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RESEARCH NOTES

SUBDIVISION OF LAND AND SOIL QUALITY BIASES: A STUDY OF PROPERTY RIGHTS IN INDIAN AGRICULTURE

Empirical evidence from a large number of developing countries indicates that small farms have a higher output per acre than large farms. In spite of the obvious significance that this has in influencing policies on land reforms and optimal farm size, theoretical explanations of the empirical regularities have generally been unsatisfactory. Recently, there is increasing evidence which suggests that a major reason for small farms being more productive is that they tend to be situated on better quality land than larger farms.¹ One explanation is to be found in a historical trend of the legal and quasi-legal (customs, etc.) superstructure of the countryside. In this paper we shall put forward this explanation by concentrating on property rights during inheritance and analysing how these interact with certain economic variables to produce a negative relation between the size of farms and quality of land.

The history of subdivision in land and its implications has been a neglected area in the studies of developing agriculture. While a number of glib statements are made on the impact of fragmentation, little serious research exists on the interrelation between fragmentation and productivity. A major reason for this has been a lack of data on the process of subdivision and the reasons for the occurrence of fragmentation. Without a data base it is, therefore, only possible in this paper to review some of the legal factors that have historically led to subdivision and then attempt to understand the role that these have played in determining farm productivity patterns. In addition, with virtually no data on land heterogeneity, evidence on the relationship between land quality and the subdivision of holdings can at best be indicative or suggestive.

Our focus will be on Indian agriculture with specific reference to the category of owner-operated farms. As a system of production these farms occupy a dominant role in agricultural production, with the owner-operated area being 95.57 per cent of total area under cultivation.²

Peasant proprietorship has been historically characterized by stagnant production and low investment rates. The peasant is the free owner of his land which is his principal instrument of production. The greater proportion of the output is generally consumed as a direct means of subsistence by the producers themselves, and only the excess amount is marketed. In an overall sense, agriculture under this system is relatively little developed and fragmentation of capital predominates among the many producers who exist in economic isolation from one another. Under these general charac-

1. For a survey of the evidence and further data, see Roy (26, 27). For the debate on the relation between farm size and productivity, see (2,3,4,28,29).

2. National Sample Survey (NSS) (35).

teristics,³ production by this system has remained more or less unchanged over the centuries during which only the ownership of land changed from one generation to the next.

THE RULE OF INHERITABLE EQUIVALENCE

Hindu Laws of Inheritance have played an important role in the subdivision and consequent fragmentation of farms in India.⁴ Keatinge (17) once wrote that "to a great extent, no doubt, the uneconomic holding is the result of the Hindu Law of Inheritance" (p.53). More recently, India's First Five Year Plan considered "small and uneconomic holdings as the root cause of the many difficulties in the way of agricultural development" (p.193). While these traditional views may oversimplify the case against subdivision of land, Dutt has shown more precisely how it can act as a significantly retarding factor in the development of capitalism in Indian agriculture.⁵

In any case, whether one adheres to the 'traditional view' on the evils of fragmentation⁶ or not, its significance in the general characterization of Indian agriculture cannot be denied. However, even though fragmented holdings have plagued Indian agriculture for centuries, it is sad to record an almost total neglect of this field for serious research. One result of this has been a common linguistic confusion between the terms fragmentation and subdivision. As the difference in the meanings of these terms is important and since we shall be using them regularly, the distinction should be clearly stated at the outset.

Borrowing from the Report of the Royal Commission on Agriculture: "Fragmentation is quite different from subdivision, and refers to the manner in which land held by an individual (or undivided family) is scattered throughout the village in plots separated by land in the possession of others. If all the fields held by an individual are contiguous so he can pass from one to the other without traversing any land but his own, his holding is said to be compact; and if this feature is brought about by design, it is said to be consolidated" (34. p. 129).

Subdivision, on the other hand, is a *process* by which land gets divided amongst the various heirs according to the Hindu Laws of Inheritance. Thus fragmentation is the description of an existing condition, a photograph, at any point in time; while subdivision is a flow variable with a time dimension. Subdivision is a cause, in fact one of many causes, of fragmentation.⁷

3. This category of peasant farming has been subjected to a number of different interpretations by economists. One description which is essentially empiricist in nature is provided in the usual definition of 'peasant economies' (6,7,12,32). An alternative, relatively less exposed but more 'theoretical' description, can be found in 21, pp.804-813.

4. Cf. Mann (20), Desikar (11), Fukutake *et al.* (15) and for an opposing viewpoint, see Pandit (24).

5. See also Lenin (18), p.181, on fragmentation and crop failure.

6. The traditional viewpoint is most eloquently expressed in Darling (8). However, see also Warriner (33), Patel (26), Myrdal (23), Mann (20), Desikar (11) and Keatinge (17).

7. And, as we shall see later, Hindu customs and laws of inheritance cause fragmentation in several different ways besides just the division amongst progeny.

In India, according to Myrdal, there are "no farms in the sense of stable and compact agricultural properties. There are only fragments of land and each farmer cultivates as his 'holding' a number of fragments which lie scattered in the fields surrounding the village, intermixed with strips cultivated by other farmers" (23, p. 1370-1371). While there are numerous reasons for this great prevalence of fragmentation in India, nevertheless the subdivision of land through succession of ownership in property is probably the most important cause of fragmentation—and it is this aspect that we shall be concentrating upon.

Inheritance of property in rural India has been, until very recently, almost always intestate (wills are seldom, if ever, drawn up even today). Subdivision is, therefore, carried out according to local customs and laws of inheritance that are derived from ancient edicts. What is the nature of these customs and laws of inheriting land, and how have they affected the size and the productivity of farms in India?

The two main Hindu 'Laws' of Inheritance are known generally as Mitakshara and Dayabhaga. The former is broadly accepted in most parts of India except in the eastern regions (especially Bengal) where Dayabhaga prevails.⁹ Both these systems derive from the Dharma Shastras, which, being revelations (*sruti*), are said to come directly from divine words (the Vedas).¹⁰ They, therefore, carry greater weight than the Dharma Sutras which are based only on tradition and have only peripheral (customary) influence on the inheritance patterns in the countryside.

Thus the position when the British arrived in India was that Hindu Law was flourishing in its various forms across India. "Hindu Law was the oldest continuous system of Law, and its materials were, in their richness and diversity, superior to Roman Law, while the longevity of its institutions altogether excluded anything which any other system could proffer" (19, p. ix). Once the East India Company servants were made responsible for administering the law under Warren Hastings in 1772, considerable changes took place, except in the law on "inheritance and succession to land" which remained always under the purview of existing Hindu Laws.¹¹ As a result, the dominance of Mitakshara and Dayabhaga in the countryside has continued uninterrupted for centuries.¹²

8. We shall go into the details of the Hindu Laws of Inheritance only very briefly. For a fuller and more complete description of this complex subject, see Lingat (19), Derrett (9, 10), Kane (16), Maynes (1) and Sen (31).

9. Systems other than these two prevail in some regions like Kerala and North-Eastern tribal areas.

10. The Vedas (approximately, 11th Century B.C.) were received as revelations (*sruti*) directly heard; and, from them came the Dharma Sutras and the Artha and Kama Shastras. Of the Dharma Shastras, the most celebrated are those of Manu, Yajnavalkya and Narada, and from the first two the main laws of inheritance were derived (e.g., Manu, Book IX, 17th Marga). Two separate systems, Mitakshara and Dayabhaga, arose as a result of differing interpretations of the Shastras. The author of the Mitakshara system was Vijnaneswara (1125 c) and the author of Dayabhaga was Jimutavahana (1100 c); the latter being, according to some "a product of sectarian reformism" (e.g. 15). Traces of inheritance rules are also found in the Dharma Sutras, which unlike the Shastras are only indirectly derived and based on tradition (*smriti*). Examples of *smriti* are the Puranas, the Mahabharata and Ramayana, and the six Vedangas. Dharma Sutra derives from Kalpa, one of the six Vedangas; some of the most important Dharma Sutras are by Vishnu, Vasishtha, Bandhyana, and—two that are particularly important for inheritance customs—Gautama and Apastamba [for a slightly different interpretation and description, see Dutta (14)].

11. Cf. 9. In 1781 the Government of India act confined Hindu Law to certain well demarcated areas, one of which was inheritance.

12. With the addition of the Hindu Code Bill and three major acts: Hindu Inheritance (Removal of Disabilities) Act 1928; Hindu Law of Inheritance (Amendments) Act 1929; and Hindu Womens' Right to Property Act 1937.

Under Mitakshara, all living males of a joint family own the estate jointly. Even while the father is alive, his sons and grandsons have equal rights on the property that he has. This is because ownership rights begin at birth—as soon as a male descendant is born he holds a right to the land that is equal to any of the other male heirs—and these rights are terminated at death. With 'survivorship'¹³ being the only criterion of ownership everyone's share in the estate rises and falls with deaths and births in the family respectively.¹⁴

However, the concept of joint ownership under Mitakshara means that no one is allocated any particular portion of the land; there are only hypothetical shares. If there are 8 heirs, each one owns one-eighth of the land, but no one knows which particular eighth is his. Now, if a male descendant is born into the family, the number of heirs rises to 9 and, therefore, the share of each heir falls to one-ninth of the estate. Conversely, if there is a death, the number of heirs would fall to 7, and the hypothetical share of each would rise to one-seventh of the estate.

The other major system of inheritance, Dayabhaga, is very different in these respects. While the father is alive his sons have no right at all to the property. Once the father dies, his sons are allocated fixed portions of the land. If there are 5 sons, each son becomes entitled to one-fifth of the land after his father's death, and these portions are carefully earmarked on the farm. This demarcation of the land according to the rights of the several sons is carried out even if the joint family does not split, each heir knows precisely which part of the land is under his full ownership.

Both these systems, Mitakshara and Dayabhaga, have contrary tendencies towards and against the breaking up of joint family holdings. Under Mitakshara, a binding characteristic is that of common ownership of the land—where no one is demarcated any particular share, the holding remains conceptually as well as practically one cohesive unit. Under Dayabhaga, where each heir has his own share carefully chalked out and he has total rights over this portion,¹⁶ the likelihood of the joint family property breaking up is greater.

On the other hand, divisive forces can arise in Mitakshara because any male member has the right to demand partition of the estate at any time, even against the will of all the other members of the joint family.¹⁷ Only at this stage, when it comes to the actual partitioning of the estate, are the individual shares properly fixed. This right to break up the family estate that is vested in every single male member of the joint family, does not exist under Dayabhaga. While the father is alive, he has sole and

13. "The joint family property continues to devolve upon the members of the family by survivorship and not by succession" (1, p. 325). Thus under Mitakshara there is no real succession, but under Dayabhaga real succession exists.

14. With the caveat that after the great grandchildren the right to property ceases.

15. Under Mitakshara there is both joint ownership and common possession of the land, but under Dayabhaga there is only common possession, not joint ownership.

16. When a son is born he stands to inherit—after his father's death—only his father's particular portion of the land, he has no rights over any of the other (his uncle's) portions.

17. "Each coparcener has a right to claim a partition, if he likes" (1, p. 325).

complete control of the holding; no son has the right to demand partition until the father's death. This unifying characteristic of Dayabhaga where the title to the land is vested wholly on one person, can also lead to the division of the estate. Because, the father at his sole discretion may decide to sell or dispose of part of the property, and no one can question his decision. Under Mitakshara, the father cannot sell any part of the land without the acquiescence of all the male heirs.

On balance there is generally observed to be a greater tendency for joint families to break up under the system of Dayabhaga. However, as we shall see later, even under Mitakshara, there are increasing strains on the cohesion of joint family units.

There are, of course, many similarities between the two systems.¹⁸ For instance, both show an overwhelming bias in favour of male descendants, with females having little or no role at all.¹⁹ Also it is clear that there is a certain right (though slightly different in each case) to partition the estate by any member that currently holds some right to all or part of the property. There are several other similarities of detail, but perhaps the most important and overriding similarity is the way in which the property is divided up among the inheritors (30).

The manner in which property was to be subdivided was laid down in the Dharma Shastras and in some of the early *smritis*. The basic rule of subdivision has been universally one of equal shares among descendants. Aiyar writes in his rendering of the Maynes' Treatise: "The principle of Hindu Law is equality of division" (1, p. 55). In fact, unequal divisions have been explicitly condemned from early times: Smritichandrika, the Vyarahara Mayaktia, and Viramotrodaya, among others, specifically mention that unequal divisions are forbidden in the Kali age. In Kautilya's Artha Shastra, a case is related where a father was prevented from making any distinction when dividing his property amongst his sons (Shama-shastri, 198).

"Absolute equality is now the invariable rule in all states." This old and fundamental principle of equality in subdivisions²⁰ has continued in all the more recent Statutes and Bills on Inheritance. The rule of equality has been extended to women as well. For instance, the Hindu Code Bill, 1948, Part VII on succession, states that property shall be "divided between his widow and his sons in equal shares" (Chapter II, S. 100, 1,2b). Similar references to equality can be found in the Hindu Succession Act of 1956: "The property of the intestate shall be divided between the heirs....so that they share equally" (para 11).

Even though both laws and customary practice generally require that equality in shares is the rule, still, during the process of implementa-

18. For a detailed and exhaustive list of the differences, cf. Kane (16), Lingat (19), Derrett (9, 10), Sen (31).

19. Manu's famous quote typifies the dependent role assigned to women: "The father protects a woman in her childhood, the husband during her youth, the son in old age; a woman has no right to independence" (30).

20. There are, however, rare exceptions to the general rule, e.g., Gautama: the eldest son should get 1/20th more than his brothers; certain specific properties are listed for the 'middlemost' son and other property for the youngest; the remainder in equal shares.

tion this often causes considerable problems. This is because land has to be divided into portions that are equal in value which may not necessarily mean equal in size.

When land is heterogeneous [which, as we have argued elsewhere (26), is generally the case] *equal value shares do not correspond to each share being of equal acreage*. The operational significance of the requirement of equal value shares is very clear where a holding consists of irrigated and unirrigated plots, land of different levels, soils of various grades, etc. The subdivision of such properties, to be equitable, must be a carefully calculated exercise. Trade-offs between inter- and intra-margin lands, in terms of their quality, become necessary. It is the potential output of each plot that must be considered during these subdivisions, and not the physical dimensions of the different plots measured in ordinary acres.

Thus during the process of subdivision, in order to ensure genuine equality, each part of the holding must be viewed in terms of, and then converted to, what may be called its *inheritable equivalence*. This is done in such a way so as to make certain that only plots of the same inheritable equivalence are traded against each other. This means that, for every one unit of good quality land the inheritable equivalent in terms of poorer quality land must obviously be more than one unit.²¹

The impact of this basic 'rule' of inheritable equivalence on the distribution of land in rural India is significant: it implies that under the Hindu Laws of Inheritance there is an intrinsic and persistent bias in the subdivision of land that *leads to the parcelling out of plots in sizes that are inversely proportional to their quality*.

In the long run the importance of this phenomenon depends, of course, on the frequency with which subdivisions occur and on the degree of heterogeneity of land at the micro, farm level. As far as the latter is concerned, evidence for Indian agriculture shows that heterogeneity of land at the village level is considerable. It would seem that trade-offs between land parcels of different quality would be necessary in most cases of succession in land.

However, the frequency with which holdings are subdivided is not determined only by deaths of the head of the household, as is often thought. "In India fathers frequently distribute their estates during their lifetimes"²² —the possibility of premature subdivisions is also clear from the rights of partition given to the male members of joint families as per the inheritance laws described above. Evidence on subdivision of holdings in India tends to show further that there is a high frequency in the breaking up of estates and that this centrifugal tendency is accelerating. Diskalkar (11), in one of the few detailed studies of this phenomenon, noticed "a growing tendency towards disintegration of joint families" (p. 43).

21. For example, one acre of good, double-cropped irrigated land, would have as its inheritable equivalent several acres of poor, single cropped land. The inheritable equivalent between two types of land would be expressed in terms of a ratio of the acreages of two types of land that produce the same level of output.

22. Cf. Athilinga vs. Ramaswami, Indian Law Reports, 1945, Madras 297 (cited in 19). See also Mukherjee (22) who finds, similarly, that subdivision occurs regularly while the father is still alive.

TABLE I—SECULAR TREND IN AVERAGE HOLDINGS SIZE IN A DECCAN VILLAGE

Year	Number of land holding cultivators	Average size of holding (acres)	Total area (acres)
1771-72	19	40	760
1791-92	35	21	735
1797-98	28	26 ½	742
1811-12	43	15 ½	744
1817-18	42	17 ½	735
1829-30	52	14	728
1840-41	54	14	756
1914-15	156	6 $\frac{3}{8}$	994.5

Source: Diskalkar (11, p.47, Table 7).

Diskalkar's study, which was an exhaustive re-survey of a Deccan village (Pimple Saudagar) originally surveyed by Keatinge (17) found that there had been "excessive subdivision which had progressively increased during British rule and even after" (*ibid*, p.43). Its impact on the village land holdings is clear from Table I.

In a study of land holdings in Bihar between 1936 and 1963, Bose (5) found evidence of a progressive reduction in the size of holdings, which appeared to be "due to the subdivision of holdings resulting from inheritance and bequest" (p. 49). Similarly, even a cursory glance at the National Sample Survey (35) data on average size of holdings in India shows a continuous decline over time.

In the long run, Hindu Laws of Inheritance have had an important effect on the size and distribution of land holdings in India. After many centuries of applying the rule of inheritable equivalence at each succession of property, the inherent and persistent bias in the very process of subdivision would have led to a situation where the size of holdings is negatively related to the quality of land. This may, therefore, provide an explanation for the land values to be higher on smaller farms than on larger farms [see Roy (26)]. It may also help in explaining why there is a negative relation between the percentage of farm area irrigated and the size of farms. There is, of course, the option available to the inheritors to divide each and every fragment into several different shares, and not trade one fragment against another. There is a generally mistaken belief that the former is more common than the latter [Mann (20); Darling(8)]. It was clear from discussions during my field trips in India that it is only comparatively rarely that every fragment of the holding is further subdivided. In most cases the heirs agree amongst themselves to swap one fragment for another. Sometimes, in cases where an unreasonable demand is made to subdivide every fragment, the case is referred to court. The court has the power to decide upon an equitable and feasible partition and its decision invariably involves trade-offs between different types of land.

Two other deterrents exist which reduce excessive divisions. Firstly, several States have legislations on subdivision with the explicit aim of preventing the further subdivision of each plot. Secondly, as the overall holding size becomes smaller and consequently each fragment is also smaller, the tendency to subdivide each tiny fragment becomes less likely and trade-offs become more probable. The data indirectly supports this—see Table II—which shows that as farm size becomes smaller the number of fragments per farm decreases.²³

TABLE II — NUMBER OF PARCELS PER OPERATIONAL HOLDING: ALL-INDIA

Size (acres)	Number of parcels
0.00- 0.49	1.61
0.50- 0.99	2.82
1.00- 2.49	4.41
2.50- 4.99	6.30
5.00- 7.49	7.60
7.50- 9.99	8.30
10.00-12.49	8.47
12.50-14.99	8.43
15.00-19.99	8.87
20.00-24.99	8.60
25.00-29.99	8.50
30.00-49.99	9.06
Above 50.00	9.39
All-India	5.82

Source: NSS (35)

CONCLUSION

In Indian agriculture, where the system of peasant proprietorship is widely prevalent, Hindu Laws of Inheritance tend to exert a long-term pressure of dividing better quality land into smaller holdings and poorer quality land into larger tracts. This is mainly a result of the universal principle of equality in the value of shares distributed to each of the heirs.

23. Causes of fragmentation are several (purchases, distress sales, etc.) of which subdivision is only one, see (5). Hence the large number of fragments on large farms may be the result of various factors other than subdivision; inheritance only acts in a way so as to reduce the number of fragments as the farms get smaller—this happens as fragments get exchanged for one another rather than broken up separately.

We have put forward this 'rule' of inheritable equivalence as a possible explanation for the negative relation between land quality and farm size. This skew in the distribution of land quality is consequently suggested as a basic reason for the existence of an inverse relation between farm size and productivity in Indian agriculture.

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REFERENCES

1. N.C. Aiyar: *Maynes' Treatise on Hindu Law and Usage*, Higginbothams, Madras, 1953.
2. P.K. Bardhan, "Size, Productivity and Returns to Scale: An Analysis of Farm Level Data in Indian Agriculture", *Journal of Political Economy*, Vol.81, No.6, November/December 1973.
3. S.S. Bhalla, "Farm Size, Productivity and Technical Change in Indian Agriculture", in R.A. Berry and W.R. Cline (Eds.): *Agrarian Structure and Productivity in Developing Countries*, John Hopkins University Press, Baltimore, U.S.A., 1979.
4. K. Bharadwaj, "Notes on Farm Size and Productivity", *Economic and Political Weekly*, Vol.IX, No. 13, March 30, 1974.
5. S.R. Bose, "Land Sales and Land Values in Bihar", *Indian Journal of Agricultural Economics*, Vol.XXV, No.2, April-June 1970.
6. V.M. Dandekar, "Economic Theory and Agrarian Reform", *Oxford Economic Papers*, Vol. XIV, No.1, February 1962.
7. M.L. Dantwala, "Small Farmers, Not Small Farms", *Indian Journal of Agricultural Economics*, Vol. XIX, Nos. 3 and 4, July-December 1964.
8. M.L. Darling: *The Punjab Peasant in Prosperity and Debt*, Oxford University Press, London, 1925.
9. J.D.M. Derret: *Introduction to Modern Hindu Law*, Oxford University Press, London, 1963.
10. J.D.M. Derret: *Religion, Law and the State in India*, Faber and Faber, London, 1968.
11. P.D. Diskalkar: *Resurvey of a Deccan Village—Pimple Saudagar*, Indian Society of Agricultural Economics, Bombay, 1960.
12. P. Dorner: *Land Reform and Economic Development*, Penguin, Harmondsworth, U.K., 1972.
13. R.P. Dutt: *India Today*, Manishia, India, 1947.
14. M.N. Dutta: *The Dharma Shastra, Hindu Religious Codes*, Vol. I, Cosmo Publication, New Delhi, 1978.
15. T. Fukutake, T. Ouchi and C. Nakane: *The Socio-Economic Structure of the Indian Village*, Institute of Asian Economic Affairs, Tokyo, 1964.
16. P.V. Kane: *History of Dharmasastra*, 5 Volumes, Bhandarkar Oriental Research Institute, Poona, 1968.
17. G. Keatinge: *Rural Economy of the Bombay Deccan*, Longmans, Green and Co., Delhi, 1912.
18. V.I. Lenin: *The Development of Capitalism in Russia*, Collected Works, Vol.3, Progress Publishers, Moscow, 1967.
19. R. Lingat: *The Classical Law of India*, Tr. by J.D.M. Derrett, Thompson Press, Delhi, 1973.

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20. H.H. Mann: *Land and Labour in a Deccan Village*, Oxford University Press, Bombay, 1917.
21. K. Marx: *Capital, A Critique of Political Economy*, Vol. III, F. Engles (Ed.), Lawrence and Wishart, London, 1972.
22. K. Mukherjee: *The Problems of Land Transfer*, Santiniketan Press, Birbhum, 1957.
23. G. Myrdal: *Asian Drama: An Inquiry into the Poverty of Nations*, Allen Lane, Great Britain, 1968.
24. D. Pandit, "The Myths Around Subdivision and Fragmentation of Holdings: A Few Case Histories", *Indian Economic and Social History Review*, Vol. 6, No. 2, June 1969.
25. G.D. Patel: *The Land Problem of Bombay State*, N.M. Tripathi, Bombay, 1957.
26. Prannoy Roy, "Land Heterogeneity at the Micro Level in India", *Indian Journal of Agricultural Economics*, Vol. XXXVII, No. 4, October-December 1982.
27. Prannoy Roy: *The Relation between Farm Size and Productivity in the context of Alternative Modes of Production*, Ph.D. Thesis, Delhi School of Economics, Delhi, May 1979 (unpublished).
28. A. Rudra, "More on Returns to Scale in Indian Agriculture", *Economic and Political Weekly*, Vol. III, No.43, October 26, 1968.
29. A.K. Sen, "An Aspect of Indian Agriculture", *The Economic Weekly*, Vol. XIV, Nos. 4-6, Annual Number, February, 1962.
30. Bhowani Sen: *Evolution of Agrarian Relations in India*, Peoples Publishing House, New Delhi, February, 1962.
31. P. Sen: *General Principles of Hindu Jurisprudence*, Tagore Law Lectures, University of Calcutta, Calcutta, 1918.
32. D. Thorner, "Peasant Economy as a Category in Economic History", in T. Shanin (Ed.): *Peasants and Peasant Societies*, Penguin, Harmondsworth, U.K., 1971.
33. D. Warriner, "Land Reforms and Economic Development", in Carl Eicher and Lawrence Witt (Eds.): *Agriculture in Economic Development*, McGraw-Hill, New York, 1964.
34. Report of the Royal Commission on Agriculture, Government of India, Government Central Press, Bombay, 1928.
35. National Sample Surveys, 17th Round, No. 162, September 1961-July 1962—Tables with Notes on Some Features of Land Holdings in Rural Areas, Cabinet Secretariat, Government of India, Delhi, 1970.