therefore, called for to make these holdings economically viable, inter alia, through encouraging them to diversify to high value cash crops including horticulture and livestock and making them more market informed and responsive. In today's contest of emerging high value super retail chain marketing, it is incumbent to persuade smallholders to organize themselves into producers' organizations for improving their bargaining power and securing easy and cheap access to inputs and markets[12].

However, it is also being recognized that "many members of small farm households will increasingly need to find work in the rural nonfarm economy... and what is needed to stimulate rural nonfarm activity is the same as that needed to promote agriculture: a favourable investment climate in rural areas; provision of public goods of roads, power, other physical infrastructure, education, health and safe water; and functioning rural institutions, such as those to facilitate rural financial intermediation, that resolve market failures". (Wiggins, et al., 2010, pp. 1346-47). World Bank (2008) has also suggested providing assistance to farmers to move out of agriculture in addition to shifting to high value agriculture and decentralising nonfarm economic activity to rural areas as pathways out of poverty in transforming countries in south and east Asia.

Third, distribution of land to scheduled caste and scheduled tribe households does appear to have made a perceptible impact as is evident from a significant decrease in the incidence of landlessness among these sections of the society over the period. The proportion of land owned by scheduled tribe and caste households has increased; in case of scheduled tribes, it is little higher than their numerical proportion. However, the extent of differentiation in terms of inequality in distribution of landholdings and concentration of land at different levels continues to be very high among scheduled caste households as compared to households of other social groups; the bottom fifty per cent of these households merely account for 1.73 per cent of the total land as compared to around 12 per cent in case of scheduled tribe households, around 4 per cent in case of OBCs and 7 per cent in case of Others. The enactment and implementation of laws prohibiting alienation of tribal land and also the restoration of alienated land in tribal dominated states does seem to have checked the alienation of tribal land to non-tribals.

Four, incidence of tenancy in different manifestations like proportion of owned land leased out, proportion of operated land leased in and proportion of entirely leased in and mixed holdings has decreased over the period. The land lease market continues to operate in a concealed manner giving rise to very high informal tenancy with all its attendant evils because of restrictive tenancy legislations as has been shown by a plethora of survey-based studies from different regions of the country. Despite recommendations of several committees, expert groups, tenth and eleventh five-year plans and the expert group constituted by the NITI Aayog in 2016, only seven, namely, Andhra Pradesh, Assam, Madhya Pradesh, Maharashtra, Tamil Nadu, Uttar Pradesh and Uttarakhand have so far made changes in their tenancy legislations[13]. Yet another important message is a continuous decline in the proportion of operated land leased in accounted for by share tenancy considered to be more exploitative tenancy arrangements with a concomitant increase in the proportion of operated land leased in under fixed rent tenancy. In fact, fixed rent tenancy including fixed produce is emerging as a dominant mode of leasing in land in rural India.

Five, reverse tenancy in the traditional sense of the term where lessors primarily come from medium and large households and lessees from landless, marginal and small households no longer prevails in rural India. Over a period of time, the proportion of area leased out by medium and large households has decreased significantly while that of marginal and small households has increased. The data show that the practice of leasing in and leasing out land pervades all across farm size continuum notwithstanding various restrictions on leasing in and leasing out land across states. In fact, lease market today appears to have been functioning on the principle of demand and supply where households of different size categories participate according to amalgam of their livelihood and resource endowment.

Six, while expenditure on different inputs by households under different land tenure arrangements such as pure owners, owner cum tenants, fixed rent tenants and share tenants does not show neat patterns, the net returns for owner cum tenants are significantly lower as compared to pure owners and those of share tenants as compared to fixed rent tenants. The average annual household income is also the lower in case of households leasing land under share tenancy and higher for those leasing under fixed rent tenancy. The data also show that among households leasing in for different time periods, expenditure on inputs was higher for those leasing in for one agricultural season and/or one agricultural year while net returns were significantly higher for those leasing in for one and/or more than two agricultural years.

Seven, factors like age of the head of the family, land owned, head of the household being male and self-employed in agriculture have positive and statistically significant effect on the amount of land leased in while worker dependent ratio, literacy of the head of the family, household belonging to scheduled caste and tribe, household owning livestock, growing high value crops, having access to irrigation and below poverty line have negative and statistically significant effect on the amount of land leased in. Across states, the coefficients associated with Andhra Pradesh, Chhattisgarh, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Telangana, Sikkim, Nagaland and Goa are positive and statistically significant indicating that households in these states find favourable legislative regime to lease in land. The odds of a household opting for share tenancy are more than one for an increase in the age of the head of the family, head of the household being male and having area under irrigation. However, increase in the values of factors like land owned, literacy of the head of the household, self-employment in agriculture, household owning livestock, growing high value crops and below poverty line reduce the odds of a household opting for share tenancy. Across states and union territories, odds of a household opting for share tenancy increase by more than one in states like Assam, Bihar, Jharkhand, Madhya Pradesh,

Meghalaya, Odisha, Uttarakhand and Uttar Pradesh while in other states and union territories, the odds for opting share tenancy are negative.

Eight, since rural India is undergoing momentous changes and transformations, there is an urgent need to revisit different issues that were the focus of empirical studies in the seventies and the eighties such as pattern of leasing in and leasing out land, terms of tenancy, interlocking of land, labour and credit markets, productive/allocative efficiency of different tenurial arrangements and duration of tenancy contracts. In addition, there is also a need to study emerging terms of tenancy in because of ongoing diversification and commercialisation of agriculture, implications of keeping agricultural land fallow due to restrictive tenancy legislations for production and productivity; functioning of land sales market; cost and consequences of land fragmentation; persistence of small holders and experience of east Asian countries and small holders moving up to more productive system and those who moving out.

End Notes

1. In the 1970s, some scholars attributed technological backwardness of poor agrarian economies to the prevelance of institution of tenancy in particular share tenancy in conjunction with the exploitation of tenants in the inter related credit and labour markets. See Bhaduri, 1973; Newbery, 1975; Prasad, 1973, 1974; Chandra, 1974; Bhardwaj and Das, 1975.
2. In addition to land ceiling legislations, Vinobha Bhave launched a Bhoodan movement in 1951 to persuade landlords to voluntarily donate a portion of their land to landless households to reduce inequality in land distribution. Approximately 4.4 million acres of land was donated across India.
3. As per land use statistics maintained by the Union Ministry of Agriculture and Farmers Welfare, fallow land as a share of the total cultivated land increased nationally from 6.8 percent in 1970-1971 to 8.5 percent in 2010-2011, despite rising population density over this period. In 2014-15, about 26.2 million ha (18.7 percent of the net sown area) of agricultural land was left uncultivated. Further, an analysis of trends in the fallow land from the 1980s to the 2010s across states grouped according to their level of tenancy restrictions shows that the proportion of the state's geographic area that was kept fallow increased in all states except those without tenancy restrictions, where it decreased (Stickler and Chaudhury, 2021).
4. The difference in the methodological details and the procedure adopted in the collection of data by the National Sample Survey and Agricultural Censuses have been examined by a working group set up by the government of India to reconcile the data on landholdings thrown up by these two sources for the year 1981-82 and 1980-81. See the Report of Working Group to Study the Consistency Between the Estimates of Agricultural Census 1980-81 and the Landholding Survey 1981-82, Ministry of Agriculture, 1989.
5. Because of reorganisation of states in 1956, intertemporal comparability of the 8th round data with those of later rounds was seriously jeopardised. As many as seven major states, namely, Kerala, Karnataka, Tamil Nadu, Madhya Pradesh, Andhra Pradesh, Gujarat and Maharashtra were involved. Adjustments were, therefore, made even though in a less than perfect form in the data on landholdings in respect of the above states, largely taking cognizance of the geographical area transferred/included in these states. For detalis, see Sharma, 1995b.
6. For analysis of distribution of ownership and operational holdings in major states of India and distribution of landholdings among different social groups at state levels covering different time periods, see Sharma, 1992b, 1994, 1997, 1998, 2000a, 2000b and Chadha, Sen and Sharma, 2005.
7. The decrease in the average size of holdings has adverse implications for the economic viability of holdings. However, because of technological advancements, the average size of land required to produce a minimum amount of income to meet consumption needs of an agricultural household and pulling him above the poverty line has decreased over a period of time. For example, Sharma and Malik (2022a) have shown that given the resource use efficiency, the minimum farm size at all-India in 2012-13 at which average monthly income of agricultural households from all sources exceeds average monthly consumption expenditure and poverty-line-equivalent monthly income is 0.90 ha and 0.30 ha, respectively.
8. The extent of the proliferation of holdings, particularly of lower farm size categories and the dimensions

of viability crisis consequent to decrease in the average size of these holdings across major states between 1981-82 and 2012-13 has been analysed in Sharma and Shakir, 2021b.

9. For a summary of theoretical debates see Cheung, 1969; Quibria and Rashid, 1984; Hallagan, 1978; Bliss and Stern, 1982; Otsuka and Hayami, 1988 and Otsuka, Chuma and Hayami, 1992.
10. The effect of different aspects of agrarian relations on the incidence poverty has been discussed in Sharma, 1993.
11. The 15th Finance Commission has recommended that performance-based incentives for states be based on their adoption of land leasing reforms in line with the Model Agricultural Land Leasing Act as one of four key agriculture sector reforms (Stickler and Choudhury, 2020).
12. The role of smallholders in food and nutrition security and the future role of smallholder farming is discussed in more recent publications by Gomez et al., 2020 and Reddy et al., 2025.
13. The existing provision of tenancy laws regarding leasing in and leasing out land across different states have been discussed in Sharma, 2012, and Chadha,Sen and Sharma, 2005 and Niti Aayog, 2016.

REFERENCES

Adams Dale W. and Norman Rusk (1968), "Economics of Cost Share Lease in Less Developed Countries", *American Journal of Agricultural Economics*, Vol. 50, No. 4, pp. 935-942.

Appu, P. S. (1975), "Tenancy Reform in India", *Economic and Political Weekly*, Vol. 10, *No.* 33, pp. 1339–1375.

Allen Douglas W and Dean Leuck (1992), "Contract Choice in Modern Agriculture: Cash Rent Versus Crop Share", *Journal of Law and Economics*, Vol. XXXV, No. 2, pp. 397-426.

Allen Douglas W and Dean Leuck (1995), "Risk Preference and Economics of Contracts", *American Economic Review*, Vol. 85. No. 2, pp. 447-451.

Alston Lee J., S. K. Dutta, and J. B. Nugent (1984), "Tenancy Choice in a Comparative Framework with Transaction Costs", *Journal of Political Economy*, Vol. 92, No. 6, pp. 1121-1133.

Awasthi, M. K. (2009), "Dynamics and Resource Use Efficiency of Agricultural Land Sales and Rental Market in India", *Land Use Policy*, Vol. 26, pp. 736-742.

Baden-Powell , B. H. (1892), *The Land System of British India*, OxfordClarendon Press.

Bandopadhyay D. (1986), "Land Reforms in India: An Analysis", *Economic and Political Weekly*, Vol. XXI, Nos. 25 and 26, pp.A50-A56.

Bardhan, P. K. (1976a),"Variations in Extent and Forms of Agricultural Tenancy-I: Analysis of Indian Data across Regions and Over Time", *Economic and Political Weekly*, Vol 11, No. 37, pp. 1505-1511.

Bardhan, P. K. (1976b),"Variations in Extent and Forms of Agricultural Tenancy-II: Analysis of Indian Data across Regions and Over Time, *Economic and Political Weekly*, Vol 11, No. 38, pp. 1541-1546.

Bardhan P.K. (1979), "Agricultural Development and Tenancy in Peasant Economy: A Theoretical and Empirical Analysis", *American Journal of Agricultural Economics*, Vol. 61, No. 1, pp.48-57.

Bardhan P.K. (1980), "Interlocking of Factor Masrkets and Agrarian Development: A Review of Issues", *Oxford Economic Papers*, Vol. 32, No. 1, pp. 82-98.

Bardhan, P. K., & Srinivasan, T. N. (1971), " Cropsharing Tenancy in Agriculture: A Theoretical and Empirical Analysis",*The American Economic Review*, Vol. 61, No. 1,pp. 48-64.

Bhaduri A. (1973), "A Study in Agricultural Backwardness Under Semi-feudalism" *The Economic Journal*, Vol.83, No. 1, pp. 120-137.

Bhalla Sheila(1977), "Changes in Acreage and Tenure Structure of Landholdings in Haryana:1962-71", *Economic and Political Weekly*, Vol. XIII, No.13, pp. A2-A15.

Bhalla, S. (1983), " Tenancy Today: New Factors in Determination of Mode and Level of Rent Payments for Agricultural Land", *Economic and Political Weekly*,Vol. 18, Nos.19, 20, 21, pp. 835-854.

Bharadwaj, K., & Das, P. K. (1975), "Tenurial Conditions and Mode Exploitation: A Study of Some Villages in Orissa", *Economic and Political Weekly*, Vol. 10, No. 5/7,pp. 221–223.

Bhaumik, S.K (1993), *Tenancy Relations and Agrarian Development: A Study of West Bengal*, Sage Publications, New Delhi.

Bell Clive (1977), "Alternative Theories of Sharecropping: Some Tests Using Evidence from Northeast India", *Journal of Development Studies*, Vol. 13, No.4, pp. 317-346.

Bhue, C., & Vijay, R. (2016), "Importance of Landowning Non-cultivating Households: Some More Evidence", *Economic and Political Weekly*,Vol. LI, No. 25, pp. 19-21.

Binswanger Hans P. and Mark R. Rosenzweig (1986), "Behavioural and Material Determinants of Productions Relations, *Journal of Development Studies*, Vol. 22, No. 2, pp. 503-539.

Binswanger, H. P., Klaus Deininger, and Gershon Feder (1993), "Agricultural Land Relations in the Developing World", *American Journal of Agricultural Economics*, Vol. 75, No. 5, pp. 1242-1248.

Binswanger, H. P., K. Deininger and G. Feder (1995), "Power, Distortions, Revolt and Reform in Agricultural Land Relations." in *Handbook of Development Economics, Vol. III*. Eds. Jere Behrman and T. N. Srinivasan Amsterdam: Elsevier, Ch. 42. pp. 2659-2772.

Binswanger, H. P. and K. Deininger. 1997, "Explaining Agricultural and Agrarian Policies in Developing Countries", *Journal of Economic Literature*, Vol. 35, No. 4, pp 1958-2005.

Bliss, C.J. and Stern, N.H. (1982), Palampur*: The Economy of an Indian Village*, Oxford: Clarendon Press.

Braverman, A. and Stiglitz J.E. (1982), "Sharecropping and the Interlinking of Agrarian Markets', *American Economic Review*, Vol. 72, No. 4, pp. 695-715.

Blyn George (1966), *Agricultural Trends in india 1891-1947: Output Availability and Productivity*, University of Pennsylvania Press, Philadelphia.

Carnham Bruce, H. A. Luther and James O Wilkes (1969), *Applied Numerical Methods*, S John Wiley and Sons.

Cellarier Laurent L. (2021), " Is Landownership a Ladder Out of Poverty"? *World Development*, Vol.146, pp.1-18.

Chadha, G. K., & Bhaumik, S. K. (1992), "Changing Tenancy Relations in West Bengal Popular Notions , Grassroot Realities", *Economic and Political Weekly*, Vol. 27, No.19, pp. 1009–1017& 1089-1098.

Chadha, G. K., & Sharma, H. R. (1992), " Agrarian Relations in India: Comments on Quality of Available Data",*Poverty in India: Data Base Issues*, G.V.S.N. Murty and G.K. Kadekodi. New Delhi: Vikas Publishing House Pvt. Ltd.

Chadha, G K, Sucharita Sen and H. R. Sharma (2004). *State of the Indian Farmer: Land Rersources*, Academic Foundation, New Delhi

Cheung, N.S. (1969), *The Theory of Share Tenancy*, University of Chicago Press, Chicago.

Chandra, Nirmal (1974), "Farm Efficiency under Semi-Feudalism: A Critique and Some of Marginalists Theories and Some Marxist's Formulations", *Economic and Political Weekly*, Vol. IX, Nos. 32,33 & 34, pp.1309-1332.

Datta, Amrita, Gerry Rodgers, Janine Rodgers & BKN Singh (2014), "Contrasts in Development in Bihar: A Tale of Two Villages", *The Journal of Development Studies*, Vol. 50, No. 9, pp. 1197–1208

Deininger, K., & Squire, L. (1998), "New Ways of Looking at Old Issues: Inequality and Growth", *Journal of Development Economics*, Vol. 57, pp. 59–287.

Deininger Klaus (2003), "Land Markets in Developing and Transition Economies: Impact of Liberalisation and Implications for Future Reforms", *American Journal of Agricultural Economics*, Vol. 85, No. 1, pp. 1217-1222.

Deininger Klaus and Songqing Jin (2005)," The Potential of Land Rental Markets in the Process of Economic Development: Evidence from China", *Journal of Development Economics*, Vol. 78, No. 1, pp. 241-270.

Deininger, Klaus, Songqing Jin, Hari K. Nagarajan (2007), "Efficiency and Equity Impacts of Rural Land Rental Restrictions: Evidence from India" *European Economic Review*, Vol. 52, pp. 891-918.

Deninger Klaus, Daniel Ayalew and Tekie Alemu (2008), "Assessing the Functioning of Land Rental Markets in Ethiopia", *Economic Development and Cultural Change*, Vol. 57, No. 1, pp. 67-100.

Deininger, Klaus, Songqing Jin and Vandana Yadav (2013), "Does Sharecropping Affect Long Term Investment? Evidence from West Bengal's Tenancy Reforms", *American Journal of Agricultural Economics,* Vol. 95, No. 3, pp. 772-790.

Galor, O., Moav, O. and Vollrath, D. (2009), "Inequality in Lanownership, the Emergence of Human Capital Promoting Institutions and the Great Divergence", *Review of Economic Studies*, Vol. 76, No. 1, pp. 143-179.

Gavian Sarah and Marcel Fafchamps (1996), "Land Tenure and Allocative Efficiency in Niger", *American Journal of Agricultural Economics*, Vol. 78, No. 2 pp. 460-471.

Gomez Sergio Y. Paloma, Laura Riesgo and Kamel Louhichi (Eds.) (2020), *The Role of Smallholders in Food and Nutrition Security*, Springer.

Government of India (1976), *Report of National Commission on Agriculture, Volume XV*, New Delhi.

Griffin Keith (1979), *Political Economy of Agrarian Change*, Macmillan, London.

Jacoby, Hanan G., and Ghazala Mansuri (2006), "Incentives and Supervision: Revisiting the Sharecropper-Productivity Debate", Unpublished manuscript, World Bank, Washington, DC.

Jodha N.S. (1981a), "Agricultural Tenancy: Fresh Evidence from Dry Land Area"*Economic and Political Weekly,* Vol. 16, No. 52. Pp. A118-A128.

Jodha, N. S. (1981b), "Complex of Concealed Tenancy", *Economic and Political Weekly*, Vol. 16, No. 5, pp. 153-154.

Jodha N.S. (1984), "Agricultural Tenancy in Semi-arid Tropical India", in *Contractual Arrangement, Employment and Wages in Rural Labour Marketsin Asia* (H.P. Binswanger and M. P. Rosenzweig (eds), Oxford University Press.

Johnson, D. G. (1950), "Resource Allocation Under Share Contracts", *Journal of Political Economy,* Vol. 58, No. 2, pp. 111-123.

Joshi P. C. (1975), *Land Reforms in India*: *Trends and Persepective*, Allied Publishers, New Delhi

Hallagan, William (1978), "Self Selection by Contractual Choice and Theory of Share Tenancy", *Bell Journal of Economics,* Vo.l, 9, No.2, pp 344-354.

Heady E.O. (1947), "Economics of Farm Lease Systems", *Journal of Farm Economics*, Vol. 29, No. 3, pp. 659-678.

King, R. (1977*), Land reform: A World* Survey, G. Bell and Sons, London.

Kumar, D. (2016), "Discrepancies in Data on Landholdings in Rural India : Aggregate and Distributional Implications",*Review of Agrarian Studies*, Vol. *6*, No. 1, 39–62.

Laxminarayan, A. H., & Tyagi, S. S. (1977a), "Tenancy : Extent and Inter-State Variations",*Economic and Political Weekly*, Vol. XII, No.22, pp. 880-883.

Laxminarayan, A. H., & Tyagi, S. S. (1977b), "Inter-State Variationsin the Types of Tenancy",Ec*onomic and Political Weekly*, Vol. *12*, No. 39, pp. A77-A82.

Lichtenberg Erik (2007), "Tenants, Landlords and Soil Conservation", *American Journal of Agricultural Economics*, Vol. 89. No. 2, pp. 294-307.

Malvia , H. D. (1954), *Land Reforms in India*, Economic and Political Research Department, All India Congress Committee, New Delhi.

Mandal Somdatta Mandala, Gunjika Vishwanath Misra, Syed Mansoor Abbas Naqvic, Naveen Kumar (2019), "Situational Analysis of Agricultural Land Leasing in Uttar Pradesh*", Land Use Policy*, Vol. 88, https://doi.org/10.1016/j.landusepol.2019.104106

Mani, Gyanendra (2016), "Model Agricultural Land Leasing Act, 2016: Some Observations", *Economic and Political Weekly*, Vol. 51, No. 42, October.

Ministry of Agriculture (1989), *Report of Working Group to Study the Consistency Between the Estimstes of Agricultural Census 1980-81 and the Landholding Survey 1981-82*, Government of India, New Delhi.

Mishra S.N. (1997), "Agricultural Liberalisation and Development Startegy in Ninth Plan", *Economic and Political Weekly*, Vol. 32, No. 13, pp. A19-25.

Murly, D. A and Vijay, R. (2017), "Revival of Agricultural Sector and Increasing Tenancy in India", *Economic and Political Weekly*, Vol. 52, No. 31, pp.18-21.

Murty, C.S. (1987a), "Influence of Socio-Economic Status on Contractual Terms of Tenancy: A Study of Two Delta Villagesof Andhra Pradesh", *Economic and Political Weekly*, Vol. XXIII, No. 39, pp.A111-A120.

Murty, C.S. (1987b), "Impact of Technolgical Change on the Extent of Tenancy and Composition of Tenants: A Study of Two Villages", *Indian Journal of Agricultural Economics*, Vol. XLII, No.3, pp. 286-293.

Murty, C. S. (2004), "Large Farmers in Lease Market: Are Marginal Farmers Affected"? *Economic and Political Weekly*, Vol. 39, No. 29, pp. 3270-3278.

Myrdal Gunar (1968), *Asian Drama*, Vol.II, New York.

Nabi I. (1985), "Rural Factor Market Imperfections and the Incidence of Tenancy in Agriculture", *Oxford Economic Papers*, Vol. 37, No. 2, pp. 319-329.

Nadkarni M. V. (1976) "Tenants from Dominant Class: A Developing Contradiction in Land Reform", *Economic and Political Weekly*, Vol. XI, No.52, pp. A139-A146.

Nair, K. N., Navaneetham, & Dhas, A. C. (1990). *Structural Changes in Landholding in India: A Study Based on NSS Data.* CDS Paper No. 237. Centre for Development Studies, Ulloor, Trivandrum, India.

Newbery, D. M. G. (1975), "Tenurial Obstacle to Innovations", *Journal of Development Studies*, Vol. 11, No. 4, pp. 263-277.

Nanavati M. B. and J. J. Anjaria (1970), *The Indian Rural Problems*, Indian Society of Agricultural Economics, Mumbai.

Niti Aayog (2016), *Report of the Expert Committee and Model Law on Agricultural Land Leasing*, Government of India, New Delhi

Otsuka, K., Chuma, H. and Hayami Y. (1992), "Land and Labor Contracts in Agrarian Economies: Theories and Facts", *Journal of Economic Literature*, Vol. 30, No. 4, pp. 1965-2018.

Otsuka, K. and Hayami, Y. (1988), "Theories of Share Tenancy: A Critical Survey', *Economic Development and Cultural Change*, Vol. 37, No. 1, pp. 1-68.

Pant, C. (1983), "Tenancy and Family Resources: A Model and Some Empirical Results", *Journal of Development Economics*, Vol. 12, No. 1 & 2, pp. 27-39

Parthasarathy G. (1991a), "Lease Market, Poverty Alleviation and Policy Options", *Economic and Political Weekly*, Vol.XXVI, NO. 13, pp.A31-A38.

Parthasarathy G. (1991b), "HYV Technology, Polarisation and Immiseration Controversy", *Economic and Political Weekly*, Vol. XXVI, No. 26. pp. A69-A77.

Pritchard, Bill, Mark Vicol and Rosemary Jones (2017), "How Does the Ownership of Land Affect Household Livelihood Pathways Under Conditions of Deagrarianization? 'Hanging in', 'Stepping up' and 'Stepping Out' in Two North Indian Villages" *Singapore Journal of Tropical Geography*, Vol. 38, pp. 41-57.

Platteau, J.P. (1995), *Reforming Land Right in Sub Saharan Africa: Issues of Efficiency and Equity*, Discussion Paper No.60, United Nations Research Institute for Social Development, Geneva.

Prasad H. Pradhan (1973), "Production Relations: Achilles Heel of Indian Planning", *Economic and Political Weekly*, Vol. VIII, No. 19, pp. 869-872.

Prasad, H. Pradhan (1974), "Reactionary Role of Usurs'Capital in Rural India", *Economic and Political Weekly*, Vol. IX, Nos.32,33 & 34, pp.1306-1308.

Quibria, M.G. and Rashid, S. (1984), "The Puzzle of Sharecropping: A Survey of Theories", *World Development*, Vol. 12, pp. 103-114.

Raj, K. N. (1971),"Ownership and Distribution of Land", *Indian Economic Review,* Vol. 5, No. 1, pp. 1-42.

Ranganathan Thiagu and Ghanshyam Pandey (2017), "Tenancy and Fallow Land", *World Development Perspectives,* Vol.7., No. 8, pp. 28-31.

Rathi, Ankita (2019), "Is Agrarian Resilience Limited to Agriculture? Investigating the "Farm" and "Non-farm" Processes of Agriculture Resilience in the Rural", *Journal of Rural Studies, https://doi.org/10.1016/j.jrurstud.2019.12.015*

Rao V.M. (1974), "Village Lease Market for Agricultural Land Some Approaches for Analysis", *Economic and Political Weekly,* Vol IX, No.26, pp. A55-A62.

Ramakumar, R. and Karan Raut (2024), "Agrarain Transformation and Commercialisation: An Overview of Change in Banana Growing Village in Maharahtra", *Economic and Political Weekly,* Vol. LIX, No. 43, pp. 80-88.

Rao, C.H.H. and A. Gulati (1994), Indian Agriculture: Emerging Perspective and Policy Issues", *Economic and Political Weekly,* Vol. 29, No.53, pp. A158-169.

Rao, C. H. H. (1971),"Uncertainty, Entrepreneurship, and Sharecropping in India", *Journal of Political Economy,* Vol. 79, No.3, pp. 578-595.

Rao C. H. H. (1972), "Ceilings on Agricultural Landholdings : Its Economic Rationale", *Economic and Political Weekly*, No. VII, No. 26, pp. A59-A62.

Rao, C.H.H. (1995), "Liberalisation of Agriculture in India: Some Major Issues", *Economic and Political Weekly*, Vol. 50, No.3, pp. 468-472.

Ravallion, M., & Datt, G. (2002), "Why Has Economic Growth Been More Pro-Poor in Some States of India than Others"? *Journal of Development Economics*, Vol. 68, pp. 381–400.

Rawal, Vikas and Vaishali Bansal (2021), "The Land Question in Contemporary Rural India", SSER Monograph 21/2, Society for Social and Economic Research, New Delhi.

Ray, D. (1978), "The Small Lessors and Big Lessees-Evidence from West Bengal", *Economic and Political Weekly*, Vol. 13, Nos. 52-52, pp. A119-A124.

Reddy, V. Ratna, Dil B.Rahut and Tetushi Sonobe (2025), *Future of Smallholders Farming in Asia*, Asian Development Bank Institute, Tokyo, Japan.

Rigg, Jonathan, Albert Salamanca and Eric C. Thompson (2016), "The Puzzle of East and Southeast Asia's Persistent Smallholder ", *Journal of Rural Studies*, Vol. 43, pp. 118-133.

Sadoulet, E.,A de Janvry and S. Fukui (1997), "The Meaning of Kinship in Share Cropping Contract ", *American Journal of Agricultural Economics*, Vol. 79, No. 2, pp. 394-406.

Sanyal, S. K. (1976),"A Review of the Conceptual Framework of Land Holdings Surveys",*Indian Journal of Agricultural Economics*, Vol.31,No. 3,pp. 1-10.

Sanyal S. K. and S.K.Sinha (1977), "Methodological Problems in Large Scale Sample Surveys", *Sankhya: The Indian Journal of Statistics*, Vol. 39, Series C, Part I, pp. 47-70.

Sarap, K. (1998), "On the Operation of the Land Market in Backward Agriculture: Evidence from a Village in Orissa, Eastern India",*The Journal of Peasant Studies,*Vol. 25, No. 2, pp. 102-130.

Sawant, S. D. (1990), "Distribution of Landholdings from the National Sample Survey",*Indian Journal of Agricultural Economics,* Vol. 45, No. 2, pp. 134-140.

Sawant, S. D. (1991), "Comparative Analysis of Tenancy Statistics: Implications for Concealed Tenancy", *Artha Vijnana,* Vol. 33, No.1, pp. 12-23.

Sen Bhiwoni (1962), *Evolution of Agrarian Relations in India*, People's Publishing House, New Delhi.

Shaban Ali Radwan (1987), "Testing between Competing Models of Sharecropping", *Journal of Political Economy,* Vol. 95, No. 51, pp. 893-920.

Sharma, A. N. (2005), "Agrarian Relations and Socio-economic Change in Bihar", *Economic and Political Weekly*, Vol. 40, pp. 960–972.

Sharma H. R., and Malik S. H. (2022a), "Farm Size and Farmers' Income, Consumption and Poverty in India: State Wise Estimates of Direct Income Support to Farmer Households", *Economic and Political Weekly*, Vol. LVII, No. 26 & 27, pp. 15-22.

Sharma H. R., and Malik S. H. (2022b), "Magnitude and Determinants of Reverse Tenancy: A Study of Agriculturally Developed and Backward States" *Journal of Land and Rural Studies*, Vol. 10, No. 2, pp. 179-195.

Sharma, H. R. and Malik S. H. (2021a), "Distribution of Landholdings in Rural India, 1982 to 2013: Evidence from NSS Data", *Economic and Political Weekly*, Vol. 56, No. 36, pp. 60-64.

Sharma, H. R. and Shakir Hussain Malik (2021b), "Land Distribution Structure, Marginalization of Holdings and Dimensions of Viability Crisis in Indian Agriculture', *Indian Journal of Agricultural Economics*, Vol. 76, No. 2, pp. 207-224.

Sharma, H. R. and Shakir Hussain Malik (2019), "Changing Agrarian Structure in Rural India, 1953-54 to 2012-13: Evidence from NSS Data", *Indian Journal of Agricultural Economics*, Vol. 74, No. 4, pp. 506-526.

Sharma, H. R. (2012), "The Changing Tenancy Relations in India: The Case for Liberalizing", in Land Policies for Inclusive Growth, T. Haque (Ed), Council for Social Development and Rural Development Institute, New Delhi, pp. 237-256.

Sharma, H. R. (2011), 'Functioning of Lease Market and Small Holders: Evidence and Options', in Agrarian Distress in India: Problems and Remedies, B. C. Barah and Smita Sirohi (Eds.), Concept Publishing House, New Delhi, pp. 48-70.

Sharma, H. R. (2010), 'Magnitude, Structure and Determinants of Tenancy in Rural India: A State Level Analysis', *Indian Journal of Agricultural Economics*, Vol. 65, No. 1, pp. 80-100.

Sharma, H. R. (2009), 'Changing Tenancy Relations in Rural India', in Agrarian Reforms, Land Markets and Rural Poor, D. Narasimha Reddy (ed) Concept Publishing Company, New Delhi,pp. 88-122.

Sharma, H. R. (2008), 'Tenancy Relations in India: Legislation, Grassroots Realties and Policy Options', in Contract Farming and Tenancy Reforms, R. S. Deshpande (ed), Concept Publishing Company, New Delhi, pp. 67-78.

Sharma, H. R. (2007), 'Land Distribution and Tenancy among Different Social Groups', *Economic and Political Weekly*, Vol. 42, No. 41, pp. 4183-4185.

Sharma, H. R. (2006), 'Liberalizing the Lease Market', *Economic and Political Weekly*, Vol. XLI, No. 8, pp. 696-698.

Sharma, H. R. (2005), Rapporteur's Report on 'Changing Agrarian Relationships in Rural Areas', *Indian Journal of Agricultural Economics*, Vol. 60, No. 3, pp. 561-570.

Sharma, H. R. (2000a), 'Tenancy Relations in Rural India: A Temporal and Cross-Sectional Analysis', *Indian Journal Agricultural Economics*, Vol. 55, No. 3, pp. 210-222.

Sharma, H. R. (2000b), "Agrarian Structure and Agricultural Development in Rural India: Emerging Trends and Patterns", *Man and Development*, Vol. XXII, No. 2, pp.22-38.

Sharma, H. R. (1998), "Distribution of Landholdings in Rural in India: A Comparative Study of Scheduled Castes, Tribes and Non-Scheduled Castes Tribes", *Artha Vijnana*, Vol. XL, No. 2, pp. 196-226.

Sharma, H. R. (1997), "Land Reforms: Status and Opportunities", in Agricultural Paradigm for the Ninth Five Year Plan Under New Economic Environment, Bhupat M. Desai (ed.), Oxford & IBH, New Delhi, pp. 712-739.

Sharma, H. R. (1995b), *Agrarian Relations in India: Patterns and Implications*, Har-Anand Publications, New Delhi.

Sharma, H. R., Parkash Mehta and Khetrmohan Mohapatra (1995a), "Tenancy Relations and Productive/Allocative Efficiency: A Study in Orissa Agriculture", *Indian Journal of Agricultural Economics*, Vol. L, No. 4, pp. 597-608.

Sharma, H. R. (1994), "Distribution of Landholdings in Rural India, 1953-54 to 1981-82: Implications for Land Reforms', *Economic and Political Weekly,* Vol. XXIV, No. 13, pp. A12-A25.

Sharma, H. R. (1994), 'Distribution of Landholdings in Rural India, 1953-54 to 1981-82: Implications for Land Reforms', *Economic and Political Weekly,* Vol. XXIV, No. 39, pp. A117-A128.

Sharma, H. R. (1993), 'Agrarian Relations and Poverty', *Journal of Indian School of Political Economy,* Vol. 3, No. 4, pp. 519-532.

Sharma, H. R. (1992a), 'Evolution of Agrarian Relations in India', *Journal of Indian School of Political Economy,* Vol. IV, No. 1, pp. 80-105.

Sharma, H. R. (1992b), 'Agrarian Relations in India Since Independence', *Journal of Indian School of Political Economy*, Vol. IV, No. 2, pp. 201-262.

Shergill, H. S. (2019), "Universalisation of Cash Rent Tenancy in Punjab Agriculture", *Indian Journal of Agricultural Economics*, Vol. 74, No. 4, pp. 352-561.

Sinha, J. N. (1982), "Census Economic Data: A Note", *Economic and Political Weekly*, Vol. 17, No. 6, pp. 195-203.

Singh A. and A.S. Kahlon (1976), "The Impact of New Technology on Farm Size, Tenurial Relations and Land Rents in Punjab", *Indian Journal of Agricultural Economics*, Vol. XXXI, No. 3, pp.36-40.

Singh, I. (1989), "Reverse Tenancy in Punjab Agriculture: Impact of Technological Change", *Economic and Political Weekly*, Vol. 24, No. 25, pp. 86–92.

Soule, Meredith J., Abebayehu Tegene, and Keith D. Wieb (2000), "Land Tenure and the Adoption of Conservation Practices", *American Journal of Agricultural Economics*, Vol. 82, No. 4, pp. 993-1005.

Srivastava, R. (1989), "Tenancy Contracts During Transition: A Study Based on Fieldwork in Uttar Pradesh (India)",*The Journal of Peasant Studies*, Vol.16, No. 3, pp.339-395.

Stickler, M. and P. Choudhury (2020), "Land Leasing Reform for Agricultural Transformation", Paper presented at the NCAER Land Policy Initiative India Land Forum 2020, November 24-27, 2020.

Stickler, M. and P. R. Chaudhury (2021), "Agricultutral Land Leasing Reform in India: Strategies to Increase Poor Farmers Access to Land and Related Benefits in India", *World Bank Group*, June.

Stiglitz, J.E. (1974), "Incentive and Risk Sharing in Share Cropping", *Review of Economic Studies*, Vol. 41, No. 2, pp. 219-255.

Swamy Dilip (1988), "Agricultural Tenancy in the 1970s", *Indian Journal of Agricultural Economics*, Vol. XLIII, No. 4, pp. 555-568.

Thorner Daniel and Alice Thorner (1962), *Land and Labour in India*, Asia Publishing House, Bombay.

Thorner Daniel (1976), *Agrarian Prospects in India*, Allied Publishers, New Delhi.

Vijay, R. (2012), "Structural Retrogression in Indian Agriculture and the Rise of "New Landlords": An Empirical Exercise", *Economic and Political Weekly*, Vol. 47, No. 5, pp. 37–45.

Vijay, R., & Sreenivasulu, Y. (2013), "Agrarian Structure and Land Lease Arrangements: An Investigation in Nine Villages in Andhra Pradesh", *Economic and Political Weekly*, Vol. 48,Nos. 26 & 27, pp. 42-49.

Vyas, V. S. (1970,"Tenancy in a Dynamic Setting", *Economic and Political Weekly*, Vol 5, No. 26, pp. A73-A78.

Wiggins, Steve, Johann Kristen and Luis Llambi (2010), "Future of Small Farms", *World Development*, Vol. 38, No. 10, pp, 1341-1348.

World Bank (2008), *World Development Report: Agriculture for Development*, World Bank Washington, DC.

Young, Peyton and Mary R. Burke (2001), "Competition and Custom in Economic Contract: A Case Study of Illinois Agriculture", *American Economic Review*, Vol. 91, No. 3, pp. 559-573.