

AGRICULTURAL TENANCY IN PALANPUR

NARESH KUMAR SHARMA

Planning Unit

Indian Statistical Institute, Delhi

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C O N T E N T S

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Chapter 1

INTRODUCTION

1.1 Motivation and Focus of the Study:

Institutions and arrangements governing the property and use of land are crucial to the development of productive forces. This is true, in particular, of tenurial arrangements. The system of land tenures that prevailed during the colonial period was widely considered the main cause of economic stagnation at the time of India's independence (1947). It was also perceived as highly exploitative of the tenants. Thus, land reforms were accorded the highest priority by the new Indian Government. Soon all the State Legislatures started enacting land reform laws - starting with the Legislative Assembly of Bihar immediately after 1947 and the Legislative Assembly of Uttar Pradesh in 1950. There is little doubt that these measures had a far-reaching impact on productive forces (as well as on the alignment of political power). The aim of the present study is to understand the functioning of agricultural tenancy in contemporary India, and to investigate its policy implications.

Interest in the question of land tenancy and land rent is as old as economics itself. The nature of enquiry has undergone many changes during the last two centuries of research. Classical economists were much concerned with the question of "ground rent", and its relation with different theories of value. There has been vigorous debate on tenancy during the recent past - particularly after Cheung's work (1968,1969a). The central issue during the seventies was the choice of tenancy contract and the "puzzle of share-cropping" (as Quibria and Rashid, 1984, call it).

In the eighties, the focus of the debate shifted to the "interlocking" nature of rural markets in poor agrarian economies. Interlinked contracts have been perceived in different ways. In one perspective, they are seen as the devices of more effective exploitation of poor labour households by a rich landlord (who is often also their only source of credit). Others view interlinkage as a rational response of economic agents functioning in an environment characterised by imperfect or absent markets for factors of production and in the presence of incomplete, assymmetrically distributed and costly information.

Thus, juxtaposed to the historical policy debate that views tenancy as a source of exploitation of the tenant and of productive stagnation is the theoretical view - ranging from the neo-classical to the Marxist - of tenancy (in particular, share-cropping) as an institution of questionable efficiency and of the tenant as being stuck on his "reservation curve".¹ Indeed, the empirical literature itself has largely concentrated in issues such as the "efficiency" of share-cropping.

¹ In this view, the tenant is "pinned down" at his reservation wage, or reservation utility (which incorporates his alternative opportunities), or at the subsistence level.

However, little attention has been paid to the overall allocation of resources under different tenure systems. This involves not only comparing the cultivation practices used under different types of tenure but also investigating how much land is rented or cultivated under different tenure systems. The economic efficiency of different tenure systems is a much larger issue than that of how a particular plot of land is likely to be cultivated under different tenure arrangements. The relationship between tenurial arrangements and economic efficiency has to take note of this important distinction.

To illustrate, consider a situation where tenanted land is cultivated less intensively than owned land (e.g. because the tenant does not reap the full benefits of his efforts), but also where, in the absence of share-cropping opportunities, tenanted land would not be cultivated at all (e.g. because the landlord lives outside the village). In this situation, it would be inappropriate to say that share-cropping is "inefficient", even though the production level on tenanted land is lower than it would have been in an imaginary "first-best" world of costless transactions.

A related point is that tenancy arrangements have to be seen in context. Agricultural tenancy is of very old origin. Byres (1983) traces the existence of share-cropping in Greek, Indian and Chinese societies as early as the 6th century B.C. Though share-cropping has been observed through the ages and very widely geographically, its content has not been the same in all these different contexts.² In other words, the rationale of share-cropping (the motivating factors for its choice as a tenure contract); its implications for the contracting parties; its resulting properties in terms of allocative and economic efficiency; and its relation to technical progress can be understood only in a given context.³

Particular aspects of the context that need to be taken into account are the amount and quality of land and its distribution; the technology of production; the resource endowments of farmers (including

² Two examples can be given to illustrate the point: (1) Byres (1983b) traces the existence of share-cropping in *Kautilya's* times in India (4th century BC). However, this institution bears no resemblance to present day share-cropping in India. In earlier days, property rights in land, as understood today, were non-existent. Instead, a whole set of service classes, along with the *raja* (ruler), had a claim to a share of the produce. Thus, the share of the ruler in the produce, at best, shows a superficial resemblance to the share of a landowner in a modern share-cropping contract. (2) In recent times, share-cropping has been widespread in the stagnant economy of Bengal. Share-croppers have often been poor, resourceless, and found to be at the mercy of the landlords (at least prior to "operation *barga*", which granted full security of tenure to the share-croppers in West Bengal). Landowners were typically seen as averse to any technical progress (Bhaduri, 1973). On the other hand, Wells (1984) traces the resurgence of share-cropping among the strawberry farmers of California in USA to an increasing leverage and mobilization of farm workers vs. capital owners, and to changes in legal structure. She claims that share-cropping not only facilitates but is re-created by capitalist accumulation. In the American context, Reid Jr. (1979) claims that "... profitable innovations ... will likely be adopted more readily by share tenants - while landlords will advertise, advice and oversee the innovations."

³ Chatterjee and Rudra (1989) also point to the free use of the term "tenant" to designate anyone enjoying a share in surplus produce without being the ultimate owner, without reference to the context.

physical assets); their education levels and attitudes towards work and risk-taking (themselves related to income and wealth, among other things). Also important are the characteristics and functioning of factor markets, particularly the labour and credit markets.

These remarks point to the usefulness of an intensive study of tenancy focusing on one particular village. This approach makes it possible to relate tenurial arrangements to relevant features of the village economy, including other exchange relations. This study attempts such an integrated approach, with reference to one village situated in Western Uttar Pradesh: Palanpur. A particular concern of the analysis is to bring out the relationships between tenancy in Palanpur and (1) the decision-making behaviour of farmers and labourers, and (2) the functioning of factor markets. The policy implications of this analysis - in particular for tenancy reform - will also be discussed.

The analytical part of this study builds on detailed field work carried out in Palanpur in 1983-84. The empirical material emerging from this field work will be presented in some detail, and it should be stressed that this descriptive component of the study is an integral part of the research, rather than just its background. Indeed, one limitation of the literature on tenancy is the dearth of detailed empirical accounts of how tenancy is actually practiced in different parts of contemporary India. Collecting the relevant information (despite the sensitive nature of the subject) and organising it in a productive way is a challenging task. The completion of this task with reference to Palanpur is one of the contributions which this thesis modestly offers to scientific knowledge.

1.2. Relation to Earlier Studies:

The review contained in this section can be seen as consisting of two parts: a brief review of theoretical issues and arguments, and a review of empirical studies. The latter begins with a summary of important features of tenancy in Palanpur, and proceeds to compare these findings with those of other studies.

1.2.1. Important Issues:

According to Quibria and Rashid (1984: 104), two questions have dominated studies of share-cropping: (a) why does share-cropping exist at all?; and (b) why is the share-rate equal to one-half in so many different parts of the world? Jaynes (1984: 43) identifies two important and intricately related questions concerning tenancy: (a) what, if any, are the differences in the productive and distributional resource allocation effects of various tenure arrangements?; and (b) what determines the choice of tenancy arrangement?

The important issues that have been addressed in the existing literature may be reorganized in the following way:

- (1) What are the resource allocation effects of different tenure arrangements?
- (2) What motivates the decision to lease at all?
- (3) What determines the choice of tenancy arrangement? In particular, why has share-cropping emerged as a dominant form of tenancy in many economies, and why do several types of tenancy contracts co-exist in the same village?
- (4) How are the gains from production (actually) distributed under different tenure types?
- (5) How are the rent (in fixed-rent tenancy) and share-rate (in share-cropping) determined? In particular, what explains the adoption of a 50% share-rate in most cases?
- (6) Dynamic issues, e.g. the inter-relation of tenancy and technical change.

1.2.2. Theoretical Studies:

The theoretical literature on tenancy is extremely large and an exhaustive review cannot be attempted here.⁴ At a general level, this literature can be meaningfully classified divided into different strands, in terms of alternative analytical tools and points of emphasis. The respective bases of these different strands can be described as follows: (1) Classical thought (including that of Marx); (2) Marxist theory; (3) Competitive analysis; (4) Incomplete or imperfect markets for the factors of production; (5) Costly or imperfect or asymmetrical information; (6) Uncertainty models; (7) Principal-agent models (with the principal maximizing the residual gains); (8) Interlinked transactions; (9) Transactions cost; (10) Cost sharing in share-cropping; (11) Tenancy viewed as a resource adjustment device; (12) Tenancy as a screening device; (13) Insecure short-term leases as an instrument to achieve allocative efficiency; (14) Game-theoretic models; and (15) Anthropological and related approaches, emphasising non-economic factors such as tradition, personal bonds etc.

While some of these approaches overlap, this classificatory scheme brings out the richness of the theoretical literature on tenancy. In this review, an attempt is made to describe some important theoretical issues that have been raised in this literature.

Seeds of many ideas - later developed by modern scholars - are to be found in the works of classical economists, who were primarily concerned with the nature of "ground rent" in the context of theories of value. Tenancy was generally thought to discourage investment, particularly in the case of share-cropping.

⁴ A large number of reviews of the literature on tenancy are already available. Johnson (1950) and Cheung (1969a) provide early reviews, paying particular attention to the classical economists. More recently, useful reviews of the literature have been written by Bliss and Stern (1982), Newbery (1977), Jaynes (1984), Otsuka and Hayami (1989), Pearce (1983), Quibria and Rashid (1984), and Srivastava (1989a).

Jaynes (1984) provides an excellent exposition of the ideas of classical economists on tenancy⁵, and is worth quoting at some length:

"The classical position is that the appearance and adoption of various land tenure systems is a historical-evolutionary process that has been conditioned by the development of *monetized market capitalism* and affected by efficiency-improving changes in the organization of agricultural production. Basic to this position is the idea that there are four primary modes of tenancy:

1. Rent in the form of labor
2. Share rents
3. Fixed rents in the form of produce
4. Fixed rents in the form of money

"They can be ranked from bottom to top with respect to productive efficiency but are ranked top to bottom with respect to evolutionary process.

"This position has been expounded, more or less explicitly, by a list of writers that includes A. Turgot, Adam Smith, Richard Jones, J. S. Mill, Karl Marx, and Alfred Marshall. The most complete statement of the historical-evolutionary basis of the position, from which all subsequent writers on the subject drew, was enunciated by Richard Jones. According to this position the mode of tenancy is dictated by the development of institutions and market conditions required for the support of various tenurial forms. In Jones's words (*Peasant Rents*, p.8), an attempt to understand land rents must be accompanied by the realization that "in the actual progress of human society, *rent has usually originated in the appropriation of the soil, at a time when the bulk of the people must cultivate it on such terms as they can obtain or starve.*" ' (Jaynes, 1984: 44-45)

The tenant is already seen to be receiving his reservation price as he pays monopoly rent. It is suggested: "High or low wages and profit are the causes of high or low price; high or low rent is the effect of it."⁶ That share-cropping discourages investment is already noted by Smith (1982: 491): "It could never, however, be in the interest even of this last species of cultivators [share-croppers] to lay out, *in further improvement of the land*, any part of the little stock which they might save from their own share of the produce, because the lord, who laid out nothing, was to get one-half of whatever it produced. *The tithe, which is but a tenth of the produce, is found to be a very great hindrance to improvement. A tax, therefore, which amounted to one-half must have been an effectual bar to it.*"⁷

However, it was Marshall (1956) who for the first time showed that the above argument could be applied to current inputs (circulating capital), which tend to be under-supplied by a share-cropper *if he is free to choose their level*. The theoretical argument apart, Marshall recognized much merit in share-cropping

⁵ See also Ghosh (1985).

⁶ Adam Smith (1982), Chapter XI, in particular its introductory pages 247-249.

⁷ Emphasis added. Interestingly, the discussion of sharecropping is not to be found in the long chapter on the rent of the land (Chapter XI in Book I) but in Book Three, in a chapter entitled, "Of the Discouragement of Agriculture in the Ancient State of Europe after the Fall of the Roman Empire".

under certain pre-existing economic conditions.⁸ He also recognized that the tenant may not be free to choose input levels. Marshall's theoretical argument can be readily captured from Figure 1.1. A share-cropper will choose to apply OM units of labour, as compared to OL units of labour if labour resources were used efficiently.⁹ Mathematically, given a concave production function F with land (h) and labour (l) as its arguments, the tenant chooses l to solve the following optimization problem:

$$\max_l (1-r).F(h,l) - w.l \quad (1)$$

where r and w are, respectively, the given share rate and market wage. This leads to the familiar first-order condition (FOC):

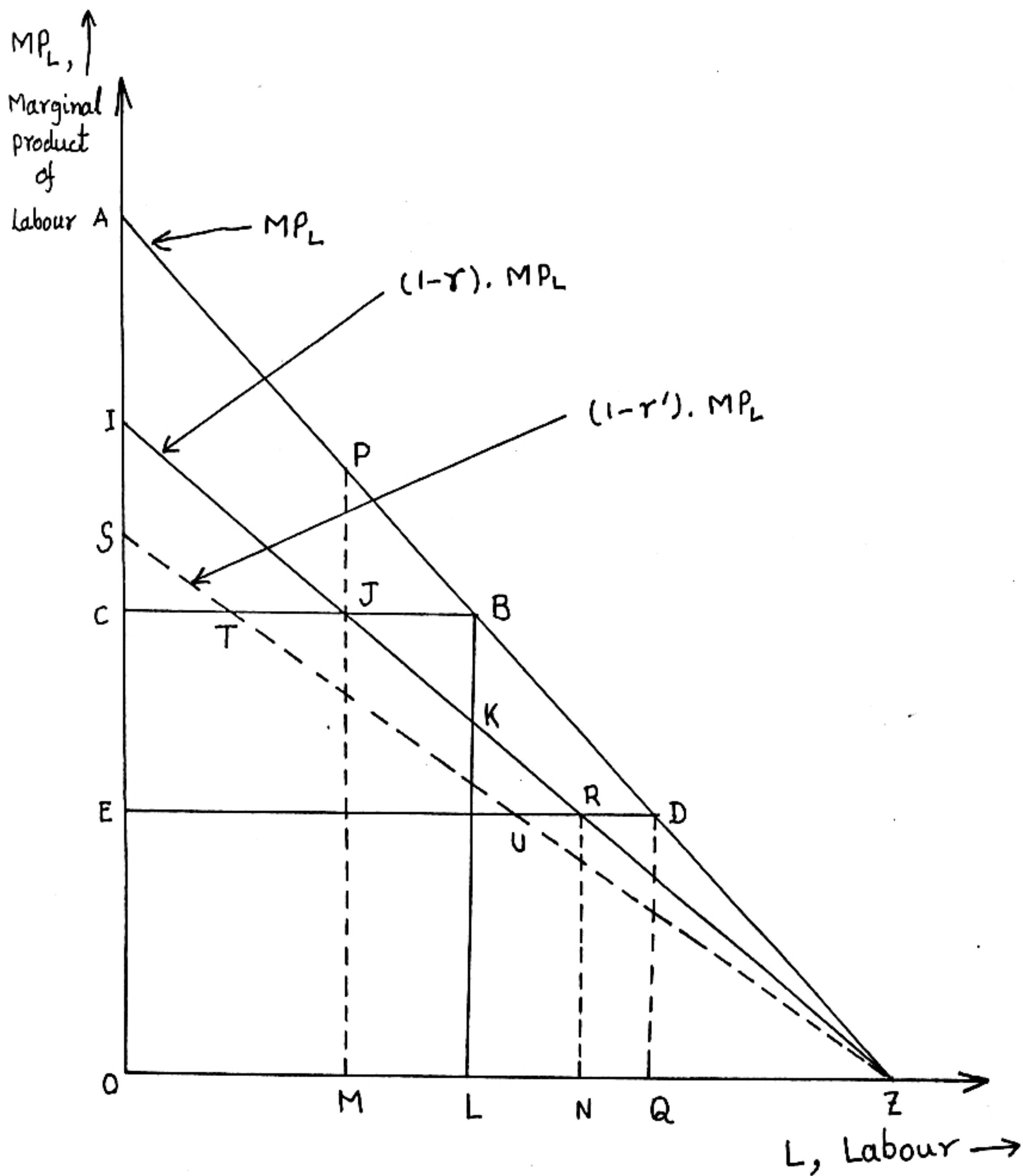
$$(1-r).F_l = w \quad (2)$$

indicating the inefficient use of labour by the tenant since the marginal product of labour (F_l) remains higher than the opportunity cost of labour (w). Bliss and Stern (1982) and Jaynes (1984) emphasize that the so-called Marshallian theory is not Marshall's theory at all but only a demonstration of inefficient allocation of resources *for a given set of market conditions*. Johnson (1950) suggested three ways in which efficiency could

⁸ The preconditions are generally recognized today as absence of perfect factor markets and insurance arrangements.

⁹ Much later, Hsiao (1975) used the Coase Theorem to show that this position is untenable, if there are no transactions costs (for a lucid exposition of the Coase theorem as well as some examples, including that of share-cropping, see Silberberg, 1978: 494-501). According to the Coase theorem, if there are no transactions costs, then "Pareto optimality is necessarily implied", since individuals will exhaust all gains from trade. In Figure 1.1, the share-cropper will choose to apply OM units of labour. However, if further contracting is possible then the landlord will pay the tenant a minimum reward equal to JKB (above the tenant's initial share) for applying labour OL. Both sides stand to gain by further contracting, since the landlord's net gain is equal to JPB. Hence, exhausting all gains from trade implies the same efficient labour application under the wage system or the share-cropping system, provided that there are no transactions costs (it is easy to see that no profitable trade is possible beyond point L on labour axis). This argument is useful in proving that labour allocation will be efficient for any given share rent, r , even if the tenant is free to choose the labour input. This whole approach, however, really ends up showing the non-existence of share-cropping if the share rent itself is open to contracting. To see this, assume that the landlord specifies a higher share for himself ($r' > r$) to begin with. This is represented by the broken line ZUTS in Figure 1.1. The contract will remain acceptable to the tenant so long as $(1-r')MP_l$ (where MP_l is the marginal product of labour) passes through the horizontal line CJB, specifying the market wage rate. By the Coase Theorem, exhausting all possibilities of gain from trade implies a labour input OL, but the landlord receives a net rent of STBA under r' against a lower net rent of LJBA under r . The argument can be applied until the share rent, r , is such that $(1-r)MP_l$ does not cross the line specifying the wage level, except at point C. In this case the contract is anyway effectively reduced to a wage contract and the tenant is pushed down to his reservation curve. From Figure 1.1, it is obvious that the maximum gain to the landowner accrues from wage labour farming. Indeed, existence of transactions costs in the markets for factor inputs, including those arising in the labour market (monitoring and contract enforcement costs, labour dualism), has been considered as an important reason for the existence of share-cropping. And the Coase theorem is inapplicable in such a context.

Figure 1.1: Resource use under share-cropping



be achieved in a share-cropping contract: (1) the landlord grants only short-term leases;¹⁰ (2) he specifies the inputs to be supplied by the tenant; and (3) he shares in the costs. At least the first two of these three routes to efficiency were already mentioned by Marshall. He also recognized that efficiency could be achieved by the landlord providing part of the input costs (circulating capital) "to suit the exigencies of each special case".¹¹

The first route to efficiency in share-cropping (reliance on short-term leases) was formalized by Newbery (1975a). More recently, Taslim (1989) has constructed a model of share-cropping incorporating insecurity of tenure by setting the probability of contract renewal to zero if the yield on the tenanted land falls below a pre-defined level. In this model, only share tenancy and wage contracts exist. Taslim shows that insecurity of tenure ensures a desired intensity of cultivation even when the tenant chooses the input level and the amount of land he may lease. With a strictly concave production function, a stable and unique equilibrium exists so that amount of land leased and the equilibrium floor for required yield are determined by the demand and supply conditions in the market.

The second route to efficiency (i.e. the landlord specifying input levels) was formalized by Cheung (1968, 1969a). Cheung notes that if the tenant is free to make choices about land and labour, then he will have an interest in spreading his labour over larger and larger amounts of land (more precisely, the tenant demands land until the marginal product of land goes to zero). He constructs a model in which the landlord maximizes his income by controlling the amount of land leased, the share rate and the tenant's labour input, subject to the constraint that the share-cropper must get a return equal to labour time multiplied by the market wage rate. In this model, full efficiency is restored as the landlord receives the marginal product of land as rent per unit area and the wage rate equals the marginal product of labour.

Cheung has been criticized by Bliss and Stern (1982) for his mistaken view of Marshall. The most severe criticism of Cheung's approach is found in Jaynes (1982), who quite rightly says (p.347):

"Even before the Lagrangian is formed and the maximization taken, it is a foregone conclusion that the wage will equal the marginal product of labour and the rent per acre equal the marginal product of land. The tenant's representation in this process is superfluous. Tenants make no real choices as to labour supply, but simply choose over various all or nothing offers made unilaterally by the landlords. In a command society, an income-maximizing dictator will choose an efficient allocation too. The role of the wage in Cheung's analysis is just to ensure efficiency. The model is *ad hoc*. Why do not the landowners simply offer tenants the competitive wage?"

Indeed, in his model, Cheung need not have taken the trouble of considering the parcellization of land into m equal parts as a choice variable for the landlord. In any case, m remains indeterminate in the

¹⁰ Johnson himself discussed this route to efficiency at some length.

¹¹ Bliss and Stern (1982: 57-60) provide a formal proof of this proposition.

model. So long as the landlord's choices are subject to the constraint that the share-cropper gets paid *equivalent wages for stipulated labour*¹², the efficiency result is achieved even with just one tenant irrespective of the size of the landholding of the landlord. Cheung's model without parcellization of land is given below. The landlord's problem is to maximize his rent:

$$\max_{r,l} r.F(h,l) \quad (3)$$

$$\text{s.t. } (1-r).F(h,l) = w.l \quad (4)$$

where r , h , l and w respectively are: share rent (controlled by the landlord), size of the landlord's holding, labour input as stipulated by the landlord, and exogenously given market wage rate. From the constraint (4) we immediately obtain the following relationship between the landlord's choice variables r and l :

$$r = \frac{F(h,l) - w.l}{F(h,l)} \quad (5)$$

Accordingly, the landlord's problem reduces to that of production with wage labour:

$$\max_l F(h,l) - w.l \quad (6)$$

with the first-order condition $F_l = w$, which corresponds to efficient labour use.

The only additional result that is achieved by dividing land into m equal parts (for a constant returns to scale production function) is that landlord receives the marginal product of land as his rent per unit area. The same result can be shown without parcellization, given constant returns to scale, by noting that the corresponding production function satisfies

$$F(h,l) = F_h.h + F_l.l \quad (7)$$

implying (from (5) and (7)) that the rent is equal to

$$r.F(h,l) = F(h,l) - w.l = F(h,l) - F_l.l = F_h.h \quad (8)$$

¹² Note that, in Cheung's model, the labour input is stipulated by the landlord and the tenant receives a payment equal to the value of his labour at the market wage, as stipulated by the landlord. Thus, it does not matter whether labour is supplied by the tenant or hired in the market. Indeed, the landlord behaves exactly as he would with a wage labourer. Intuitively, it is clear that parcellization is irrelevant. The landlord already has sufficient controls.

Cheung (1968: 1119) goes on to say that given freely alienable land rights under private ownership, efficient contracts are bound to emerge, even if the landowner is ignorant of farming himself. The above statement does not hold true in a world characterized by uncertainty of production, imperfect or absent markets for some factor inputs and the transaction costs associated with land sale. Cheung claims empirical support for his model from the experience of Taiwan, a claim which has been seriously questioned by Barret (1984) on factual grounds.

Bardhan and Srinivasan (1971) question Cheung's assumption of a competitively determined share rate. They construct a more general model allowing both the landlord and the tenant to maximize their respective utilities over the variables under their control. Thus, the landowner can choose the amount of land he wishes to lease out and the amount of labour he wishes to hire but he cannot choose the quantity of labour to be supplied by the share-cropper. The share-cropper has control over the division of his own labour time between cultivation on leased land, outside employment and leisure. In this model, allocative inefficiency re-appears.

Newbery (1974: 1060) comments that "Cheung was correct in discussing a competitive theory of share tenancy ... [and] the analysis of Bardhan-Srinivasan is incorrect ...". He points out that in their optimization problem Bardhan-Srinivasan (B-S) do not introduce complementary slackness conditions and hence ignore the possibility of available land being insufficient (i.e. that of a corner solution). In particular, he criticizes the equilibrium with zero marginal product of land in the B-S model. Newbery gives a generalization of the competitive model incorporating fixed-rent contracts and production uncertainty. He shows that positive levels of all contracts (wage labour, fixed rent and share-cropping) emerge and are efficient everywhere.

Commenting on this debate, Chao (1983: 295) says: "In fact, the direct application of marginal analysis to share tenancy has created considerable confusion in early economic literature". He suggests that share tenancy be viewed as a partnership arrangement as opposed to a buyer-seller arrangement - a view that finds favourable support from Palanpur (Chapter 6). He points out that unconstrained maximization exercises undertaken by the landlord and the tenant lead to the landlord equating the marginal product of labour to zero, just as the tenant equates the marginal product of land to zero. He suggests that these represent the landlord and tenant tendencies rather than equilibrating conditions that can not be satisfied simultaneously.

Stiglitz's (1974) is the first major contribution incorporating uncertainty in a general equilibrium competitive model of lease contracts. With inelastic labour, if both landlords and workers can mix contracts then the economy is productively efficient. He also shows that, in this world, share-cropping contracts are redundant in the sense that any result with share-cropping can be generated by a suitable mix of pure wage

and pure rent contracts.¹³ With elastic supply of labour and zero enforcement costs, the landlords will specify labour to be supplied by the share-cropper. Newbery (1977) and Newbery and Stiglitz (1979) extend the model to include multiple sources of risk and imperfect information, i.e. information that is costly and asymmetrically held. They show that, in such an environment, share-cropping offers distinct advantages.

Stiglitz attaches great importance to what he has later described as the "Imperfect Information Paradigm". He constructs tests based on internal and external criteria for evaluating alternative theories (Stiglitz, 1986), and shows the superiority of this paradigm. In a later contribution, however, Newbery (1983) questions whether costly and asymmetrically held information as an economic argument for share-cropping is meaningful, given that these contracts are commonly found in communities where landlords and tenants live in close proximity. In fact, Rao (1988) has argued that there are distinct informational advantages of within the village transactions.

Reid Jr. (1975, 1976b) observes that in the presence of uncertainty of a sequential nature (e.g. over crop cycles), share-cropping offers advantages by providing opportunities for re-negotiating the contracts. Basu (1989b) incorporates a limited liability clause in a model of leasing to show the existence of share-cropping as a solution to the landlord's optimization problem. The limited liability clause is simply this: in an uncertain world, the tenant first assures himself of a minimum level of income before the rent liability comes into force.

Newbery and Stiglitz (1979) see three distinct roles played by share-cropping in the presence of costly and imperfect information and in an uncertain world; these relate to (a) incentives (share-cropping vs. wage labour); (b) screening of labourers with different abilities; and (c) resource allocation. In Braverman and Guasch (1984), the need for screening devices in an environment of imperfect information leads to the interlinkage of lease and credit contracts.

The literature on interlinking of transactions is vast (comprehensive reviews are provided in Singh, 1990, and Taslim, 1988). Interlinkage of transactions has been viewed by some scholars (e.g. Bhaduri, 1973, and Bharadwaj, 1974, Pant, 1980, Srivastava, 1989b) as devices for the exploitation of poor tenants by powerful landlords, and has been seen as a characteristic of semi-feudalism.¹⁴ On the other hand,

¹³ An elegant proof of such equivalence relation is also given in Bliss-Stern (1982). They specify the conditions necessary for obtaining this result and discuss how each of these condition may be violated in the real world. Currie (1981) treats with suspicion any assertion claiming "equivalence" (in terms of resource allocation under them) or any dogmatic ranking of alternative institutional arrangements such as share-cropping and fixed rent tenancy. He has constructed models of land market in a competitive framework.

¹⁴ The semi-feudalism argument has been repudiated by Gupta (1980) and Rudra (1978).

interlinkage has also been viewed as a rational response of agents in the presence of uncertainty, imperfect factor markets and assymmetrically held (or costly) information.¹⁵

Parallel to the development of the interlinked transactions approach, in chronological terms, is the development of principal-agent models of leasing behaviour. Ross (1973) formulates the principal's problem as that of setting a fee schedule for the agent in the presence of moral hazard, and suggests that the solution to the principal's problem, in general, will not be pareto efficient. Shavell (1979) shows that if the principal only knows the outcome and cannot observe the agent's effort, and if the agent is risk averse, then the pareto optimal fee schedule has the feature that the agent's reward depends on his effort but he never bears all the risk.

The principal-agent problem is standardly formulated as the maximization of residual gains by the principal after the agent has been assured of a certain reservation price or utility. This formulation is explicit in Hurwicz and Shapiro (1978), who also arrive at the interesting result that the optimum share is 50% for a given class of utility functions of the agent (additively linear in consumption and quadratic in disutility of effort). Eshwaran and Kotwal (1985b) construct a model, using the technique of maximization of residual gains, to explain share-cropping as a widely-observed phenomenon (over time and in different countries) by incorporating supervision and management skills. Their model also has the feature that the optimum share rate does not deviate much from 50%. Bell and Zusman (1976)¹⁶ and Roumasset (1979) construct game-theoretic models leading to share rates close to 50%, whereas Allen (1985) reaches the magic figure by constructing a model incorporating the default hypothesis.

Braverman and Srinivasan (1981, 1984) have constructed a model of tenancy-credit interlinkage showing that even if the landlord only controls the size of the tenant's holding, the tenant is always pinned to his reservation utility level. This has important implications for partial policy reforms: even if the tenant is given access to subsidized institutional credit, its benefits fully accrue to the landlord.

One important theme of the literature on share tenancy has been that of cost-sharing - the third route which Johnson (1950) suggested to allocative efficiency (as mentioned earlier in this section).¹⁷ Early

¹⁵ See Braverman and Srinivasan (1981, 1984), Braverman and Stiglitz (1982, 1986b) and Mitra (1983). Braverman and Stiglitz (1986b) consider the Bhaduri thesis to be plausible.

¹⁶ Bell and Zusman (1976, 1979, 1980), and Zusman and Bell (1989) have written a series of papers applying game theory to the study of contractual markets - in particular markets for rental contracts. More recently Basu and Bell (1991) have used the game-theoretic approach to model the fragmentation of rural markets.

¹⁷ Marx (1974: 803), though he devoted only one paragraph to the phenomenon of share-cropping, already talks of the cost-sharing aspect of share contracts when he says that the landlord and tenant provide parts of the working capital.

theoretical work incorporating cost-sharing to achieve allocative efficiency in share-cropping (without uncertainty) includes Heady (1947) and Adams and Rask (1968). Bliss and Stern (1982) provide a proof of the proposition that, "under certainty, any combination of inputs levels which can be achieved by the landlord stipulating those levels [in a share tenancy contract] can also be achieved by cost-sharing." Bardhan and Srinivasan (1971) show that the equilibrium rent is higher with cost-sharing than without it.

Jaynes (1982), in a model of tenancy with capital rationing (due to imperfect credit markets), arrives at the important result that, "if the landlord and tenant extend credit to one another by sharing cost of capital inputs, profit maximization requires that they enter a share-contract arrangement" (p.358). In a research note, Bardhan and Singh (1987) incorporate moral hazard in a model of share-cropping with cost-sharing where the input levels actually applied are not observable by the landlord. Braverman and Stiglitz (1986a) show that cost-sharing offers no additional advantages over specification of input levels by the landlord if inputs are observable. They argue that the practice of cost-sharing is explained by the presence of imperfect information, since the tenant is in a better position to make input level decisions based on uncertain weather conditions and soil type. This description may be reasonably accurate for non-resident, non-cultivating landlords but is not convincing when the landlord is a resident cultivator of some portion of the land. Sharma and Dreze (1990) have argued that the practice of cost-sharing in the face of imperfect credit market makes share-cropping an attractive tenancy contract when both the tenant and landlord households face resource constraints.

Alston and Higgs (1982) have suggested that different hypotheses formulated in theories of lease markets are complementary rather than competing. They hold the view that *transaction cost* models offer special promise in explaining the empirical diversity of contractual terms over time and space.¹⁸ Transaction costs assume importance in a world characterized by imperfect or absent markets for factors of production. In the Newbery and Stiglitz (1979) model, share-cropping reduces enforcement costs in the presence of labour market uncertainty. Pant (1983) explicitly incorporates family labour (including its management skills) in a model of share-tenancy. Datta and Nugent (1981) argue that share-cropping is explained by different monitoring costs entailed in different types of tenancy contracts. The presence of monitoring costs in Mitra (1983) leads to interlinkage of credit and tenancy contracts. Taslim (1990) presents a model explaining multiple leasing (leasing from/to *many* landlords/tenants) by invoking transactions costs with risk-averse agents. Quibria and Rashid (1986), in a general equilibrium model with imperfect labour and bullock markets, arrive at many interesting and plausible results regarding the supply of share-cropped land as well as regarding the incidence of share-cropping as the parameters of the model are changed. The incidence of share-cropping goes up with greater transactions costs of wage labour and goes down as the elasticity of substitution between the factors of production increases.

¹⁸ On the importance of transactions costs in the economics of contracts, see Datta and Nugent (1989).

The notion of imperfect or absent factor markets (and the related problem of indivisibility of certain capital inputs) leads Bliss and Stern (1982) to construct a model which could be called the Desired Cultivated Area (DCA) or resource adjustment model.¹⁹ The DCA of a household is a function of its resource endowments, including those of (a) family labour and (b) capital assets (including implements). The degree of adjustment to DCA depends on the actual market conditions (in particular the supply of land). In this model, the terms of contracts are taken as given and fixed, and the quantity of land actually leased depends on DCA, land already owned, other resources and the degree of adjustment a household is able to achieve. Further discussion of the DCA model of leasing is contained in Chapter 12.

Absent or imperfect markets for some factor inputs has obvious implications for the intensity of input use under different cultivation arrangements. The simplest way to show this is to consider a simple model of production with land and labour as the only inputs. With dualism in the labour market, the opportunity cost of family labour to the tenant is much lower than the market wage (further discussion in Chapter 7). It is easy to show that labour will be more intensively applied under share-cropping (even when the tenant is free to choose it) than under wage cultivation, when the gap between the market wage and the opportunity cost of family labour to the tenant is sufficiently large (if the latter is less than $(1-r)$ times the market wage). This is demonstrated graphically in figure 1.1. With w_f as the opportunity cost of labour to the tenant, he applies labour ON, which is greater than the intensity of labour (OL) under cultivation with wage labour.

However, this argument does not imply the allocative efficiency of production under share-cropping unless w_f is assumed to be zero (as in Raquibuzzaman, 1973, and Pertev, 1986; the latter assumes leisure to have zero utility). It only questions the notion that the market wage is the appropriate criterion for the efficiency argument. In this model, fixed-rent contracts alone yield efficient production, with intensity of labour use being OQ. To understand share tenancy, invoking market imperfections in the capital market and uncertainty become necessary.

Before concluding this overview of the theoretical literature, brief mention may be made of some interesting contributions from the standpoint of approaches that, in a sense, have not been in the mainstream of the tenancy debate. There is a fairly large body of literature on tenancy that can be regarded as belonging to the Marxist tradition. The Marxist authors have generally focused their theories on the surplus appropriation aspect of share-cropping²⁰, and view share-cropping as a labour process and as an instrument

¹⁹ Studies that emphasize resource adjustment as an important function of tenancy include: Alston and Higgs (1982), BIRTHAL and Singh (1991), Jodha (1978, 1981a), Laxminarayan and Tyagi (1977b), National Commission on Agriculture (1977), Rao (1985), Reid Jr. (1977), and Srivastava (1989a).

²⁰ See, for example, the special issue of the *Journal of Peasant Studies* edited by Byres (1983a). See also Prasad (1987).

by which the landlord has access to the tenant's labour (e.g. Bhaduri, 1983, Pant, 1980). With Marx, they see share-cropping as a transition-period phenomenon (prevailing during the transition from feudalism to capitalism) that should disappear with the development of capitalism (Srivastava, 1989b). Many of them have emphasized the superiority of the Marxist analysis over neo-classical theories.²¹ Perlev (1986) has argued that many puzzles relating to the existence of share-cropping can be resolved by juxtaposing Marxist thought and neo-classical tools of analysis.

Robertson (1987) has taken an entirely different, anthropological approach to the understanding of share-cropping in his study of the tenure systems in Africa. He emphasizes the non-economic factors, the bonds between the parties, and the influence of tradition. He urges analysts to view share contracts in the larger context of social and historical process. Keyder (1983) also emphasizes the role of bonds of loyalty between the landlord and tenant in a share-cropping arrangement.

1.2.3. Summary Observations from Palanpur:

This section provides summary observations about the economy of Palanpur that are relevant to the functioning of tenancy.²² These include basic observations relating to the characteristics of various tenancy contracts and tenancy partners (i.e. lessors and lessees), but not derived empirical findings about the consequences of tenancy for production and distribution. The first three of the observations listed below concern markets (for labour, credit and the services of farm assets) that have an important bearing on tenancy, even though they do not involve land transactions. It will be evident from the review of empirical literature of the next section that these findings are not unique to Palanpur, and that similar observations have been made in many other parts of India by other scholars.

The following are essential features of the Palanpur economy and of tenancy contracts in Palanpur:

1. Agricultural labour is non-homogenous; in particular, family labour and hired labour are not perfect substitutes (Chapter 7).
2. The credit market is fragmented and imperfect (Chapter 8).
3. Many farm assets are indivisible (Chapter 9).
4. Land sales and purchases are rare (Chapter 9).
5. In the lease market, the contract based on a 50% output sharing rule (*batai*) dominates but is not the only share lease contract. Many other output sharing rules exist (e.g. 25% or 33.3% of the produce going to the tenant). However, these cannot be viewed as a continuous spectrum of shares (determined through negotiation, bargaining or competition). Each of these sharing rules

²¹ See particularly Bagchi (1976) and Srivastava (1989b).

²² The places where these observations are discussed in the thesis are referred to in the brackets.

corresponds to a distinct type of share contract (with a distinct local name); the situation can be described as one where there is a given "menu" of share-contracts (Chapter 4).

6. For a given share-cropping contract, input- and output-sharing rules do not vary between different lessors and lessees (Chapter 5).
7. Cost-sharing is a feature of all share-cropping contracts. The costs of non-labour inputs are shared between the lessor and the lessee in the same proportion as output (Chapter 4).
8. There is bargaining over certain non-standardised aspects of the share contracts; in particular, the lessor plays an active role in management decisions, e.g. the choice of cropping patterns (Chapters 4 and 10).
9. Different tenurial arrangements (share rent, fixed cash rent, fixed kind rent) co-exist in the same village. This is, in fact, one aspect of the fragmentation of the land lease market and is not indicative of the equivalence of different types of tenancy contracts (Chapter 5). The fragmentation of rural markets is quite common - see observations (1) and (2) above for labour and credit markets.
10. It is more common for a tenant to lease-in from several landlords rather than to be "tied" to a single landlord. Similarly, land is more often leased-out to several tenants than to a single tenant (Chapter 5).
11. Leases are typically for a short-term duration of one year or one crop season (Chapter 4).
12. There is negligible interlinkage of trade in different factors (Chapter 9).
13. Cash rents are always paid in advance and they are significantly lower in value than average share rents (Chapter 11).
14. Almost all tenants own some land of their own and "pure" tenancy, in the sense of leasing-in of land by the landless, is rare (Chapter 5).
15. There is no evidence of an age tenancy ladder (as proposed by Reid Jr., 1979, for USA). However, one may observe a tenancy ladder in terms of the resourcefulness of households. The latter phenomenon is reflected in the fragmentation of the lease market.
16. Tenants and landlords exhibit very similar socio-economic characteristics in terms of social-ritual status (caste), landholding, economic prosperity etc. (Chapter 5).

1.2.4. Review of Empirical Studies:

This section provides a brief review of empirical studies of lease markets in the contemporary world, with special reference to India. A number of historical studies are helpful in tracing the development of different types of tenurial arrangements. Byres (1983b) provides a grand review of share-cropping over two millenia in different parts of the world. Reid Jr. (1973, 1975, 1976a, 1979), Alston and Higgs (1982) and Mandle (1983) provide historical accounts of tenancy (in particular share-cropping) in USA, and Keegan (1983) a similar account for South Africa. For India, a large number of historical studies of tenancy deal generally with the legal aspects of land tenures and the nature of land rights in general. Few of these studies

make use of non-official data; Reddy's (1985a, 1985b) important historical study of tenancy in a district of south India belongs to that category. Baden-Powell (1892), Chatterjee and Rudra (1989), Cooper (1983), Guha (1987), Gupta (1963), Neale (1962), Padhi (1985), Sharma (1971), Sinha (1968), and Whitecombe (1971) are some important historical studies of land tenures in India. From these studies, it can be seen that the emergence of informal tenancy is a comparatively recent phenomenon and that the tenants and the landlords observed in villages like Palanpur today bear very little resemblance to those portrayed by these historical studies. In these studies, unlike in Palanpur, landlord and tenants are well-defined, stable and highly unequal social groups.

The isolation of village markets has important implications for the contractual arrangements. The idea of a moral economy of villagers is lucidly exposed in Bailey (1971)²³. He claims that villagers consider their dealings (including trade) with outsiders not so much as moral or immoral but rather in an "amoral" perspective. This explains, for instance, many of the relationships that exist between public lending agencies and the villagers. Bardhan and Rudra (1986), and Rosenzweig (1980) note that labour mobility even between neighbouring villages is very low, and that wages are often unequal even across contiguous villages. Rao (1988) notes that leasing out to outsiders is even more problematic and infrequent than inter-village labour transactions.

The importance of uncertainty in agricultural production has stimulated much of the theoretical literature on the rationale for share-cropping; the nature and implications of uncertainty in agriculture have also been the subject of empirical investigation. Binswanger has carried out several interesting studies of the risk-taking behaviour of farmers.²⁴ On the basis of an experiment in risk-taking behaviour, Binswanger (1980: 406) finds that tenants tend to be no more risk-averse than the lessors. In fact, the tenants are found to be less risk-averse when playing for small stakes. This is of some significance in understanding leasing as a partnership (Chapters 5, 6). Rao (1971) finds important links between the risk characteristics of crops and the choice of lease contracts in South India. He finds that share-cropping arrangements are more frequent for crops with low levels of risk that also have little scope for decision-making on the part of the tenant.

Imperfect markets for factor inputs and services have been noted by several scholars. These are reviewed in chapters 7, 8 and 9 for labour, credit and other factors, respectively.

²³ See also Hill (1986).

²⁴ See Binswanger (1978, 1979, 1980), Binswanger, Balaramiah and Sillers (1982), Binswanger, Jodha and Barah (1979); also Jodha (1978).

Tenancy is a widely-used means of facilitating the combination of different factors of production in productive activity. In India, large surveys (e.g. the agricultural censuses and the National Sample Survey) generally underestimate the incidence of tenancy (Jodha, 1981a; Laxminarayan and Tyagi, 1977a, 1977b and 1983; Swamy, 1988). Village studies generally report a much higher incidence of tenancy. One reason is the reliance of large surveys such as the agricultural censuses on land records: in India, tenancy is usually unrecorded, or, as other authors put it, "concealed" or "informal" (see the above references as well as Bliss and Stern, 1982, Shankar, 1980). A significant incidence of tenancy is noted even in States like Kerala where all forms of leasing are illegal (Kumar, 1991).

Share-cropping is the most widespread form of tenancy in India, though there are wide regional variations in the incidence of different types of tenancy. Share-cropping is particularly important in central and eastern India, including Uttar Pradesh (where Palanpur is situated). Jannuzi and Peach (1980), Pandian (1987) and Rudra (1975b) give evidence of share-cropping accounting for virtually all leased land in Bangladesh and West Bengal. A high incidence of share-cropping has also been noted in other countries, particularly in Asia, e.g. Pakistan (Nabi, 1986), Java (Morooka and Hayami, 1989).

While a particular form of tenancy sometimes dominates in a given area, it is common to find many forms of tenancy arrangements co-existing in a village (Newbery, 1977; Rao, 1985; Rao, 1988). The fact that lease contracts are typically short-term is noted by Kumar (1991), Rao (1985) and Srivastava (1989a).

It was noted earlier that many theoretical models are based on a view of the tenant as a poor, landless labourer while the landlord is in a position to "dictate" the terms of contract (subject to providing a certain minimum income or utility to the tenant). There is a good deal of evidence that, as far as the real world is concerned, this view is often seriously misleading. For instance, a large body of empirical literature discusses the observed phenomenon of so-called "reverse tenancy", i.e. leasing-in of land by bigger landholders from smaller landholders (§ 5.2). In Palanpur, we find that the lessees and the lessors come from similar socio-economic backgrounds on average. A similar finding is reported in Singh (1989). A related and important aspect of the contemporary land lease market in Palanpur is the virtual absence of leasing-in by landless households. This is also noted by Bardhan (1976), Bell and Zusman (1976), Chadha and Bhaumik (1991), Jannuzi and Peach (1980), Narain and Joshi (1969) and Pearce (1983). Bharadwaj and Das (1975a), on the other hand, find almost all tenants to be landless persons in a study of some villages in Orissa.

Comparatively few studies have concerned themselves with the details of fixed-rent tenancies. The few that do invariably find that cash rents are paid in advance (Bharadwaj and Das, 1975a; Morooka and Hayami, 1989; Singh, 1989; and Srivastava, 1989a). This suggests that cash-rent leases are seen as important means of raising cash resources, particularly in the light of the fact that cash rents are generally much lower

than the equivalent value of share rents (Bhalla, 1983; Cooper, 1983; Johnson, 1950; Morooka and Hayami, 1989; and Rao, 1971). Of course, other important reasons for advance collection of cash rents, and their low levels, are the high risk of default when the rent is collected after the harvest and the higher production risk faced by the tenant in a cash rent lease.

The sharing of input costs between lessor and lessee in a share-cropping contract is associated with technical advancement in agriculture and is very widely observed today. Jannuzi and Peach (1980) find that the landlord in Bangladesh does not share in input costs. Srivastava (1989a), in a study of three villages of Uttar Pradesh exhibiting varying degrees of technical advancement, finds that cost-sharing is common in the advanced villages but not in the backward village. Rao (1985) and Singh (1989) also report the universal practice of cost-sharing in their study villages. Nabi (1986), in a study of rural Pakistan, finds that some labour costs too are shared by the lessor. Rudra (1975a, 1975b) and Bardhan and Rudra (1980a) note the practice of cost-sharing in a large study of over two hundred villages in four eastern and central States of India, and have reported various patterns of cost-sharing - and their relation to output sharing.

Although share-cropping is popularly seen to be synonymous with the 50% output-sharing rule, evidence of other output-sharing rules has been widely found. Rudra (1975b) gives evidence of some ten output-sharing rules in different villages in eastern India. Jannuzi and Peach (1980) note regional variations in the dominant output-sharing practice in Bangladesh. Bardhan and Rudra (1980a) relate different patterns of output-sharing to different cost-sharing practices. However, the 50% output-sharing rule generally dominates, and, as noted earlier for Palanpur, different output-sharing rules normally correspond to different share-tenancy contracts with different cost-sharing rules (rather than to a different distribution of benefits or balance of power between lessor and lessee).

The phenomenon of interlinked transactions in two or more factor inputs has generated much theoretical literature. However, evidence of the widespread incidence of this phenomenon is rather thin. The strongest empirical evidence of interlinked transactions comes from Bharadwaj and Das (1975a,b). Bardhan and Rudra (1980a) and Rudra (1975a) do find evidence of such transactions in some of the villages studied, but the overall incidence of interlinkage is rather small. Jodha (1981b) and Taslim (1988) too have noted the meagre nature of empirical evidence on this much-discussed phenomenon.

According to one school of thought, the institution of tenancy - and in particular share-cropping - inhibits technical change (innovations). Relatedly, it has been observed that share-cropping has gone down or disappeared with technical progress - particularly with mechanization (See Day, 1967; Bhalla, 1976, 1977, 1983). The first that tenancy inhibits technical innovation was put forth by Bhaduri (1973) and has been supported by Jannuzi and Peach (1980) in the case of Bangladesh and by Mandle (1983) in case of USA. However, most scholars consider this view with suspicion. Bardhan and Rudra (1980a,b) cite evidence from

the very same region, held as an example by Bhaduri, to show that the lessor does not come in the way of innovations. Hart (1986), Nabi (1986) and Rao (1985) among others have found that the existence of tenancy is no impediment to technical progress. This conclusion fits with the observation that lessors generally take a lot of interest in cultivation decisions, including the choice of technology (Bardhan and Rudra, 1980a,b; Srivastava, 1989a).

In this thesis, a lot of emphasis is laid on the view of tenancy as a device that facilitates the pooling of productive resources (land, labour, credit, farm assets, etc.). Tenancy is seen primarily as an adjustment process of land to other factors of production. This view has been supported from experience by BIRTHAL and Singh (1991), Rao (1985), Jodha (1981b), Reid Jr. (1977). These studies emphasize the gains from cooperation between lessor and lessee, the flexible nature of share-cropping leases, and the notion tenancy as a partnership with strong mutual benefits.

Lastly, the number of empirical studies that focus on the issue of efficiency in the use of factors of production is very large. A review of these studies is taken up in Chapter 11 (§11.1), and we shall omit the details here. The evidence on the question as to whether share-cropping leads to a misallocation of factor inputs remains, so far, inconclusive. A survey of empirical evidence from all these studies suggests that there are at least certain circumstances when cultivation practices on share-cropped land are not significantly different from those adopted on owner-cultivated land.

1.3. Outline:

This study can be seen as consisting of four distinct parts. The first part (chapters 2-3) contains a description of the field work and of the village economy. There have been important technological and demographic changes in the village over past 25 years. Increase in population, diversification in occupations and increasing capital intensive nature of agriculture are some of the factors that are important for functioning of tenancy.

The second part (chapters 4-6) discusses tenancy contracts, and the relationship between the lessors and lessees. Chapter 4 provides a detailed examination of the different types of contracts that can be found in Palanpur. The most frequent tenancy contract, called *batai*, is one where output and cash inputs are shared equally between lessor and lessee. This standard contract coexists with a number of alternative fixed-rent and share-rent contracts. The diversity of available contracts is an importance source of flexibility in the operation of tenancy.

Chapter 5 investigates and contrasts the social and economic status of lessor and lessee households. It is found that lessors and lessees have quite similar backgrounds in terms of characteristics such as land ownership, labour endowments, income and caste. Moreover, changes of tenurial status for particular

households between different years or even seasons are very frequent. These findings are in sharp contrast with the traditional view of "tenant" and "landlord" standing in a rigid hierarchical relationship. It is suggested that this relationship can, in many ways, be more accurately described as a "partnership" or cooperative conflict.

Chapter 6 discusses some further aspects of tenancy partnerships on the basis of qualitative information derived from a "Discussion Questionnaire". While many lessees would like to lease in more land, most lessors do not report any constraint on the amount of land they chose to lease out. Lessees express clear and strikingly similar preferences between different types of contract, with cash rents being preferred over share rents. Lessors express clear preferences in the reverse direction. Both lessors and lessees report that honesty is a highly desirable quality in a lease partner. In addition, many lessors seek resourceful and hard-working lessees. The importance attached to honesty is consistent with the view of tenancy as a partnership where joint decision-making is inevitably important.

The third part (chapters 7-11) examines the insertion of tenancy contracts in the village economy. Particular attention is paid to the relationship between tenancy contracts and the functioning of factor markets. We begin, in Chapter 7, by considering labour transactions, which are of crucial importance in this context. It is argued that a strong "dualism" exists between hired labour and family labour, in the sense that these two can by no means be considered as perfect substitutes. In particular, a great deal of family labour (especially female and child labour) is non-marketable, and is often regarded as having a low opportunity cost by household heads. Tenancy arrangements can then be seen partly as a means to put to use these non-marketable labour resources.

The analysis carried out in Chapter 8 with respect to credit transactions is, in some ways, quite similar. The credit market in Palanpur appears to be highly fragmented, with very different opportunity costs applying to different households or different situations. This must be viewed in juxtaposition with two important empirical findings - (a) generally low levels of household incomes (and hence savings) and (b) high cash (working capital) requirements of modern agriculture. The problematic nature of credit transactions provides a further motivation for particular chosen tenancy arrangements, which can indeed be seen as an alternative means of achieving the combination of land and capital in productive activity. This, in particular, provides a rationale for share-cropping opted by the majority of the cash constrained tenants. Rising (but still at a low level) incidence of cash tenancies can also be understood as a response of poor landowners short of cash who lease-out to raise money where they are unable (or unwilling - in either case due to rigidities in the credit market) to do so in the credit market.

Chapter 9 begins with discussing low volume of land transactions and hence ownership pattern can be taken as a datum. The rest of the chapter briefly discusses markets for other major production factors as well as for agricultural output. In some cases, the transaction costs that pervade labour and credit markets re-emerge here in different forms. For instance, pricing and hiring practices relating to the services of drought power and water extraction devices tend to raise the opportunity costs of these services for non-owners vis-a-vis owners of the corresponding assets, creating a dualism similar to that between family and hired labour. On the other hand, there is little evidence of similar features applying to the purchase of seeds or chemical fertilizer, or to the sale of agricultural output.

Building on these observations, Chapter 10 offers some general comments on the determination of contractual terms for factor transactions in Palampur. A distinction is made between "negotiable" and "non-negotiable" contracts: the terms of negotiable contracts, as the expression suggests, are a matter of agreement or bargaining between the partners involved, whereas the terms of non-negotiable contracts follow village-wide norms or standards. Thus, *batai* is a non-negotiable contract, since the terms of such contracts (including the division of outputs and input costs between lessor and lessee) are the same irrespective of the identity of the partners. The same applies to daily-wage labour contracts: the daily wage rate is the same for all labourers and employers, even though pronounced and known differences exist between the productivity of different labourers. On the other hand, piece-rate labour contracts and fixed-rent tenancy contracts are "negotiable", with compensation levels being based on mutual agreement between the partners. Chapter 10 discusses the implications of this distinction, and various aspects of the determination of contractual terms for both types of contracts. In particular, it is argued that the rigidities intrinsic to non-negotiable contracts in factor markets are an important source of transactions costs.

In the light of these findings, Chapter 11 takes up the much-discussed issue of the effect of tenancy contracts on agricultural practices, output and incomes. Input levels on owned and leased-in (in particular share-cropped) plots turn out to be very similar, and there is no statistically significant difference in output per acre between these two types of plots. Further, crude simulation exercises suggest that land reform programmes of the "land-to-the-tiller" type would have little effect on the distribution of income or even on poverty levels. In other words, the economic changes that result from the shift in the distribution of cultivated land through tenancy are quite similar to those that might result from a corresponding shift in the distribution of the owned land. Compared with a situation where there is no redistribution of either kind, and where tenancy contracts are simply abolished so that the combination of production factors has to take place mainly through labour and capital transactions, tenancy can be seen to achieve a major improvement in the efficiency of resource allocation.

In the final part of the thesis (chapters 12-13), empirical analysis gives way to some theoretical and policy considerations. In Chapter 12 a simple model is developed assuming fixed labour/land and fixed

capital/land ratios. This is in contrast to the marginalist analysis that has been generally favoured in the extant literature. Coexistence of wage labour, share-cropping and fixed (cash) rent tenancy is explained in the model and the coexistence of the latter two is seen as symptomatic of fragmentation in the tenancy market. Most of cash constrained tenants lease-in on share-cropping. Only poor landowners, severely constrained for cash resources lease out on cash rent to cash rich tenants. A modified Bliss-Stern model of leasing behaviour based on the agents trying to achieve their desired cultivated area (itself a function of their labour and capital endowments) through tenancy is developed and estimated. The explanatory power of both the models (Bliss-Stern model as well as the modified model) is much lower in 1984 compared to 1975 Palanpur. Residual analysis indicates that caste appears to have some influence (though coefficient of caste in a regression equation is statistically insignificant). There is no apparent pattern in deviations of the predicted values from the actual observations of the leased area on the landholding scale of the households.

Finally, a summary of findings and some policy implications of this research are presented in the concluding Chapter 13.

Chapter 2

THE FIELD WORK

2.1. Introduction

Village Palanpur was originally chosen for study in 1974 by Profs. C.J. Bliss and N.H.Stern. It was decided to re-survey the village in 1983. This author joined the research team as a Research Associate for the re-survey directed by Christopher Bliss, Jean Dreze, and Nicholas Stern. The reasons for the original choice of Palanpur for a village study (in 1974-75) are discussed by Bliss and Stern (1982) in their book - **Palanpur**.

Palanpur shares much in common with most medium size, irrigated villages of West Uttar Pradesh. Some demographic and crop statistics for Palanpur, Uttar Pradesh (rural) and India (rural), provided in Table 2.1, indicate striking similarity in these details. As compared to all India figures, both Uttar Pradesh and Palanpur show equally poorer literacy levels -- more so for females. Palanpur has much higher irrigation as compared to UP and India and correspondingly has higher cropping intensity. Current crop yields are similar for most of the crops compared except for sugarcane and potato.

The above comparison is not to show Palanpur as a representative Indian village. The exercise is undertaken only to reassure that the study village is not a strikingly unusual one. Table 2.2 gives distribution of villages by size in Uttar Pradesh and India. Palanpur was inhabited by 960 persons in 1983.

The village is small enough to make intensive study at the level of household. At the same time it has enough variation on most counts to provide rich data for analysis. There is enough variety in the terms of different types of contracts for tenancy, labour, credit etc. It is a multi-caste village. There is large variation in income, occupations, land ownership, cultivation holding etc. Thus, the village chosen offered a good ground for understanding various economic phenomena.

Inventory of Information Collected

The collection of data through filling of work-schedules was started in October 1983 and concluded in December 1984. The data was collected for three main crop seasons - Kharif 1983, Rabi 1983-84 and Kharif 1984 and two minor Zaid seasons between Kharif 83 and Rabi 83-84; and between Rabi 83-84 and Kharif 84. Schedules were designed to cover details of village economy, such as:

- (a) **Demographic details** - household structure, education, main and subsidiary occupations, remittances to/from relatives living outside.

Table 2.1: Summary Rural Statistics: Palanpur, UP and India

Item	Palanpur	UP(Rural)	India(Rural)
Population Density (per km ²)	460	314	172
Sex Ratio (1000xF/M)	932	893	952
Muslims/Population (%)	12	13	10
SC-ST/Population (%)	26	23	27
Literacy (%)			
Male	24	35	41
Female	5	10	18
Total	15	23	30
Irrigated area (%)	96	46	29*
Crop Intensity	1.44	NA	1.20
Crop yields (1983-84) (killogrammes/Hectare)			
Wheat	1627	1890	1843
Paddy	2067	1899	2183
Bajra	781	867	653
Jowar	973	845	725
Sugarcane	20170	46353	55978
Potato	11923	18554	15299

Sources: Government of India (1982, 1983, 1984a,b,c, 1985)

Notes: (*) Irrigation for India is for year 1980-1.

1. Demographic details for UP and India for year 1981.
2. SC-ST mean Scheduled Castes and Scheduled Tribes.
3. Per capita incomes for rural UP and India is not available.

Table 2.2: Size Distribution (%) of Villages by Population in Uttar Pradesh and India

Population size group	India		Uttar Pradesh	
	proportion of villages	population	proportion of villages	population
Below 500	48.6	12.5	47.3	14.1
500 - 999	24.4	19.1	26.7	23.7
1000 - 1999	17.0	25.9	18.1	31.0
2000 - 4999	8.4	27.0	7.2	25.3
5000 - 9999	1.3	9.3	0.7	5.2
10000 and above	0.3	6.1	0.1	0.7
Total	100	100	100	100

Source: Government of India; Census 1981, General Population Tables Part II -A(i).

- (b) **Land ownership and its use** - land owned, land cultivated, land leased-in or leased-out with terms of contract; quality of land (from soil tests) and its irrigation status.
- (c) **Crop data** - crops grown, inputs and output separately for each plot of land operated by each household. Information on farm activity on plots (including family labour) for Rabi 83-84 season for a sample of 36 households.
- (d) **Debt and Credit** - amount of original loan, amount outstanding and terms for such lending.
- (e) **Labour market** - sale or purchase of labour and its terms.
- (f) **Inventory of capital goods, livestock and foodstock.**
- (g) **Income** from hire of implements and services, milk production and non-agricultural occupations.
- (h) **Prices of fertilizers and farm produce** in Palanpur and neighbouring markets, and
- (i) **Tenancy** - detailed answers to questions relating to tenancy, carried out for 36 sample households.

2.2. Method of Data Collection

The author stayed in Palanpur for the period of survey. Data (on above mentioned aspects) was collected by the following methods:

- (a) Copies of records on relevant aspects were procured from official agencies and institutions such as: Tehsil headquarters for land records of ownership and land revenue; various lending agencies for data on credit. Interaction with officials of these agencies was useful in understanding their functioning.
- (b) Visits to the neighbouring town to collect price data and neighbouring villages to collect wage data and other comparative information.
- (c) Soil samples from 85 different locations in the village were tested at the Soil Testing Laboratory in Moradabad.
- (d) Interview, generally of an adult male member of a household. Response was good (see §2.5).

The data was collected throughout the survey period. Exceptions to this were credit survey, inventory of capital goods, and tenancy discussion questionnaire which were one time-point surveys. Data was collected for all the households in the village (143 households) except for two schedules as mentioned above (see items (c) and (i), inventory of data) for which data was collected for a sample of 36 households.

2.3. Tenancy Questionnaire and the Sample

A discussion questionnaire was prepared on Tenancy (reproduced in the Appendix to this Chapter) to understand some of the issues concerning share-cropping. This survey was carried out on a sample¹ basis

¹ The sample was drawn in November 1983 initially to collect exhaustive data on cultivation and labour transactions for a crop season - Rabi 1983-84. Such data was collected on a weekly basis, recording all activities undertaken on the farms, inputs applied, sale or purchase of labour and hiring of any services. The

in May-June 1984. It required detailed answers and opinions on several aspects of tenancy. This demanded patience and trust between the investigator and the farmers. After weekly contacts for six months, rapport between the sample households and the researcher was excellent. The sample is representative of the relevant population for this purpose (§2.3.2).

2.3.1. The Sampling Procedure:

The sample was drawn from households of the village that were significantly involved in agriculture. Significant involvement in agriculture means that the household depends on agriculture for its livelihood (income) in a major way. There were 106 households which satisfy the chosen criteria and the sample selected contained 36 households. The relevant "population", described below, consists of these 106 households.

The stratified random sampling procedure was adopted. Criteria for stratification of the population could be ownership holding or operational holding. For the purpose of "Cultivation Schedule", operational holding could be useful criterion for stratification. The ownership holding shows initial endowment position. The operational holding is the result of choices made by a household. Hence, ownership holding is equally suitable to group households in different strata. The data on ownership holding, after cross-checking with the land records from the Tehsil Office, was considered complete and accurate. Data on operational holding was not this accurate at the time of drawing the sample due to problems of obtaining accurate data on leasing at early stages of survey. Thus, ownership holding was considered the most appropriate criterion for stratification after considering all these factors.

After dividing the population into groups by size of land owned, sample households were drawn randomly. The number of households drawn from each group was proportional to size. A random sample from whole population (of agricultural households) was also drawn. The outcome of both these exercises was not fully satisfactory. Some castes were over represented whereas there was not a single household in the sample from some other castes. This was disturbing as caste could be one of the factors influencing decision making process. It was obviously lacking in representativeness, atleast on this score. Finally, the following procedure was adopted.

Each caste was treated as a population to draw the sample. The households within each caste were ranked in decreasing order of landownership. From this ranked ordering of households for each caste, groups of three households were made. One household out of each group was picked at random to give 36 sample households in all.

data is useful to study differences in application of labour (family labour, hired labour or total labour) on owner operated and leased-in plots.

2.3.2. Representativeness:

Different land ownership classes and castes are appropriately represented in the sample due to the sampling procedure adopted. In Tables 2.3 to 2.6 some socio-economic features are provided for the sample, the population of 106 households from which the sample is drawn, and all Palanpur households for comparison. Table 2.3 gives statistical summary of demographic variables. The rest of the Tables concern cultivation holding, lease pattern and cropping pattern for the sample and the larger population.

For comparison of cultivation holding (per household or per capita), the sample base of agriculturally active population (106 households) is considered (Table 2.4) relevant, instead of the whole village population. It is reassuring to see that in terms of demographic characteristics, lease pattern, cropping pattern etcetera the population and the sample are similar and detailed investigations based on the sample are meaningful for the village as a whole. One exception is in kharif cropping pattern - area left fallow is low and under sugar is high for the sample compared to the population (Table 2.6). Per household and per capita cultivation holdings are slightly higher for the sample.

More significantly for the present study, the sample and the population show almost identical lease pattern (Table 2.5). Thus, the questionnaire survey carried out for the sample allows us to explore the functioning of lease market as it operates in the village in relation to motives, rationale, and the economic behaviour of agricultural population.

2.4. On Reliability and Accuracy

Data on each of the transactions was cross-checked from many sources to remove discrepancies and inaccuracy. In particular, data was matched from the supply side and the demand side. The researchers returned to respondents, several times if necessary, in case of discrepancies. Official records on land ownership, and credit from institutions were consulted. As a result, almost complete matching of leased land (plot by plot, and landlord against tenant) could be established. Long stay in the village and constant interaction with the villagers helped generate a good rapport and confidence. As a result, misreporting and concealment is negligible.

2.5. Stay in Palanpur

The author along with Dr. Jean Dreze and Mr. S.S.Tyagi (Jr.) lived in Palanpur for more than a year. Prof. N.H.Stern and Prof. C.J.Bliss paid many short duration visits. The team lived in a building just outside the village residential area, owned by cooperative society, popularly known as the Seed Store. We had engaged a cook from the village who also performed many other jobs in managing our small "research household". He had carried out similar duties during the 1974-75 survey.

Table 2.3: Demographic Statistics - Sample and Population

Item	Sample	Population
(1) a. Population	238	960
b. Number of households	36	143
(2) Mean household size	6.61	6.71
(3) Mean ECU per household	4.76	4.77
(4) (3)/(2)	0.72	0.71
(5) Work Force	67	255
(6) Participation Rate [(5)/(1a.)]	0.28	0.27
(7) Literacy (%)	16	17

Notes:

- (1) ECU = Equivalent Consumption Units
 = (1 men + 0.8 women + 0.5 Children)

These coefficients for men, women and children, in constructing ECU, have been taken from Bliss and Stern (1982). For further reference and discussion on consumption units see Banerjee (1975), Deaton and Muellbauer (1980) and Singh and Nagar (1973). Thus ratio in row (4) captures composition of population in men, women and children in a summary way.

- (2) Workforce is all male population between ages 16 years and 60 years.
- (3) Those who can read or write counted as literate.

Table 2.4: Landholding in Sample and Population

Item	Rabi		Kharif	
	Sample	Population*	Sample	Population*
Land owned	811.67	2397.24	799.94	2421.87
Per household	22.54	22.62	22.22	22.85
Per Capita	3.41	3.15	3.36	3.18
Land Operated	949.02	2605.60	988.26	2549.67
Per household	26.36	24.58	27.45	24.05
Per Capita	3.98	3.42	4.15	3.35
LOECU**	4.7	4.4	4.7	4.5

- Note:** Land holding in bighas (1 acre = 6.4 bighas)
- (*) Only agriculturally active population (106 Households, 762 persons) is included.
- (**) LOECU = Land owned/Equivalent Consumption Units.

Table 2.5: Leasing Pattern (% area) in Sample and Population

Tenure Status	Rabi		Kharif	
	Sample	Population	Sample	Population
Share Contracts	81.7	80.2	88.6	87.1
Fixed Kind Rent	3.1	3.2	1.6	0.6
Cash Rent	10.5	11.3	8.5	9.6
Usufruct Mortgage	4.7	2.1	1.7	2.4
Other Contracts	0.0	3.2	0.0	0.3
Total	100	100	100	100

Table 2.6: Cropping Pattern in Sample and Population

(area under specified crop as % of operational holding)

Season/crop	Sample	Population
Rabi		
Gram	4.5	4.0
Wheat	54.0	54.5
Sugar	24.8	24.2
Others	8.1	8.7
Fallow	8.7	8.6
Total Rabi	100	100
Kharif		
Bajra	6.0	5.0
Jowar	3.3	3.7
Paddy	9.8	9.3
Sugar	29.3	25.6
Bajra Mixed crop	8.4	8.6
Jowar Mixed crop	7.5	7.0
Others	16.0	15.9
Fallow	19.7	24.9
Total Kharif	100	100

Typically, our day began with a round of the village to meet a set of households. Dividing line between work and social interaction is rather thin in a village society. While seeking information on a particular topic, talks may go into other directions at any time. Our social life was governed by the fact that after living in the village for some time (3-4 months) we were at the same time part of the village and outsiders. We were invited to share in their happiness, worries, pains, and in their other day to day affairs. At the same time we could not really be one of their own. At least some of them thought that we had good connections outside and that they should get some benefit out of this situation.

The interviews were held with a well informed and articulate adult male of the household. Respondent for a household, generally, remained a fixed person throughout the survey period. Information was also sought from other members of the household whenever it was found beneficial. On certain demographic matters, women were generally better informed (for example about the age of children or infant deaths in the family). We constructed a calendar of significant events which people may recall easily and hence help in fixing chronology of the events in the family (e.g. birth of a child).

For the first few schedules concerning demographic and land data, the meetings were held either at our residence (Seed Store), or at the village *Dharamshala*. Afterwards the respondents either came to the Seed Store or, more often, we went in search of them to complete the schedules. These questionnaires and worksheets were filled, often in their houses, or in the fields where they were working, or at a tea shop, or at the railway station, or at public meeting places, or even on the way to some of these places - the last could be done only if the information sought was fragmented.

When interviewed in their houses or in the field, the respondents were either alone or with some other family members. But in other places, several people might be present at the time of interview. This was generally helpful, because people - in particular friends knew quite a lot about each others' activities. But when interview was likely to be about some sensitive issue, or it involved the respondent's opinion that might be influenced by others presence or opinion, it was conducted when the respondent was alone.

Filled schedules were scrutinized on the same day. Efforts were made to fill the gaps detected.

Response of villagers was very good. The villagers very often queried about the nature and content of our work. At times there were interesting speculations. There was trust and rapport with villagers and these speculations did not hamper our work. The purpose of collecting this data was explained to them as best as the author could. It appeared that a small minority of respondents had some appreciation of the whole exercise while a majority were left with nagging doubts about this research. However as they were subjected to this exercise periodically over the last three decades, they were also accustomed to this type of activity. There was general confidence and the villagers were cooperative. The atmosphere created was such as to

encourage a free flow of information. They felt free to ask any number of questions ranging from questions about our families, our work, our income to questions about agriculture in Europe. One could see this change in interaction, the growth of mutual trust and friendship over time.

This is not to say that there was never any irritation at all. At times people did show irritation and resentment when they felt that we were pestering and interfering much, or trying to get the same information through many different questions. The author always felt that this was very healthy and showed more equal relationship. For example once a lady of a (sample) Murao household told her son whom we had gone to interview that he should proceed with his work - after all "they have nothing to do whereas you have to worry about the family". Once or twice there was unpleasantness, too.

The author, living in the village and participating in social life, learnt a great deal about the village.

APPENDIX: DISCUSSION QUESTIONNAIRE ON TENANCY:

This questionnaire was addressed to each of 36 sample households.

A. QUESTIONNAIRE FOR LANDLORDS

1. Details of current leased-out plots (for each plot): Name of the tenant, type of contract, terms of contract, duration.
2. Who made the approach for initializing the contract? (for each tenant)
- 3.A) Why do you lease-out? :
Do you have (a) other opportunities (e.g. outside job), AND/OR (b) lack of resources?
- B) How does outside job influence your decision? :
(a) by some out of many working household members,
(b) by the only working household member(s)?
- C) How have the possibilities to hire tractor, thresher, pumpset etc. influenced your decision?
- D) Can you lease out as much as you want to? If not, what are the constraints?
- E) How much land (if any) would you like to cultivate with given resources and resourcefulness? How does the availability of inputs (like labour, bullocks, credit etc.) influence your decision?

(The above question (3E) was given up after interviewing a few respondents as it did not make much sense given that the respondent was already leasing out and that one could lease out as much as one liked. It could not be distinguished from 3.D above.)

4. Comparison of various tenancy contracts:
 - (a) Sharecropping vs. cash rent vs. fixed kind rent,
 - (b) Choice between different share contracts:
Batai, Chauthai, any other.

Give reasons for such preference or choice.

5. How do you choose tenants? (Any particular characteristics you may be looking for and any others you may be avoiding in your tenants).

For share contracts only

- 6.A) How is crop schedule decided? Who has the final word?
- B) How are the inputs decided? Which inputs are decided at the time of contract?
- C) Have there been any disputes about the inputs between you and your tenant(s) in the past? If yes, what were the consequences? (e.g. non application of that input)
7. Are the costs shared? Details of cost sharing. Who bears costs at the time of application? (plot-wise or tenant-wise)
8. Do you insist on same practices on your self-cultivated plots (if any) and on those you lease out? (Can you enforce same practices if you so desire?)
9. Do you feel need to supervise? Do you find it bothersome?
10. History of leasing.

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B. QUESTIONNAIRE FOR TENANTS

1. Details of current leased-in plots. (For each plot):
Name of landlord, type of contract, terms of contract, duration.
2. Who approached to initialize the contract (for each landlord)?
- 3.A) Why do you lease-in at all -- Is it because you have more resources (family labour, bullocks, credit availability)? How much land would you like to cultivate given your resources and resourcefulness?
- B) What are constraints on your leasing capacity?
- C) How does outside job influence your leasing decision:
(a) by the only working household member(s)?
(b) by some working household member(s) out of many?
- D) Have possibilities to hire tractor, threshers, pumping sets etc. made any difference with regard to land available on lease and your leasing capacity etc.?
- E) Would you like to buy land to bring your landholding to the size which you want to cultivate with the available resources (if land were available on sale)?
- F) Can you lease-in as much land as you like (desire) or does potential landlord object if you are 'overstretched'? Is the potential landlord aware of your being 'overstretched'?
4. Comparison of different tenancy contracts:
(a) Sharecropping vs. cash rent vs. fixed kind rent,
(b) Choice between different share contracts:
Batai, Chauthai, or any other.

Give reasons for such preference or choice.
5. Do you seek land in a particular locality? How do you choose your landlord?

For share contracts only

- 6.A) How is crop schedule decided? Who has the final word?
- B) How are inputs decided? Which inputs are decided at the time of contract?
- C) Have there been any disputes about inputs in the past? What were the consequences (e.g. non-application of that input)?

7. Does the contract involve cost sharing? If yes, how are input costs shared? Who bears the cost at the time of application (plot-wise and/or landlord-wise)?
8. Are agricultural practices same on the tenanted and on the non-tenanted (owned) plots?
9. Does the landlord(s) supervise? Is the supervision by the landlord an irritation to you?
10. History of leasing.

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C. QUESTIONNAIRE FOR WAGE-EARNERS

1. Why don't you lease-in land? Do you prefer wage labour to leasing-in of land or is it due to some difficulty in obtaining land on lease (any other constraints in the way of leasing-in)? Give reasons in either case.
2. In cases where a wage-earner wants to lease-in but is unable to get land on lease: which of the lease contracts would you prefer if you could lease-in land and why?
3. History of leasing. Have you leased-in at any time in the past? What were the circumstances at that time? Why and how you stopped leasing?

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D. FOR ALL OTHERS

1. History of leasing

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Further Questions

These discussion questions were addressed to 13 Palanpur respondents randomly encountered on a re-visit. No formal or statistical sampling was undertaken to choose the respondents.

1. **To a tenant** who desires to lease-in more land but is unable to do so:
Will you be willing to offer greater share of output to landlord to obtain land on lease and, if so, will that help?
2. **To a tenant:** Does landlord require you to work on his fields on hire (on ruling wage rate, below that, without paying any wages (*begar*)?)
3. **To a tenant:** Do you seek credit from your landlord? Does he insist that you obtain your credit from him? Is interest charged higher, lower, same as that charged by others.
4. **General:** Do you see any possibility of share of output deviating from 50:50 sharing rule in a share-cropping contract? In favour of landlord?, In favour of tenant?
5. **General:** Are there any constraints on obtaining private credit for productive (investment) purposes?

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THE VILLAGE: LAND AND PEOPLE

3.1. General Features

Location: Palanpur is situated in district Moradabad in west Uttar Pradesh (UP), adjacent to Jargaon railway station on Moradabad-Chandausi line -- 31 kilometres from Moradabad and 13 kilometres from Chandausi. Chandausi is the most important town for Palanpur villagers, being a prominent *mandi* (trade centre). Bilari, about 10 kilometres away, is the *Tahsil* headquarters. There is a sugar mill at Bilari. Palanpur is in development block Bania Khera. Delhi, only 190 kilometres from Palanpur, is a remote place for most villagers.

Climate and Rainfall: This region has three seasons: summer, monsoon and winter. It is dry except for four monsoon months. Normal annual rainfall is approximately 900 mm in west UP plains while in Moradabad it is 950 mm. There is large and uncertain variation¹. Monsoon is preceded by a dry and hot summer. Day temperature in May and June is generally above 40 degrees C - touching 46-47 degrees C. These very hot months are followed by very wet monsoon months (June to September). Winter (November to February) is dry and cold but soil retains moisture. Minimum temperature reaches 2-3 degrees C. Thus variation in daily maximum temperature is from 12-13 degrees C in the winter to 46-47 degrees C in summer, and in the minimum temperature from 2-3 degrees C to 35-36 degrees C.

Soil and Fertility: Soils in Palanpur vary from loam to loamy sand. Loamy soils cover small area around *abadi* (residential) land. Most land exhibits different degrees of sandy loam soils. The land to the west of the railway track is better with low sand content. Land in the north east tends to be sandy light soils - except for a strip next to river Ari which is free of sand. River Ari forms the village boundary on the north and the east. It is unfit for irrigation purposes.

Samples of soil from 85 plots scattered in all parts of the village were analyzed at the Soil Testing Laboratory in Moradabad. The results of these tests indicate that Palanpur land is depleted² with low nutrient content in its soils. Thus the yields in Palanpur are low as compared to parts of west U.P., Haryana or Punjab.

Residential Area: Most people live in small, single storey mud houses closely packed together in a compact area. A few residents have brick houses. The village residential area is less than 20 acres. Three lanes are

¹ Actual rainfall in Moradabad was 1300 mm in 1983 (The State Planning Institute, UP, Bulletin No.212 (1988), p.43.).

² The author is grateful to Prof. A.R. Reddy of School of Life Sciences, University of Hyderabad for interpreting the results of soil sample tests.

broad enough for bullock carts to pass comfortably and there are many narrow lanes and by-lanes. In this area 143 households (960 persons) live with their domestic livestock. There are three temples, one *Dharmshala*, five public and several private wells, two government installed water hand pumps (these are in Scheduled Caste quarters -- one near Jatab and the other near Passi quarters), a decrepit school building (one room without any door or window fittings), the Seed Store and the Bank run by the Farmers (Cooperative) Service Society (FSS). The railway line and the station define the western boundary of the village residential area. The housing pattern is such that the village can be roughly partitioned into caste quarters -- Thakur quarter, Murao quarter, Jatab quarter etc.

Village Area: In official records, the village area is 494 acres: including *abadi*, railway land, land under two ponds and river Ari. Palanpur households do not own all of this land, some being owned by outsiders. At the same time some Palanpur households own land in other villages (Table 3.1). Most of the village land is flat but in the north-east section land surface is uneven and gradually undulating. A small fraction of land (2-3%) is under any kind of forest cover (mostly private mango groves). All land, except groves, is under plough, no further extension of agriculture being possible. Agricultural land surrounds the village on all sides. Cultivation is major economic activity in the village.

There is a weekly market on Mondays in a small open space near the railway station. This is mainly a market for vegetables, and also for groceries and cloth. On the same days, there is devotional singing (*bhajans*, *keertan*) in one of the temples adjacent to the market place.

Palanpur has an elected *Panchayat* headed by a directly elected village headman. It is part of a Development Block (Bania Khera), with headquarters at Chandausi, and is administered by the Block Development Officer through Village Development Officers (VDO). The VDO is required to propagate agricultural technology and other development related activities such as "family control". He is the ex-officio secretary of the *Panchayat*. He also functions as a coordinator with the financial institutions.

3.2. People

For this study, reference population of Palanpur is 960 persons in 1983-84 with 143 households. A person or household belongs to Palanpur if it lives in Palanpur. Thus, those who work but do not live in this village, are not considered as part of the village population³. A person working outside but living in the village is included in the village population. But an absentee household member who lives and works outside is not counted as part of the village population, even though he or she may send remittances and visit regularly.

³ For example, some employees of the Railways, the Seed Store, the Farmers' Cooperative Service Society etc.

Table 3.1: Land Owned by Caste

Caste (1)	Land Owned		
	Total (2)	Outside Village (3)	(3) as % of (2) (4)
Thakur	762	66	8.7
Murao	1080	146	13.5
Dhimar	65	26	40.8
Gadaria	195	10	5.1
Dhobi	21	0	0.0
Teli	98	3	3.1
Passi	141	4	2.5
Jatab	218	18	8.3
Others	17	1	5.9
Total	2596	274	10.5

Table 3.2: Palanpur Village Population by Caste

Sl. nb.	Caste	No. of House- holds	Popu- lation	Caste Occupations	Current Occupations
1.	Thakur	30	217	Landlords/Warriors	Cult, Outside job
2.	Murao	27	217	Gardeners	Cult
3.	Dhimar	13	74	Water carriers	Cult, Outside job
4.	Gadaria	12	83	Shepherds	Cult, Outside job
5.	Dhobi	4	27	Washermen	Cult, Wage labour
6.	Teli	16	92	Oil-pressers	Cult, Wage labour
7.	Passi	15	85	Mat-weavers (migrant)	Outside jobs
8.	Jatab	19	118	Leather workers	Cult, Wage labour
9.	Others	7	47	Miscellaneous	Miscellaneous
TOTAL		143	960	-	-

Note: This list shows a hierarchical caste order except for the last category. The higher serial number associated with a caste indicates its lower position in the village caste hierarchy. **Cult** is short for cultivation.

3.2.1. Composition of the Population:

Palanpur is a multi-caste village. Hindus, including so called outcastes, are in a majority (87% of population), the rest being Muslims. Muslims too are referred to by their "caste" (occupation) names - *Dhobi*, *Teli* and *Barhai*. They do not practice caste occupations except the *Barhai* household. Composition of the population according to caste and main occupations (traditional and current) is shown in Table 3.2. The list follows a descending hierarchical caste order. Some brief comments on castes in Palanpur are provided in §3.2.2.

There were 463 females and 497 males (Table 3.3) giving an overall sex ratio of 932 females per 1000 males. Sex ratio differs widely for different castes. Sex ratio is particularly low among *Jatabs* and *Dhimars*. It can also be seen that the mean household size is high for two rich higher castes and is low for land poor castes of *Dhimars*, *Telis* and *Passis*. Sex ratio (females per 1000 males) declines with increase in operational holding (Table 3.4).

The relationship of landholding and household size is brought out in Table 3.5. Mean household size increases both with ownership holding (from 4.6 for landless to 12.6 for highest size group) and cultivation holding (from 4.8 for non operators to 14.7 for highest size group).

Potential workforce is 267 men of 16 years and above (Table 3.6) thus constituting 28% of the village population⁴. Of these 148 are involved in cultivation related activities.

There have been substantial demographic changes since the first survey of the village in 1957-8. Population growth has been rapid - the annual growth rate being 2.3% over the last 25 years (Table 3.7). Changes in population have taken place at different rates for different castes. Population growth has been fastest for *Thakurs* (2.8% per annum) and slowest for *Dhimars* (1.1% per annum)⁵. A rapid and continuous increase is noted in the number of *Thakur* households in contrast to small increase in number of *Murao* households - although population growth is similar for these two castes. Splitting of households has been faster for *Thakurs* than for *Muraos*.

3.2.2. Caste:

In an Indian village caste is important and central to the village life. One of the very first questions asked of a stranger is about his caste - often even before his name is known. Each caste name refers to a traditional occupation pertaining to it but now these rigid occupational ascriptions have lost their economic

⁴ Women do take part in outside home activities but never on a regular basis in Palanpur. They do all the household work and most of work regarding livestock. Children also occasionally work in the fields.

⁵ except for *Dhobis* - a minor caste group (in size) - where the changes have been volatile.

Table 3.3: Distribution of Population by Caste and Sex

Caste	Sex			Sex Ratio (1000 F/M)	Mean Household Size
	Male	Female	Total		
Thakur	110	107	217	972	7.23
Murao	115	102	217	887	8.04
Dhimar	41	33	74	805	5.69
Gadaria	34	49	83	1441	6.92
Dhobi	14	13	27	929	6.75
Teli	50	42	92	840	5.75
Passi	46	39	85	848	5.67
Jatab	67	51	118	761	6.21
Others	20	27	47	1350	6.71
Total	497	463	960	932	6.71

Table 3.4: Distribution of Men, Women and Children by Operational Holding Size

Operational Holding class (bigha)	# of House-holds	Number of Men	Number of Women	Number of Children	Total Number of persons
0	46	57	59	105	221
0.1 - 5	13	19	19	35	73
5.1 - 15	18	33	23	61	117
15.1 - 30	27	45	41	80	166
30.1 - 50	30	78	60	113	251
Above 50	9	35	27	70	132
Total	143	267	229	464	960

Notes: All those below 15 years are classified as children.

Table 3.5: Land Holding and Household Size

Size Class in bighas	Ownership holding class			Operational holding class		
	Number of HH	Population	HH size	Number of HH	Population	HH size
0	27	124	4.6	46	221	4.8
0.1 - 5	19	106	5.6	13	73	5.6
5.1 - 15	35	210	6.0	18	117	6.5
15.1 - 30	36	270	7.5	27	166	6.1
30.1 - 50	15	112	7.5	30	251	8.4
Above 50	11	138	12.6	9	132	14.7
Total	143	960	6.7	143	960	6.7

Table 3.6: Population by Age and Sex

Age (in years)	Number of Males	Number of Females	Total
0 to 5	76	91	167
6 to 15	154	143	297
Above 15	266	226	492
Not Available	1	3	4
Total	497	463	960

Table 3.7: Palanpur - Population at Various Dates

Caste	Year				Annual growth rate
	1957-58	1962-63	1974-75	1983-84	
Thakur	105 (18)	130 (20)	174 (25)	217 (30)	2.83
Murao	117 (21)	132 (25)	183 (28)	217 (27)	2.40
Dhimar	56 (10)	53 (9)	59 (8)	74 (13)	1.08
Gadaria	43 (9)	45 (9)	68 (10)	83 (12)	2.56
Dhobi	6 (2)	2 (1)	22 (3)	27 (4)	5.95
Teli	47 (8)	57 (9)	71 (12)	92 (16)	2.62
Passi	57 (12)	64 (16)	61 (8)	85 (15)	1.55
Jatab	71 (16)	68 (14)	97 (14)	118 (19)	1.97
Others	34 (9)	32 (7)	27 (4)	47 (7)	1.25
Total	536 (105)	583 (110)	762 (112)	960 (143)	2.27

Note: Statistics for years 1957-8, 1962-3 and 1974-5, used in this table and tables 3.16, 3.17, 3.24 and 3.25 is taken from Bliss and Stern (1982).

significance. Understanding of castes is important for understanding of socio-cultural relationships and behaviour and its impact on economic aspects. To give a few examples where caste plays an important role in influencing economic behaviour -- rules or customs about acceptance of food from different castes have an important bearing on labour market as part of wages in a daily wage contract consist of a meal served at mid-day break while on work; caste pride may induce a Thakur to eschew work, prohibit wage labour but may induce a Murao to work hard and hire in as little labour as possible; it may influence leasing in by certain castes from some other castes etc.

A brief description of each caste follows. Needless to say, such characterization of a caste can not wholly apply to every member of that caste. Castes are ranked in an hierarchical order as perceived by the villagers⁶.

Thakurs dislike physical work, though most Thakurs have been forced to take to the plough due to the pressure of the increased population on land. A Thakur may lease-in land and labouring on that land is permissible. But wage labour by a Thakur for a village employer is not permissible as this will 'compromise his honour'. Thakur women are not allowed to do any work in the fields. The main occupation of Thakurs is cultivation, despite their dislike for physical work. They have the highest rate of formal education in the village, and have more and better outside jobs.

Muraos are the only caste in Palanpur whose traditional caste occupation is cultivation. They take pride in cultivation and are in general very hard working. Murao womenfolk often help men in the fields. Some Muraos are well educated. Muraos dislike borrowing (being in debt). A Murao's life is confined to the narrow lane of cultivation; he ventures very little outside this. Hard work, honesty, lack of ostentation or conspicuous consumption and an aversion to borrowing typify him.

There is some underlying tension and rivalry between Thakurs and Muraos, although no significant open conflicts. This has significant implications for lease market. Thakurs and Muraos seldom enter into lease contracts with each other⁷.

Dhimars are a caste of water carriers. They used to own much land, but have lost most of this over the years. There are two or three Dhimar farmers, with large operational holdings (these households own

⁶ For a detailed description of castes in Palanpur, see Bliss and Stern (1982). The present study follows the ranking of the castes as in Bliss and Stern. The household code, wherever given, consists of three digits. The first digit in a household code denotes the caste and the remaining two digits give an index number of the household being referred within that caste. Lower first digit in a household code indicates higher caste of the household. Code number for each caste is same as the serial number in Table 3.2.

⁷ Together, they own 71% of Palanpur land and are most well endowed with other productive resources for cultivation.

a little land, but lease-in a lot), who are hard working and skilful. **Gadarias** were shepherds. Only a few of them cultivate small holdings.

Dhobis, traditionally washermen, are a minor caste of poor households. However, one Dhobi household, though still owning small landholding, is emerging as a new leader in money lending. **Telis** (oilpressers and hawkers traditionally) are one of the poorest castes in Palanpur. They own very little land. Many do wage labour. *Dhobis* and *Telis* are Muslims.

Passis are emigrants from East Uttar Pradesh and many of them work for the Railways. Their involvement in cultivation is low and they generally like to live an easy life.

Jatabs are similar to **Muraos** in many ways, except that they own far less land and other resources. They are strong in outside daily wage jobs and also provide the best agricultural labourers with a reputation of being hard workers. Traditionally they are leather workers, but none of the Palanpur Jatabs practice this. Their education level is dismal (see below). The Jatab women work in fields but very few do any daily wage labour. They do not trust others easily, are afraid of being cheated, do not open up easily and show a type of diffidence. They, like the **Muraos**, are good vegetable growers.

Passi, Jatab, and Harijan households of Palanpur come under the category of **Scheduled Castes** as per Uttar Pradesh Scheduled Castes and Scheduled Tribes list⁸. There are no Scheduled Tribes people living in the village.

3.2.3. Education:

There is a government primary school in Palanpur housed in a one room building already in ruins and with no equipment. The level of education in the village is very low (Tables 3.8 and 3.9). Literacy in Palanpur is only 17% with 72% males and 95% females being illiterate. There are four graduates and two persons with secondary level education. Only 21% males had schooling beyond primary level. Only 7% females had schooling of any sort. More pathetic is the fact that even many of those who have been to school can neither read nor write. Thus there are 56 persons who in spite of having gone to school can neither read nor write⁹ (Table 3.10).

⁸ People belonging to these castes - notified separately for each State in Indian Union - are recognised to be suffering from acute social and economic disabilities. They are entitled to positive discrimination in public educational institutions and in certain jobs (e.g. through reservation in government jobs).

⁹ This makes a mockery of the Directive Principles of the State enshrined in the Indian Constitution adopted in 1950. Its Article 45 urges the States for - "provision of free and compulsory education for children until they complete the age of 14 years [to be effective within a period of 10 years from commencement of this Constitution]".

Table 3.8: Distribution of Population by Literacy and Sex

Sex	Illiterates	Can Read only	Can Read & Write	Total
Male	357 (71.8)	19 (3.8)	121 (24.4)	497 (100)
Female	436 (94.2)	5 (1.1)	22 (4.7)	463 (100)
Total	793 (82.6)	24 (2.5)	143 (14.9)	960 (100)

Note: Percentage of sex-specific population in brackets.

Table 3.9: Distribution of Population by Education and Sex

Education level	Number of Males	Number of Females	Total Persons
No education	333 (67)	428 (92)	761 (79)
Below Primary	58 (12)	20 (4)	78 (8)
Below Secondary	100 (20)	12 (3)	112 (12)
Secondary	2 (0.4)	0 (0)	2 (.2)
Graduate	4 (0.8)	0 (0)	4 (.4)
N.A.	0 (0)	3 (1)	3 (.3)
Total	497 (100)	463 (100)	960 (100)

Note: Percentage of sex specific population in brackets.

Table 3.10: Distribution of Population in Literacy and Level of Education

Literacy	Level of Education						Total
	No Edn.	Below Prim.	Below Secon.	Secondary	Graduate	N.A.	
Illiterate	759	32	2	0	0	0	793
Read only	2	21	1	0	0	0	24
Read-write	0	25	109	2	4	3	143
Total	761	78	112	2	4	3	960

Notes: (Prim.) Primary education = class five
 (Secon.) Secondary education = class twelve

The level of education is highest among the Thakurs - 31% of Thakurs have gone to schools.(Table 3.11). Dhimars, Dhobis and Telis are very poorly educated. Education and literacy is pathetic among Jatabs - only one Jatab boy can read and write and even then with difficulty. Muraos and Passis have medium level of education. Level of education seems to go up with social status. Thus, though the Muraos are the wealthiest but the Thakurs have the best education.

Per cent population with some schooling increases with size class of operational holding. The non-cultivating class is the only exception - due to the presence of two well educated Kayastha households. There is an indication that education level improves with better opportunity.

3.2.4. Occupation:

Cultivation is the main occupation in the village economy. There are 267 adult males in working age - for 148 of them cultivation is the main occupation and for another 50 workers it is their secondary occupation (Table 3.12). All women are reported to be engaged in domestic work.

There are 57 persons holding regular outside jobs but most of these are low paid unskilled jobs. Four persons with education have regular employment in offices. Sixteen Palanpurians are working for the Railways in permanent or non-permanent capacity. Some of them have also leased-in land from the Railways at very low rent. Seventeen persons work in a cotton spinning mill in Moradabad. Their remuneration is good by Palanpur standards but the working conditions are bad and they have little job security.

Twenty eight persons work as casual wage labourers in the village and another 50 persons indicate casual wage labour as their secondary occupation. As may be expected, most of them are engaged in agricultural wage labour (26 workers report agricultural labour as their primary occupation and another 32 as a secondary occupation).

Twelve persons are self-employed in the village. Of these four are village shopkeepers and three are pulling rickshaws in neighbouring towns. Three of these households are destitute, engaged in very low value activities like rope making or selling tree leaves. Five persons follow their caste occupation as their main activity and another three as a secondary activity (these include the barbers, the carpenter/blacksmith, sweepers and the *dai* (the midwife)).

The occupational structure has undergone considerable change since 1957 (Table 3.12). The nature of work inside the village remained unaltered but the number engaged in regular or casual work outside the village increased considerably. This number has increased from 12 in 1956 to 72 in 1983. Such changes have occurred because of the pressure of population on the village resources, increase in the industrial and urban

labour demand and increasing (even if marginally) level of education. Literacy has gone up from 9% in 1957-58 (Ansari, 1964) to 17% in 1983.

3.3. Agriculture:

3.3.1. Crops:

For a relatively small area cultivated in Palanpur, the number of crops grown is large, though not atypical for this region or for subsistence agriculture. Over 40 different crops were grown in about 100 combinations in 1983-4. Wheat, Sugarcane, Bajra, Jowar and Paddy are the main crops (Table 3.13).

Other important crops include Urad and Gram (both pulses), Sesamum and Mustard (both oilseeds) and Potato - important as they provide essential nutrients in the diet of Palanpur farmers. Failure of some of these crops leads to serious erosion of nutrition in the diet of Palanpurians. They also grow fodder crops, and a large number of vegetables and spices on tiny pieces of land.

Wheat and Sugarcane have always been the most important crops. In fact the area under these crops has been increasing in proportion to total cultivated area (Table 3.13). Many minor crops grown earlier have disappeared now. These include Arher, Peas, and Cotton. The most dramatic decrease has occurred in Arher (pigeon pea). Large increase has occurred in the share of area under Sugarcane - major cash crop in this region. Wheat is the most important foodgrain crop.

Of the 2596 bighas, only 95 bighas or 3.5% was under groves and orchards. There are in all about 1000 - mainly fruit bearing - trees. Orchards are owned mostly by big landowners (in above 50 bighas holding class) who own 78 bighas out of 95 bighas of orchards.

3.3.2. Technology

Mechanisation has greatly increased in Palanpur over past 25 years. Tractor ploughing is a new phenomenon of past one decade. In 1983-4, one Palanpur household owned a tractor¹⁰. Services of tractors available in the nearby villages are also hired by Palanpur farmers, mainly for ploughing operations. Major technical progress has occurred in terms of greater use threshing machines (all of wheat crop is threshed by them), power driven fodder choppers, greater use of chemical fertilizers, new HYV seeds and in one or two cases pesticides are also used. None of these were in use in 1957-8.

In other words, agriculture has become far more capital intensive¹¹. In 1957-8 non-labour costs were only 6 percent of gross revenue from cultivation. The same costs accounted for as much as 33 per cent

¹⁰ Three more tractors were acquired by three Palanpur households soon after the survey year.

¹¹ In both capital/output and capital/labour ratios.

Table 3.13: Cropping Pattern over Time

Season/Crop	1957-8	1974-5	1983-4
Rabi			
Wheat	45.0 ^a	45.8	59.6
Barley	0.1	4.3	..
Sweet Pea	10.2	6.5	..
Gram	1.2	5.0	4.4
Arher	27.8	5.3	..
Sugar	14.9	21.0	26.5
Other	0.8	12.1	9.5
Total (Rabi)	100	100	100
Kharif			
Paddy	9.6	6.1	12.4
Maize	4.4	11.3	..
Jowar	9.1 ^b	6.1	14.2 ^c
Bajra	43.2 ^b	31.0	18.1 ^c
Ground Nut	0	6.2	0
Urad	..	2.9	..
Sugar	24.9	24.0	34.0
Other	8.8	12.4	21.3
Total (Kharif)	100	100	100

Sources: Ansari (1964) and Bliss and Stern (1982) respectively for data for 1957-8 and 1974-5.

Notes: This table shows relative area under crops excluding fallow lands in respective seasons. Area under a specified crop is given as % of total area under all crops in that season (i.e. Rabi or Kharif)

.. means negligible.

- 36.7% is Wheat. There is mixed cropping in the remaining area - 8.1% Wheat-Gram and 0.2% Wheat-Barley. These areas containing predominantly Wheat, are included in this row for wheat (for 1957-8 alone). There was no mixed cropping involving wheat in other later years.
- In 1957-8, of the total cultivated area, 8.3% was under Jowar-Arher and 38% under of Bajra-Arher. These have been shown in this table under Jowar and Bajra column respectively, for reasons similar to those in (a.) above.
- In 1983-4 Kharif season, respectively 7% and 8.6% of the total cultivated area was under mixed crops with Jowar and Bajra respectively being the dominant crops. This has been shown under Jowar and Bajra respectively.

of gross revenue in 1983-4. In fact hired labour and seed costs accounted for as much as 90 per cent of input costs in 1957-8. These were only 32 per cent in 1983-4, other inputs accounting for more than two thirds of all input costs in 1983-4.

The most important technical change has occurred in the creation of irrigation potential and harnessing of automotive technology for this. A study of the village in 1957-8 noted that increase in irrigation potential from the then low level is a must for development of the village (Ansari: 1964). Expansion in irrigated area has been rapid, and now over 96% of land is irrigated. Almost all of this irrigation potential is generated privately. Un-irrigated area is almost uniformly distributed over landholdings in different size classes (Table 3.14). Irrigation potential is highest for the highest holding class (owning above 50 bighas of land). However, un-irrigated area is also small in the lowest holding class.

Un-irrigated area is distributed far more unevenly across landholders belonging to different castes. All land owned by Gadarias, Dhobis and Telis is irrigated. Thakurs, Muraos, Dhimars and Passis have some un-irrigated land. Jatabs and Harijans have disproportionately large share of un-irrigated land at 17% and 35% respectively. These are the lowest castes in the village and they seem to have the worst land as well.

Most of the un-irrigated land is either in bad terrain¹², or, is next to the river Ari having adequate moisture, or, the land is just of very poor quality with no cultivation. In fact one third of the un-irrigated land (30 bighas) is also uncultivated.

Sources of Irrigation:

The village is not served by any canal system. All irrigation is by using ground water, except for occasional drawing from a small village pond. Persian wheel was the main source of irrigation in the fifties. Number of Persian wheels increased dramatically - from 11 in 1957-8 to 25 in 1974-5 (Bliss and Stern: 1982, p.30) - after zamindari abolition law was implemented. No new irrigation wells were constructed after 1975. In 1983-4 there are 22 Persian wheels, singly or jointly owned by 26 households. There is one private tubewell with electric motor to lift water. One Government-owned tubewell near the western boundary of the village is accessible to some plots in these parts. Tractor is used for lifting water from borewells by the only tractor owning household (HH 213) in the village.

The main mechanism of lifting water for irrigation, however, is a diesel engine pumping set. There are 22 such pump sets in 1983-4 compared to 9 in 1974-5. There are 31 borewells in the village. In a few cases borewell owners do not own pump sets. Pump sets being portable machines, there is an active hire

¹² high land within the village where water from existing irrigation sources can not reach. Land area in each case is too small for investment to be worthwhile and owners of this type of land do not have resources for such investment.

Table 3.14: Incidence of Irrigation

Classifying category	Area Owned (bighas)	Irrigated Area (bighas)	Unirrigated Area (bighas)	Unirrigated area as fraction of area owned (%)
By Ownership Holding Size Classes (bighas):				
0	0	-	-	-
0.1 - 5.0	54	52.5	1.5	2.8
5.0 - 15.0	321	302	19	5.9
15.0 - 30.0	796	755	41	5.1
30.0 - 50.0	608	571	37	6.1
Above 50.0	818	813	5	0.6
By Caste:				
Thakur	762	732	30	3.9
Murao	1080	1057	23	2.1
Dhimar	65	62	3	4.6
Gadaria	195	195	0	0
Dhobi	21	21	0	0
Teli	98	98	0	0
Passi	141	137	4	2.8
Jatab	218	181	37	17.0
Others	17	11	6	35.3
Total	2596	2493	103	4.0

Table 3.15: Mean Yield (Main Crops) at various Dates
(in killogrammes/bigha)

Crop	1957-8	1974-5	1983-4
Wheat	51	114	106
Gram	49	78	23
Paddy	5	102	134
Jowar	21	91	77
Bajra	43	60	51
Sugarcane	NA	NA	1307
Barley	37	95	67

Source: Ansari (1964) for 1957-8; Bliss and Stern (1982) for 1974-5 yield data. 1957-8 yields are reported by Ansari in maunds. Conversion factor used is: 1 maund = 48 killogrammes.

market for their services. In Chapter 9, the market for irrigation services and its implications for tenancy are analyzed. Irrigation using a Persian wheel is a slow and labour intensive. But these are even now in use to irrigate small plots for some crops e.g. vegetables and for other crops in the slack season when the demand for labour is low, and the Persian wheel may be seen as a cheaper source of irrigation.

Electric tubewell is a cheaper source of irrigation than diesel pump sets but the former is immobile, requires large initial investment and depends on erratic electricity supply. Thus no one is keen to invest in another tube well.

There has been very little increase in irrigated area since 1974 - the irrigated area as a proportion of total area was 96% at both the survey points - but a substantial rise in irrigation services (machinery). The number of owners of water sources has sharply increased. Dependability that is assured in owning a resource is the most important factor accounting for this increase. However the non-owners benefit from the expansion of irrigation sources as well. They have greater assurance of being able to find an irrigation source, when they need, with many more potential suppliers.

3.3.3. Productivity:

Productivity for major crops has substantially increased over the past 26 years (Table 3.15). It is relevant to note that 1957-8 was a normal crop year, 1974-5 was a good year, and 1983-4 was a bad year. There was a significant loss of yield due to adverse climatic conditions - in particular deficient rainfall in Kharif '84. The poorest yield per bigha was recorded for Bengal gram in 1983-4. Yield of wheat was a little lower for 1983-4 compared to 1974-5 but it was still more than double the yield in 1957-8.

The comparison of yield of major crops of Palanpur with UP and India averages for the same was provided in Table 2.1. They (except sugarcane) show remarkable similarity. It is more relevant to compare productivity in Palanpur with that in the plains of west Uttar Pradesh. This was not possible due to non-availability of data. Next best alternative is to compare with Haryana and Punjab - with which west UP is held to share features of 'Green Revolution' technology and in productivity levels. Palanpur fares poorly. Even after accounting for 1983-4 being a bad crop year for Palanpur (though not for the country), it is evident that productivity levels are far higher in Haryana and Punjab for Wheat, Paddy and Sugarcane.

In Punjab or Haryana the yield of wheat never went below 2200 kgs. per hectare in any year since 1971. (For Palanpur it was 1627 in 1983-4. Comparable figures for year 1982-3 for Haryana and Punjab are 3007 and 2526 respectively). Similarly for paddy, the figures are 2067(Palanpur), 4716(Punjab), and 3912(Haryana). For jowar and bajra, yields in both these regions are comparable to those obtained in

Palanpur. Palanpur also shows poor yields for sugarcane - 20170 (Palanpur), 60960 (Punjab), and 44250 (Haryana)¹³.

3.4. Land:

3.4.1. The Historical and Legal Background:

An attempt is made here to understand the land ownership pattern. Land transactions are negligible (Chapter 9). To understand the present land ownership pattern, one needs to go into at least the recent history of land tenure laws - particularly since the land reforms of 1950s.

Palanpur was a *zamindari* village¹⁴. The farmers were tenants of the *zamindars*, rents were high and varied. They were at the mercy of the *zamindars* and his agents. After the Uttar Pradesh Zamindari Abolition and Land Reforms Act, 1950 (UP Act 1 of 1951, henceforth the Act) was enacted and implemented, the then tenants acquired ownership rights. In fact, the Palanpur land belonged to three *zamindars*. Four classes of tenures were created by the Act, of which one transitional category of *Adhivasis* was abolished in 1954. The *bhumidhars* were owners of the land whereas *sirdars* were thought of as owners in the making. *Asami* was to be the only category of actual tenants who had (and still have) very limited rights over land.

Sirdars were former tenants of the erstwhile *zamindars*. A *Sirdar* could become *Bhumidhar* by paying ten times (later twenty times) of the land revenue payable before *zamindari* abolition. Not many people chose to do so. In fact very few eligible households acquired *bhumidhari* rights. In 1957 only about 70 acres out of 450 acres was under *bhumidhari* rights. Even in 1974 less than 40% of all the village land was under *bhumidhari* rights. But after 1977 all *sirdars* of Palanpur became *bhumidhars* without any such payment. This provides justification for treating without distinction all *bhumidhars* and *sirdars* throughout the four survey points as owners of land. Now all land is held by Palanpur households as owner-*bhumidhars*.

Thus, the present land ownership pattern reflects the distribution of land held by Palanpur villagers as tenants from the former *zamindars*. The ownership pattern obtained on operation of the land reforms Act, continues with little change through inheritance, the market for sale of land being inactive. Of the three former *zamindars*, two were *Thakurs* from neighbouring villages and one was a Brahmin. Thus, it is only to be expected that the *Thakurs* held large tracts of land on lease from the *zamindars* (caste affinities).

¹³ Source: Government of India (1984): *Area and Production of Principal Crops in India 1981-1984*. All figures are in kgs. per hectare.

¹⁴ History of land tenures and the origin of *zamindars* in India is quite complex. The author has provided a historical review of land tenures in India in Sharma (1992). Also see, Baden-Powell (1892), Gupta (1963), Neale (1962), Singh and Mishra (1964), and Srivastava (1984).

Palanpur is said to be originally a Muraos village and thus it is also to be expected that they would have held large quantity of land on lease from the zamindars. These are the two castes that own 71% of all Palanpur land and better part of it too.

In the post Land Reform period, the law virtually prohibits leasing of agricultural land (see Appendix) and almost all land leased out by and to Palanpur villagers is illegal. In inter-relationships the village people follow the tradition and the enacted laws, including one related to the tenancy are not observed. Those whom the law favours, too, do not insist on its enforcement, as it may lead to non-availability of land on lease, as the landowners would prefer to leave the land fallow than subject themselves to unfavourable laws.

3.4.2. Land Ownership and Land Use:

Palanpur households owned a total of 2596 bighas (406 acres) of land in 1983-84. Total land holding has marginally declined from 2778 bighas in 1957-58 to the present level (Table 3.16). It touched the lowest level in 1974-75 (2500 bighas). Large downward changes in landownership have occurred in case of Thakurs and Dhimars. Changes are marginal for other castes in either direction. The decline in per capita land holding, too, has been most rapid for Thakurs and Dhimars (Table 3.17) although there is a decline for all castes mainly due to population growth. Indeed, it is seen, that Thakurs and Muraos start at the same per capita land holding in 1957-8 but in 1983-84, Muraos own 42% more land per capita than Thakurs. Relative land endowment of different castes are provided in Table 3.18. The lower the ratio in column (iv) is, the better land endowment a caste has relative to its share of population in the village.

Only 97 out of 143 households (68%) are involved in cultivation (Table 3.19). The Muraos contribute the largest number of cultivators. The fraction of cultivating households is smallest for Passis (40%) followed by Dhimars (46%). Both these castes along with Thakurs hold a large number of 'regular jobs'. Participation in cultivation activities is low for Thakurs also (73% Thakur households are cultivators). There is one crucial difference between these two cases though. Landlessness is high among Dhimars and Passis. Almost all Thakur households own some land. They have bigger land-holdings than Passis and Dhimars (tables 3.20 and 3.21).

In contrast, among Telis who have much less land ownership than Passis, there are proportionately more cultivating households (75%). At the same time Telis have very few 'regular jobs'. It is only to be expected to find more regular jobs among Passis as they migrated from east UP to work on Railway construction. They have maintained that position of having many low paid but regular jobs in Railways. Kinship and friendship relations are important in acquiring 'regular jobs'.

Table 3.16: Land Owned at Various Dates

Caste	1957-8	1962-3	1974-5	1983-4	Change:1957-1984
Thakur	908 (18)	857 (20)	760 (25)	760 (30)	-148
Murao	1016 (21)	1018 (25)	1006 (28)	1080 (27)	+ 64
Dhimar	103 (10)	97 (9)	85 (8)	65 (13)	- 38
Gadaria	186 (9)	201 (9)	177 (10)	195 (12)	+ 9
Dhobi	70 (2)	40 (1)	58 (3)	21 (4)	- 49
Teli	87 (8)	87 (9)	89 (12)	98 (16)	+ 11
Passi	116 (12)	129 (16)	105 (8)	141 (15)	+ 25
Jatab	241 (16)	242 (14)	201 (14)	217 (19)	- 24
Others	51 (9)	57 (7)	18 (4)	17 (7)	- 34
Total	2778 (105)	2727 (110)	2499 (112)	2596 (143)	-182

Note: Number of households at each date shown in brackets.

Table 3.17: Land Owned Per Capita (Bighas) at Various Dates

	1957-8	1962-3	1974-5	1983-4
Thakur	8.64 (105)	6.59 (130)	4.37 (174)	3.51 (217)
Murao	8.68 (117)	7.12 (132)	5.50 (183)	4.98 (217)
Dhimar	1.84 (56)	1.83 (53)	1.44 (59)	0.88 (74)
Gadaria	4.34 (43)	4.46 (45)	2.53 (68)	2.35 (83)
Dhobi	11.58 (6)	20.00 (2)	2.64 (22)	0.77 (27)
Teli	1.85 (47)	1.53 (57)	1.25 (71)	1.06 (92)
Passi	2.04 (57)	2.02 (64)	1.72 (61)	1.66 (85)
Jatab	3.39 (71)	3.56 (68)	2.08 (97)	1.84 (118)
Others	1.31 (34)	1.63 (32)	0.67 (27)	0.36 (47)
Total	5.18 (536)	4.68 (583)	3.28 (762)	2.70 (960)

Note: Population at each date is shown in brackets.

Table 3.18: Landownership in Relation to Population, by Caste

Caste (i)	% of village popn. (ii)	% of village land (iii)	(ii)/(iii) (iv)
Thakur	22.6	29.4	0.77
Murao	22.6	41.6	0.54
Dhimar	7.7	2.5	3.08
Gadaria	8.6	7.5	1.15
Dhobi	2.8	0.8	3.50
Teli	9.6	3.8	2.53
Passi	8.9	5.4	1.65
Jatab	12.3	8.4	1.46
Others	4.9	0.6	8.17
Total	100.0	100.0	1.00

Table 3.19: Per Household and Per Cultivating Household Landownership, by Caste

Caste	# of HH	# of Cult HH	Land owned	% of vil. land	Land owned per HH	Land owned per cult. HH	# of landless HH
Thakur	30	22	762	29.4	25.4	34.6	2
Murao	27	25	1080	41.6	40.0	43.2	0
Dhimar	13	6	65	2.5	5.0	10.8	5
Gadaria	12	8	195	7.5	16.3	24.4	0
Dhobi	4	2	21	0.8	5.3	10.5	2
Teli	16	12	98	3.8	6.1	8.2	7
Passi	15	6	141	5.4	9.4	23.5	4
Jatab	19	14	217	8.4	11.4	15.5	2
Others	7	2	17	0.6	2.4	8.5	5
Total	143	97	2596	100	18.2	26.8	27

Notes: Abbreviations: vil.= village; cult. = cultivating; HH = household. Area is always in bighas.

Table 3.20: Joint Distribution of Households Ownership Holding by Caste

Ownership Holding class (bighas)	Caste									Total
	Tha- kur	Mur- ao	Dhi- mar	Gad- aria	Dho- bi	Teli	Pas- si	Jat- ab	Oth- ers	
0	2	0	5	0	2	7	4	2	5	27
0.1-5	3	2	3	0	1	3	4	2	1	19
5.1-15	6	1	3	7	0	3	5	10	0	35
15.1-30	8	12	2	4	1	3	0	5	1	36
30.1-50	7	5	0	1	0	0	2	0	0	15
Above 50	4	7	0	0	0	0	0	0	0	11
Total	30	27	13	12	4	16	15	19	7	143

Six households (4.2% of the household population of the village) - each of them owning above 75 bigha - own 20% of the land; eleven households (7.7%) - each owning above 50 bighas - own 32% of land; and the top 10 percent of the households (14 households) own 37% of land (Table 3.22). At the same time big landholders are also big households on an average. Population figures for these three groups relative to village population are 8%, 14% and 18% respectively. Similar observations can be made about cultivation holding (Table 3.23). However, there are no big land owners in Palanpur. No household in the village owns more than 100 bighas of land¹⁵. This observation applies to cultivation holding as well. The biggest cultivation holding in Palanpur is 122 bighas or below 8 hectares.

Though land distribution in Palanpur is skewed, land ownership is widely spread across households. In Rabi 1983-4 twenty seven households owned no land but only 17 (12% of all households) of them could be said to be genuinely landless. The others were waiting to inherit or obtain land from their fathers and thus they had become landless due to living apart from parents. Certainly in Palanpur, the land reforms have been successfully implemented. This situation is relevant for the present study for its implications for power and monopoly. These questions are pursued later while considering markets for labour and tenancy among others.

Inequality in land ownership between different castes is pronounced. Thus, whereas 24 out of 57 households (42%) belonging to Thakur or Murao castes owned above 30 bighas each, only 3 out of the 86 the households (3.5%) in other castes owned 30 bighas or above. In fact eleven households that owned each 50 bighas or above were all either Thakurs or Muraos. Of the six households owning 75 bighas or more each, five were Muraos. At the same time intra-caste inequality in ownership and cultivation holding is also significant.

Tables 3.20 and 3.21 show the distributions for land ownership holding and cultivation holding for each caste. First consider ownership holding - intra caste inequalities are transparent for all castes. Big bunching of households within a caste in a size group occurs for Jatabs and Gadarias. More than half of households in each of these two castes falls in the size group 5-15 bighas of small farmers. Households in lower castes cluster in lower size groups compared to the two high castes (Thakurs and Muraos).

For a given size class, the cultivation holdings are more evenly distributed across castes as compared to the ownership holdings in the same size class (Table 3.21). This can be seen by comparing column for column of tables 3.20 and 3.21. For example, 15 households from four castes own land between 30-50 bighas

¹⁵ below 6.5 hectares or 15.5 acres - well below the lowest land ceiling for holdings in U.P. The ceiling in U.P. is 7.30 hectares for irrigated land with two crops; 10.95 hectares for irrigated land with one crop and 18.25 hectares for dry land. (Government of India, 1982).

**Table 3.21: Joint Distribution of Households
Operational Holding by Caste**

Operational Holding class (bighas)	Caste									Total
	Tha- kur	Mur- ao	Dhi- mar	Gad- aria	Dho- bi	Teli	Pas- si	Jat- ab	Oth- ers	
0	8	2	7	4	2	4	9	5	5	46
0.1- 5	3	1	3	1	0	2	1	2	0	13
5.1-15	4	0	0	1	1	2	3	6	1	18
15.1-30	3	8	1	2	0	7	0	5	1	27
30.1-50	10	10	1	4	1	1	2	1	0	30
Above 50	2	6	1	0	0	0	0	0	0	9
Total	30	27	13	12	4	16	15	19	7	143

Table 3.22: Top Households by Ownership Holding Size

Category (i)	Number of househ (ii)	(ii) as % of all househ (iii)	Number of persons (iv)	(iv) as % of vil.pop (v)	Land owned (bighas) (vi)	(vi) as % of total vil. land (vii)
≥ 75 bigha	6	(4.2)	73	(7.6)	520	(20.0)
≥ 50 bigha	11	(7.7)	138	(14.4)	818	(31.5)
Top 14 HH	14	(9.8)	172	(17.9)	958	(36.9)
Total	143	(100)	960	(100)	2596	(100)

Note: househ. = household, vil. = village, pop = population.

Table 3.23: Top Households by Cultivation Holding Size

Category (i)	Number of househ (ii)	(ii) as % of all househ (iii)	Number of persons (iv)	(iv) as % of vil.pop (v)	Land cult. (bighas) (vi)	(vi) as % of total cult.land (vii)
≥ 75 bigha	5	(3.5)	88	(9.2)	494	(18.6)
≥ 50 bigha	9	(6.3)	132	(13.8)	726	(27.4)
Top 14 HH	14	(9.8)	175	(18.2)	957	(36.1)

Note: househ = household, vil. = village, pop = population,
cult.land = cultivated land

but 30 households from all castes (except the miscellaneous category) cultivate land between 30-50 bighas. Number of non-cultivating households is large (46 households or one third of all the households). There is no caste in which every household is cultivating some land. With the exception of Telis, number of non-cultivating households is more than the number of landless households for all castes.

Size distributions of holdings in all four survey years are provided in Table 3.24 for ownership holdings and in Table 3.25 for cultivation holdings. Distribution of ownership holdings in the middle range is stable over time. Between 50 and 55% of households own between 5 and 30 bighas in all survey years. The proportion of holdings above 30 bighas has steadily declined from 29% to 18%. There has been a sharp rise in proportion of marginal holdings (0.1-5 bighas) from 2% in 1957-8 to over 13% in 1983-4. The rate of change is fast between 1974-5 and 1983-4 compared to the earlier 17 years period.

Maximum holding size has declined sharply from 235 bighas to 99 bighas. Minimum holding size has been very small at all points of time. There is a decline in average size both for ownership and cultivation holdings. Notwithstanding these changes, inequality in ownership shows a marginal increase in 1983-4 compared to 1957-8 [Lanjouw and Stern (1989)].

The non-cultivators outnumber the landless in all years, this difference being the largest for 1983-84. Proportion of the non-cultivators to all households too was far higher (32%) in 1983-4 than in any other year (below or around 20%). On the other hand there is a decrease in number of marginal (0-5 bigha) and small (5-15 bigha) operational holdings as compared to the ownership holdings in the same size classes. Thus, among the cultivators, there is big bunching in the two middle categories (i.e. 15 to 50 bigha) - their number is 60% of all cultivators. At this stage it is reasonable to suggest that 15 bighas is barely economically viable holding whereas resource requirements for holdings of size above 50 bighas will severely stretch most of Palanpur households. This adjustment in holdings is brought about by leasing in and out of land.

The maximum cultivation holding size also has considerably declined from 226 bighas in 1957-58 to 122 bighas in 1983-84. The average cultivation holding size for the village has gone down significantly (by over 30%), but the decline in average size of the holdings of the cultivating households has not been so sharp (from 33 bighas per cultivator in 1957-8 to 27 bighas per cultivator in 1983-4, i.e. a decline of 18%).

3.4.3. Tenancy:

From the discussion of the village so far, it is already clear that the land ownership is unevenly distributed across Palanpur households. In particular, there are a large number of marginal landowners. It is also seen that technical change in Palanpur so far has basically been the land augmenting type (increased irrigation, use of HYV seeds, fertilizers and increased cropping intensity) rather than labour augmenting (use of tractors, harvesters etc.). Thus, one anticipates trade in the land and labour to occur

Table 3.24: Size Distribution of Ownership Holdings

Size Class	Year			
	1957-58	1962-63	1974-75	1983-84
0	16 (15)	16 (14)	17 (14)	27 (19)
0.1 - 5.0	2 (2)	4 (4)	12 (10)	19 (13)
5.1 - 15.0	30 (29)	27 (25)	24 (20)	35 (25)
15.1 - 30.0	26 (25)	32 (29)	41 (35)	36 (25)
30.1 - 50.0	17 (16)	17 (15)	9 (8)	15 (10)
Above 50	14 (13)	14 (13)	15 (13)	11 (8)
Total	105 (100)	110 (100)	118 (100)	143 (100)
Max. Holding	235	180	99	99
Min. Holding	2	1	1	1
Average	26	25	21	18
Gini Coeff.	0.54	0.50	0.49	0.59

Sources: Bliss and Stern (1982) and Lanjouw and Stern (1989).

Notes: For 1974-5 gini coefficient, only 111 households, excluding non-agricultural households, are included.

Table 3.25: Size Distributions of Operational Holdings

Size Class	Year			
	1957-58	1962-63	1974-75	1983-84
0	17 (16)	22 (20)	25 (21)	46 (32)
0.1 - 5	2 (2)	0 (0)	6 (5)	13 (9)
5.1 - 15	25 (24)	17 (15)	15 (13)	18 (13)
15.1 - 30	28 (27)	37 (34)	43 (36)	27 (19)
30.1 - 50	18 (17)	18 (16)	20 (17)	30 (21)
Above 50	15 (14)	16 (15)	9 (8)	9 (6)
Total	105 (100)	110 (100)	118 (100)	143 (100)
Max Holding	226	160	84	122
Min Holding	2	6	2	1
Mean Holding	28	25	21	19
Gini Coeff.	0.61	0.49	0.44	0.60

Source: Bliss and Stern (1982); Lanjouw and Stern (1989).

in such conditions. Trade in land in the present context means a temporary transfer of land through leasing i.e. the market for tenancies¹⁶.

The rest of this thesis is concerned with understanding why leasing seems to be the best method of bringing together the unevenly held (owned) productive resources including land and labour. The effect of leasing activity is already discernible by comparing tables 3.24 and 3.25. It is clear that leasing of land reduces the number of economically unviable holdings (those below 15 bighas) and also the number of large holdings (those above 50 bighas). Many marginal landowners appear to join the ranks of non-cultivators by leasing out all their land. In contrast, the number of holdings double in the 30-50 bigha range as a result of leasing.

Indeed, market for leasing of land is very active in the village. Although only 28% of the cultivated land was leased-in, and 26% of owned land was leased out, the number of households either leasing in or leasing out is very large - 106 out of 143.

Extent of tenancy in Palanpur is discussed in Chapter 5. Some significant features of lease market in Palanpur are: Both the lessors and lessees come from all castes, land ownership or income classes. Turn over of tenancies from year to year is large. Tenancies are of short duration i.e. either one agricultural year or one crop season. Share-cropping is the dominant mode of leasing. Palanpur is net leaser-in of land. And almost all tenancies are informal (i.e. oral) and unregistered tenancies between two private parties.

Appendix: Law of Tenancy in Uttar Pradesh

There is no provision that restricts leasing on account of it resulting in creation of a fragment, (see UP Consolidation of Holdings Act, 1953). Leasing-in is permitted irrespective of amount of land held for cultivation by the lessee. There is no provision for operational holding of a lessee cultivator to be below the land ceiling limit (which certainly applies to ownership holding). (see, UP Land Ceiling Act, 1960: sections 3(d), 5, and 29).

Leasing out is permitted only for disabled persons (as defined in the law), armed forces personnel and those prosecuting studies. (see the UP Zamindari Abolition and Land Reforms Act, 1950 (The Act): sections 156, 157, 157A, 157B, 157C).

The Act firmly puts its faith in the idea of 'land to the tiller' and virtually prohibits any type of private leasing out or sub-letting of land. Thus there are severe restrictions on leasing of land but very little in the law to safeguard interests of a tenant.

There is no provision for determination of rent or the minimum period of lease in the Act. The reason is that the Act "does not countenance sub-letting favourably except for the limited extent as provided

¹⁶ The market for land transactions (sale/purchase) is inactive as discussed in Chapter 9. Hence adjustment of land to labour endowments and other productive resources through sale/purchase of land is no option at all.

in Sec. 157". (Srivastava; 1982, p.942). At the same time LR Act forbids mortgage of land with possession by even a **Bhumidhar** (S155). **Usufructuary Mortgage** is not permitted under law. (Srivastava, p.467).

Section 157 provides for lease by a disabled person (as defined under this section). Any private lease in violation of this section is not sanctioned by law. Only S197 provides for admission of a person as **Asami** (tenant) on land under its command by the Land Management Committee of a village.

Bataidar (share-cropper) tenant is accepted as a tenant, according to a judgement of Allahabad high court (Srivastava: 1982, p.572):

"Taking a **sajhidar** [Partner] is personal cultivation . But a **Batai** (Sharecropping) tenant is a tenant and he has an interest in the land and is entitled to exclusive possession of the land and its produce. He has all the characteristics of a regular tenant. (Ratan Singh Vs Jaipal Singh, 1959 ALJ Tax Rev.31)".

S.156. Letting of land forbidden except as in S.157 or to a recognised educational institution for agriculture etc.

S.157. Lease by a disabled person -

(1) A **Bhumidhar** or an **Asami** holding the land in lieu of maintenance allowance under section 11 who is --

- (a) an unmarried woman, or if married deemed divorced or separated from her husband or whose husband suffers from any of the disqualifications mentioned in clauses (c) or (d) or a widow;
- (b) a minor whose father suffers from any of the disqualifications mentioned in clauses (c) or (d) or has died;
- (c) a lunatic or an idiot;
- (d) a person incapable of cultivating by reason of blindness or other physical infirmity;
- (e) prosecuting studies in a recognised educational institution and does not exceed 25 years in age and whose father suffers from any of the disqualifications mentioned in clause (c) or (d) or has died;
- (f) in the Military, Naval or Air Services of the Indian Dominion; or
- (g) under detention or imprisonment;

may let the whole or part of his holding.

Sections 213 to 226 concern rent.

S.213 says that an **Asami** on occupation of land will be liable to pay such rent as may be agreed upon between him and his landholder (or Gaon Sabha). This suggests that the law permits free contracting for leases agreed upon subject to S.157. Section 214 says that rent payable can not be varied except as provided under law whereas S.215 allows for suit for fixation of rent. Section 217 lays down the procedure for how rent can be paid. S.218 aims at granting relief to **batai** tenants to pay a certain cash rent by providing law for commutation of rent. Section 220 provides for procedure for the payment of arrears of rent and ejection in case of default. Lastly Section 226 provides for the remission of rent in cases of calamity.

Chapter 4

TENANCY CONTRACTS

4.1. Types of Tenancy Contracts:

In Palanpur, as in most other villages in India, tenancy contracts are not formal written contracts of lease. Formal or recorded tenancy is negligible in India (Laxminarayan and Tyagi: 1982), and virtually absent in Palanpur. Hence when one talks of a "contract" in this context, it is to be understood to mean an informal, oral agreement between two or more parties. This is true not only of tenancy but also of labour and even of credit when both partners are from the same village. However, these agreements create binding obligations on both sides that are difficult to repudiate - even though these may not be enforceable in a court of law. Thus, it is meaningful to refer to these agreements as contracts. In most cases terms of each type of contract are standard, to the extent that each set of terms with its distinctive features has a local identifying name - e.g. *Batai*, *Peshagi*, *Chauthai* etc. At the same time, all tenancy contracts offer some flexibility, allowing for some small or large manipulation or bargaining. Thus, the main features of the standard tenancy contracts as described in this Chapter should be taken to constitute the non-negotiable part of a particular type of contract, as universally accepted in the village¹.

The land tax and land development tax (small farmers are exempt from this tax) is always paid by the owner of the land. This applies irrespective of land being leased out or not and also irrespective of the type of lease contract².

Tenancy contracts can be classified into fixed rent and share rent contracts. The term "fixed rent" is used in the sense of rent being independent of production obtained. Rent in these contracts is not necessarily invariant (fixed) across contracts involving different partners. Share rent is always paid in kind - a share in the produce of the crop. Fixed rent contracts can be further broken down into fixed rent in kind, and cash fixed rent. A cash rent contract is always in the nature of a fixed rent contract. Long term tenancy contracts in Palanpur are of the cash rent type.

Table 4.1 shows area under different types of lease contracts.

¹ See Chapter 10 on negotiable and non-negotiable contracts.

² This is in sharp contrast to Reddy, M.A. (1985b) - a historical study of tenancy in Nellore district in south India. Reddy reproduces a large number of tenancy contracts. Each lease contract *invariably* mentions that land tax is to be paid by the tenant and *even in case of crop failure, though rent to be paid to the lessor may be commuted, the tenant is still required to pay the land tax.*

Table 4.1: Prevalence of Different Contracts

Contract	Area leased in under the specified contract	
	Amount (bighas)	As percentage of total leased-in area ^a

Share contracts		
Batai ^b	563	76 (21.3)
Chauthai	32	4 (1.2)
Tihai	0	0 (0.0)
Non-share contracts		
Cash rent	83	11 (3.1)
Kind rent	24	3 (0.9)
Usufruct mortgage	16	2 (0.6)
Other Contracts	24	3 (0.9)
Total	742	100 (28.0)

Notes:

^a In brackets, percentage of total operated area.

^b Including "sajha batai".

4.2. Negotiations:

Tenancy contracts are generally negotiated and concluded in the Indian month of *Jeth* (May-June) - after the Rabi crop is harvested and before the Kharif season begins. The first approach for leasing of land might be made by a partner on either side of the contract: often the desire of a household to lease-out or lease-in is known within the village. The intending parties meet each other and negotiations begin - normally about leasing of *particular plot(s)* of the owner.

If it is to be a fixed rent contract (cash or kind), then there are negotiations about the duration of the lease, and the rent to be paid. In case of a lease on fixed kind rent, the total rent (type and quantity of each type of grain) is specified for a given plot under negotiations and generally not on per unit area basis.

Negotiations, in a sharecropping lease, involve: which crops to grow, what crop cycle to follow³, approximate input levels including number of irrigations, fertilizer, farm yard manure etc. Duration of lease (for share-contracts, generally it is one crop season or one year) is also decided.

At this stage the lessor and lessee bargain to obtain favourable terms of contract. The bargaining is not concerned with the central non-negotiable part of the agreement. For example, in a sharecropping lease, *the division of output and inputs in equal shares is not a matter of negotiation but the mode of input cost sharing may be decided through negotiations*. Thus, the lessor and lessee may agree to contribute their shares of input costs at the actual time of its application. Alternatively, they may agree that the lessor⁴ alone shall incur all input costs initially when they are applied and the actual sharing of input cost shall be implemented at the time of sharing of produce. In the latter case, there is an element of interest-free credit involved. This flexibility in mode of cost sharing is important when different partners face different cash constraints.

4.3. Fixed Rent Contracts:

In fixed rent contracts - whether cash or kind - the allocation of responsibilities is simple and straightforward. The tenant is the sole cultivator of the leased land during the contract period and he or she takes all the decisions. The landlord's role is limited to collection of the rent. There is no cost sharing. Of course tenancy is for agricultural purposes, but within this limit the tenant is free to cultivate as he wants - decide on the crop mix, crop rotation within the contract period and timing and quantity of input use. A brief description of the various types of fixed rent contracts that exist in Palanpur, is given below.

³ There are discussions about the attributes of the land and about suitability of certain crops against others.

⁴ or, the lessee - depending on who has better resources.

4.3.1. Rent in Kind:

Rent is generally specified in terms of a fixed quantity of wheat for the land leased. The time for payment is after the Rabi (wheat) harvest⁵. The duration of the contract is one year, from the beginning of the kharif season to the end of the rabi harvest (June to May). In the survey year the rent was normally one quintal (100 kilograms) of wheat per bigha. This type of contract is locally called '*kuntal bigha*' (signifying that typical rent is one quintal of wheat per bigha per year) or '*Naz par*', meaning (contract to lease) on foodgrains (as rent).

4.3.2. Cash Rent:

In Palanpur, three different kinds of cash rent tenancy contracts can be distinguished.

a. *Peshagi*:

Peshagi is advance rent in cash to be paid before the contract becomes operative. The total rent to be paid for a given area of land is a matter of mutual agreement. The duration of these contracts is normally one year - **Short Term Cash Rent (STCR)** contract, or, occasionally for several years - **Long Term Cash Rent (LTCR)** contract.

b. Tenancy as Repayment of Loan (RL):

This contract comes into being when one of the parties is indebted to the other and is unable or unwilling to repay. The debt is converted usually into a long term cash rent contract whereby the lender leases-in a mutually agreed area from his debtor for a specified period. The loan is considered repaid in lieu of the lease and written off. Duration for such leases ranged from 7 to 9 years in Palanpur.

c. Usufructuary Mortgage (UM):

A loan and a lease of land simultaneously enter into this type of contract as its two components. The lessee gives a loan to the landowner lessor and enjoys the usufruct of land till loan is completely repaid. The period of such a contract is unspecified and the contract lasts as long as the loan is not *completely* repaid. No cash interest payments are required from the borrower lessor. In effect, the possession of the land by the creditor plays partly a role of implicit interest collection, and partly one of security (collateral).

The UM contracts complicate the issue of assessment of both interest rate and rent of land. The existing contracts of this type were continuing for several years in Palanpur. The minimum period of contract for UM is one year. In this sense these are different from simple mortgage of land or even mortgage of land with possession since in either of these cases land either reverts to the landowner or is transferred to the

⁵ In some cases rent may be part in wheat and part in some Kharif cereal - jowar, bajra or paddy. In such a case the amount is fixed for each of the cereals and is paid at respective harvesting times.

mortgagee at the end of mortgage period. There are no reported cases of such mortgaging of land in Palanpur.

All long duration tenancy contracts in Palanpur in the year 1983-4 were either RL or UM. Other cash rent contracts are short term (i.e. STCR). RL and UM described above are good examples of "interlinked" credit and tenancy transactions. But the interlinkage of factor markets is conspicuous by its absence in Palanpur⁶.

Nearly 20% of all leased land was under fixed rent tenancy contracts.

4.4. Share Contracts:

In terms of fraction of leased-in area share contracts are more common. In Palanpur share contracts take many forms. *Batai* is the most important share-tenancy contract. Share tenancy generally involves cost sharing of some inputs. Normally, input costs are shared at time of their occurrence. Share contracts are described below:

4.4.1. *Batai* (BA):

These are what shall be called standard share-cropping lease contracts. A universal feature of these contracts is the equal division of output between the landlord and the tenant. In fact the word '*batai*' means 'the act of dividing' into two. In Palanpur, area under BA accounts for 80% of area under all share contracts or 65% of all leased land.

In BA, the tenant contributes all labour and all seed costs for most crops. Seed costs for sugarcane, potatoes and vegetables are substantial and are shared equally by the landlord and the tenant. Fertilizer and irrigation costs are shared equally⁷. If irrigation is by the landlord's diesel pump, the tenant provides fuel costs - roughly equal to half the standard irrigation charges. However if a landlord's Persian wheel is used by his tenant for irrigation, then no payment is made to the landlord.

Harvesting is responsibility of the tenant. Wheat and rice is normally harvested by hired labour on a piece rate basis - labourer receiving 5% of the harvest. Thus a share-cropper often employs piece-rate or share-wage labour for harvesting, the wages for which must come entirely from the tenant's own (half) share of the produce. If the grain is threshed on mechanical threshers - as in case of wheat - the threshing charges

⁶ See Dreze and Mukherjee (1989); Sharma and Dreze (1990). Also see Chapter 9 of this thesis.

⁷ In Palanpur insecticides, pesticides or weedicides are not in use. It is certain that if these were to be used, the costs of these inputs also would be shared equally.

are shared equally. Organic fertilizer (farm yard manure) is supplied by the tenant, if the contract is for one year or more at one cart-load per bigha.

The duration of these BA contracts is one year - kharif followed by rabi. Occasionally the share contracts can be season and crop-specific (e.g. potato lease or paddy lease). The notable exception are sugarcane leases which are crop-specific and are of two year duration; if there is any third ratoon crop, this wholly belongs to the landowner.

The practice of cost sharing is not uniform for all inputs - some are shared while others are not. Shared inputs are of a relatively recent origin⁸. Costs are shared for operations that have become by and large mechanized - like threshing and irrigation. Also, new expensive inputs like chemical fertilizers are shared. Hence the present structure of cost sharing in BA seems to be that of sharing of modern inputs while inputs used in traditional agriculture are provided by the tenant alone. To illustrate: Ploughing in Palanpur is still a traditional agricultural operation employing animal and human labour, hence if a tenant hires ploughing services of a tractor involving cash payments, the landlord does not share the costs. So, costs are shared for some *inputs or operations* and not just any cash expenses incurred by the tenant in cultivation.

To recapitulate, sharing of inputs in BA contracts⁹ is determined by the following factors:

1. Shared inputs are of relatively recent origin e.g. fertilizer. Thus, generally, modern inputs are shared and inputs used in traditional agriculture are wholly borne by the tenant.
2. Shared inputs involve cash expenses. This implies that there is a premium on cash expenditure.
3. Shared inputs involve substantial expenses even when they do not involve cash expenses e.g. sugarcane seed - quite often it is home produced but it is expensive.
4. Shared inputs have comparatively low labour component and high level of mechanization. Example: Irrigation using electric-tubewell or diesel pumping set.
5. Bargaining power of the contracting parties. This may influence actual mode of sharing of inputs as well as whether certain inputs are shared or not, or, applied by a party or not. To give an

⁸ The 1957-8 survey of Palanpur does not mention existence of cost sharing practices in batai. For further evidence that cost sharing practices were earlier non-existent in other parts of India, say 25 years earlier or in period prior to chemical revolution in agriculture, see Sharma and Dreze (1990).

⁹ *Batai* is further discussed in Sharma-Dreze (1990).

example, a tenant who is willing to bear costs of shared inputs initially (at the time of occurrence) may bargain for not providing any farm yard manure.

4.4.2. Other Share Contracts:

Sajha Batai (SB):

Each BA contract involves one landlord and one tenant. Sometimes two or more persons jointly lease in on BA terms: this is '*sajha batai*'. In SB a landlord's position is the same as that in BA. But responsibilities and rewards of a tenant in BA are shared equally between two or more tenant partners (called '*sajhidar*' in Hindi which comes from '*sajha*' meaning joint).

Chauthai (CH):

The tenant contributes half of the labour and seed costs (for crops the seed costs of which are not shared in a batai contract), and one fourth of all other input costs. The tenant receives one fourth of the produce ('Chauthai' means one-fourth), the remaining three fourths going to the landowner. This is formally the same (in terms of the structure of output and input shares) as an SB contract, but the landowner is himself one of the two partner tenants.

All management decisions are taken by the landowner under this contract. Thus, tenant-landowner relations are very different in a CH contract to those in a BA or an SB contract, though structure of contract in input and output sharing is similar. Indeed, the position of a CH tenant is akin to a wage labourer¹⁰. There were only three tenancy contracts on CH terms in Rabi 1983-84, involving a total of 62 bighas of land.

Tihai:

There are two variants of *tihai* lease contract. In one variant, the landowner provides bullocks and land. The tenant feeds and maintains the bullocks and uses them on the leased land. The tenant provides all labour. Other costs (i.e. irrigation, fertilizer and seed) are shared equally. Sharing of threshing charges is negotiable. In another variant of *tihai*, the landowner initiates cultivation, the tenancy contract begins after sowing. Then all labour is provided by the tenant. All costs are shared equally. In *tihai* (either variant), the landowner gets 2/3 of the produce and the tenant 1/3.

In Table 4.2 the main features of tenancy contracts are summarized.

¹⁰ This is how CH exists in Palanpur. There is another variant of CH contract: the landowner provides all the inputs except labour and the (so-called) tenant provides all the labour. The landlord gets three fourths of the produce.

Table 4.2: Types of Tenancy Contracts

Contract	Tenant's share of output (%)	Tenant's share of inputs (%)			Other Features
		Labour	Seeds ^a	"Cash" inputs ^b	
Batai	50	100	100	50	Costs are shared at the time of their occurrence.
Chauthai	25	50	50	25	- do -
Tihai	33.3	100	50	50	The landlord provides the bullocks; the tenant maintains and uses them.
Cash rent	100	100	100	100	Rent paid in advance. Amount is negotiable.
Kind rent	100	100	100	100	Rent paid in kind at the time of the harvest ending the agricultural year. Amount is initially negotiable.
Usufruct mortgage	100	100	100	100	Land leased against loan from tenant to landlord; see text for details.

^a For a few crops (e.g. sugarcane, potatoes and vegetables), seeds are shared in the same way as cash inputs.

^b Mainly irrigation and fertilizer costs.

Table 4.3: Incidence of Tenancy, Rabi 1983-84

	Percentage of households leasing in	Percentage of households leasing out	Leased-in area as percentage of total operated area	Leased-out area as percentage of total owned area
By Ownership Holding:				
0	19	0	100	0
0.1 - 5	71	43	94	37
5.1 - 15	36	60	57	48
15.1 - 30	53	50	27	25
30.1 - 50	27	73	6	19
above 50	36	73	10	24
By per capita Annual Income Class (in rupees):				
not above 500	36	42	47	30
501 - 800	33	49	18	30
801 - 1200	34	49	22	34
1201 - 1600	47	60	34	23
1601 - 1800	36	57	19	15
Above 1800	54	31	31	9
By Caste:				
Thakur	27	67	20	38
Murao	52	37	14	12
Dhimar	31	46	82	59
Gadaria	33	50	37	38
Dhobi	50	25	72	18
Teli	63	19	61	18
Passi	13	53	10	36
Jatab	47	63	35	33
Other	14	29	71	60
TOTAL	38	48	28	26

Figure 4.1

Distribution of Palanpur Households according to Tenure Status

L A N D O W N E R S		L A N D L E S S
N O N T E N A N T S	Owner Cultivators (OC) 15	Landless non- cultivators (NONOP) 22
	Pure Landlords (LL) 24	
	Cultivating Landlords (OCL) 28	
T E N A N T S	Owner Tenant Landlords (OTL) 16	Pure Tenants (T) 5
	Owner Tenants (OT) 33	

Note: The numbers indicate the households with the respective land tenure status in Rabi 1983-84. Total number of households in Palanpur is 143. Abbreviations used for tenure classes are as explained in Table 5.4.

involved in either leasing-in or leasing-out or both¹⁴. In fact 121 households (85% of all households) show involvement in lease market in either Rabi or Kharif season.

Thus incidence of tenancy is widespread in coverage of households although not so much in area. This widespread involvement of households in tenancy contracts indicates that the tenancy plays a very useful role in allowing them to adjust their cultivation holding according to resources, needs, desire or special circumstances. In particular for some of them (e.g. households without fit adult male, or those households with the only "working" member(s) employed outside), these contracts represent important economic opportunities.

Though there are caste specific differences in proportion of households leasing-in or leasing-out, it can be seen that lessors and lessees come from all castes and in fairly large proportions with a few exceptions (Table 4.3). Thakurs and Jatabs are most prominent among lessors. But Jatabs are also prominent among lessees. In contrast Muraos, who like Thakurs but unlike Jatabs are rich, lease-out much less area and also fewer number of Muraos lease-out. A large number of them lease-in (highest proportion among all castes) but they lease-in much smaller fraction of area cultivated by them than other castes.

Table 4.3 also shows very similar distribution of lessors and lessees across land ownership classes. A marginal tendency for lessees to be lower down the ownership scale compared to lessors is detected but the contrast is not very sharp. The contrast is most marked in 30-50 bigha class. Only 27% of households lease-in whereas 73% lease-out. Land leased-in as fraction of area operated and land leased-out as fraction of area owned *both show an over all tendency to decline with increase in land ownership*. Only a small number of landless households lease-in land. In fact percentage of landless households, who lease-in land, is the lowest in comparison to all other classes.

Incidence of tenancy according to per capita income again shows a wide spread of both lessors and lessees across all income classes (Table 4.3). The number of lessees as a fraction of total households in a given income category is fairly constant for most classes. In general a class showing higher percentage of lessor also shows higher percentage of lessees - except the highest income class where the number of lessees is higher than the number of lessors.

¹⁴ The discussion and statistics is confined to the Rabi 1983-4. The features observed for Rabi and Kharif seasons are similar.

It is clear that incidence of tenancy is almost equally widespread for all land owners. These findings appear quite at variance with popular view of tenancy as a predatory relationship between the landlords and the tenants¹⁵.

4.7. Changes over Time:

4.7.1. Terms of Contracts:

Number of different *types* of tenancy contracts have increased. The proportion of land under share contracts has considerably decreased (§4.7.2). Thus, more land is leased on cash rent, and many *types* of cash rent contracts are observed in 1983 in contrast to fewer such contracts earlier. Leasing on fixed kind rents is a new phenomenon. Among share contracts, *tihai* has disappeared from Palanpur, but is still in existence in several neighbouring villages. *Batai* contracts have all along been important lease contracts. Cost sharing was not an important aspect of *batai* in 1957 because the inputs whose costs are shared were not in use then.

There is no change in the terms of *batai* contracts since 1974. Produce and costs are shared in the same way. The pressures on supply and demand conditions have not changed the central features of *batai*. However, in *batai* too, the contract has effectively changed through greater cost sharing as cultivation has become more capital intensive. Use of diesel-pump-sets and tubewells has increased at a fast pace. Number of working pump-sets has increased from 5 or 6 in 1974 to 22 in 1983. No new Persian wheels are installed and some old ones have gone out of operation. Wheat threshing operations have been completely mechanised as against bullock and manpower being used for threshing and winnowing earlier. Thus share of lessor in total input costs has gone up significantly. Accordingly, rent as a share of gross produce has come down from nearly 50% in 1957 to below 30% in 1983.

About cost sharing Bliss and Stern (1982) noted that frequently the input costs were borne by the tenant initially at the time of application and costs were shared at the harvest time. In 1983, sharing of inputs was done at the time of their application as a rule. Exceptions to this rule are few and in exceptional circumstances when *either* the tenant *or* the landlord faces temporary financial difficulties.

It appears that the effective terms of *batai* contract have moved in favour of the tenants. On the other hand tenants are more severely rationed now.

4.7.2 Incidence of Tenancy:

There is an increase in incidence of tenancy in Palanpur over past three decades. Leased-in area increased from 289 bighas in 1957 to 560 bighas in 1974 and to 742 bighas in 1983. As a share of total

¹⁵ See Sharma and Dreze (1990), p.19 for a characterization of popular view of landlord-tenant relation and its echoes in economic analysis. For further study of characteristics of lessors and lessees and evidence from other studies, see Chapter 5.

cultivated area leased-in area increased from 10 per cent in 1957 to 23 per cent in 1974 and to 28 per cent in 1983 (Table 4.4). Leased-out area increased from 112 bighas in 1957 to 627 bighas in 1974, and to 687 bighas in 1983. This as a proportion of total land owned is 4 per cent in 1957, 25 per cent in 1974 and 27 per cent in 1983 (Table 4.4). A large increase in leased area is observed between 1957 and 1974. Increase in incidence of tenancy continued after 1974 but such increase is comparatively less.

The survey of 1957 was conducted soon after the UP Land Reforms Act, 1950 came into force and was still in the process of implementation. Thus, the fear of loss of leased-out land was much greater at that time. This must have reduced leasing activity and prompted a strong tendency for under reporting by the lessors. Nevertheless, the increases are very large and are unlikely to be all on account of under reporting bias of lessors alone. Indeed, the increase in leased area continued after 1974 also when such biases are small. These changes are better seen in the light of other changes that have taken in the village since 1957 and discussed below in §4.7.3.

4.7.3. Leased Area by Type of Tenancy Contract:

Area under non-share lease contracts has been increasing from 1957 to 1983. Area leased-in under non-share contracts increased from 4 bighas in 1957 to 52 bighas in 1974 to 147 bighas in 1983. As a fraction of total leased-in area, area under non-share contracts has gone up from 1% (1957) to 9% (1974) and to 23% (1983). There has been a similar rise in such area for leased out land -- it was 6 bighas (5%), 36 bighas (6%) and 125 bighas (18%) in 1957, 1974 and 1983 respectively (Table 4.4).

Area under share contracts has gone up in this period. But its share in total leased area has declined significantly as total leased area has increased at a faster rate. To understand these changes, one must look at other changes occurring in economy of the village.

Large demographic changes have occurred (Chapter 3). Population increased at a fast rate, nearly doubling in these three decades. The pressure on land is increasing. All village land being already under cultivation, extension of land under farming is not possible. Economic opportunities outside the village have expanded at a fast rate. At the same time, within village there has been no expansion of economic activities - cultivation remaining the most important economic activity. If anything there has been some decline in non-cultivation economic activities in the village. For example, traditional occupations of Telies and Dhobis that were marginal economic activities in the past have completely disappeared now.

With increasing population and pressure on land, average size of holdings has decreased. Land owned per capita has come down to less than half during 1957-1983 (Table 3.17, Chapter 3). This has resulted in large number of unviable marginal holdings (those below 15 bighas). Agriculture has become more capital intensive - a necessity to augment per bigha productivity. Thus cultivation now requires a large

**Table 4.4: Incidence of Tenancy Over Time (1957 - 1984)
By Type of Lease Contract**

Year	Area Leased-in on			Total culti- vated area	Area Leased-out on			Total owned area
	Crop- share	Fixed rent	Total		Crop- share	Fixed rent	Total	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1957-58								
a.	285	4	289	2928	106	6	112	2751
b.	(99)	(1)	(100)	--	(95)	(5)	(100)	--
c.	(10)	(..)	(10)	(100)	(4)	(..)	(4)	(100)
1974-75								
a.	508	52	560	2417	591	36	627	2499
b.	(91)	(9)	(100)	--	(94)	(6)	(100)	--
c.	(21)	(2)	(23)	(100)	(24)	(1)	(25)	(100)
1983-84								
a.	595	147	742	2650	562	125	687	2596
b.	(80)	(20)	(100)	--	(82)	(18)	(100)	--
c.	(22)	(6)	(28)	(100)	(22)	(5)	(27)	(100)

Sources: Ansari (1964) for 1957-58 data, and Bliss and Stern (1982) for 1974-75 data.

Notes: For each year the explanation of figures in different rows is as follows --

a. area in bighas.

b. area leased-in under specified type of lease contract (recorded in columns 2 and 3 of row a.) as a percent of total leased-in area (column 4) or area leased-out under specified type of lease contract (recorded in columns 6 and 7 of row a.) as a percent of total leased-out area (column 8).

c. leased-in area (recorded in columns 2, 3 and 4 of row a.) as a percent of total cultivated area (column 5) or leased-out area (recorded in columns 6, 7 and 8 of row a.) as a percent of total owned area (column 9).

.. means negligible proportion.

-- means not relevant.

outlay on expansive inputs. In particular, there is increased use of chemical fertilizers and mechanised irrigation.

These factors explain the rise in area under tenancy and increased incidence of non-share contracts. Theory proposed in this study lays stress on adjustment of land to family labour to explain leasing; and capital resource constraints to explain the choice of particular *type* of lease contract (Chapter 12).

Declining land/man ratio implies increased demand for land on lease. Total supply of land is fixed. Capital requirement for modern agriculture implies that a large number of poor and generally small land owning households face serious difficulties in leasing-in any land. In these circumstances holdings of many small land holders become unviable. Thus we observe the phenomenon of a large number of small and marginal land holders leasing out all their land (Chapter 5). This is facilitated by increased job opportunities outside village - in nearby towns of Chandausi, Bilari and Moradabad.

At the same time demand for land on lease from resource rich households - those owning modern machinery like diesel pumping sets, threshers and tractors - has increased. They prefer to lease-in land on fixed rent terms if available.

Three distinct but related factors can be seen at work. One, mean rents for fixed rent contracts are much lower than those paid for share contracts (Chapter 11). This phenomenon has been observed elsewhere also¹⁶. Obviously, households with financial resources are capable of withstanding fluctuations in output and would prefer fixed rent contracts that provide greater mean expected return at a higher risk.

Two, leasing-in on fixed rent contracts means no interference from the landlord in cultivation. Importance of this factor is reflected in one of the desirable qualities in landlords that the tenants value - those who interfere much in day to day cultivation are disliked and to be avoided as landlords (Chapter 6).

Three, the resourceful tenant does not have to share fruits of increased input use with his poor landlord in a fixed rent contract. Of course, in sharecropping, the inputs (except labour) are shared in the *same proportion as the output and hence disincentive effect is greatly reduced by cost sharing*¹⁷. But a poor landlord will not have sufficient resources to provide for input costs at the time of their application thus necessitating provision of implicit credit from the tenant to the landlord.

¹⁶ Bhalla (1983), Cooper (1983), Morooka and Hayami (1989) and Srivastava (1989a).

¹⁷ It can not be completely eliminated by cost sharing in the proportion of output sharing so long as labour is a necessary input used with other (cost shared) inputs and the labour costs are not shared.

On the supply side for land on fixed rent tenancy, one obvious source is absentee landlords. Only a small amount of land is available from absentee landlords in Palanpur. This has marginally increased due to greatly increased participation of Palanpur households in outside job market. Impact of this change on supply of land on fixed rent is positive but marginal because most of such jobs are in nearby towns and often some members of such households remain in the village.

Other more important source of supply are poor, small landholders in need of cash at the beginning of a crop season. For these households, leasing out land on cash rent is a source of raising cash resources without incurring any debts. In addition, credit may or may not be available to them. In any case, with increased costs of cultivation, more households are falling short of qualification of a potential tenant by virtue of their poor resources. They are most important source of supply of land on lease-in general and supply of land on fixed cash rent in particular. A large number of land poor households who were potential tenants previously have become potential lessors now as adjustment to capital becomes important along with adjustment to labour in a lease contract.

Thus, increasing pressure on land, outside jobs, and increasing costs of cultivation explain both increase in total leased land and increase in fraction of land leased on non-share contracts. Those owning below 15 bighas had 26% share in total land leased out by Palanpur households and more than half of land leased out (56%) came from those owning below 30 bighas.

It also indicates another important change in tenancy market in Palanpur over these years. There exists a lot of so called "reverse tenancy" now, a direct consequence of increased capital intensity of cultivation.

Chapter 5

TENANTS AND LANDLORDS

5.1. Class, Caste and Tenancy:

Caste and Tenancy:

The Thakurs provide the bulk of leased-out area - 292 bighas (43%) of 687 bighas leased-out by all landowners (Table 5.1). They are net lessors. In contrast, the Muraos, while they own much more land than Thakurs do, lease-out much smaller area than Thakurs and lease-in much more. Among other castes, Passis lease-out more area than they lease-in. Dhimars, Dhobis and Telis lease-in significantly more than they lease-out. Remaining castes show small net leasing of land either way. Caste characteristics (disinclination of Thakurs and Passis to take to plough; keenness of Muraos to excel in agriculture) play an important role in leasing behaviour of the households.

Landownership and Tenancy:

Net leased-in area goes down with an increase in land holding size (Table 5.1) as expected. This decline is evident (except the landless), both in terms of total area (from +108 bighas to -122 bighas) and in terms of net leased-in area per household (from +5.7 bighas to -11.1 bighas). The households owning not more than 15 bighas account for 26% of land leased-out in the village. Thus among lessors there are a large number of small landowners contributing a substantial share to area leased-out.

Lessors together lease-out 43% of the area they own and the tenants lease-in the same fraction (43%) of area they operate (Table 5.2). Confining to households involved in leasing, we find that the leased-out area as proportion of area owned by the lessors and the leased-in area as proportion of area operated by the lessees go up or down together over caste and landholding classes. Both these ratios decline with increase in landholding size. Decline is steeper for fraction of leased-in area in operated area compared to the fraction of leased-out area in owned area. This is because area leased-in per lessee declines with increase in land ownership thus the ratio declines sharply. On the other hand area leased-out per lessor increases with increase in land ownership though the former increases at a slower rate than the latter - resulting in an overall decline in ratio of leased-out area to owned area with land holding size but the decline is slower.

Table 5.3 shows land owned and land operated by land size classes. Small cultivators (below 15 bighas) own more land than they operate whereas those in the middle and high cultivation holding classes (above 15 bighas) operate more land than they own. Thus, whereas the small operators belong to a slightly higher ownership range, the big operators come from lower ownership range. Many households at lower end of the ownership scale, lease-out land and move down in terms of their cultivation holding. Often they lease-out to bigger landowners thus explaining the bigger cultivators coming from lower landownership range.

Table 5.1: Land Ownership, Income, Caste and Leasing of Land

Classifying Criteria	Area Leased Out (bighas)	Area Leased in (bighas)	Net Area Leased in (bighas)
By Land Ownership Class:			
Lnadless	0 (0)	71 (10)	+ 71
0.1 - 5.0	28 (4)	136 (18)	+108
5.1 - 15.0	152 (22)	198 (27)	+ 46
15.1 - 30.0	205 (30)	233 (31)	+ 28
30.1 - 50.0	107 (16)	31 (4)	- 76
Above 50	195 (28)	73 (10)	-122
Income Class:			
Upto 500	85 (12.4)	177 (23.8)	+92
501 to 800	174 (25.3)	93 (12.5)	-81
801 to 1200	276 (40.2)	151 (20.4)	-125
1201 to 1600	92 (13.4)	163 (22.0)	+71
1601 to 1800	36 (5.2)	50 (6.7)	+14
Above 1800	24 (3.5)	108 (14.6)	+84
By Caste:			
Thakur	292 (42.5)	114 (15.4)	-178
Murao	127 (18.5)	155 (20.9)	+ 28
Dhimar	38 (5.5)	125 (16.8)	+ 87
Gadaria	75 (10.9)	72 (9.7)	- 3
Dhobi	3 (0.5)	43 (5.8)	+ 40
Teli	18 (2.6)	126 (17.0)	+108
Passi	51 (7.4)	10 (1.3)	- 41
Jatab	73 (10.6)	80 (10.8)	+ 7
Others	10 (1.5)	17 (2.3)	+ 7
Total (village)	687 (100)	742 (100)	+ 55

Note: Figures in brackets are column percentages.

Table 5.2: Land leased as a fraction of Land Owned and land Operated by the leasing Households.

Classifying Criteria	Number of house-holds	Number of households leasing-out	Leased-out area as % of area owned by lessor households	Number of households leasing-in	Leased-in area as % of area operated by lessee households
By Land Ownership Classes:					
0	27	0	0	5	100
0.1 - 5	19	10	95	7	91
5.1 - 15	35	21	79	15	62
15.1 - 30	36	18	53	19	36
30.1 - 50	15	11	25	4	17
Above 50	11	8	36	4	19
By per Capita Income Class:					
Upto 500	33	14	47	12	67
501 - 800	33	16	47	11	31
801 - 1200	35	17	50	12	35
1201 - 1600	15	9	47	7	42
1601 - 1800	14	8	23	5	38
Above 1800	13	4	19	7	48
By Caste:					
Thakur	30	20	49	8	39
Murao	27	10	27	14	22
Dhimar	13	6	75	4	84
Gadaria	12	6	69	4	60
Dhobi	4	1	47	10	75
Passi	15	8	42	2	23
Jatab	19	12	44	9	42
Others	7	2	60	1	100
Total	143	68	43	54	43

Note: In this tale area leased-in (out) is expressed as percentage of area operated (owned) by only those households in any given category that are leasing-in (out) any land. For example, in the lowest per capita income class there are 33 households. Of these, 14 households lease-out 47% of land owned by these 14 households and 12 households lease-in an area constituting 67% of area cultivated by these 12 households. This is in contrast to Table 4.3, which gives leased-in (out) area as a fraction of area operated (owned) by all households in a class.

Table 5.3: Area Owned and Cultivated per Capita by Landholding Classes

Holding Size class	# of HHs	Number of persons	Land Owned			Land Cultivated		
			Total	per HH	per capita	Total	per HH	per capita
(A) Households are classified by Operational Holding size:								
0	46	221 (23)	260 (10)	5.65	1.18	0 (0)	0	0
.1 - 5	13	73 (8)	80 (3)	6.15	1.10	35 (1)	2.69	0.48
5.1 - 15	18	117 (12)	265 (10)	14.72	2.26	182 (7)	10.11	1.56
15.1 - 30	27	166 (17)	465 (16)	17.22	2.80	606 (23)	22.44	3.65
30.1 - 50	30	251 (26)	886 (34)	29.53	3.53	1101 (42)	36.7	4.39
Above 50	9	132 (14)	640 (25)	71.11	4.85	726 (27)	80.67	5.50
(B) Households are classified by Ownership Holding size:								
0	27	124 (13)	0 (0)	0	0	71 (3)	2.63	0.57
.1 - 5	19	106 (11)	54 (2)	2.84	0.51	161 (6)	8.47	1.52
5.1 - 15	35	210 (22)	321 (12)	9.17	1.53	367 (14)	10.49	1.75
15.1 - 30	36	270 (28)	826 (33)	22.94	3.06	854 (32)	23.72	3.16
30.1 - 50	15	112 (12)	578 (22)	38.53	5.16	502 (19)	33.46	4.48
Above 50	11	138 (14)	817 (31)	74.27	5.92	695 (26)	63.18	5.03
Total	143	960 (100)	2596 (100)	18.15	2.70	2650 (100)	18.53	2.76

Note: Figures in brackets are column percentages. All areas are in bighas.

Income and Tenancy:

No clear patterns are discernible either for net area leased-in, or for area leased (in or out) by an income class as a fraction of total leased area (Table 5.1), or for area leased (out/in) by an income class as a fraction of total area owned/operated by that income class (Table 5.2). It may be because the current per capita income is at best a poor indicator of resources and prosperity of a household and there is a poor correlation between such income and the land resources. (See Lanjouw and Stern: 1989).

5.2. Lessor and Lessee Households:

Distribution of village population by tenure class is shown in Table 5.4. There are only 15 owner cultivators (OC)¹ whereas 16 landowners both leased-in and leased-out land (OTL). There are 22 households that neither own nor cultivate any land (NONOP). Thirty eight households leased-in land - only 5 of these were pure tenants (T) i.e. they owned no land and 33 lessees are mixed tenants (OT). Remaining 52 households leased out land - of these 24 households leased out all their land (LL) and 28 leased out part of their land while themselves cultivating the rest of it (OCL).

Thus there are more "landlords" than "tenants" in the village. In all, 68 households leased out as against only 54 households that leased-in. Of land leased-out, over 60% of the area is leased out by the households that continue to cultivate part of their land (i.e. OCL and OTL), whereas less than 40% of total leased-out area is from "pure landlords" i.e. non-cultivating lessors (LL). Again, the tenants who already own land (OT and OTL), lease-in 90% of all leased-in land whereas pure tenants (T) lease-in only 10% of it. It is clear that a majority of both "landlords" and "tenants" are cultivators.

Some further characteristics of households belonging to different tenure categories are provided in Table 5.5. Owner tenants (OT) cultivate over 44% of all land. Next largest cultivating class (in terms of area) is cultivating landlords (OCL) accounting for over 23% of land cultivated. Interestingly "pure landlords" (LL, those who lease out all their land) own only 10% of village land though they constitute 17% of village households. Average landholding size of "pure landlords" is only 10.8 bighas - much smaller than that of any other landowning tenure class. There is a preponderance of marginal landholders among "pure landlords".²

Owner Tenants (OT) are most actively involved in cultivation. They have highest mean operational holding size and a large part of it is leased-in land (39%). They cultivate more land (per capita) than other classes do although they own much less.

¹. In this paragraph, shorthand names for tenure classes are given in brackets.

². Generally those households with little farm labour: being either widow-headed households, or where the only adult male member(s) are disabled (e.g. by illness or old age) or in outside village employment. See §5.4 for further comments.

Table 5.4: A Glance at Leasing Activity by Tenure Class

Tenure Class	Number of House-holds	Area leased out (bighas)	(ii) as fraction of land owned (%)	Area leased in (bighas)	(iii) as fraction of land operated (%)	Land owned per capita (bigha)	Land operated per capita (bigha)
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)
OC	15	0 (0)	0	0 (0)	0	2.68	2.68
OT	33	0 (0)	0	459 (62)	39	2.58	4.23
OTL	16	90 (13)	24	212 (28)	43	2.95	3.91
OCL	28	338 (49)	35	0 (0)	0	4.82	3.11
LL	24	259 (38)	100	0 (0)	0	2.08	0.00
T	5	0 (0)	0	71 (10)	100	0	2.54
NONOP	22	0 (0)	0	0 (0)	0	0	0.00
Total	143	687 (100)	26	742 (100)	28	2.70	2.76

Notes:

- (1) Figures in brackets are column percentages.
- (2) Abbreviations used for tenure categories in this and other tables in this Chapter:

OC = Owner Cultivator. A land owner cultivating his own land, neither leasing-in nor leasing-out.

OT = Owner Tenant. Owns and leases in.

OTL = Owner Tenant and Lessor. Owns, leases-in and leases-out.

OCL = Owner Cultivator and Lessor. Leases-out a part of his land

LL = "Pure" Landlord (lessor). Leases out all his land.

T = "Pure" Tenant. Owns no land but leases in.

NONOP = Landless and does not lease-in.

Table 5.5: Some Household Characteristics According to Tenure Class

Tenure Class	Number of house-holds	House hold size	Parti- cipa- tion rate ^a	Lite- racy (%)	Land Owned (bighas)			Land Cultivated (bighas)			
					Total	per house- hold	per person	Total	per house- hold	per per- son	per worker*
OC	15 (11)	7.2	0.18	16	290 (11)	19.3	2.68	290 (11)	19.3	2.68	15.3
OT	33 (23)	8.4	0.21	17	717 (28)	21.7	2.58	1176 (44)	35.6	4.23	19.9
OTL	16 (11)	7.9	0.20	14	375 (14)	23.4	2.95	497 (19)	31.1	3.91	19.1
OCL	28 (20)	7.1	0.14	22	954 (37)	34.1	4.82	617 (23)	22.0	3.12	22.8
LL	24 (17)	5.2	0.06	13	260 (10)	10.8	2.08	0 (0)	0.0	0.00	0.0
T	5 (4)	5.4	0.14	14	0 (0)	0.0	0.00	71 (3)	14.2	2.54	17.7
NONOP	22 (15)	4.4	0.11	23	0 (0)	0.0	0.00	0 (0)	0.0	0.00	0.0
Total	143 (100)	6.7	0.16	17	2596 (100)	18.2	2.70	2650 (100)	18.5	2.76	17.3

Note: 1. See note to Table 5.4 for explanation of Tenure categories.

2. Column percentages are given in the brackets.

a Workforce constitutes only those who work in the village. This includes 148 agricultural workers and 5 non-agricultural workers. Ratio of this work force to population in a given class is "participation rate".

The cultivating tenure classes among landowners (i.e. top four rows of Table 5.5) are much bigger households than non-cultivators or pure tenants (remaining three rows). In particular, the non-cultivating lessors (LL) have smaller households compared to cultivating lessors (OCL and OTL). The smallest mean household size occurs for the landless non-operators (NONOP) - almost half the mean household size for owner tenant (OT). *It suggests that population pressure (household size) may have a role to play in amount of land leased-in or out.*

Mean cultivation holding *per agricultural worker* for different tenure classes varies in a narrow range - close to 20 bighas per worker both for lessee and lessor classes among cultivators. *Tenancy appears to play a role in stabilizing or equalizing land cultivated per worker for cultivators from different tenure classes.*

For land-owning tenure classes there is a positive relation between participation rate (ratio of work force to the population) and mean cultivation holding size. Thus OT show the highest participation rate as well as the highest mean cultivation holding size. Non-cultivating lessors (LL) show a participation rate close to zero and also small mean household size. In this class (LL), there are very few workers. This is because of the presence among LL of (1) many households without fit adult male (this underscores the earlier observation that tenancy contracts provide important economic opportunity for such households), and (2) many small land holders, whose only or all working member(s) work outside the village - either in a 'regular' job or wage labour.

Thus, there appears to be a remarkable adjustment of land to labour.³

Joint distribution of households by tenure status and caste (Table 5.6) and according to tenure status and ownership holding (Table 5.7) shows some interesting characteristics of the lessors and lessees. The Muraos are prominent among owner tenants (OT) and owner cultivators (OC). In fact over two thirds of all Murao households belong to these two categories. In contrast, the Thakurs are prominent among cultivating landlords (OCL) and "pure landlords" (LL). Gadarias and Passis contribute a large number of "pure landlords".

Households owning between 5 and 30 bighas provide bulk of owner tenants (OT). Cultivating lessors (OCL) come in almost equal numbers from all classes of landowners. Most of pure landlords (LL) come from the two lowest classes of landowners. Cultivating owners (OC) are quite evenly distributed among different size classes.

³. This contrasts with some scholars who have emphasized strong adjustment of land to draught power as against weak or little adjustment to labour through tenancy. See Jodha (1981b), and Pant (1981).

Table 5.6: Joint Distribution of Households by Caste and Land Tenure Class

Tenure class	Caste								
	Thakur	Murao	Dhimar	Gadaria	Dhobi	Teli	Passi	Jatab	Others
OC	3	6	0	2	0	1	3	0	0
OT	5	11	2	4	1	5	0	5	0
OTL	3	3	1	0	1	2	2	4	0
OCL	11	5	2	2	0	1	1	5	1
LL	6	2	3	4	0	0	5	3	1
T	0	0	1	0	0	3	0	0	1
NONOP	2	0	4	0	2	4	4	2	4
Total	30	27	13	12	4	16	15	19	7

Note: See note to Table 5.4 for explanation of tenure Classes.

Table 5.7: Joint Distribution of Households by Ownership holding and Tenure Classes

Tenure Class	Land holding class						Total
	0	0.1-5	5.1-15	15.1-30	30.1-50	Above-50	
OC	0	3	3	6	3	0	15
OT	0	6	11	12	1	3	33
OTL	0	1	4	7	3	1	16
OCL	0	1	7	6	7	7	28
LL	0	8	10	5	1	0	24
T	5	0	0	0	0	0	5
NONOP	22	0	0	0	0	0	22
Total	27	19	35	36	15	11	143

Note: See note of Table 5.4 for explanation of Tenure Classes.

Table 5.8: Distribution of Households by Number of Tenancy "partners" (Landlords and Tenants)

Number of partners	Number of households leasing land <u>out</u> to the specified number of tenants	Number of households leasing land <u>in</u> from the specified number of landlords
0	75	89
1	32	23
2	25	10
3	9	12
4	0	3
5	1	3
6	1	2
7	0	0
8	0	1
Total	143	143

Note that both these matrices are not sparse. Thus all types of lessors, lessees and cultivating owners i.e. different tenure classes are widely distributed across all land owning classes and all castes.

We saw (§4.6) that there are a large number of lessors and lessees in Palanpur. It is reasonable to assume that no household can dominate land lease market as a monopolist landlord. As evidence note that 53% of lessors lease out to more than one tenant and 58% of lessees lease-in from more than one landowner (Table 5.8). There are more lessors (32) who lease-out to only one tenant than lessees (23) who lease-in from only one landowner. Indeed 6 tenants (i.e. 11%) lease-in from 5 or more landowners. Joint distribution of households by number of tenants and lessors is given in Table 5.9.

It is clear that in general *a landlord can not control area cultivated by his tenant*. The tenant decides how much land he leases-in and from how many landlords. The tenant's choice to lease or not may be constrained by his resource endowment, availability of land on lease to him and spatial or geographic distribution of such land. But a lessor has no power to stop his tenant leasing land from other landowners.

Tables 5.10 to 5.12 provide distributions of tenants and landlords according to land ownership class, per capita income and "apparent prosperity" class respectively.⁴ Distribution of lessors and tenants is remarkably similar by all the three criteria. They are also very similar to distribution of all Palanpur households according to the respective classification criteria. The tenants and the lessors come from very similar ownership, income and prosperity background.

Thus, there are serious difficulties in viewing tenants and landlords as two classes with different characteristics in terms of caste, landownership, income, prosperity, resource endowments etc.

Some other significant observations emerge from these tables. One, there is a significant group of small lessors. Two, percentages of lessors and tenants in an income class closely follow percentage of households falling in that income class (except the top income class). There are relatively fewer lessors and relatively more tenants in the highest income class. Three, there are disproportionately large number of tenants among the two richest classes on prosperity scale.

The phenomenon highlighted above can be understood by recognizing that the ownership of resources plays an important role in the lease market. Increasing use of modern inputs has resulted in agriculture becoming more capital intensive. Command over financial resources is very important in carrying out cultivation. Households with greater resources can cultivate larger area more successfully than those with little resources. These households qualify as more suitable or desirable tenants and are preferred by

⁴. These tables are taken from Sharma and Dreze (1990). See Dreze, Lanjouw and Stern (1989) for notion of "apparent prosperity". Also see note to Table 5.12.

**Table 5.9 : Joint Distribution of Households
by Number of Lessees and Lessors**

Number of Lessors	Number of Lessees						Total
	0	1	2	3	5	6	
0	37	24	18	8	1	1	89
1	13	4	5	1	0	0	23
2	10	0	0	0	0	0	10
3	9	3	0	0	0	0	12
4	3	0	0	0	0	0	3
5	2	0	1	0	0	0	3
6	0	1	1	0	0	0	2
8	1	0	0	0	0	0	1
Total	75	32	25	9	1	1	143

Note: Each entry in the matrix indicates the number of households which lease land in from the number of lessors specified by the row index, and lease land out to the number of lessees specified by the column index.

**Table 5.10: Distribution of Tenants and Landlords
by Land Ownership Class**

Land ownership class (bighas)	Number of households belonging to the specified land ownership class ^a		
	"Landlord" households	"Tenant" households	All households
0	0 (0.0)	5 (9.2)	27 (18.9)
0.1 - 5	3 (4.4)	5 (9.2)	7 (4.9)
5.1 - 15	28 (41.2)	17 (31.5)	47 (32.9)
15.1 - 30	18 (26.5)	19 (35.2)	36 (25.2)
30.1 - 50	11 (16.2)	4 (7.4)	15 (10.5)
above 50	8 (11.7)	4 (7.4)	11 (7.9)
Total	68 (100)	54 (100)	143 (100)

^a Percentage distributions in brackets.

Note: Some households (16 to be precise) are both lessor and lessee households, and 37 households are neither (details in Table 5.9).

**Table 5.11: Distribution of Tenants and Landlords
by Per-capita Income Class**

Per-capita income class (Rs/year)	Number of households belonging to the specified income class in 1983-4 ^a		
	"Landlord" households	"Tenant" households	All households
below 500	14 (21)	12 (22)	33 (23)
501 - 800	16 (23)	11 (20)	33 (23)
801 - 1200	17 (25)	12 (22)	35 (24)
1201 - 1600	9 (13)	7 (13)	15 (11)
1601 - 1800	8 (12)	5 (9)	14 (10)
above 1800	4 (6)	7 (13)	13 (9)
Total	68 (100)	54 (100)	143 (100)

Table 5.12: Distribution of Tenants and Landlords by Level of "Apparent Prosperity"

Level of "apparent prosperity"	Number of households belonging to the specified group according to Sharma's classification ^a			Number of households belonging to the specified group according to Drèze's classification ^a		
	"Landlord" households	"Tenant" households	All households	"Landlord" households	"Tenant" households	All households
Very rich	6 (9)	7 (13)	11 (7)	7 (10)	6 (11)	11 (7)
Rich	4 (6)	3 (6)	6 (4)	1 (1.5)	3 (6)	6 (4)
Prosperous	13 (19)	12 (22)	29 (20)	13 (19)	13 (24)	29 (20)
Secure	19 (28)	13 (24)	38 (27)	21 (31)	15 (28)	38 (27)
Modest	18 (26)	19 (35)	43 (30)	21 (31)	12 (22)	43 (30)
Poor	4 (6)	0 (0)	8 (6)	3 (4.5)	4 (7)	8 (6)
Very poor	4 (6)	0 (0)	8 (6)	2 (3)	1 (2)	8 (6)
Total	68 (100)	54 (100)	143 (100)	68 (100)	54 (100)	143 (100)

^a In brackets, percentages of all households in the relevant group.

Note: For further details regarding the notion of "apparent prosperity", and the identification of the respective classes by Drèze and Sharma, see Drèze (1988) and Drèze, Lanjouw and Stern (1989). It should be mentioned that while, by construction, the number of households in each "class" is the same in both assessments (Drèze's and Sharma's), the identity of the households is typically not the same.

potential landlords. This should be seen in the light of great prevalence of sharecropping among different forms of land tenancies. On the other hand many of small land owners are unable to obtain land on lease due to their poor resource endowments. So they either end up with their tiny land holdings or else they lease out whatever they own and depend entirely on alternative employment - mostly wage labour in and out of Palanpur.

From the study of the characteristics of the lessors and the lessees, three important inferences emerge:

1. On the whole, the lessors and the lessees come from very similar land ownership, income, economic prosperity and caste background and they can not be viewed to from distinct "landlord" and "tenant" classes⁵.
2. Tenancy performs an important role in adjusting land to household labour endowments, so much so that land cultivated per worker is strikingly similar for different tenure classes.
3. Capital intensive agriculture leads to the phenomenon of big resourceful tenants and small resourceless landlords and explains what has been called "reverse tenancy"⁶.

Thus, tenancy can be viewed as an adjustment process that enables movement of land to labour and financial resources.

⁵. Similar point is also made by Singh (1989).

⁶. Leasing-in of land by big cultivators from small landowners has been called (perhaps misleadingly) "reverse tenancy". There is nothing in the concept or legal definition of tenancy that the tenant must be smaller landowner or poorer than the landlord. Evidence on existence of so-called "reverse tenancy" is quite extensive. See, in particular, Gill (1989), Grewal and Rangi (1981), Jodha (1981b), Laxminarayan and Tyagi (1977b), Nadkarni (1976), Parthasarathy (1991), Rao (1985), Singh (1989), Srivastava (1989a) and Vyas (1970). Nadkarni (1976) cites large body of literature as evidence of widespread nature of "reverse tenancy". It only points to complicated nature of tenancy relations as they exist as opposed to a simplified picture of tenancy involving typically rich landlords and poor tenants. It should not be understood to imply the reverse simplified picture of typically rich "tenant" in more modern times.

5.3. Landlessness and Tenancy:

Tenant has often been viewed as a landless labourer⁷. However we find very few tenant households among the landless⁸. This is in striking contrast to leasing-in behaviour of even marginal landowners. Against only 19% tenant households among the landless, 71% marginal landowners (owning up to 5 bighas) are tenants. Thus ownership of land (however small) seems to provide ability to lease-in land.

This can be related to command over resources and possession of farming skills. Landownership and lease-worthiness (i.e. being qualified, in the prospective landlord's perception, to lease-in land) mutually support each other. A landless household, if *unable* to lease-in land, say, for two years, is unlikely to maintain resources necessary for cultivation - including farm implements and draught power as well as necessary working capital for seed, fertilizer, irrigation etc. His main source of income is casual labour where he competes with labourers from landowning families. He earns poor income and has very little capability to acquire these resources.

A prospective landlord will not lease-out to a household with such poor or negligible resources because the latter is not perceived as a cultivator. The two components of this cycle reinforce each other. In this situation, most landless households are not able to acquire cultivation skill either. Thus, he can not generate farming resources without being able to lease-in and he is unable to lease-in due to lack of farming resources.

This general point is, in some ways, strengthened (rather than invalidated) by considering five exceptions to the rule that the landless households do not lease-in land. Each of them is briefly discussed below:

Ram Swaroop (304) has an interlinked labour-tenancy contract for about 2 bighas⁹. The bread winner of the household, Om Prakash, worked for our research team as a cook and helper. Om Prakash had a stable income for this period of 15 months, with some surplus above his usual consumption needs. Thus he was able to lease-in partly on cash rent and partly on sharecropping as he was perceived (by his lessors) to have resource backing from this "secure" job. He had to stop cultivating land a season after he ceased to be employed by the research team at the end of survey.

⁷. A few examples: Bardhan (1979), Bhaduri (1973, 1983), Braverman and Srinivasan (1981), Chao (1983), Eswaran and Kotwal (1985b), Lucas (1979), Mitra (1983).

⁸. This phenomenon is not unique to Palanpur and has been widely observed. See, Bardhan (1976), Bell and Zusman (1976), Chadha and Bhaumik (1991), Jannuzi and Peach (1980), Narain and Joshi (1969) and Pearce (1983).

⁹. This contract is discussed in §9.7 (Chapter 9).

Sukhey (603) leases-in land from Railways. He is an employee with the Railways and has been granted lease of railway land on nominal rent¹⁰. He often sublets this land on sharecropping.

Wali Mohammed (609) recently separated from his landowner father, Mohabbat Ali (606). He leases-in only from his father. His father provides him access to his assets (bullocks, implements etc.) needed for cultivation.

Razak (617) owns in his native village (where some members of his family live) 3 bighas of land, currently cultivated by a relative. So, strictly speaking he is not landless. He has good farming skills and assets.

Jagdish (903) jointly leased-in land with two other tenant partners on fixed kind rent. They proved to be poor cultivators (Jagdish and his tenant partners own no farm resources and everything had to be hired) and had a poor harvest. They defaulted and ran away from the village before harvest time.

In fact given that it is virtually impossible for the landless to lease-in land on sharecropping, leasing-in on fixed rent is one possible way of breaking the cycle mentioned above. However that requires enough resources for rent and working capital for at least one round of successful cultivation if one is not to fall back into the same cycle.

The second important aspect of landlessness and tenancy is that returns of cultivation come home only once, at the end of the cropping season. There must also be enough resources to sustain a cultivator through the crop season. This is important for a poor household since wages are earned throughout the season, even though overall earning from available wage labour may be much lower than family earning from tenant cultivation.

These explanations must be seen in the light of imperfections in the functioning of credit market and severe rationing of credit to the poor households.¹¹

5.4. Labourlessness and Tenancy:

The households without fit adult male do not lease-in land (Table 5.13). Labourless households invariably lease-out a large part (sometimes whole) of their landholding¹². Existence of lease market provides important economic opportunities for landowners among the labourless households to lease-out land, as rent from land forms important part of their subsistence requirements.

¹⁰. About 20 acres of land in Palampur is owned by Railways. Most of it is under the rail tracks. Nearly 4 acres of this land (25 to 30 bighas) on both sides of rail tracks is leased out to Railway employees at nominal but variable rent.

¹¹. See Dreze, Lanjouw and Sharma (1992) and Sharma (1989) for a detailed description and analysis of credit market in Palampur. See Chapter 8 for a discussion on significance of nature of credit market for leasing.

¹². The only notable exception is Chander Pal (218) - a Murao household. Fourteen years old Chander Pal cultivates his 25 bighas with his widowed mother's help. Muraos generally show exceptional industriousness.

Table 5.13: Land Ownership and Use among Households without Fit Adult Male

Household ^a Code	Land owned (bighas)	Land operated (bighas)	Remarks
103	see remarks	0	Single old man. Lets his brothers cultivate his share of the land in exchange for guaranteeing his subsistence.
113	10	3	Sick during most of the survey year. Only a small sugarcane plot was retained for self-cultivation (could not be leased out as the crop was already standing).
125	57	14 ^b	Old man. Land not leased out is fallow.
128	6	0	Widow living with young children. Land is leased out to close relatives.
210	25	25	Murao household. Chander Pal (age 14) cultivates with his widowed mother.
226	27	0	Single old man. Lives mainly from the rent of his land.
409	8	0	Widow living with young children and her widowed mother. Land is leased out (share-cropping) to brothers-in-law.
503	0	0	Landless, female-headed household.
611	0	0	Landless agricultural labourer. Chronically sick.
703	6	6	Fit enough to cultivate a small plot of land. Got the land ploughed by a friend.
705	4	0	Widow living with young children. Land is leased out to a relative.
711	0	0	Widow living alone.
712	0	0	Widow living with young children.
714	14	0	Widow living with young grand-children.
801	12	6 ^b	Old and sick couple.
808	8	0	Lochan suffers from a chronic illness. Lives with mother and wife.
812	9	2 ^b	Old, blind man living with wife and a young son.
907	0	0	Urmila's husband works and lives outside Palanpur. The resident household members do not include an adult male.

^a A broad definition of the term "without fit adult male" has been adopted here. See Sharma and Dreze (1990) for further details.

^b Fallow.

These findings strengthen the proposition that adjustment of land to labour resources is an important function of tenancy market. Note that these labourless households do not cultivate even their own holdings with hired labour.

5.5. Fixed Rent Leases:

There has been an increase in the proportion of area under fixed rent leases. In 1957-8 only 1.4% of leased-in area was under fixed rent tenure. This share increased to 20% in 1983-4 (§4.7). Even so, fixed rent tenures cover a small part of leased area.

Economics of fixed rent leases is very different from that of sharecropping. To understand this we focus on characteristics and relations of partners in fixed rent leases. Substantial increase in area under fixed leases does not indicate factor markets becoming more 'perfect'. Important reasons for this increase appear to be (a) existing (and continuing) rigidity in credit market, together with (b) an increase in indebtedness - both to the public financial institutions and private individual money lenders¹³ and (c) increasing capital intensive nature of agriculture. All three factors should be seen to be working together. Individually, none of them can explain the increase in fixed rent tenancies.

Table 5.14 gives details of fixed rent contracts where both the lessor and the lessee belong to Palanpur¹⁴. First consider fixed rent tenancy contracts involving credit from the lessee i.e. UM and RL (§4.3). Invariably, the lessor is in weaker economic position than his lessee. In these cases, the lessor is forced to lease-out land either for repaying the debt or to obtain loan. Effective rent on land is very low (between Rupees 30-40 per bigha per annum)¹⁵.

Next consider *Peshagi* (cash rent) contracts. There are five cases of such contracts (Table 5.14). In almost all cases the lessor is in weaker economic position than his tenant. All of the lessors have debt problems. The motive for leasing out on cash rent is to raise some cash either to repay at least part of the debt or for current need for cash when possibilities of obtaining credit from private or public sources are non-existent¹⁶.

¹³. See Dreze, Lanjouw and Sharma (1992).

¹⁴. In what follows, some characteristics of the tenant and the landlord in a fixed rent lease contract are analyzed. This obviously can not be done for the contracts in which one partner (either the tenant or the landlord) is an outsider.

¹⁵. The rent levels in cash tenancy, which are of the order of Rupees 40 per bigha for a season in 1983-84, are low compared to kind rent contracts and also low compared to mean rents obtained in sharecropping contracts. Others e.g. Bhalla (1983), Cooper (1983), Morooka and Hayami (1989) and Srivastava (1989a) have reported similar findings. There is no evidence to the contrary.

¹⁶. eg. Lal Singh (812) living near starvation level and yet leases-out on unfavourable *Peshagi* terms.

Table 5.14: Details of Fixed-Rent Leases^a

Details of the lessor household			Details of the tenant household			Leased	Type	Rent
Household	Per-capita	Land	Household	Per-capita	Land	area	of	paid
Code	income in	owned	Code	income in	owned	(bighas)	rent	per
	1983-4	(bighas)		1983-4	(bighas)			bigha
	(Rs/year)			(Rs/year)				(Rs)
102	1678	34.6	223	496	17.1	3.0	Cash	50
404	712	45.7	221	1078	97	11.5	Cash	50
407	825	20	617	417	0	12.0	Cash	60
805	784	10.4	109	1189	6.4	4.0	Cash	50
812	429	8.5	109	1189	6.4	2.0	Cash	50
127	982	22	903	333	0	12.0	Kind	135 ^c
812	429	8.5	805	784	10.4	4.5	Kind	135 ^c
818	471	4.8	502 +	1306	17.7	4.8	Kind	135 ^c
			612 ^b	301	0.9			
819	354	4.8	502 +	1306	17.7	4.8	Kind	135 ^c
			612 ^b	301	0.9			

Footnotes:

^a Only contracts between two partners both living in Palanpur have been included in this table.

^b Joint tenants.

^c One quintal of wheat per bigha, valued at Rs 135/quintal.

Two types of lessors lease out on *Peshagi*. The first type, the outsider or absentee lessors, choose the *peshagi* contracts to overcome monitoring problems as the face high transactions cost in share-cropping contracts. The second type are village lessors. They are almost always those households that are facing serious current cash crisis.

Lila Dhar (807) is a Jatab and has a small debt with FSS (Cooperative Society - see Chapter 8, Appendix) to clear. With his limited resources he is anxious that the debt should not grow. In Kharif '84, Lila Dhar approached a member of the research team, Jean Dreze, and suggested that the latter lease-in a small plot of land (2 bighas) from Lila Dhar on *Peshagi*. When asked how could Dreze cultivate this land, Lila Dhar further suggested that he will lease-in the same plot of land on *Batai* from Dreze. He explained that his motive behind this offer was urgent need of cash to repay the debt. Normally, he will not enter such unfavourable deal. Unsuccessful in this effort, Lila Dhar finally leased-out to another villager on *Peshagi*. However, he could not lease-in the same plot back on sharecropping and was forced to cultivate less land than what he wanted to.

In another case Ram Charan (306) leased-out 9 bighas to Idey (502) on UM. Part of this *land* was leased-in by Ram Charan on sharecropping. Ram Charan is the biggest tenant in the village - leasing-in 50 to 60 bighas every year while he owns only 18 bighas of his own. It is obvious that he leased-out not because of any inability to cultivate his holding. The motive behind leasing-out is again to raise cash resources and not adjustment of his cultivation holding.

Excluding outside landowners, cash rent leases are unusual lease contracts. They are not entered into to adjust cultivation holding by the lessor. On the contrary, some of these lessors, at the same time, try to increase their operational holding by leasing-in on sharecropping terms. The households leasing out on cash rents are generally those in vulnerable economic condition. In such leases, the tenants are generally rich, resourceful households. Being in a weak bargaining position these "landlord" households lease out on *Peshagi*, at rents much below equivalent rents realisable in alternative (share-cropping) contracts.

Thus, there is some justification to call leasing out on cash rent by Palanpur landowners a phenomenon of "distress lease".

5.6. Change of Tenure Status from Rabi 1983-4 to Kharif 1984:

The change in tenure status of households from one crop year to another is rapid. There was change in tenure status for as many as 45 households (Table 5.15). Of these one change was due to sale of land and in two other cases due to inheritance of land.

Table 5.15: Change of Status from Rabi 1983-84 to Kharif 1984

Rabi 1983-84	Kharif 1984							Total
	OC	OT	OTL	OCL	LL	T	NONOP	
OC	0	4	2	3	0	0	0	9
OT	3	0	2	2	0	0	0	7
OTL	2	1	0	3	0	0	0	6
OCL	4	0	1	0	5	0	1	11
LL	2	0	0	1	0	0	1	4
T	0	1	0	0	0	0	1	2
NONOP	0	1	0	0	1	4	0	6
Total	11	7	5	9	6	4	3	45

Note: Explanation of tenure categories are given in note to Table 5.4. All diagonal elements are zero since they represent no change in tenure status and are not provided here.

The change in tenure status has occurred in numerous possible ways (Table 5.15). Of 15 cultivating owners (OC) in Rabi, 9 became either tenants or lessors or both. On the other hand there were 11 households that were either tenants or lessors in Rabi but discontinued leasing in Kharif. Of the 54 households that were leasing-in land in Rabi, 10 households stopped leasing-in in Kharif - 5 of these were in fact leasing-out in Kharif, thus just reversing their status from that of a lessee to a lessor.

Such rapid changes in tenure status underscore two main points. First, there are only a few households in the village that can be sensibly classified as "tenants" or "landlords". For most households, changes in tenure status are too frequent and it shall be misleading to classify them under these terms on the basis of current leasing. Second, leasing-in and leasing-out in a season is outcome of adjustments that households make or are able to make depending on their current resource endowments. This means that even with little or no change in land ownership, there are large changes in available family labour, draught power, cash resources and debt from one year to another, that significantly influence decision to lease-in or lease-out or do neither.

The reasons behind the change in tenure status (i.e. for the decision to lease or not) include: (a) illness in the household leading to labour and cash scarcity, (b) unusual expenditure (e.g. on birth, death or marriage ceremonies or remittances outside or on education) or a crisis (e.g. being a victim of robbery) leading to cash constraints (c) acquisition of new assets (e.g. tractor or irrigation pump), (d) availability or non-availability of own draught power, (e) in or out migration of a working member, and (f) availability of land to lease-in. Any of these factors may change from year to year without seriously altering their more enduring household characteristics. Of course, frequent recurrence of some of the problems facing a household (mentioned above) in a short period can change their permanent characteristics, too.

Thus, given the pattern of permanent household characteristics - land owned, outside jobs, level of prosperity etc. - there are very few permanent lessors (landlords) or lessees (tenants). Much of tenancy is explained by transient economic situation of a household. *The tenancy, in a large number of cases, is a response to these transient changes and is an adjustment mechanism.*

5.7 Tenancy as Partnership:

In Palanpur there were 119 lease-out and 123 lease-in contracts¹⁷ in Rabi 1983-4. Of these, for 102 tenancy contracts both the partners (the lessor and the lessee) were from Palanpur. For Kharif 1984 these figures are 118, 115 and 98 respectively. Thus overwhelmingly large number of lease contracts are entered between partners belonging to the same village¹⁸.

It has been noted that share contracts dominate lease market and that contrast in household characteristics in terms of caste, landownership, income and prosperity is not very sharp between the landlords and the tenants.

In this context it may be useful to view a tenancy contract as a partnership. In contrast, the principal-agent neo-classical models and exploitative ("predatory") landlord/money-lender models represent two poles. The latter, put forward by many Marxist scholars, views the landlord as a monopolist combining tenancy (sharecropping) and credit to keep the landless labourer, in virtual bondage so as to appropriate the surplus created by labour. The labourer "tenant" has no choice. All decisions are taken by the landlord/money-lender.

The neo-classical models on the other hand assume that the landlord and the tenant, subject to certain constraints, make their decisions independently. Typically, the landlord takes into account the tenant's behaviour. He makes optimal choice of terms of contract, incorporating tenant's expected decision making behaviour, subject to providing a minimal utility or "income" to the tenant (the latter's reservation utility or reservation wages). The tenant then can choose to either accept or reject the contract. The tenant makes decisions about inputs¹⁹. Thus, both the principal and the agent are free to make choices *within* the given constraints.

There is a common interface between these two polar views. In principal-agent models the tenant has to be provided his reservation wage or utility, otherwise the contract will not be sufficiently attractive to be accepted by the tenant. The landlord's optimization requires that the tenant gets no more than his reservation utility/wages. In Marxist models the labour (tenant) has to be provided enough so that he can

¹⁷. A "lease contract" is defined here as a contract between two households. All land leased between two households is counted as one tenancy contract even if it involves several plots of land. Number of lease-in contracts exceeds number of lease-out contracts due to involvement of outsiders in Palanpur lease market.

¹⁸. Barring some specific regions like Punjab or Haryana where absentee landlordism may be high (Bhalla: 1983), this phenomenon is typical of Indian villages - see Bardhan and Rudra (1986) on the lack of labour mobility even across neighbouring villages and F.G. Bailey (1971) on nature of transactions and mistrust between villagers and outsiders. Exceptions to the above scenario may occur when for example, there is large presence of seasonal immigrants among the sharecroppers - (M. Chen: 1989).

¹⁹. But see Cheung's (1968) model where the landlord chooses the input level as well.

subsist and reproduce himself for the surplus appropriation to be possible. And he can not get any more than this as that would lower the surplus appropriated. The crucial difference between the two models is in the perception of the relationship between the landlord and the tenant.

In contrast to both of these models, the view that tenancy be seen as partnership sees joint decision making as an important component of sharecropping. In a sharecropping contract, interaction between the landlord and the tenant lasts the whole period of contract. This involves both cooperation of two partners and the friction in operation of the contract. Though the basic structure of a sharecropping contract is fixed (i.e. the output and cost sharing rules) yet other things have to be mutually agreed upon for the smooth functioning of the contract.

A number of things - which crops to grow, how much of each input to apply, when to apply, who is to bear the cost of shared inputs at the time of occurrence, what irrigation source to use if more than one is available - are open to negotiations between the landlord and the tenant. In the absence of any formal contracts, the trust that the landlord and the tenant have in each other is important. For example, an area of potential conflict is how much input has been actually applied.

Analysis of discussion questionnaire on tenancy (details in Chapter 6) suggests that the crops to be grown on sharecropped land, are mutually agreed. But in case of disagreement the landlord has a major say. In contrast, once the crops are raised, the tenant has greater control over inputs in the current season. In case of cost of shared inputs, whichever partner has greater liquid resources may pay for them at the time of their application if the other partner is unable to do so. The adjustment is made at harvest.

When this sense of partnership breaks down, more often the production suffers. In some cases, the lessor insisted that he will adjust for his share of input costs at harvest time only and this lead to non-application of those inputs, even though the tenant had resources to supply them initially on his own.

In contrast Ram Charan (HHI 306) who owns very little land but leases-in a lot of land from Laxmi Narain (a landowner from a neighbouring village) says that Laxmi Narain initially provides all inputs. The tenant and the landlord have great trust in each other. The tenant works very hard on sharecropped land - harder than on his own land according to the tenant.

Conflicting interests of the contracting parties are inherent in the functioning of sharecropping. The tenant's interest is in choosing crops and techniques that minimise the non-shared inputs which are borne by him alone. The landlord's interest is the reverse of it. The landlord, for example, will prefer irrigation by Persian wheel where his share in its cost is negligible but this involves substantial labour input on part of the tenant who will prefer irrigation by diesel pump set.

At the same time, it is in the interests of both the partners that the total output goes up. This demands a certain amount of cooperation between the lease partners - in particular pooling of skills is one aspect of this cooperation. This may become particularly important if progress of cultivation is poor either due to climatic conditions, or pest attack or disease.

Personal relations between tenants and landlords are, thus, important. These contracts, like contracts in other rural markets (for example even wage contracts) are highly personalised²⁰. The non-fixed part of these contracts is open to bargaining between the two partners. The decision making is neither completely one sided nor independently done by the two partners.

The tenancy contracts are better seen as situations of personalised and often unequal bargaining or alternatively as "cooperative conflicts"²¹.

²⁰. The personalized nature of these contracts is reflected in choice of partners and hence two way rationing of lessors and lessees, and not in individualized terms of contract.

²¹. Sharma and Dreze (1990). See Sen (1987) for the concept of cooperative conflict in a different context.

SOME INSIGHTS FROM THE DISCUSSION QUESTIONNAIRE

6.1 Choice of Contracts:

The co-existence of several types of lease contracts in the same village has been noticed¹. But there are virtually no studies about the contractual type preferences of the parties - the lessors and lessees. The constraints under which lessors and lessees function become more transparent when their desires (i.e. *stated* contractual preferences) and actual choices made (contracts entered into) are studied and contrasted. This section is based on responses of a sample of 36 households interviewed with the Tenancy Questionnaire (Chapter 2, Appendix).

Lessees express the following preference ordering (from most to least preferred): (1) advance cash rent - "*peshtagi*", (2) sharecropping - "*batai*", (3) fixed rent in kind (KR) payable at harvest time - "Kuntal bigha" or "Naaj Par"². This order is indicated when all three types of contracts are considered. Several lessees refused to even consider the last choice, i.e., fixed rent in kind. Lessors, almost in one voice, *reverse* this preference ordering. Thus, there is a convergence of viewpoint about relative benefits going to lessors and lessees from different tenure types. Both the lessors and the lessees agree that cash rent contracts are advantageous to the lessee (and unfavourable to the lessor) in comparison with sharecropping contracts. A few of lessees prefer any type of fixed rent (in cash or kind) contract to sharecropping contract and these lessees also prefer cash rent to fixed kind rent.

Within share contracts, the lessees always opt for *batai*. *Chauthai* contracts are considered better for the lessor. There is agreement between lessors and lessees about relative merits of different share contracts. In contrast, when actual choices made are considered, it is observed (Chapter 4) that only a small amount of leased land is under fixed rent contracts. Within share contracts, the Batai contracts are more prevalent than Chauthai and Sajha Batai contracts. In 1983-4, there was no area under Tihai contracts. Except for land rented in from Railways at a nominal rent, area under cash rent contracts is small.

Of 23 lessees only one expresses preference for Batai over cash rent. This respondent gave high production risk as the reason for *wanting* to enter into opting fixed rent contract.³ Two respondents out of 23 refused to give any preference ordering. These two were emphatic in stating that all tenancy types have

¹ See, for example, Morooka and Hayami (1989), Rao (1985), Srivastava (1989a), and Singh (1989).

² Tenancy contracts have been described in Chapter 4.

³ This farmer, though comparatively large landholder among Jatabs, obtained very poor yields attributed to poor land and poor cultivation skills.

their pros and cons. If the lessee is resourceful, then *Peshagi* will be the best contract, as cash rents are low and the lessee gets full benefit of his investments. On the other hand *Batai* has the merit of reducing losses to half in case of crop failure besides the lessee having to invest only half the costs. These are useful for a lessee with limited resources. Thus, their preference ordering varies from case to case. The remaining twenty respondents expressed a preference for *Peshagi* over *Batai*.

At the prevailing prices for grains and pulses, the lessees consider that cash rent is cheaper than sharing crops. Another reason for cash rent preference is independence from the lessors' interference. Four respondents prefer even fixed kind rent contracts⁴ to *Batai* to have the advantage of non-interference of the lessor. This aspect of choice of contracts is articulated by one respondent⁵ in the following two preference orderings:

Cash Rent *P* Kind Rent *P* *Batai*
(On account of independence)

Cash Rent *P* *Batai* *P* Kind Rent
(On account of economic merits)

where "*P*" is a relation denoting "preferred to". This disposition to avoid landlord's day to day interference is further discussed below in § 6.3.

This means that the expected values of profits are very much alive in the respondents' mind. Cash rents being low, expected rent payment on share contracts are much higher and hence the tenant's share on share contracts much lower than those on cash rent contracts⁶.

In contrast, the actual decision making behaviour appears to be that of a utility maximiser rather than maximiser of expected physical gains. There appears to be a clear distinction between these two aspects in a lessee's mind. While expressing preferences, they are generally expressing relative merits of different contract types independently of material conditions of the lessee. There are several factors that account for

⁴ Perceived to be the costliest of all tenancy contracts being 1 quintal of wheat/bigha. Average rent (for Rabi season) at harvest prices was Rs.67.5 per bigha compared to Rs. 42 per bigha (share cropping) and Rs.27 per bigha (cash).

⁵ He is a poor, landless tenant who leases-in from his father.

⁶ In 1983, mean rent payment for share contracts was 53% higher than that for cash rent contracts (even when excluding land leased-in from Railway (\$11.3)). Average rate of interest for loans from private sources in 1984 is a little lower than this - between 45-50% annual - but emerging interest rate in 1984 was 60% annual. Rate of interest from public institution varies between 0-20% annual. Mean rate of interest from all sources is close to 35-40% annual. Thus rent payments even after discounting for time factor are higher on sharecropped land than on cash rented land. This in spite of the fact that 1983-84 was a poor harvest year in Palanpur.

differences observed between the articulated preferences and the actual choices made about lease contract type.

A potential lessee may not be in a position to raise sufficient funds to pay cash rent in *advance* and bear all the expenses of cultivation. While *batai* lease demands only part payment of expenses on inputs and the lessee realizes that the landowner, in his own interest, can be persuaded to bear full input costs initially to make sure that agricultural operations are not held up, should the lessee be in financial difficulty. The landlord, too, has direct interest in good cultivation, once the plot is lease-out.

Two, given the lessee's material condition, his risk bearing capacity may be low (increasing the importance of 'survival algorithm' for him⁷) and thus for him return in the worst case may be more important factor in decision making than expected profits.

Three, it was observed that landowners prefer to lease out on share contracts as opposed to fixed cash rents. The actual leasing pattern, at least in part, reflects dominance of *lessors'* expressed preferences over *lessees'* expressed preferences. Fixed cash rent leases can be generally regarded as "distress leases" (Chapter 5). Indeed only one lessor (a poor Thakur landowner) reported preferring cash rent contracts to *batai* and this because he has large debts to clear.

Four, even though majority of lessors expressed preference for fixed rent in kind (KR) over *batai*, hardly any land was leased out on KR terms. It has been already remarked that KR was rather costly for the tenants compared to *batai* as per realised rent in 1983-84.⁸ It is quite likely that *expected return* to lessor may be a little higher on *batai* than KR, as the yields realised in 1983-4 were only one half of normal yields. It is obvious that marginal gain in expected returns is not adequate in the face of production uncertainty to persuade the lessee to lease-in on KR terms. Thus, the lessor, unless in distress, is not prepared to lease out on *peshagi*, and the lessee is not prepared to lease-in on KR. High incidence of *batai* is the result.

The last point that must be considered is of the large difference in cash rent and time discounted fixed kind rent. The following two factors go a long way to explain this. First, cash rents reflect distressed position of the lessor (unless he be an absentee landowner) and hence such a lessor is in a weak bargaining position. This depresses cash rent levels. There is no such thing about KR. Second, payment in KR takes place at the Rabi harvest - one year after the initiation of the contract. Hence in a KR contract, default is

⁷ See Lipton (1968) and Scott (1976) on safety first rules and survival algorithm.

⁸ Mean KR rent is 2.5 times mean *peshagi* rent in nominal terms and twice the mean *peshagi* rent after allowing for time discount factor.

a very real possibility - specially in case of a bad *Rabi* harvest. Indeed, this did happen in Palanpur in 1983-84. Thus, stipulated rent in a KR contract must include a premium for probability of default.

The importance that the lessees attach to independence from interference by the lessors is also seen from their preference for *batai* over *chauthai*. *Chauthai* is identical to *batai* in terms of sharing of output and inputs (including labour - family or hired). The crucial difference between these two types is the degree of control the landowner exercises through out the period of contract. In *chauthai*, a lessee has virtually no control over decisions - the most important reason for the lessees' dislike of *chauthai* contracts. Other problems in a *chauthai* contract are those associated with pains and benefits of organising joint cultivation. Joint cultivation is smooth only in a few cases, where the two partners have a rare understanding and trust. A few cases of *chauthai* occur when either the prospective tenant is otherwise unable to lease-in any land or he is severely handicapped in farm implements/bullocks etc.

6.2 Initiation of the Contract: who makes the first move?

If land lease market is predominantly a lessor's market, a prospective lessor can just sit back and wait for lessee(s) to approach him. There is sufficient ground to believe that in Palanpur there is an overall excess demand for land on lease. Indeed, several respondents reported that they could not lease-in as much area as they desired to cultivate on lease. This is separate from another issue of not being able to lease-in desired good quality land (fertility, suitability for a particular crop etc.). On the other hand there is not a single household that faced serious difficulties in leasing-out.

Of the 36 households in the survey, 31 either leased-in or leased-out or both leased-in as well as leased-out some land. For *each* contract they were asked about who initiated the move for the concerned lease contract. The responses to this query are summarized in Table 6.1, arranged according to whether the respondent was a lessor or a lessee in a given tenancy contract.

It can be readily seen that contrary to expectations, the lessors made the first move in more than twice the number of lease contracts as compared to number of contracts in which the lessees made the first move. Thus, the lease market, inspite of over all excess demand for land, may not be completely lessors' market. Table 6.1 has been presented so as to be able to look for any reporting bias and try to make amends for this.

In Table 6.1, the diagonal sum (or the trace of the matrix), which is 17, gives number of lease contracts for which the respondent (whether a lessee or lessor) reports *himself* having made the first move. The sum of the off-diagonal elements is 60 and it gives number of contracts where the respondents claim that the other party made the approach. It does appear that there is a pronounced bias for a respondent to claim that he was approached by his lease partner to initiate the contract.

Table 6.1: Approach for Initiating a Lease Contract

Respondent	Lessor made the approach	Lessee made the approach
Lessor	10 (6)	16 (8)
Lessee	44 (18)	7 (5)
Total	54	23

Note Each entry in the table gives number of contracts satisfying the given criterion (e.g. according to Lessor respondents, they made the first approach in 10 contracts and were approached by their lessees in case of 16 contracts - entries in the First row). Figures in the brackets give the number of reporting respondents as in that given category.

Even if one discounts for this bias⁹, the fact remains that in a very large number of lease contracts lessors look for a suitable lessee and approach him and the same is true for the lessees. This is established even if only the lessor respondents are considered.

Here one observes some clues to the fragmented nature of lease market¹⁰. There is excess demand for some lessees as well as excess demand for land of some lessors. Although in the end only the lessees are rationed as far as their ability to lease-in (out) a given amount of land is concerned, yet some households on both sides may be rationed in terms of getting lessees or lessors of *desired qualities* and land of *desired quality and quantity*. Some lessors with poor quality land or unsavoury reputation as landlords may be avoided by "good" cultivators and may have to lease-out to poor (in skills or/and resources) cultivators. Without classification and standardization of land and oral private contract system, mutual relations between tenancy partners and their reputations play important role in tenancy agreements.

Unequal bargaining powers exist in different segments of lease market, but there is no excessive dominance by any one side. Equal and unequal bargaining powers of the contracting parties vary from contract to contract and in both directions.

6.3 Choice of Partners¹¹

The choice of partners assumes interest, given that uniform and impersonal terms of contract prevail in an economy consisting of agents with *known* heterogeneous characteristics. Individual characteristics vary a great deal in asset ownership, labour endowments, skills, trustworthiness, dependability, income, access to outside world (and its institutions -- bureaucracy, political connections etc.). This section is an attempt to study the functioning of the lease market through discussions with sample households on these aspects and to understand the actual outcome of leasing activities in quantitative terms (how much a class of lessees is able to lease-in from different classes of lessors).

Cultivators with good resources, reputation of being experienced, skilled, hard working and honest find it easy to lease-in. For the resource-less obtaining of a tenancy contract is an uphill task. In fact most of the respondents who expressed serious difficulties in obtaining land on lease - mostly Jatabs and Telies - the poorest households in Palanpur.

⁹ There being no rigorous way of doing so, an attempt is made by focusing on lessor respondents since *a-priori* they are expected to be in a dominant position in the lease market.

¹⁰ This aspect of lease market is more clearly brought out in §6.3 on choice of lease partners.

¹¹ A shorter discussion on this issue is contained in Sharma and Dreze (1990) for which Table 6.5 (included here) was originally created.

Tables 6.2 and 6.3 provide a summary of findings of the survey on desirable qualities in the lessees and the lessors respectively. Both lessors and lessees want their partner(s) to be honest. This is important as the contracts are oral and no witnesses are involved - even more so in sharecropping, as the sharing of yield is at the end of the contract period. Timely fulfilment of obligations such as sharing costs is considered a part of honesty. Thus, the parties look for partners who can be relied upon for truthful and timely response. Only one lessor¹², said that he did not care about his lessee's honesty - he knew how to deal with dishonest fellows.

The lessors are also particular that the lessee should be hard-working.¹³ About desirability of the resourcefulness in lessees, there is some variation in responses according to resource position of the lessor. Several *resourceful lessors* do not lay much stress on resourcefulness of the lessee but emphasise that the lessee should be skilful and hard working. But other lessors are concerned about the lessee having resources to invest.

Lessees' responses show greater variety about the desirable qualities in their lessors. Several lessees take care that their lessor is able to provide his share of costs. Besides honesty, several lessees desire their lessor to be "good natured", "cordial". They will surely avoid a quarrelling or argumentative lessor. Sometimes the prevailing socio-economic stratification and caste divisions make certain transactions undesirable. The lessees generally dislike a lessor who interferes and nags all the time¹⁴.

Analysis of quantitative data is taken up now in the form of leasing-in from and to matrices by caste, landholding and income classes. The data is presented for Rabi cropping season - Kharif lease matrices show identical patterns. Table 6.4 gives lease matrix by caste for number of contracts and area. There is considerable intra-caste bias in seeking lease partners¹⁵. It can be seen from Table 6.5 [due to Sharma and Dreze (1990)] that "if landlords allocated their leased-out land at random between households of different castes, intra-caste leasing would account for only 16 per cent of total leased out area, whereas the

¹² a rich resourceful Dhobi household with expanding money-lending activities. He leases-in considerable amount of land - mostly on long term cash rents.

¹³ In this the lessors show concern about the incentive problem (labour shirking) in a share-cropping contract.

¹⁴ "Jo tiktikaavai woh theek nahi hai", said a tenant in his colourful language. "tik-tik" are sounds used to goad bullocks to move forward.

¹⁵ This is in contrast to findings of Bliss and Stern (1982) for the same village for 1974-5. They find no such apparent bias.

**Table 6.2: Desired Qualities of Tenants, as reported by
a Sample of Lessors**

Lessor's House- hold Code ^a	Qualities stated by the respondent (lessor) as being desirable in a tenant ^b			
	Honest	Hard- working	Resource ful	Other
106	*	*	*	Should preferably own irrigation devices.
108			*	Should not be "overstretched".
112	*			Should be "straightforward".
114		*		-
128	*		*	Should be trustworthy.
215	*	*	*	Should have good access to water and fertilizer.
305				Should provide farmyard manure.
309	*	*		-
401	*	*		-
502		*		Does not care about honesty. This respondent (who, incidentally, is a money- lender) claims that he can deal with those who try to cheat.
701		*		Should be skilful.

^a The first digit of the identification number indicates caste.

^b An asterisk indicates that the stated quality was mentioned by the respondent.

**Table 6.3: Desired Qualities of Landlords, as reported by
a Sample of Tenants**

Tenant's HH Code	Qualities stated by the respondent as being desirable in a landlord
109	Non-interfering, straightforward, willing to provide his share of the costs on a timely basis.
112	Honest, non-interfering.
115	Non-interfering.
203	Should be willing to contribute his share of the costs at the time of their occurrence; should not argue about the accounts at harvest time.
204	Honest; preferably not a Thakur.
208	Not a Thakur (they are dominating and bossy).
211	Good-natured; conciliatory; dishonest landlords who pilfer the crops are avoidable.
213	Honest.
223	Honest; should not pilfer the crops.
306	Honest.
406	Honest.
501	Should not be quarrelsome or overbearing.
502	Honest.
601	Should not be quarrelsome or hair-splitting kind.
609	Non-interfering; accomodating.
611	Honest.
701	Honest.
702	Honest; straightforward; not quarrelsome.
802	Honest and cordial.
805	Should not be argumentative or nit-picking type.
807	is prepared to lease from anyone.
809	Should not be argumentative.
813	Should be able and willing to contribute his share of the costs on a timely basis.

^a As in the Table 6.2, the first digit in a household code indicates caste.

Table 6.4: Lease Matrix by Caste

Caste Distribution of Tenancy Partnerships

Castes to from	Thakur	Murao	Dhimar	Gadaria	Dhobi	Teli	Pasi	Jatab	Others	Sub- total	Outsiders	TOTAL
Thakur	6	4	8	1	0	7	0	5	2	33	7	40
Murao	2	6	1	0	1	2	0	4	0	16	3	19
Dhimar	3	2	2	0	1	0	0	0	0	8	0	8
Gadaria	0	1	0	4	1	2	0	1	0	9	0	9
Dhobi	0	0	0	0	0	0	0	2	0	2	0	2
Teli	0	2	0	0	0	1	0	0	0	3	1	4
Pasi	0	1	1	3	0	1	0	3	0	9	2	11
Jatab	4	2	0	0	5	2	0	7	0	20	3	23
Others	0	1	0	0	0	1	0	0	0	2	1	3
Sub-total	15	19	12	8	8	16	0	22	2	102	17	119
Outsiders	5	1	4	2	1	4	2	2	0	21		
TOTAL	20	20	16	10	9	20	2	24	2	123		

Note: Each entry in the table indicates the number of partnerships involving a landlord from the caste specified by the row index and a tenant from the caste specified by the column index.

Caste Distribution of Leased Area

Castes to from	Thakur	Murao	Dhimar	Gadaria	Dhobi	Teli	Pasi	Jatab	Others	Sub- total	Outsiders	TOTAL
Thakur	61	27	36	1	0	29	0	12	17	183	109	292
Murao	4	59	5	0	10	17	0	21	0	116	12	128
Dhimar	5	22	5	0	6	0	0	0	0	38	0	38
Gadaria	0	14	0	35	4	19	0	4	0	76	0	76
Dhobi	0	0	0	0	0	0	0	4	0	4	0	4
Teli	0	10	0	0	0	4	0	0	0	14	4	18
Pasi	0	2	11	26	0	4	0	5	0	48	3	51
Jatab	13	6	0	0	17	5	0	28	0	69	4	73
Others	0	6	0	0	0	3	0	0	0	9	1	10
Sub-total	83	146	57	62	37	81	0	74	17	557	133	690
Outsiders	31	9	68	10	6	46	10	6	0	186		
TOTAL	114	155	125	72	43	127	10	80	17	743		

Note: Each entry in the table indicates the total area (in bighas) leased by the caste specified by the row index to the caste specified by the column index. All figures are rounded to the nearest whole number.

Table 6.5: Incidence of intra-caste Leasing

Assumption regarding the allocation of contracts	Relative importance of intra-caste leasing	
	Proportion of all intra-village contracts ^a	Proportion of area leased within the village
Landlords lease at random to tenants of different castes	15.1%	15.5%
Tenants lease at random from landlords of different castes	13.1%	13.1%
Observed allocation	25.5%	34.7%

^a A "contract" is here understood as a partnership between two households, possibly involving several plots of land.

Note: The figures in the first row are obtained by taking as given the total amount of land leased out (within the village) by each caste, and assuming that this land is leased to households of different castes pro rata their share in the total number of households in the village. Similarly for the second row, taking as given the total amount of land leased in (from within the village) by each caste. The third row corresponds to the figures appearing in Table 6.4.

Source: Sharma and Dreze (1990).

observed figure is as high as 35 per cent. This finding can be plausibly related to the importance of mutual compatibility and trust for tenancy contracts¹⁶.

Thakurs lease-in mostly from other Thakurs in the village. In fact Thakurs *both* lease-in from and lease out to *outsiders* in a big way. This may be related to greater mobility of Thakurs beyond village. Within the village, most of land leased-in by Thakurs from other castes consists of land leased-in on cash rent from Jatabs, the lowest and poorest landowning caste. These observations are in tune with the "high social status" of Thakurs - being sharecroppers of lower castes is likely to compromise their "high status". Not so with cash rent contracts where they feel more like a creditor to poor landowners than like tenants. Tendency to lease out to own caste households, is strongest among Muraos. Intra-caste lease bias is weak for Jatabs. There is a weak tendency for flow of leasing to be from higher castes to lower castes. Caste consciousness is prevalent in intra-village relations, while it is relaxed in dealings with outsiders.

In analyzing flow of leases according to ownership and operational holdings, it is worth investigating whether the lessees are overwhelmingly land poorer than the lessors, if not outright landless¹⁷. Land ownership and cultivation holding of the lease partners, in each tenancy contract are analyzed. Table 6.6 gives lease matrices by land ownership holding. Bunching of contracts around the diagonal is clearly seen, though less pronounced than the one observed for intra-caste leasing. Intra-class (land owned) leasing involves 25% of leased area compared to 17% if leasing was randomly distributed across classes¹⁸. Lease matrices according to operational holding class and per capita income class of the household are provided in tables 6.7 and 6.8 respectively.

A summary of data presented in lease matrices (Tables 6.4 to 6.8) is given in Table 6.9.¹⁹ Columns (2) to (4) of this table give leased area de-segregated as area leased to households belonging to the same class, to lower classes, and to higher classes - for each classification criteria. Next, in columns (5) to (7) of table 6.9, de-segregation of the same data is according to: (a) lessor being in the same class as the lessee or to one class below or to one class above; (b) lessor belonging to a class at least two classes above that of the lessee; and (c) lessor belonging to a class at least two class below that of the lessee.

¹⁶ Sharma and Dreze (1990: 44).

¹⁷ The popular notion is that of tenants being poor, vulnerable, who own little land, if not landless labourers: e.g. studies of land reform [Sharma (1991) for a review and references]. In much of theoretical literature too, the tenant has been modelled as landless - see for example Bardhan (1979), Bardhan and Srinivasan (1981), Bhaduri (1973, 1983), Chao (1983), Eswaran and Kotwal (1985b), Lucas (1979) and Mitra (1983). Bharadwaj and Das (1975a) give some evidence on this characterization of tenants.

¹⁸ see Sharma and Dreze (1990: 45).

¹⁹ The summary data taken from lease matrices for Kharif 1984 season is also included in Table 6.9.

Table 6.6: Lease Matrix by Ownership Holding Class

Distribution of Tenancy Partnerships By Land Ownership Class

Size- to Landless Classes from		0 to 5	5 to 15	15 to 30	30 to 50	Above 50	Sub-total	Outsiders	TOTAL
Landless	0	0	0	0	0	0	0	0	0
0 to 5	0	2	8	3	0	0	13	1	14
5 to 15	1	6	12	7	0	2	28	3	31
15 to 30	3	3	9	7	2	1	25	6	31
30 to 50	2	1	6	7	1	1	18	4	22
Above 50	2	4	3	7	1	1	18	4	22
Sub-total	8	16	38	31	4	5	102	17	119
Outsiders	3	3	6	7	1	1	21		
TOTAL	11	19	44	38	5	6	123		

Note: See note to Table 6.4.

Distribution of Leased Area By Land Ownership Class

Size- to Landless Classes from		0 to 5	5 to 15	15 to 30	30 to 50	Above 50	Sub-total	Outsiders	TOTAL
Landless	0	0	0	0	0	0	0	0	0
0 to 5	0	5	14	8	0	0	27	1	28
5 to 15	5	22	75	32	0	12	146	8	154
15 to 30	28	12	29	40	19	17	145	60	205
30 to 50	3	22	19	25	2	14	85	23	108
Above 50	1	54	23	50	7	19	154	41	195
Sub-total	37	115	160	155	28	62	557	133	690
Outsiders	34	21	38	78	4	11	187		
TOTAL	71	136	198	233	32	73	743		

Note: Each entry in the table indicates the total area leased by households from the ownership class specified by the row index to households from the ownership class specified by the column index. The ownership classes are defined in terms of land ownership (in bighas). All figures are rounded to the nearest whole number.

Table 6.7: Lanna Matrix by Operational Holding Class**Distribution of Tenancy Partnerships By Operational Holding Class**

Size- to Classess from	Non-Op	0 to 5	5 to 15	15 to 30	30 to 50	Above 50	Sub-total	Outsiders	TOTAL
Non-Op	0	0	5	8	14	4	31	6	37
0 to 5	0	0	2	8	2	1	13	1	14
5 to 15	0	2	2	8	8	1	21	1	22
15 to 30	0	1	0	4	3	1	9	5	14
30 to 50	0	1	2	9	4	3	19	3	10
Above 50	0	1	0	2	5	1	9	1	10
Sub-total	0	5	11	39	36	11	102	17	119
Outsiders	0	2	4	5	8	2	21		
TOTAL	0	7	15	44	44	13	123		

Note: See note to Table 6.6.

Distribution of Leased Area By Operational Holding Class

Size- to Classes from	Non-Op	0 to 5	5 to 15	15 to 30	30 to 50	Above 50	Sub-total	Outsiders	TOTAL
Non-Op	0	0	13	20	124	40	196	64	260
0 to 5	0	0	8	35	9	2	54	4	58
5 to 15	0	3	2	36	66	6	113	15	128
15 to 30	0	4	0	10	14	19	47	15	62
30 to 50	0	1	2	56	6	27	92	10	102
Above 50	0	1	0	17	24	12	53	25	78
Sub-total	0	8	25	173	244	106	556	133	689
Outsiders	0	5	20	31	73	58	187		
TOTAL	0	13	45	204	317	164	743		

Note: See note to Table 6.6.

Table 6.8: Lease Matrix by Income Classes (rupees per capita)**Distribution of Lease Partnerships By Per Capita Income Class**

Income Class (Rs. per capita)	Up to 500	501 to 800	801 to 1200	1201 to 1600	1601 to 1800	Above 1800	Sub- total	Out- siders	TOTAL
Upto 500	6	4	5	5	1	0	21	4	25
501 to 800	4	7	5	1	2	1	20	6	26
801 to 1200	9	2	7	3	5	6	32	4	36
1201 to 1600	2	2	3	3	1	3	14	1	15
1601 to 1800	4	2	0	2	0	2	10	1	11
Above 1800	4	0	0	1	0	0	5	1	6
Sub-total	29	17	20	15	9	12	102	17	119
Outsiders	4	5	5	2	4	1	21		
TOTAL	33	22	25	17	13	13	123		

Distribution of Leased Area By Per Capita Income Class

Income Class (Rs. per capita)	Up to 500	501 to 800	801 to 1200	1201 to 1600	1601 to 1800	Above 1800	Sub- total	Out- siders	TOTAL
Upto 500	18	14	31	14	2	0	79	6	85
501 to 800	21	28	27	7	8	22	113	61	174
801 to 1200	59	12	38	35	26	51	221	56	277
1201 to 1600	19	4	13	24	1	27	88	4	92
1601 to 1800	8	3	0	21	0	3	34	2	36
Above 1800	11	0	0	10	0	0	21	4	25
Sub-total	135	61	110	112	37	102	556	133	688
Outsiders	43	32	42	51	14	6	187		
TOTAL	178	93	151	162	50	108	743		

Note: See Table 6.6.

Table 6.9: Summary Information from Lease Matrices

Classifying Criteria	% of area leased with- in the same classes (sum along the diagonal)	% of area leased-out to higher classes (sum above the diagonal)	% of area leased-out to lower classes (sum below the diagonal)	% area leased-out to those in same class or one class above or one class below	% area leased-out to those at least two classes above class of lessor	% area leased-out to those at least two classes below class of lessor	TOTAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<u>RABI</u>							
Caste	35 (26)	39 (45)	27 (31)	47 (40)	32 (36)	21 (26)	100 (102)
Ownership Holding	25 (23)	21 (24)	54 (55)	54 (64)	7 (6)	39 (32)	100 (102)
Operational Holding	6 (11)	75 (68)	19 (23)	36 (43)	60 (52)	4 (7)	100 (102)
Per capita Income	20 (23)	48 (43)	32 (35)	46 (49)	34 (29)	20 (24)	100 (102)
<u>KHARIF</u>							
Caste	42 (33)	34 (42)	24 (23)	58 (48)	26 (35)	16 (15)	100 (98)
Ownership Holding	19 (20)	21 (18)	60 (60)	43 (46)	9 (8)	48 (44)	100 (98)
Operational Holding	9 (14)	72 (56)	19 (28)	26 (36)	65 (46)	9 (16)	100 (98)
Per capita Income	23 (19)	45 (43)	32 (36)	44 (43)	36 (29)	20 (26)	100 (98)

Note: Figures in brackets are number of lease contracts for a given category. Only those contracts are considered here for which both the leasing partners belong to Palanpur. Leasing of land between two households is counted as one lease contract irrespective of amount of land or number of plots involved. There are 102 such lease contracts for Rabi 1983-84 and 98 such lease contracts for Kharif 1984.

Higher and lower classes do not have the same meaning for caste as they have for other classifying criteria which are quantifiable. It only refers to the way castes have been ordered in this study and reflects only the accepted caste hierarchy.

Columns (2) to (4) concern leasing within a class and leasing outside a given class. Columns (5) to (7) are concerned with leasing between adjacent classes.

There is a pronounced tendency for area to be leased from higher land ownership class to lower class (54%) - the "reverse" leasing accounting for 21% of area and intra class leasing 25% of leased area. At the same time it is seen from column (4) of Table 6.9 that more than half of leased area (54%) is leased within category (a) defined in the previous paragraph for Table 6.9.

To understand the changes in the landholdings of the lessors and the lessees as a result of leasing, first we consider lessors and lessees in *each* lease contract individually (i.e. without looking at the landholding classes to which they belong). In Rabi, 34% of leased area (and 37 contracts) involved lessors who owned less land than their lessees whereas in 63 contracts involving 63% of leased area they owned more land than their lessees. The position was *reverse* in terms of operational holding. In 74 lease contracts involving 79% of leased area, the lessors operated less land than their lessees. The situation is identical for Kharif season. Thus lessors own more land than their lessees in majority of cases but after leasing takes place, several of them are left cultivating less land than their lessees.

That the landholding *classes* of lease partners are reversed as a result of leasing is confirmed by Table 6.9. Over 75% of leased area is leased out to bigger (post-leasing) cultivators and less than 20% of leased area to smaller cultivators. The most likely proposition is that in a large number of cases where the lessor owns more land than his lessee, the difference in landownership is small. After leasing the lessor is left with smaller cultivation holding. Note that only a few tenancy contracts involve a lease of more than 10 bighas - average area of a lease contract is 5.5 bighas. Further support for the above proposition comes from columns (5) to (7) of Table 6.9. More than 36% of leased area is between partners who are at most one class removed either way on operational holding scale.

Lastly, we consider the flow of leases according to per capita income class of the household. Bunching of leased area within the same income class is less pronounced than for caste and land ownership class. But there is not much more than half of the leased area or half of all lease contracts in which lease partners have large differences in per capita income - 20% of area is involved in intra-income class leasing and 46% of area is leased within same class or to a partner belonging to immediately higher or lower class. They seek lease partners, not much higher or lower on income scale. Another interesting feature is that 48% of area is leased to lessees belonging to higher income classes and only 32% of area to lessees in lower income classes. It appears that on the whole the lessees are somewhat richer than their lessors, if current income could represent their economic well-being.

Thus, it can be said that in Palanpur they avoid partners who belong either to much higher or much lower class. If the partner is in a far superior class (say, belonging to a much higher caste, landholding, income class), then the partner will be in a stronger bargaining position and is likely to dominate and interfere - a situation clearly to be avoided. This was the refrain of discussion questionnaire responses too.

On the other hand, a much poorer partner may not be able to provide his own share of investible resources on time - another avoidable situation.

In general, the market for agricultural tenancies is characterized by: (1) fragmentation on caste, landownership and income class lines. Thakurs don't lease-in from others. Muraos lease largely to/from their own caste fellows. Leasing-out on cash rent is mostly by poor households to rich households - thus there being fragmentation according to form of tenancy, too; and (2) absence of pronounced domination of one class by the other according to tenure status. A large segment of the lease market is characterized by roughly equal lease partners. In a few cases, lessors are far more powerful than the lessees and the tenant is in a powerful position vis. a vis. his "landlord" in a number of cases.²⁰ But this situation characterizes some fragment of the lease market at most and not the whole of it.

It was argued in Chapter 5 (§5.7) that it is meaningful to view agricultural tenancy as a partnership between the lessor and the lessee. This holds true for rural economies where ownership of assets (including land) and incomes are widely - even if not equally - distributed and are not concentrated in a few hands. There are opportunities for the households with diverse land, income and social status background to avoid entering into unequal relationships. This is precisely what the Palanpur households do as is seen from the analysis presented in this section. The discussions further confirmed the view of "tenancy as partnership" - recall the importance attached to "honesty" by both sides.

²⁰ There are cases where the "landlord" is found doing wage labour for his tenant.

Chapter 7

LABOUR AND TENANCY¹

7.1 Introduction:

In the preceding chapters we have concentrated on general features of Palanpur economy and the functioning of the land lease market as found to exist in the village. In other words, the focus was on *what?* and *how?*² of tenancy market. In the remaining part of this study the focus is on *why?* of lease market³ and on the consequences of the chosen forms of tenurial arrangements for production and distribution.

That markets for all other factors of production influence the market for tenancies applies with particular force in a small economy like Palanpur. In particular nature of transactions in the markets for labour, credit and factor services has important implications for the functioning of the tenancy market. We attempt to understand the essential features (important for the tenancy market) of the nature of transactions in labour, credit and other markets in successive chapters - starting with this Chapter on labour.

In addition to the family labour based owner cultivation, renting in (out) of land and hiring out (in) of labour are two obvious alternative ways of bringing land and labour together in cultivation. To understand coming together of land and labour, one must start with the pool of all available labour, whether sold or not. There are certain restrictions on supply of labour from this pool. Some part of labour from this pool may be applied in any form⁴, some part forbidden from being hired out, and yet another part may be restricted to only particular type of activities (e.g. allowed in activities like weeding but not in ploughing) on self cultivated farms. Lastly, some of potentially available labour may not be used in any farm operations for social reasons. Such restrictions have important bearing on the functioning and rationale of tenancy market.

¹ In this Chapter term "labour" refers to human labour only and in particular excludes animal labour. I have benefitted from work of Dreze and Mukherjee (1989) in writing this Chapter. However the issues addressed by them are different from those of concern here. They focus on theories of labour market in the light of findings from a study of Palanpur labour market and other empirical studies. Object of interest in the present study is supply of all labour (whether hired or not) and its consequences for tenancy. Dualism between family and hired labour and attendant transactions costs are of particular interest for the present study. The author is grateful to Ms. Anindita Mukherjee for providing access to computations carried out on raw Palanpur data by her for her Ph. D. dissertation. Some of this statistics is used in tables 7.1 and 7.3.

² what type of contracts are found to exist?, what is content of each such contract?, who are the lessors and lessees?, and how they interact in the lease market?, etc.

³ the rationale for choosing certain tenurial arrangements as opposed to others i.e. the problem of existence of certain type of lease contracts - in particular share lease contracts.

⁴ "form" in this context refers to the form that the relation of labour to land takes, namely - relation of labour to cultivator (from a hired or family source, whether male, female or child labour etc.), type of wage contract if labour is from a hired source, activities in which labour is employed. This is a source of differentiation on the supply side of labour as shall be clear from the discussion that follows (particularly §7.2).

Labour market as such is only briefly discussed (§7.3) - see Dreze and Mukherjee (1989) for a detailed discussion of labour market in Palanpur.

7.2 Forms of Labour

This Chapter is concerned with the consequences of relation of land and labour to the cultivator for the cost of such labour and for the intensity of its application. The focus is on human labour applied in *farming activity* - and the term 'labour' is used in this sense when not qualified otherwise. The most important form of labour, in quantitative terms, is family labour supplied by a member of the cultivating household. Within family labour, most of it comes from adult male workforce - female and child labour being supplements at best. Women are specifically forbidden to undertake ploughing activities when not forbidden from all farm activities altogether.

Wage labour can be classified according to activities in which it is used and according to type of labour contract. We concentrate on casual agricultural labour. Agricultural labour is mostly casual labour (hired on day-to-day basis) and conversely, most casual labour in the village is agricultural labour. Non-agricultural labour is quantitatively small and most of it is contractual labour for construction activities⁵. All other non-casual labour in Palanpur is essentially the services provided by the village customaries - i.e. services of the village barber, *dai*, sweeper, blacksmith etc.

No Palanpur household employs permanent or annual farm servants. Only one person is employed within Palanpur on a regular basis as a watchman of a mango grove owned by one of the *ex-zamindars* who himself lives outside.

7.3 Casual Labour in the Village Economy

7.3.1. Peaks and Slacks

Cultivation is the main source of employment for wage labour. Consequently demand for labour exhibits a few peaks of short duration followed by longer slack periods according to crop cycle in a year. There is more farm activity at harvesting and sowing time of each crop season. The most pronounced peak for labour demand occurs when wheat is harvested and threshed. Henceforth the "peak" period refers to 20 days (between last week of April and third week of May) and remaining 340 days are called the "slack" period. The reference year for discussion of labour market consists of 360 days. Other smaller peaks occur during Kharif harvest and Rabi sowing.

⁵ Palanpur labour employed outside the village - whether in well paying regular jobs or casual labour in neighbouring towns - is excluded from the discussion in this chapter. There are significant barriers to entry in this (outside) labour market.

Total employment in village casual labour market was 643 worker-days during the peak period (20 days) and 2236 worker-days in the rest of the year (slack period). Participation of women and children in labour market is marginal. Of the above, adult male employment was 501 worker-days in peak period and 2088 worker-days in the slack period. Thus, share of non-adult-male labour in total hired labour is high (22%) in peak season compared to its low share (6.6%) in the slack period. This can be explained by the type of activities that employ labour during the peak season. Almost all hired labour during the peak is employed in wheat harvest on piece rates (5% of crop). At this time whole 'labour' families including women and children can be seen working in wheat fields. The restrictions on the supply of female and child labour (discussed later in this chapter) are relaxed for this one activity (except for the 'higher' caste women). Indeed, mean per day employment of non-adult-male labour in the peak period (7 worker-days) is higher than mean per day employment of all labour in slack period (6.6 worker-days).

7.3.2 Wage Contracts: Daily Wages and Piece Rates

Wage contracts can be broadly classified as daily wage and piece rate contracts. Piece rate contracts are generally flexible and open to bargaining between the employer and the labourer except for the harvesting contracts, which, with fixed wage rate (5% of harvest share) across all employers and labourers, is a special form of piece rate contract. Further, piece rates are of two types. a) the payment fixed for the whole task (e.g. construction of a roof, digging of a borewell), or b) payment is at the rate of per unit of task (e.g. weeding per bigha). In either case payment is related to task and not to number of days of work.

For daily wage contracts, the usual practice is to provide one meal⁶ and a fixed cash payment as daily wages. Daily wage rate was Rs.6 with a meal or Rs.7 without a meal. Relative incidence of employment according to piece rate and daily wage rate are given in Table 7.1. There is a marked difference between the slack period and the peak period mean wage rate.

Daily wages are remarkably rigid (remaining constant) over long periods of time. It is sensible to talk of a 'ruling wage rate' for daily wage contracts. Ruling wage rate changes only after long periods and possible reasons for such change include, among other things, significant imbalances in long term supply and demand, large inflation or a significant rise or decline in general prosperity of the village. One such change occurred mid-way through the survey year [Dreze and Mukherjee (1989: 240)].

Whereas daily wages are 'non-negotiable', piece rates are negotiated between the employer and the labourer(s) [Dreze and Mukherjee (1989) and Chapter 10]. Piece rates show great flexibility and there is much variation in mean daily payment as well as payment per task from contract to contract. In absence

⁶ The meal as a part of wages is consumed on the work place. Gupta (1989) presents an interesting model based on a variant of efficiency wage theories to explain this phenomenon of providing meal as part of wage payment and "forcing" the labourer to consume the meal on the work place.

Table 7.1: Labour Market at a Glance

Type of Labour Contract	Peak Season			Slack Season		
	# of days	mean wages	stand. dev.	# of days	mean wages	stand. dev.
Daily Wages	52	8.95	1.88	1571	7.82	1.08
Piece Rates	591	9.16	0.29	664	7.87	3.41
All	643	9.14	0.60	2235	7.83	2.07

Notes:

1. Mean Wages in Rupees per day.
2. The peak season is Rabi Harvest of 20 days (in May) and the slack season is for the remaining 340 days.
3. stand. dev. is standard deviation.
4. Labour is expressed in adult labour days or hours as the case may be. For all the tables showing labour, the following conversion ratios have been used:

1 female labour day = 1 male labour day
 1 child labour day = 0.5 adult labour day

Table 7.2: Use of Hired Labour by Operational Holding Class (RABI 1983-4)

Size Class (bighas)	Labour hired (in rupees)	Gross output (in rupees)	Hired Labour/Output (in percent)
0.1 to 5.0	274 (2)	3751	7.3
5.1 to 15.0	172 (2)	12682	1.4
15.1 to 30.0	2112 (19)	58467	3.6
30.1 to 50.0	4395 (39)	100168	4.4
Above 50.0	4188 (38)	63220	6.6
Total	11142 (100)	238288	4.7

Note: Figures in brackets in the column (2) give column percentages for hired labour use by households belonging to different operational holding classes, i.e. the relative use of hired labour for different operational holding classes for Rabi 1983-84.

of possible bargaining over terms of contracts for daily wages, quantity rationing takes place when imbalances occur. Thus in the peak season the employers are rationed - either they have to increase supply of family labour or they have to wait for a longer time. In the slack period the labourers are rationed. The labourers known to be better skilled, more hard working and generally more reliable obtain large share of employment available during the slack period.

All contracts have associated problems in implementation. For daily wage contracts, the labourer(s) have little incentive to put in 'extra' effort into a day's labour. The labour has to be supervised. This is normally in the form of a member of employer household working along side the hired labour. Cost of such supervision is evidently very high. Even then the differences in work effort persist. For piece rate contracts, labourer has no incentive to avoid effort per hour. On the contrary he has positive incentive to maximise his earnings per hour and tries to increase speed of work with adverse consequences for the quality of work - extremely difficult to define in a contract. This can be controlled to a limited extent by supervision. In any case there are transactions costs involved in hiring of labour.

7.3.3 Composition of (Hired) Labour Force

The number of employers of wage labour is very large. Indeed all cultivators - big or small - hire in some labour at one time or another in the cultivation cycle (Table 7.2). There is no monopsony or monopoly in labour market as there are no big land holders or cultivators with large labour demand and land ownership is widely spread, even if land distribution is skewed. Labour requirements are 'operation or activity' specific that are needed to be undertaken at various stages of cultivation of crops. Thus for certain activities even a small cultivator may need to buy labour while himself selling labour at other times.

Among the suppliers of labour in Palanpur, a large number of them came from 'lower' castes and lower ownership holding groups (Table 7.3). A labour household is defined such that at least one person from the household must sell a minimum of 20 days of labour. Total labour sold in casual labour market (inside or outside Palanpur) by all members of these labour households is included in the above table. There were a total of 38 labour households, as defined above, out of total 143 households in the village. From these 38 households 59 persons supplied some labour in casual labour market. They worked for a total 3685 days and earned Rs 33,142 at a mean wage rate of Rs 9 per day.

A majority of labour households and labourers are cultivators too. Casual labour is only a secondary activity for them, whereas cultivation is the primary activity. In fact the owner-tenants and pure-landlords rank only below landless-non-cultivators in supplying number of labour days as well as number of labourers.

Table 7.3: Participation in Labour Market

Classes of Households	Number of households	Number of persons	Number of days worked	Total estimated earnings	Daily average earnings
By Ownership Holding Class of Labour Household					
Landless	9 (27)	17*	1027	7850	7.64
0.1 to 5	10 (10)	13	797	7912	9.93
5.1 to 15	14 (35)	22	1596	14450	9.05
15.1 to 30	5 (36)	7	265	2930	11.06
30.1 to 50	0 (15)	-	-	-	-
Above 50	0 (11)	-	-	-	-
By Tenure Class of Labour Household					
OC	3 (15)	5	393	3751	9.54
OT	9 (33)	13	702	6519	9.29
OTL	2 (16)	5	370	3148	8.51
OCL	7 (28)	9	507	5621	11.09
LL	8 (24)	10	686	6253	9.11
T	2 (5)	3*	149	1201	8.06
NONOP	7 (22)	14*	878	6649	7.57
By Caste of Labour Household					
Thakur	1 (30)	1	20	180	9.0
Murao	3 (27)	5	474	4425	9.3
Dhimar	4 (13)	7	430	3556	8.3
Gadaria	2 (12)	2	92	1225	13.3
Dhobi	2 (4)	4	82	771	9.4
Teli	8 (16)	13*	860	6720	7.8
Passi	4 (15)	5	288	2503	8.7
Jatab	14 (19)	22*	1439	13762	9.6
Others	0 (7)	-	-	-	-
Total	38 (143)	59	3685	33142	9.0

Notes: 1. See Table 5.4 for explanation of tenure classes.

2. A household is included as a labour household in this table if at least one member has done wage labour for at least 20 days in the reference year. For a labour household thus identified, labour sold by all members (irrespective of individual members supplying labour for less than 20 days) is included in this table. This includes all casual labour inside or outside the village.

3. Number of all households in a category given in brackets.

4. Of the 59 persons from 38 households, 5 are females who together worked for 105 days and earned Rs. 617 for mean earnings of Rs. 5.88 per day. All five belong to land-less households. Only one of them comes from a cultivator household. They are all from 'low' castes - three Telis and two Jatabs. The categories that contribute any female wage labour are indicated by an asterisk.

Female labour participation is rare in casual labour market. There were only 5 women who sold labour and all of it was either for contract work undertaken by their husbands or for wheat harvesting. Their participation in daily casual market is negligible. These five women altogether sold 105 person days out of a total of 3685 person days sold by all (or 3% of the total). All the five women belonged to landless households and 'lower' castes (specifically three Teli women and two Jatab women).

Similarly, participation of child labour in the casual labour market is negligible and only for the wheat harvest.

7.3.4. Basic Features of Labour Contracts

Overwhelmingly large part of casual employment comes from within village. There is very little labour mobility even between the neighbouring villages. Closed nature of village casual labour market has been observed in other parts of India as well⁷. Labour search is by the employers. This reinforces closed nature of village labour market. The process of employment of labour also facilitates quantity rationing of the labourers by the employers during the slack period. In fact this is the most important way of personalizing the labour contracts. Most employers have their preferred labourers whom they approach first. Only if such labourer is not available, does the employer approach another labourer. Thus, the employer and the worker are almost never the faceless economic agents but always particular individuals.

During the peak season such preferences are weakened due to excess demand for labour. Also, in an activity like harvesting, where payment systems is rigidly followed at 5% of harvest and problem of quality control is negligible, the identity of labourer is unimportant with regard to work performance. Even then some patterns of employer - employee association can be observed.

This is perhaps the most important aspect of interlinkage in Palanpur economy, where relations of dominance are not clearly marked. Personal and social relations influence and are in turn reinforced by their interaction in labour, lease and credit markets. Such interlinkage seldom manifests itself in determination of terms of contract. Most often this results in quantity rationing, an aspect of interlinkage that has received less attention in the literature.

Main features of Palanpur labour market are reproduced from Dreze and Mukherjee (1989: 246, emphasis in original):

1. *Casual Labour* is the most important type of labour contract. It is generally hired on a day-to-day basis.

⁷ Bardhan and Rudra (1986), Dreze and Mukherjee (1989) and many references cited there.

2. Search on the casual labour market is carried out by *employers*, who usually 'call' labourers on the evening preceding the execution of the work.
3. The village labour market is largely *closed*: labour hiring across neighbouring villages is rare.
4. Involuntary unemployment is common, particularly during the slack agricultural season. Less productive workers are especially vulnerable to forced leisure.
5. Three forms of wage payments exist side by side: *daily wages*, *piece-rates* and *harvest shares*. The choice of contract depends primarily on considerations of supervision costs, work quality, speed of completion and wage costs.
6. A *uniform* daily wage rate (hereafter the 'standard wage') normally applies to all (adult male) labourers.
7. The same standard wage often applies for *prolonged periods* - from several months to several years.
8. At a given point of time, the standard wage applies independently of *task*. However, occasionally a specific wage applies for a specific task (e.g. transplanting rice).
9. The standard wage (in money terms) displays very little *seasonality*, in particular it appears to be, more often than not, rigid downwards during the slack season.
10. By contrast with daily wage rates, earnings (per day *and* per task) from *piece-rate* contracts vary considerably both over time and across individuals.
11. No explicit collusion exists between either employers or labourers. Individual employers have no monopsonistic power: the pool of employers is large and re-sorting of partners occurs constantly. A symmetric statement applies to labourers.
12. There is very little 'interlinkage' of labour and credit or tenancy contracts. Inter-seasonal labour-tying is also non-existent."

They have examined a large number of village studies and find that a large number of observations made above - in particular (1) to (6) and (10) - apply to most of other village studies as well. With respect to other observations, some village studies report similar findings whereas some other village studies report different or contrary findings, indicating regional variation regarding many aspects of casual labour market (e.g. incidence of interlinkage). They suggest that such regional variation may be viewed as 'superimposed' on a number of core features "which emerge with surprising regularity in different parts of India." (Dreze and Mukherjee: 1989, p.252)

7.4 Aspects of Labour Involvement

7.4.1. General Observations

The pool of potential labour consists of all fit men, women and children above a certain age (say 10 years) in the sense that they have physical ability to perform some farm labour or other. Not all of available labour (in the sense just described) is engaged in farm work, and only a small portion of it is exchanged for wages in the market for wage labour. The suppliers of labour in the casual labour market are mostly 'lower' caste households and small landholders (§7.3.3). Further, involvement of women, children

and even men among Thakurs in the labour market is marginal or absent. Two aspects of restrictions on labour supply can be seen as (1) difficulties in emergence of markets for certain type of labour, and (2) social customs and taboos. The second aspect is relevant to supply of labour in the market as well as its use on cultivators' own farms.

Three factors important for restrictions on labour supply are sex, age and caste related. These are considered in turns.

7.4.2. Female Labour

There are no inherent disabilities for emergence of market for female labour, similar to market for male labour, in absence of restrictions due to customs. However, supply of female labour in casual labour market is virtually a taboo due to local customs and social values regarding women and 'non-domestic' work - such restrictions on female labour participation in casual labour market apply to all women irrespective of caste.

Working on family operated farms is not a taboo for women of any caste except among Thakurs. Of course some farm operations, like ploughing, are strictly reserved for men but women take part in many other farming activities, like weeding. Level of female participation in farming activities is negatively correlated with economic prosperity. Important for the functioning of market for tenancies is the fact that any female labour, when available for farm operations, is utilizable *only* through family operated farms and can *not* be sold in labour hire market.

7.4.3. Child Labour

In case of child labour the first aspect (§7.4.1) - the emergence of market for child labour - faces considerable difficulties. There are serious informational problems. The capabilities and willingness to do labour are at best very imperfectly known for child labour. For example, there will be uncertainty whether the child will work for the whole day or not. In these circumstances it is almost impossible for the standard wage contracts to emerge. On the other side, hiring out of child labour is frowned upon. In particular, hiring out of female child labour is unthinkable⁸.

On the whole, participation of child labour in *labour market* is marginal. It is to be contrasted to the possible use of child labour on family farms (owned or leased-in). On family farms child labour makes significant contribution in bits and pieces. Although no child is expected or equipped to undertake heavy work like ploughing or levelling of field, their contribution is significant in apparently light work: fetching

⁸ Exceptions, quantitatively marginal, are participation of child labour in piece rate contracts undertaken by its father or some other adult male of the household and use of child labour in harvesting of wheat, often along with other household members.

food and water for working family members or hired labour on the farm, help in irrigation work, watching crops against cattle and pests. They may also participate in light farm work like weeding.

An important aspect of tapping child resources is that they can work in bits and pieces - a few hours at a time - on a family farm, such labour being easily divisible on family farms since no accounting or measurement is required. Indeed, this is the only way that this labour is productively utilised (i.e. on family operated farms). Opportunity cost of child labour is negligible for the household in absence of any alternative opportunities.

7.4.4. Caste

Adult male labour market is well developed. But *Thakurs are custom bound not to sell any labour in casual market*⁹. Thus, adjustment of surplus family labour (say after satisfying labour requirements of own farm work) through labour market is foreclosed for Thakurs. Thakurs form 22% of village population and almost equally large share of working population. There are no customary restrictions on Thakur men working on family operated farms. Thus a big part of male labour force is available only on family operated farms.

No such caste taboos on selling of labour apply to other castes. However, hierarchical nature of caste structure has implications for free flow of labour services by 'higher' castes to 'lower' castes. Hiring out of labour involves loss of prestige (discussed below, §7.5.1). As such, a person otherwise willing to do wage labour, will prefer not to work for a cultivator from a 'lower' or 'inferior' caste. Thus employers, in most cases, are from higher castes than the labourer employed by them. Indeed, a large number of labour households are poor households from 'lower' castes (§7.3.3).

7.5. Family Labour and Hired Labour

7.5.1. The "Dualism" between Family Labour and Hired Labour

The factors that impose restrictions on availability of all potential labour - men, women or children - for use on family cultivated farm or in hired labour market were analyzed in §7.4. These factors basically relate to caste, sex and age. Through interaction of these factors it is seen that some labour is available both for own farm work and for hiring out, some labour restricted to own farm cultivation only and yet another

⁹ Wage labour in far of towns is not so degrading for Thakurs but it is not permitted in the village labour market. It may be noted that these customs are not rigid over time. It is almost certain that two or three generations ago Thakurs did not perform *any labour* even on own or family operated farms (relies of that attitude still survive in many Palanpur Thakurs). The menial labour *per se* was thought to be degrading. Now, most Thakurs have no hesitation in working with a plough or a spade. Indeed, a few of Thakurs who shy away from physical work, are regarded as decadent.

part is not available for any farm work. Whatever the segment of labour, it is seen that there is greater flexibility in labour use on own farm than in hiring out.

These factors give rise to labour dualism - the distinct nature of family and hired labour. There are *other factors* contributing to this dualism.

One, there is problem of indivisibility of hired labour. Hired labour is measured in units of one day. Family labour is available for shorter duration activities. Alternatively organisational problems are less severe with own labour as compared to hired labour since own labour can be broken into many convenient parts spread over several days, if needed.

Two, there is no market for sale/purchase/hire of management. Only physical labour can be sold in the casual labour market due to obvious difficulties in hiring management in an economy composed of small holders. No farm is big enough to hire full time manager and management can not be hired on day to day basis. Thus the management capabilities, that one or more members of a household may possess, can not be sold. When a person with agricultural management capabilities sells his labour, he gets paid only for the physical labour he supplies. His management capabilities are unutilized and thus unrewarded. One obvious but indirect way of buying and selling managerial skills is through sharecropping.

Three, an important source of labour dualism originates in loss of dignity perceived in working as hired wage labourer. Whereas the first component of labour dualism was due to non-existence of market for management, this problem is entirely due to social values. A wage labourer is in inferior position with respect to the employer. A certain sense of humiliation is felt in doing wage labour for others. This, in an important way, is also a result of vulnerable position that labour households find themselves in¹⁰.

The labourer is selling his labour as well as the loss of prestige whereas the employer gets the labour and may or may not gain extra utility on account of social prestige. Clearly wages paid for hired labour have one component as payment for the labour and another component to compensate for additional disutility on account of loss of status. Thus the employer pays for labour as well as for disutility suffered by the labourer of being a hired wage hand¹¹.

¹⁰ Thus it can be seen that there is an economic dimension to loss of utility on account of loss of dignity in performing wage labour. Social prestige and status of both persons and activities are in important ways functions of independence or vulnerability of the actors.

¹¹ One illustration might help in understanding the significance of disutility of being a hired wage labour - harvesting of sugarcane. Sugarcane is always harvested one day prior to the day of supply as sugarcane is a perishable crop. Thus a large number of people (8-10 persons) are involved in sugarcane harvesting. The village is informed by the household harvesting his sugarcane plot. Anyone wanting to take part in harvesting goes to the field with his *own implements*. Generally even permission of the owner of the crop

Four, another source of labour dualism is technical inefficiency of hired labour in production. A hired labourer may shirk labour (daily wage contracts) or be short on quality (piece rate contracts) due to incentive problems. Given a standard payment for a standard unit of labour time, each labourer in the transacted labour time, will provide quantity of effort units (conceptualised as a given quantity of homogeneous labour effort) no more than what is necessary to obtain such employment. When different labourers have different ability to do labour, the standard amount of labour effort necessary for a daily wage contract will be determined by the least able worker, as the payment is uniform. The more able workers i.e. those possessing more effort units may provide a little extra effort to gain larger share of employment in labour time when there is rationing of wage employment. Remaining effort units available with him remain unutilized. Thus in selling labour time, a labourer can sell only a part of his effort units due to uniform wage payment.

Thus, the labourer suffers a loss of value in selling his labour in the daily wage contracts due to not being able to sell or use all effort units available with him. He does not suffer this disadvantage in piece rate contracts but these are less important in labour market due to the problem of quality control. Arguments along the same lines, as for daily wage labour, will show that similar problem of imperfect marketability of labour effort of given quality exists for piece rate labour contracts as well.

Hence, there is a loss of value in selling labour on account of imperfect marketability of labour effort, skills and managerial capabilities. Against this, if alternative arrangements can be made to employ this labour on family operated farms (e.g. by leasing in land), this loss of value is avoided. Full use of labour effort, skills and managerial capabilities can be made.

On the other hand there is loss of value in purchase of labour as well. The employer pays for the productive part of labour as also for the non-productive part. The non-productive part consists of disutility suffered by the labourer on account of his status as a hired wage labourer.

The above discussion can be summarised in the form of the following two propositions that hold true in socio-economic environments similar to those in Palanpur.

is not required. In return for cutting and cleaning the cane of leaves, each harvester gets top leaves (used as fodder) and two pieces of sugarcane. In addition he can consume some sugarcane while on work. Valuation of these 'wages' is difficult. Nevertheless the return to labour (top leaves of harvested sugarcane) is considered very low - even compared to piece rate earnings in slack season. To an outside observer this special form of "wage contract" with low effective wage rate may seem puzzling, specially since there is a time constraint on harvesting to be completed within the day and it requires large amount of labour. To the villager this is just not a wage contract. Nobody is particularly called and nobody is refused work unless there are already too many persons harvesting (i.e. it is like first come first work upto a limit). Harvesting of sugarcane resembles a social gathering.

(1) A part of labour is not accessible to labour market and can be used only on family operated farms.

(2) A household suffers a loss of value when labour is transacted. Loss of value takes place whether the labour is purchased or sold.

One obvious corollary follows from (2) above.

(3) A household will try to minimise labour transaction by making possible alternative arrangements so that most of labour is used on family operated farms.

A brief alternative formulation can be given for proposition (2) and corollary (3). Any household is faced with two distinct type of labour - (a) "family" labour and (b) "hired" labour¹². "Family" labour is of much higher value (and lower cost) compared to "Hired" labour which is of lower value (and higher cost). Hence conversion of "family" labour into "hired" labour entails loss of value (or alternatively has a cost). Thus conversion of family labour to hired labour is to be minimized and the reverse conversion to be encouraged.

A labour surplus household may minimise conversion of labour from "family" to "hired" type by leasing-in land. And a land surplus or labour deficient household may do so by leasing out land on sharecropping. This way he gains access to "family" labour. Of course such maximization of use of labour in "family" labour form is subject to certain constraints. In examples above, land available on lease, and availability of tenants are some constraints among others.

5.7.2. Hired and Family Labour on Wheat Plots of Sample

Households:

Data on use of family labour was collected for the sample households on weekly basis for Rabi 1983-4. Statistical analysis of labour use is possible only for wheat crop, occupying 60% of cultivated area with sufficiently large number of observations¹³. All statistics in this section refer to wheat plots of sample households.

¹² Labour used on family operated farms - whether such land is own or leased-in land - is defined as family labour. Hired labour is self evident. Both are measured in time units. Thus one hour of family labour is of higher value than one hour of hired labour. Clearly every person possesses certain units of labour which can be used either as family labour or hired labour - its value depending on the form it takes.

¹³ Sugarcane, the only other crop with large enough area (27% of cultivated area) to allow data analysis, is a perennial crop. Family labour data collected over one season (6 months) is incomplete for sugarcane. All other crops in Rabi season are of minor importance and yield too few observations.

Table 7.4: Family and Hired Labour Use (hours per bigha) by Tenure Status of Wheat Plots of Sample Households

Type of Labour	Labour Use on Land of Tenure Status				
	Own land	Share leased land	All leased land	Own+ fixed lease	All land
1. Labour Use in Pre-Harvest Period					
Family Labour	27.2 (89)	34.8 (97)	33.8 (95)	27.5 (89)	29.7 (92)
Hired Labour	3.3 (11)	1.2 (3)	1.7 (5)	3.3 (11)	2.7 (8)
Total Labour	30.5 (100)	36.0 (100)	35.5 (100)	30.8 (100)	32.4 (100)
2. Labour Use in Harvesting and Threshing Operations					
Family Labour	18.2 (81)	25.2 (92)	24.0 (87)	18.3 (79)	24.0 (83)
Hired Labour	4.4 (19)	2.1 (8)	3.5 (13)	5.0 (21)	4.1 (17)
Total Labour	22.6 (100)	27.3 (100)	27.5 (100)	23.3 (100)	28.1 (100)
3. Total Labour Use					
Family Labour	45.4 (85)	60.0 (95)	57.8 (92)	45.8 (85)	53.7 (88)
Hired Labour	7.7 (15)	3.3 (5)	5.2 (8)	8.3 (15)	6.8 (12)
Total Labour	53.1 (100)	63.3 (100)	63.0 (100)	54.1 (100)	60.5 (100)

Notes: Family labour and hired labour as a fraction of total labour (in percent) is provided in parenthesis.

In Table 7.5 labour use in hours per bigha is given for all those sample households who cultivate wheat both on sharecropped and owner operated land. The table necessarily includes only mixed tenants. For each such household, use of family labour and hired labour is given separately for owner operated and sharecropped plots. The households' cultivation holding is also given in the table. The picture is mixed when labour use between share-cropped and owner operated land is compared. Some households use twice as much labour on owner operated land as on sharecropped land. Some others use only half as much. However, the difference in labour use on share-cropped and owner operated land is not statistically significant, as seen below.

Difference in labour use intensities on owner operated and sharecropped land is statistically tested for paired observations. Let X_1 , X_2 be labour use intensities on owner operated and sharecropped land respectively. The difference $(X_1 - X_2)$ is denoted by X . Thus X^i is difference in labour intensities for household i . If X^i are drawn from a normal population, then $m/s/\sqrt{n}$ follows t-distribution with $n-1$ degrees of freedom where m is sample mean, s is sample standard deviation and n is number of observations.

For the above data, t-statistic was computed separately for family labour, hired labour and total labour. In all the three cases the null hypotheses $H_0: \mu = 0$ (vs $H_1: \mu \neq 0$) is comfortably accepted at 5% level of significance (Table 7.6). For the family labour use it is concluded that there is no statistically significant difference in its use on owner operated and sharecropped land. The same conclusion is arrived at for hired labour and total labour use.

Table 7.5: Use of Labour (hours/bigha) on Plots of the Sample Households growing Wheat both on Sharecropped Land and on Owner Operated Land

Household Code	Cultivation Holding (bighas)	Family labour		Hired labour		Total labour	
		OC	SH	OC	SH	OC	SH
109	28	47.3	24.8	5.3	6.4	52.6	31.2
112	54	17.3	11.0	2.8	3.0	20.2	14.0
203	33	15.4	31.0	2.1	0.0	17.5	31.0
204	32	14.8	22.8	5.2	0.0	20.0	22.8
208	63	38.1	26.5	5.5	0.5	43.6	27.0
215	50	23.6	32.5	0.0	0.0	23.6	32.5
220	26	21.5	14.7	6.4	0.0	27.9	14.7
223	23	24.5	38.7	3.8	1.3	28.3	40.0
406	21	51.0	22.3	0.0	0.0	51.0	22.3
501	14	31.3	40.1	0.0	3.3	31.3	43.4
502	46	28.0	30.5	0.0	0.0	28.0	30.5
601	22	36.7	25.6	0.0	0.0	36.7	25.6
611	18	51.0	47.4	4.0	2.5	55.0	49.9
805	25	57.6	21.6	0.0	0.0	57.6	21.6
807	15	30.1	79.6	0.0	0.0	30.1	79.6
813	20	49.2	43.3	0.0	0.4	49.2	43.7

Note: OC = Use of labour for wheat grown on the part of land that is owned by the cultivating household.
 SH = Use of labour for wheat grown on the part of land held on crop-share by the cultivating household.

Table 7.6: Results of t-test for Labour Use Intensities on Sharecropped and Owner-cultivated Land

Type of Labour	t statistic
Family labour	0.310
Hired Labour	1.725
Total Labour	0.529

Note: See text for details of the test. Data for the test is taken from Table 7.5.

Chapter 8

CAPITAL AND TENANCY

Agriculture today requires substantial outlays of capital. With possibilities of extension of agricultural land exhausted, any improvement in production, a necessity with ever rising population, must depend on technical change. On the other hand average income for the village remains low. Thus, capital constraints and functioning of market for capital resources is important to organization of agricultural production and in particular for the functioning of the market for tenancies.

8.1 Income

Most Palanpur villagers are poor by any criteria of decent civil living standards. Mean per capita village income for Palanpur (Rs. 1025) is just a little higher than poverty line for year 1983-4 (Rs. 960 per capita - computed from poverty line defined on the household basis). Even the highest per capita income earned by a household is less than three times per capita income corresponding to the poverty line. Poverty of agriculture has been widely commented upon¹ and shall not be dealt with in any detail here.

Palanpur households belonging to all land ownership classes (except the highest land ownership class) earn equally poor incomes (Table 8.1). Data on current savings by the Palanpur households is not available². However, it is to be expected that savings are unlikely to be large in absence of a good income. Table 8.1 also shows relative indebtedness of each land ownership class - total outstanding debt as a proportion of current income is shown in the last column of the table. This proportion is consistently high for all land size classes except the highest land class.

The picture is even more depressing if income earned from outside employment were to be excluded. It was noted (Chapter 3) that 57 persons (20% of adult male workforce) are engaged in outside regular jobs as primary or secondary occupation. Incomes earned by them constitute 34% of village income. Income earned from all agriculture and livestock related activities was only 57% of village income although it engaged most of remaining adult male workforce, and a large component of female and child workforce

¹ For references to some of these studies, see §12.2.1.2.

² Eliciting information on savings is even more difficult than that on debt/credit. Such savings are rarely invested outside the village or kept as bank deposits (itself a consequence of low savings). Indeed in most cases, savings take form of stored farm produce (in which case it is difficult to separate savings from consumption stores), assets or cash kept at home. Considerable difficulties were encountered in collecting data on inventories of farm produce and no attempt was made to explicitly elicit information on savings.

**Table 8.1: Income and Indebtedness in Palanpur
by Land Ownership Holding Classes**

Landsize Class (bighas)	Number of households	Number of persons	Per Capita Income (Rupees)	Per Capita Debt (Rupees)	Debt/ Income (%)
Landless	27	124	851	410	48
0.1 - 5.0	19	106	1070	489	46
5.1 - 15.0	35	210	901	454	50
15.1 - 30.0	36	270	1082	509	47
30.1 - 50.0	15	112	1014	749	74
Above 50	11	138	1234	77	6

Note: Debt per capita is accumulated debt outstanding.

Table 8.2: Labour and Capital in Agriculture: 1957-1984

Item	1957-8 (in %)	1983-4 (in %)
1. Total inputs/output	14.4	37.0
2. Non-labour inputs/output	6.2	33.0
3. Inputs excluding labour & seed/output	1.4	25.0
4. Hired labour costs/Total input costs	56.8	11.0
5. Seed costs/Total input costs	33.2	21.0
6. Other input costs/Total input costs	10.0	68.0

Note: All inputs and outputs are valued at current prices for respective years for computing the ratios. Input costs exclude land tax, interest on capital, depreciation etc. All numbers (i.e. input/output ratios and composition of inputs) are expressed in percent.

as well³. This agriculture related income includes income from cultivation, livestock produce, hire income and wages from casual labour in the village. Taking into account poor yields obtained in 1983-4, if cultivation income is doubled (to get a reasonable estimate of "normal" year cultivation income), still non-agricultural incomes form 33% of total village income.

Decomposition of income by source is useful in understanding availability of investible resources. A large proportion of non-agricultural income is not available for investing in agriculture because nearly half of these households are either marginally engaged or not engaged at all in agriculture. Thus, most Palanpur cultivators face serious cash constraints while making investment decisions.

8.2 Capital Requirements in Agriculture

The cash constraints resulting from poor income and savings are to be understood in the light of greatly increased capital requirements in agriculture. Traditionally, the most important inputs required for cultivation were labour and seed and both were normally available within the household of a cultivator, the seed being produced by the cultivator himself.

In 1957-8, all other costs accounted for a small fraction of total input costs - just 10% of total input costs *excluding* family labour (Table 8.2). Further, note that these other costs formed a negligible fraction of gross produce⁴ (1.4%). Thus, practically anyone with some farming skills and surplus family labour could hire in land and the textbook model of leasing of land fitted rather well (landless tenant leasing from labour constrained landlord).

The situation has completely changed over years with rapidly increasing capital requirements in modern agriculture, mainly for irrigation and chemical inputs. In 1983-4, total input costs⁵ already accounted for 37% of gross output. Cost of inputs other than seed and hired labour alone accounts for 25% of gross produce. It is to be noted that hired labour formed only 11% of input costs in 1983-4 whereas the same was 57% in 1957-8. On the other hand, cost of inputs other than seed and hired labour forms 68% of input costs in 1983-4 against 10% in 1957-8.

These costs are under-estimates since land tax, interest on capital and depreciation are not included in the cost estimates. The latter two items are significant in modern agriculture and their importance is

³ It is difficult to assess exact contribution of female and child labour in non-domestic activities. However, most of tending to animals is done by women and children. In addition, they play an important supplementary role in farming activities (Chapter 7).

⁴ Gross produce (or farm output) is always in value terms in this section.

⁵ As in the previous paragraph, implicit cost of family labour is excluded throughout the discussion in this section.

likely to further increase with further mechanization of agriculture - already evident in increasing reliance on tractors, threshing machines etc. Additionally, costs incurred on various other items not directly related to cultivation of any particular plot are not included, e.g. costs of collecting information or marketing etc.

Even so, it is clear that cultivation requires large capital outlays and a cultivator needs to set aside a large part of produce for investing in the next agricultural season. Two obvious ways to finance cultivation are to save and invest or to borrow. We noted in §8.1, that incomes in Palanpur are low and that savings are unlikely to be high. Focus is on certain relevant aspects of the functioning of the credit market in §8.3.

8.3 Credit Market⁶

High incidence of accumulated debt relative to current income was noted in §8.1. Opportunities to raise capital through credit market are severely limited. Nature of production uncertainty resulting in covariance of incomes for all villagers implies that credit market can not function through deposits but must depend on personal wealth of lenders or through government support [Binswanger and Rosenzweig: 1986]. Indeed, debt to within village credit sources forms only a small fraction of total village debt (Table 8.3).

Total debt liability further restricts opportunities for current borrowing which is only about 5% of current village income and 9% of gross produce. These include borrowing on account of normal consumption needs as well as borrowing in the face of crisis (e.g. medical expenses). Thus, only a small fraction of agricultural production is financed through money raised in the credit market.

Limitations of raising capital through borrowing from financial institutions⁷ are further underlined and accentuated by the fact that a large number of debts are outstanding from loans taken decades ago. Thus, large outstanding debt to public financial institutions is indicative of inability/unwillingness of borrowers to repay these debts. Indeed nearly 10% (Rs.40,000) of amount in outstanding debts pertains to inherited debts. A pre-condition for obtaining fresh loan from any of these financial institutions (Appendix) is that the borrower should not have any outstanding debt to any of these institutions.

An important feature of credit market is its fragmented nature⁸. In tables 8.3 and 8.4, rows are arranged in increasing order of cost of credit. It is evident that cost of credit increases as one moves from institutional credit to village money-lenders (Table 8.4). Allies and patrons are a special source of credit

⁶ A detailed account of credit market in Palanpur is provided elsewhere [Dreze, Lanjouw and Sharma (1992), Sharma (1989)]. Here we concern ourselves with only a few relevant aspects of credit market helpful in understanding the functioning of land lease market.

⁷ See Appendix for Institutional sources of credit and some problems in their functioning.

⁸ This issue is dealt with in detail in Dreze, Lanjouw and Sharma (1992). Segmentation of credit market is also noted in other parts of India [Lipton (1981), Sarap (1987), and Swaminathan (1991)].

Table 8.3: Total and Current Debt by Source

Source	Total Debt (% of Total)	Outstanding Debt from Current loans (% of Total)
1. Allies and Patrons	24,846 (5.8)	5,721 (10.6)
2. Financial Institutions	339,597 (79.0)	25,571 (47.5)
3. Town Money-Lenders	28,060 (6.5)	7,205 (13.4)
4. Village Money-lenders	29,890 (7.0)	12,857 (23.9)
5. Other Private Sources	7,459 (1.7)	2,519 (4.7)
Total	429,852 (100)	53,873 (100)

Note: Wheat loans are valued at Rupees 1.35 per kilogram before being added to total value of debt. This was the price of wheat at harvest time when wheat loans are due for repayment. Total accumulated debt is shown in column 2 and debt on loans taken in 1983 is shown as current debt in column 3.

Other private sources are villagers occasionally lending money or foodgrains.

Column percentages are provided in brackets.

which is available only through special bond between the lender and the borrower and only when the borrower is in some difficulty (crisis). Though the cheapest source of credit, this is precluded for raising capital for productive purposes except when a crisis occurs on account of some production related matter (e.g. sudden death of a drought animal).

Within each segment of credit market, there are some restriction on the supply of credit. The bias of institutions towards bigger landholders and rich sections has been widely noted⁹. Though intended as cheap sources of credit, these are rarely so for the poor cultivators due to unfair practices adopted by the employees of these lending institutions. Procedural norms further create difficulties in obtaining loans from these institutions and often lead to its wasteful use¹⁰.

Town money-lenders are the next cheapest source of credit. However, collateral requirements are particularly stringent in this segment of credit market. Often the collateral is of twice as much value as the loan obtained and almost always in the form of gold or silver jewellery. Thus, there is informal rationing in this segment for poorer of the cultivators, who may not own much collateralable assets and run a much higher risk of losing a valuable asset.

Rate of interest is the highest for loans raised from within the village lending sources. There is no collateral requirement. This segment of credit market is flexible and responsive to unforeseen contingencies but involves high cost^{11,12}. High cost of credit in this segment of credit market is discussed in detail in Dreze, Lanjouw and Sharma (1992) and a few salient features are recalled here. These include monopoly premium, high administrative costs (of a large number of small loans) and high risk of default.

These considerations create a dualism in this segment of credit market due to transactions costs. Additionally there are subjective costs to the lender and the borrower. For a lender, subjective costs may

⁹ See in particular National Commission on Agriculture (1977). Also see Jannuzi and Peach (1980).

¹⁰ See Dreze, Lanjouw and Sharma (1992), and Seabright (1989) on problems associated with public lending in general and functioning of Integrated Rural Development Programme in particular. See Lipton (1976, 1979, 1981) on public credit schemes as misfits (exhibit very little flexibility). Jodha (1978) says that actual contribution of credit in strengthening the adjustment mechanism (in agriculture) in the past has been very limited. Kahlon (1991) claims that defective loan policies providing for inadequate credit are responsible for large accumulated debts due to lack of generation of capacity of farmers to repay, i.e. due to non-wilful default on public loans.

¹¹ Roughly this ordering of cost of credit in different segments of credit market is also noted in Sarap (1987).

¹² It may be noted that within village credit market is informal credit market (like market for tenancies) depending mostly on trust and social forces. The relevant law requires that a licence be obtained (to be renewed periodically) before any lending activity can be undertaken. There are also stipulations in law about maximum chargeable interest, collateral requirements and procedure for enforcing recovery.

Table 8.4: Current Debt by Interest Rate and Source

Source	Interest rate (%)									Total
	Zero	0-18	18-40	40-60	60-900	Usufruct Mortgage	25% in Kind	50% in Kind	Not avail- able	
Allies and Patrons	5721	0	0	0	0	0	0	0	0	5721
Institutional Credit	0	15697	0	0	0	0	9874	0	0	25571
Town Money Lenders	0	0	7205	0	0	0	0	0	0	7205
Village Money Lenders	0	0	2285	6325	1012	800	0	2335	100	12857
Other Private Sources	0	0	550	400	0	60	0	1509	0	2519
Total	5721	15697	10040	6725	1012	860	9874	3844	100	53873

Note: Table shows debts for loans taken in 1983. See Chapter 4 (§4.3.2) for explanation of "usufruct mortgage". Allies and patrons as source of credit are those lending without charging any interest due to kinship ties, friendship, compassionate reasons or to gain advantage in some market e.g. assured supply of labour and include relations living outside the village as the most important component. To avoid double counting, all village credit carrying no interest charge is included in this source ("allies and patrons") and not under village money lenders or other private sources.

It had granted a small number of substantial loans, mainly for the purpose of minor irrigation, i.e. purchase of diesel pump-sets, bore wells etc. These loans were used for specified purposes and made a substantial contribution in facilitating the use of new technology in the village. Most of these loans were advanced in the 1970's.

3) Prathama Banks (PBs) at Jargaon and Nagalia

Involvement of the Prathama Banks in the Palanpur credit market is comparatively recent. Twenty one households from Palanpur have taken loans from these two banks. These banks were established in 1975 to advance concessional credit to weaker sections of village society. It carries a rate of interest between 10% and 12.5% and a subsidy component for some specified purposes. Interest rate and the grant component depends on economic, land ownership and social status of the recipient of the loan. There is 50% subsidy for members of Scheduled Castes. Only small and marginal farmers, and the landless deriving at least 50% of their total income from agriculture qualify for these loans. These loans are provided for creating productive assets for the weaker sections e.g. milk buffalos, bullocks, bullock carts, setting petty shop etc.

4) The Seed Store (SS):

The Seed Store was started in 1942 and is the oldest of the existing lending institutions in this region. The Seed Store now gives mainly wheat seed on credit at Rabi sowing time to be repaid at subsequent harvest time with 25% interest in kind. The Seed Store and Farmers' Service Society are run as farmers cooperative and only shareholders are eligible to obtain loans from them. In particular only the landowners are eligible to get seed from SS on credit as officially tenancy is illegal in Uttar Pradesh. The Seed Store provides seed loans in multiples of quintals (100 kgs). The villagers are of the opinion that the Seed Store seed is of low quality and adulterated and is not suitable for sowing.

5) *Palanpur Kisan Sewa Sahakari Samiti* (Farmers' Service Society Cooperative or FSS).

The FSS is the largest lender in Palanpur. This is a government assisted cooperative society. The manager of the FSS is a U.P. government employee and transferable but all others are employed by the local governing body of the cooperative, headed by an elected Chairman. Like other institutional credit FSS also provides low interest credit - annual interest rates ranging from 12% to 18%.

The upper limit for a loan obtainable from the FSS is governed by the number of shares held (eight times the share money), land ownership, value of property or assets owned, normal annual income (a certain fraction of which must be agricultural income), and value of the gross produce etc. Moreover, the loan should not exceed the actual cost of operation for which the loan is sought. Like other public lending bodies, the FSS loans are advanced for production purposes e.g. fertilizers, diesel, improved bullock carts, and perhaps diesel pump-sets.

At present fifty five Palanpur households are indebted to the FSS to the tune of Rs 230,000. The range of debt outstanding is from less than Rs 100 to over Rs 10,000. The FSS loans are short term loans (except those for improved bullock carts or diesel pump sets, which are medium term), as these are provided for current inputs. But a process has evolved to roll over debts from one year into fresh loans for the new year. It is called "transfer entry" (or "*Laut Fer*" in the villager's language) and perhaps it was institutionalized to ease farmers' problems in prompt repayment. However, this has become the main source of unfair practices. Farmers have to please the clerks and officers of the FSS to make such adjustments (transfer-entry) so that they can avoid becoming defaulters. Thus the FSS debt indeed grows at a fast pace for those who are unable to repay on time, as bribes usually come from the "new loan" entry, which covers the previous debt plus interest plus bribe to the officials.

The recovery record of the FSS is dismal. Most of the big debtors simply do not have the capacity to repay their debts.

Chapter 9

OTHER MARKETS

9.1 Land Transactions:

In Palanpur market for land tenancy is active. But land sale are uncommon.¹ In the survey year there was only one such transaction involving a sale of 10 bighas. The data on land sales/purchases over the past 25 years reveals many fascinating details besides giving another indicator of inactivity of land sales markets. During those years approximately 400 bighas of land was sold - an average of 16 bighas per year.

Before examining further empirical features of land transactions in Palanpur, it is worth considering some of the theoretical arguments that have been advanced on this issue.

1. Land is a productive asset. Hence, price of land naturally includes a component reflecting this quality.
2. But a system of production is also woven around land. A farmer organises his whole economic life and social life around land. Land provides a farmer opportunity to employ his other resources that he may not be able to employ otherwise. In other words this is the only survival technology a farmer in such an economy knows.
3. It has a good collateral value and hence can help provide working capital for cultivation.
4. It provides security in crisis. This is an attribute similar to but distinct from (3) above. In a crisis situation (a) it can facilitate credit because of having collateral value or (b) it can be leased on cash (rent) or sold as a last resort.
5. It is an asset which can not be lost easily by theft or accident.
6. Landownership confers social status on its owner².

These considerations imply that the value of land to a holder is considerably more than what it must be as a productive asset only. This value may or may not be fully reflected in the price of land. But certainly price of land will be higher than that warranted by the rate of return on such investment. This explains why land prices are generally high but it does not explain why the volume of land transactions is so low. Inactivity of the land market may be at least partly explained by the following further factors:

¹ Inactivity of market for land sales has been widely commented upon in the literature. For example see Bardhan (1984), Basu (1986), Bhalla (1983), Binswanger and Rosenzweig (1986), Bliss and Stern (1982), Dantwala and Shah (1971), Hill (1986), Jodha (1981b), and Khan (1987).

² This is itself a topic of analysis as to why a special or privileged status is associated with ownership of land and in accordance with amount owned. It is suggested here that status value of land is also mainly derived from attributes of land mentioned above. Greater risk of forced starvation leads to degradation and lower status. High status and respectability come from some recognised strength - it may be economic power or moral strength or a strong sense of justice. Thus one forced to live frugally in poverty finds existence degrading, but one not thus forced but deliberately choosing to live in poverty, i.e. choosing to live with austerity, commands great respect. This shows likely economic basis under seemingly uneconomic factors influencing market for land.

7. Bequest motives or land perceived as being held on trust for the future generations³.
8. Poverty of agriculture and limited capacity of the farmers to accumulate savings.
9. Rigidities in the credit market resulting in very restricted borrowing opportunities [Binswanger and Rosenzweig (1986) see below].
10. Value of land generally appreciates with time.
11. Finally, the costs of registering a sale deed amount to more than 10% of the sale value creating a large gap between the seller's realized price and the cost incurred by the buyer.

Imperfection in the credit market and a sense of 'being a degenerated person' attached with the selling of land further accentuate differences between real prices for the seller and the purchaser.

Basu (1986) shows the existence of multiple equilibria in the land market with a theoretical model of interim transactions (i.e. selling now with an intention of buying it later). He shows that the economy may be caught in relatively inactive or very active equilibrium. His model does not deal with normal or non-interim transactions and hence does not explain why non-interim transactions should be low.

Binswanger and Rosenzweig (1986) argue that the land has collateral value, thus having the capability of raising productive capital for cultivation. Price of land already includes this collateral value and hence purchase of land must be financed through personal savings only. Thus high price of land and low personal savings in agriculture result in very few people being in a position to purchase land. On the other hand, supply of land is limited because, in normal times, few effective alternatives for investing resources are available before a potential seller. Bardhan (1984), on the other hand, argues that the price of land may not be sufficient to reflect status value, collateral value of land as well as to cover the high risk of parting with a secure asset like land. This makes the market for sale of land inactive.

The attributes and factors leading to an inactive land sales market as detailed are not natural attributes of land as such. They are influenced by socio-economic, demographic, legal and political conditions of any given time. It has been noted in some historical studies as well as in the Report of the Royal Commission on Agriculture (1928) - RCA for short - that land had very low value, it had no collateral value, not a secure asset and useless in a crisis situation - due to insecurity of tenure, high revenue demand and uncertain future revenue demand.

"In earlier times, land had been practically unsalable. It was of less value than the crop it yielded; in short it was a burden involving liability for revenue and not an object of desire which could be pledged for credit. When famines came, it was not the land which was sold; the cattle and household goods were disposed of, ornaments were pledged and, when these resources were exhausted, the people deserted their villages and their fields and wandered in search of food".

³ As has been noted by a Settlement Officer - [quoted in Guha (1987: 137)]:

"there is no such thing as a market price to a cultivator when he has set his heart on having a piece of land ... As one farmer put it, 'we buy land not with a view to getting such and such interest on our money, but in order to hand it down as a possession to our children'".

(emphasis added) (P.9, Abridged Report of RCA reprinted 1983 by Agricole Publishing Academy, New Delhi).

Talking of land sales market, Hill (1986) notes:

"..., in a period of (say) two or three centuries, the wheel has come almost full circle; no (or little) selling, some selling, much selling, some selling, a little selling ...".

Guha (1987), in an interesting historical study of land market in Maharashtra over more than a hundred years, traces periods of high activity as well as low activity of land sales in terms of movement of land prices. He says that the land market "... [between 1850 and 1880] went through a cycle of revival, boom and slump..." (p. 130). The activity in land market was greatly influenced by tax obligations and rental value of land.

Thus, the market for land - price as well as volume of trade in land - is influenced by a host of natural, technological, legal, political, social and demographic factors and also by growth of non-agricultural sector. In the remaining part of this section, certain fascinating features emerging from a study of land sales over the past 25 years in Palanpur are considered (tables 9.1 to 9.5).

First, note that these are 'normal' time transactions i.e. these sales did not occur after (or on account of) general distress conditions in the village. Of course these sales may have been forced by conditions of economic 'distress' in *that* household - whatever the reason and origin of such distress.

A small amount of sales is due to migration - five households having sold 34 bighas upon migration⁴ (Table 9.1). Indebtedness - aggravated by dissipated living (gambling, drinking, and other conspicuous consumption without adequate earning capacity) - leads to sale of land in a majority of cases. Other reasons for sale of land include debts for medical expenses, debts to FSS (possibly but not necessarily for productive purpose) and court expenses on account of murder charges. It is notable that the immediate cause of land sale, in almost every case, is to clear a debt.

The landownership pattern of sellers is not different from landownership pattern of village landowners (Table 9.2). But this resemblance in pattern may be more due to distributions of dissipated living being equally widespread among small and big landholders.

Considering purchase of land, both large as well as small landholders have purchased land. The distribution of land ownership of purchasers resembles landownership distribution of all households in the village. In Palanpur, land has not passed into the hands of rich (bigger) landholders from poor (small) landholders through land sales (Tables 9.2).

⁴ It must be remembered, that migration is not always accompanied by immediate sale of land.

**Table 9.1: Distribution of Area Sold (bighas)
by Reasons for Sale of Land**

Reason	Area Sold (Bighas)	Initial Landholding (Bighas)	Sold Area as a fraction, (%) of initial landholding
1. Dissipated living	210 (49)	313	64
2. Debts	102 (25)	168	60
On account of			
a. medical needs	41 (10)	69	59
b. marriage	13 (3)	29	45
c. unknown	48 (12)	70	68
3. Migration	34 (8)	34	100
4. Court Expenses	47 (11)	163	29
5. Not known	28 (7)	31	81
Total	412 (100)	710	58

Note: Initial landholding means land held prior to sale of any land by concerned household and it includes initial landholding of selling households only. Column percentages are provided in brackets.

Table 9.2: Distribution of land Transactions by Land Holding Classes

Ownership Holding Class	Number of seller households	Initial Land Holding	Amount of land Sold	(4) as a % of (3)	Number of buyer households	Current Land Owned	Land area Bought	(8) as a % of (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Landless	-	-	-	-	3 ^a	0 ^a	34	- ^a
Less than 5.0	4	13	13	100	2	6	6	100
5.01 - 15.0	12	124	103	83	9	81	54	66
15.01 - 30.0	4	109	62	57	18	419	135	32
30.01 - 50.0	4	159	139	87	10	371	120	32
Above 50.0	2	304	94	31	5	380	64	17
Total	26	710	412	58	47	1257	413	33

^a Since sold all their land and left the village.

Thakurs are prominently over-represented among sellers - more than half of all land sold is by Thakurs - and Muraos and Jatabs are under represented. Other prominent sellers are Dhimars, and Gadarias (Table 9.3). No land has been sold by the Palanpur Muslims - the Dhobis and Telis.

Land transactions, where both the seller and the purchaser are from the village, have been presented in Table 9.4 in a matrix form (by caste categories). Table 9.5 summarizes some features of land transactions. One third of land transactions (in area) are intra-caste. A little more land has passed into hands of bigger land holders than the other way round through land sales. But within village land transactions form only a small part of all land transactions. Nearly two thirds of all land purchased is from outsider landowners. In particular, more than a third of land is purchased from one individual, namely Ajit Prasad, who is one of the three ex-zamindars of Palanpur. Land sold to outsiders forms 42 % of all land sold by Palanpur households.

For the village as a whole, area sold (412 bighas) is very close to area purchased (413 bighas) over last 25 years. Thus the change in total ownership through sales is negligible. More over land transactions have not significantly altered the distribution of land ownership in the village - as reflected in very similar gini coefficient of land distribution for all the four survey years (Table 3.24).

To summarize the observed features of market for land in Palanpur: (i) land is rarely sold for purely economic reasons alone⁵, (ii) all sales are either due to migration or a household specific distress but they are not sales in times of a general distress (e.g. during a famine), (iii) repayment of loans is the immediate reason for selling of land in a majority of cases, (iv) in a large number of cases, dissipated living is the cause of "distress" or unsurmountable debt in the first place, and (v) among the main cultivating castes, Thakurs are overwhelmingly over-represented; and Muraos and Jatabs are under-represented among the sellers of land. In this (iv) and (v) are closely related.

From foregoing discussion, low volume of land sales can be understood in the following way⁶. In normal circumstances, the reservation price of sellers is higher than the reservation price of potential buyers (many sources of transactions costs have been noted earlier). Thus, in normal circumstances there are no land transactions. When land sales do occur, it is usually because the seller is in some special circumstance (usually of distress), rather than the buyer being in some special circumstance. Thus, the price at which land is actually transacted is likely to be closer to the reservation price of the buyers than to the reservation price of non-distressed potential sellers. When a landowner faces distress, the reservation price of one of the

⁵ By this, it is suggested that selling of land has not been motivated by better investment opportunities elsewhere. In a sense, no land sales are voluntary but the sellers have been "compelled" by some distress condition or the other (e.g. huge debts, prolonged sickness etc.)

⁶ I am grateful to Jean Dreze for the formulation here.

Table 9.3: Land Transactions over 25 Years by Caste
(area in bighas)

Caste	Land sold		Land purchased	
Thakur	225	(54)	137	(33)
Murao	17	(4)	105	(25)
Dhimar	56	(14)	18	(4.4)
Gadaria	48	(12)	93	(22)
Dhobi	0	(0)	30	(7.2)
Teli	0	(0)	12	(3.9)
Passi	40	(10)	10	(2.4)
Jatab	4.5	(1)	3	(0.7)
Others	21	(5)	6	(1.4)
Total	412	(100)	414	(100)

Note: Land transactions of land within the village or in nearby villages only are included in this table. Another 45 bighas of land, owned in far away villages (more than 10 kms. away), was also sold by Palanpur households.

Table 9.4: Matrix of Land Transactions within the Village by Caste

Sold To By	Thakur	Murao	Dhimar	Gadaria	Dhobi	Teli	Passi	Jatab	Others	Total
Thakur	16	23.5	0	11.3	9.5	0	0	0	0	60.2
Murao	2	6.1	0	8.0	0	0	0	0	0	16.1
Dhimar	0	0	14	0	0	0	0	0	0	14.0
Gadaria	6.4	0	0	7.2	0	0	0	0	0	13.6
Dhobi	0	0	0	0	0	0	0	0	0	0
Teli	0	0	0	0	0	0	0	0	0	8.0
Passi	5.0	6.0	3.5	0	0	4.0	9.7	0	0	28.2
Jatab	4.4	0	0	0	0	0	0	0	0	4.4
Others	0	6.4	0	7.0	0	8.0	0	0	0	13.4
Total	33.8	42.0	17.5	33.5	9.5	12.0	9.7	0	0	157.8

Note: Only those transaction for which both the purchaser and the seller belong to Palanpur are reported in the table. Each entry shows area sold by persons belonging to the caste shown in the corresponding row and to persons belonging to the caste shown in the corresponding column. Area is in bighas.

**Table 9.5: Some Details of Land Sale Market in Palanpur
(Past 25 years)**

1. Intra Caste land sales (areawise) as a fraction of all within village sales	= 34%
2. The following as a fraction (%) of within village land sales (in area):	
2a. Bigger landowner selling to smaller landowner (or to landless)	= 36%
2b. Small landowner selling to big landowner	= 46%
2c. Nearly same land owned both by seller and buyer of land	= 18%
3. Land purchased from Outsiders (264 bighas)	= 64% of total land (area) purchases
3a. Land purchased from ex-Zamindar, Ajit Prasad (141 bighas)	= 34% of total land (area) purchases
3b. (3a) as a fraction (in %) of (3)	= 53%
4. Land sold to outsiders (174 bighas)	= 42% of total land (area) sales

preparation prior to sowing may require 6-7 ploughings. A farmer cultivating a medium size holding of 30 bighas will have to spend Rupees 700-800/- on ploughing alone¹¹. This is a large sum considering that annual average household income is Rupees 6500/-. All agricultural operations in tropical agriculture are sensitive to timing. So, the availability of any particular service - ploughing in this case - within a short period is important. Some of these operations depend on rains, and for this reason the periods of vigorous activities coincide for the whole village. That makes dependence on hired services unreliable.

In the rest of this section the extent of ploughing on hire is considered. Table 5.6 gives ownership of bullocks, land owned and cultivated per owned bullock by operational holding class. In Rabi 1983-4 season, 97 households were engaged in cultivation. Of these, 36 households got some land ploughed on hire. It seems to suggest a great activity in the market for ploughing services. Further analysis of ploughing service market shows many interesting facts. These 36 households got a gross area of 610 bighas¹² ploughed on hire and paid Rupees 3409 for this service. At a conservative estimate, total gross (as defined above) ploughing in the season by all the cultivators was of the order of 10,000 bighas. Thus area ploughed on hire is 5-6% of the total ploughing activity. Its importance is more in the fact that availability of ploughing services on hire provides a cushion to a farming household in some temporary difficulty or need rather than in its quantity.

There were 29 cultivating households not owning any bullocks. Only 13 of these households reported any hiring in of ploughing services. These 29 households (30% of cultivating households) owned 348 bighas (13% of total owned land). Of these households, 14 leased-out 152 bighas (44% of their ownership holding) whereas only 9 leased-in 84 bighas (30% of their cultivation holding) and thus they had a total cultivation holding of 280 bighas (11% of village cultivation holding). Seven of these households cultivated their own small holdings. Only 10 of these households operated more than 10 bighas.

Of the 280 bighas retained for cultivation by these households 40% (110 bighas) did not require any ploughing, being either fallow, uncultivated or under second sugar crop. Ten households had land under no such crops that required ploughing.

¹¹ The argument that opportunity cost of using one's own bullocks shall be the same if owners of bullocks could hire out their services does not hold true in presence of transactions costs. The demand for bullock services and its supply are practically inelastic (for any given period) and the demand varies considerably over time. However, ploughing charges are fixed for long periods. Thus, opportunity cost (in terms of gain from production foregone if his own land is not ploughed in time) is much higher than the market price for an owner of the bullocks till he has ploughed his own land and it is practically zero afterwards. Ploughing services shall be hired out by any bullock owner, if at all, in this later phase only.

¹² For the computations of ploughing on hire, the following procedure is followed. If a 5 bigha plot is ploughed 4 times, then the area ploughed = 20 bighas and so on.

**Table 9.6: Ownership of Bullocks in relation to Land
(by Operational Holding Size Class)**

Size Class	Number of bullocks owned	Value of bullocks owned	Value per bull. owned (Rs.)	Land owned per bull.	Land operated per bull.	Number of bullocks per househ.
0	4	1800	450	65	0	0.09 (46)
0.1 - 5	2	1700	850	40	18	0.15 (13)
5.1 - 15	9	4450	494	29	20	0.50 (18)
15.1 - 30	45	26905	598	10	14	1.67 (27)
30.1 - 50	59	49000	831	15	19	1.97 (30)
Above 50	22	20750	943	29	33	2.44 (9)
Total	141	104605	742	18	19	0.99 (143)

Notes: Area in bighas. Value in rupees. Figures in brackets in the last column are number of households in that category. The word "bullock" is used to include all animal draft power. In Palanpur it includes bullocks and water buffaloes.

Abbreviations: bull. = bullocks; housh. = household

This discussion demonstrates that for cultivation it is necessary to own bullocks. Dependence on hired bullock services is marginal at best. But hired ploughing is often resorted to for smoothing over temporary difficulties. In fact even Ganga Sahai, the only tractor owning household (in the survey year), had his own bullocks.

9.3 Irrigation:

As mentioned in Chapter 3, almost all Palanpur land (96%) is irrigated. Sources of irrigation are privately owned. Irrigation is from ground water sources. Except for a marginal use of a small village pond which is used to irrigate nearby fields of two-three farmers and of a small river Ari, irrigation is by lifting underground water. Means of irrigation are Persian wheel, electricity powered tubewell and diesel powered water pumps. The most important sources are diesel pumps, next in importance being Persian wheels. There is one privately owned tubewell.

Persian wheel was hired @ Rupees 3/- per bigha of land irrigated. A household hiring-in services of a Persian wheel has to supply the means of driving it - a pair of bullocks and a person to drive it. It usually takes one day to irrigate 1 bigha of land in Palanpur. Usually a child from the farmer's household is engaged in driving the bullocks to provide lift power. Another person is needed to supervise irrigation, ensuring uninterrupted flow in channels and into the field. This last job is common to irrigation by any type of source and always the cultivator himself does it. If the Persian wheel is owned by the lessor in a lease contract, no charge is payable by the tenant for its use on the rented land.

The rate for diesel powered pump irrigation is @ Rupees 10/hour. Diesel pump is a portable means of irrigation. Water is pumped out of the nearest or most easily accessible of 31 borewells installed by farmers in various locations on the village land. A borewell owner gets Rupees 1/hour out of the above rate of Rupees 10/hour. On an average it takes one hour to irrigate one bigha of land. If the owner of a pump set is a partner in sharecropping (batai) lease, then the non-owner bears the cost of fuel. Otherwise they split the irrigation charges equally. Both the arrangements are practically identical since the average cost of fuel for running a diesel pump was Rupees 4/-per hour. Operation of the diesel pump set is the responsibility of its owner.

Pumping with electric motor driven pump is the cheapest form of irrigation. But there being only one tubewell, very few farmers can avail its services. The tubewell owner charged Rupees 7/hour in 1983-4. Tubewell irrigates a little over one bigha in an hour. The operating cost for tubewell owner is practically nil - except for normal wear and tear and repairs - as the owner pays for power supply at a flat monthly rate according to the horse power of the motor used. Supply of irrigation by tubewell is limited by its fixed location and even within its small command area, by availability of electric current. There is also a

government tubewell in a neighbouring village of Bhoori and some Palanpur fields on the western boundary have access to its water.

Lastly, tractor, besides ploughing and transport, can also be put to other uses requiring mechanical power, including threshing, fodder chopping and *irrigation*. Water is drawn from borewells - tractor replacing diesel pumping set. The engine of a tractor being generally far more powerful than diesel engines, it pumps much more water per hour and also consumes more fuel. There was not much sale of tractor services for irrigation - the tractor owners having it busy most of the time for their own work in all possible activities like ploughing, irrigation and transport and also doing ploughing on hire. Rental rate for tractor powered irrigation was Rupees 12 per hour. Normally tractor can irrigate more than one bigha per hour.

Landholding wise ownership of irrigation sources is given in table 9.7. The market for irrigation is quite active. Irrigation services were hired to the tune of an estimated 2900 bighas¹³ from the village sources alone. The figure is close to 3500 bighas after including outside sources.

Even though diesel engine pump sets are now the main means of irrigation - 22 engine pump sets are owned by 27 households - yet Persian wheel is an important means of irrigation. There were at least 15 active Persian wheels in operation in 1983-4. In contrast, there were with only 7 diesel pump sets and no tractor and no tubewell operating in 1974-75.

Total income, net of incurred costs, earned by hiring of irrigation sources for the survey year was estimated to be Rupees 14846. Although 30 households sold irrigation services, only two households (household 224 and household 502) alone accounted for Rupees 8674 - nearly 60% (Table 9.8). It appears that only a few of the engine owners go out in a big way to rent their engines for irrigation - others own engines primarily for their own use and hire out occasionally¹⁴. Persian wheels being fixed in location and involving no effort or current expense on part of its owner, the variability in income from hiring-out Persian wheels is totally determined by the demand in that location and the owners' irrigation requirements.

Rates of hire are *impersonal* and *uniform* for each type of irrigation source. The same rates apply across buyers and sellers and also in the slack season as in the peak season. Rates of irrigation do not follow marginal cost or average cost rule. Rates are rather of the nature of a mark up over current running cost, it being about twice the running cost for diesel powered systems, whereas the current cost is practically zero for tubewell and Persian wheels.

¹³ As in the case of ploughing, total quantity of irrigation is estimated in the area of a plot multiplied by the number of irrigations. Thus, if a 5 bigha plot is irrigated twice, quantity of irrigation is 10 bighas.

¹⁴ Remember that diesel pumps are portable.

**Table 9.7: Distribution of Ownership of Irrigation Sources
by Operational Holding Class**

Size Class	Number of house- holds	Persian Wheel		Bore Well		Diesel Engine	
		Number*	Value	Number*	Value	Number*	Value
0	46	1	6000	0	0	0	0
0.1 - 5	13	0	0	0	0	1	3250
5.1 - 15	18	1	6000	3	4500	1	2000
15.1 - 30	27	9	43200	16	12550	11	25850
30.1 - 50	30	7	15200	11	13950	5	15600
Above 50	9	6	39800	13	18750	9	29900
Total	143	24*	110200	43*	49750	27*	76600

Notes: All values are in rupees.

* These numbers indicate access to owned irrigation resources but some of these may be jointly owned. Total number of owned irrigation resources are less than the numbers shown in the last row. There are 21 Persian Wheels, 31 bore wells, and 22 diesel engines.

**Table 9.8: Income from Irrigation Hired-out
(by the Type of Source)**

SOURCE	Equivalent hours or days	Number of households hiring out	Equivalent area (in bighas)	Income (in rupees)
Electric Tubewell	607 hrs	1	607 (21)	4249 (29)
Tractor	27 hrs	1	33 (1)	164 (1)
Persian wheel	425 days	7	425 (15)	1275 (9)
Diesel pump-set	1832 hrs	24	1832 (63)	9158 (62)
TOTAL		30	2897 (100)	14846 (100)

Note: Figures in the parenthesis are column percentages.

It needs emphasizing that despite an active market for irrigation, access to irrigation is qualitatively different for owners of means of irrigation and the other farmers. This is crucial during the period of peak demand when the owners continue to have access to these resources but the non-owners (of these resources) are rationed. Note that the price for irrigation for any type of source does not respond to the seasonal demand and supply imbalances.

9.4 Implements:

All farm households own common farm tools. There is no market for hire of any farm implements including ploughs, spades, cultivators, levellers etc.

9.5 The Chemical Inputs:

Use of pesticides, insecticides and weedicides is negligible in Palanpur. In the reference year only one farmer, household 224, reported using some pesticide. They can be purchased in market in nearby towns of Chandausi, Bilari or Moradabad. Chandausi is the main market where most of the fertilizer used by Palanpur farmers is purchased in the open market. Fertilizer may also be obtained on credit from the FSS subject to its rules. Very little fertilizer was thus obtained. The reasons for this lie in the functioning of FSS (See Chapter 8, Appendix). Prices are uniform and impersonal and normally, there is no rationing.

There is no market for farm yard manure extensively used in Palanpur.

9.6 Seeds and Farm Produce:

Usually a farmer sets aside a part of his own stock of grain (or crop in case of sugarcane) that he considers the most healthy part of his produce, for the seed. If it is not available or he does not have healthy grains for seed, he usually purchases seed from another farmer within the village (and occasionally, from a neighbouring village). Use of High Yielding Variety (HYV) seeds is universal for a crop like wheat but hardly anyone uses certified seed purchased from market or the Block Development Office. Certified seed is twice as expensive as other non-certified seed. The Seed Store provides wheat seeds on credit. But this seed is of doubtful quality and is often used as a cheap source of consumption credit (Chapter 8).

The neighbouring town of Chandausi is a big foodgrain market (*mandi*). Foodgrains are either sold to Chandausi grain merchants or within the village. In case of wheat, the government purchases it at a fixed procurement price in the post harvest season. A large part of food-grain produce is sold soon after the harvest. But most farmers sell small quantities of grains - from 10 kilograms to 100 kilograms or more - over a long period, as and when need for cash arises. Price of grains is nearly uniform within the village. It is usually marginally lower than the price prevailing in Chandausi market. In the reference year the price of wheat, soon after its harvest, was Rs.1.35 per kilogram in Palanpur whereas government fixed procurement price was Rs.1.55 per quintal (Rs 1.55/kg). There is no upper limit to the amount of wheat that can be sold

by a farmer to the government purchasing agencies. The Government wheat purchase centre was about 2.5 kilometres away in the village Akroli. But surprisingly small amount of wheat was sold to the government.

The amounts sold by a large number of farmers are too small - and hence per unit transport costs become high. Moreover there was some fear expressed by small farmers that they will face trouble at the hands of purchase officials at the government purchase centre - the purchasing officials disputing the quality of wheat offered for sale by a farmer.

There is no market for fodder crops. Sugarcane is the only important crop apart from cereals. There are a few small sugar factories within a few kilometres radius from Palanpur. There is a big government owned sugar mill which is less than 10 kilometres away at Bilari. Most of Palanpur sugarcane is sold to small sugar factories. Only four or five farmers sold their cane to the sugar mill at Bilari. In a good or average crop year - as 1983-4 was for sugarcane in Palanpur - price paid by factories is much below that paid by the mill. The price paid by the mill is regulated by the State and the Union governments which prescribe a minimum price. But no such controls apply to a small sugar factory, where price varies widely over harvest season from late November to March according to the supply position. Supply of sugarcane to the mill is regulated by a supply schedule for individual farmers in its command area.

There are many reasons for most Palanpur farmers selling their sugarcane to small factories even at unfavourable prices. The payment by sugar factories is prompt whereas payment from sugar mill takes a long time - several months in general and sometimes even as long as a year. Moreover sugar factories start cane crushing operations almost a month before the mill does. Thus when immediate cash needs arise, supply to factories is the obvious answer to a sugarcane farmer. An obvious alternative is to borrow for immediate need and repay later when money from the mill is realised. However, the farmers are disinclined to borrow from private sources except when there is no alternative. The supply quota of a farmer is fixed by the mill according to sugarcane supplied by him in the previous three years. Thus those, who have not supplied or supplied small quantities in the past three years, have no supply quota.

This was true for almost all Palanpur farmers and thus the situation perpetuates itself. Towards the end of crushing season, when the over all supply drops substantially, any farmer of the command area can sell to the mill without any quota restriction. This is the only way a farmer with nil quota in the present season, can obtain positive supply quota in the coming period. But in Palanpur by the time of quota-free supply regime, there is very little sugarcane left in the fields except that for sugarcane seed. Unlike in the past and in many other sugarcane growing areas, there is no local processing of sugarcane to manufacture gur. There is no intermediary sale of sugarcane. All Palanpur farmers sell it directly to any of the factories or the mill.

It is of interest to note that there was no tying of sale of produce with any other contract - tenancy, labour or credit contract - even though there was large price differential in local price and government supported price for some crops like wheat and sugarcane. Moreover local grain price is impersonal and independent of parties involved.

9.7 On Interlinkage in Palanpur

Interlinked nature of rural markets has attracted a great deal of attention (§1.2.2). In this section occurrence of interlinked transactions in Palanpur is briefly analyzed. Simultaneous occurrence of transactions in two or more markets between same two partners does not necessarily imply that these transactions are interlinked. To be interlinked, there must be joint determination of terms of contracts and they are likely to be different from terms of contract if these were entered into independently. Thus, it is essentially a single transaction or contract covering two or more markets.

With this understanding, sharecropping itself is the most obvious and important form of interlinked contract in land, labour and credit. Land and labour are obviously two important components of a sharecropping contract. The element of credit enters the contract as there is a time gap of 4-5 months between input application and realization of output. Thus, implicit credit is involved in the way the input costs are shared.

The other clearly interlinked transactions are "repayment of loan" through a tenancy contract (RL) and "usufructuary mortgage" (UM) - where credit and tenancy terms are jointly determined. (§4.3.2). Incidence of such contracts is low in Palanpur (Table 4.2). Apart from these necessarily interlinked contracts, the evidence from Palanpur suggests that there is little incidence of interlinkage in Palanpur¹⁵.

There is very little tying of transactions in tenancy, labour or credit markets. Inter-seasonal labour tying is virtually absent in Palanpur. There are no permanent labourers (employed for a season or more) either. There is no tying of sale of produce to either tenancy or credit partners. To directly assess possibilities of interlinked tenancy transactions, two questions were put to (thirteen) tenants:

(1) Do you (tenant) seek credit from your landlord? Does the landlord insist that you obtain credit only from him? Is interest rate charged, if such credit is obtained from landlord, the same or different as charged otherwise (i.e. charged by and to non-tenancy partners)? In other words, are terms for credit from tenancy partner influenced by two simultaneous contracts - thus making it essentially an interlinked transaction?

¹⁵ For evidence on low incidence of interlinkage in Palanpur, see Dreze and Mukherjee (1989), Dreze, Lanjouw and Sharma (1992), Sharma (1989) and Sharma and Dreze (1990).

All the respondents said that the landlord never insists that they obtain credit only from him. They do not seek credit particularly from the landlord, however if in need of credit, they will seek credit from whatever source they deem best. Many of them had never taken a loan from the landlord. According to respondents, the terms of credit, if it is availed from the landlord, would be same irrespective of the borrower being a tenant or not. It is difficult to test whether credit terms for tenancy partners are different from those for others since credit from village sources is obtained at different interest rates by different borrowers from many village lenders. The best interpretation of the respondents answer is that factors other than tenancy are far more important in determining the terms of credit. These factors may include, among other things, personal characteristics of the lender and the borrower (i.e. their caste, prosperity, landownership, ability to repay and personal relations between the two parties) and purpose of the loan.

(2) Does your landlord require you to work on his fields or otherwise work for him? Does he insist that he has the first right to your hired labour? If so, do you have to work - (a) without wages (*begar*); or (b) paid at the market wage rate; or (c) paid at lower than market wage rate but not as *begar*?

Twelve of the thirteen respondents said that they don't *have* to work for their landlords and there is no question of free labour or being paid other than at market wage rate even they are employed by the landlord. Only one respondent said that his landlord does ask for some free labour at times. Tying of tenancy and labour transactions is wrong description in this latter case (see below).

These 13 respondents are from six different castes. The lone respondent responding 'yes' to the question above is a Thakur the only caste in Palampur whose members are not allowed, by custom, to do any wage labour. The landlord, also a Thakur, is an old man of 80 years. There is no other adult male in the household. The tenant and landlord have good personal relations. Given the circumstances of the landlord household, the tenant feels a moral obligation to help his landlord in small ways. And since there is no question of the tenant (being a Thakur) working for wages, such work is done free. To elucidate the nature of labour services rendered free by the tenant, his response is reproduced below in full:

"Landlord does ask for free labour at times for small tid-bits but he does not ask for 'regular' labour - e.g. sowing of fodder (*barseem*, a green fodder crop) in the landlord's small plot involving a few hours labour. Or he may ask me to bring *Patai* (dry sugarcane leaves) from fields to his home. But there is no question of wage labour".

This section is concluded with details of two cases where interlinked nature of transactions is transparent.

(1) The only case of interlinked labour and tenancy transaction is that of household 304 cultivating 2 bighas jointly owned by four households. The plot was planted with young mango plants in recent past. In return for being allowed to grow crops in this land, the tenant is required to tend to this young mango garden, and protect it against damage. Thus, the rent is in terms of labour services required of the tenant. The contract is till the plants are sufficiently grown not to require special care.

(2) There is informal tying of labour of Pooran (household 206) to Kewal (household 217). Kewal provides credit to Pooran who works almost exclusively for Kewal. The wages are paid at the market wage rate. This is the only case of obvious interlinkage of credit and labour. Interlinkage occurs in quantity terms and not in the contractual choice, since the terms of contract between the two partners are identical with those for the rest of the village. Interlinkage results in informal quantity restrictions on supply of labour by the borrower and influences the quality of labour supplied.

9.8 Concluding Comments

First, it was noted that the market for land transactions is inactive. This implies that land ownership pattern can be taken as given. Unequal land ownership pattern leads to mismatch of land and ownership of other resources - in particular against family labour resources. The only way adjustment in land to be cultivated can be brought about is through tenancy.

Markets, by and large, operate independently and markets are not interlocked in any essential way. For almost all factor inputs, the equilibrium is achieved neither by flexible prices responding to demand-supply conditions nor is it characterized by interlocking factors markets. In these conditions rationing is inevitable outcome. In slack season, the suppliers are rationed whereas in the peak season there is rationing on the demand side or else the buyers have to wait for long periods. This is crucial for most agricultural inputs as loss due to lack of timely application of such an input (e.g. irrigation, ploughing) is in general considerable. Thus, ownership of a particular asset has important implication for its accessibility to the user. This puts a premium on ownership of a resource for a cultivator having obvious implications for the market for tenancy.

ON THE CONTRACTUAL TERMS OF FACTOR TRANSACTIONS¹

10.1 Introduction:

"Market Rates" or pricing practices take specific forms in different segments of rural markets. Are prices competitively determined or are these monopoly prices at which factor inputs and services are traded? How these respond to variations in supply and demand conditions? Are prices of at least some of these determined by institutional factors - economic or extra-economic? These are some of the questions discussed in this chapter.

10.2 Pricing Practices:

In each market some transactions take place at 'going price' or 'ruling price'. Thus it is possible to ask questions like - what is the wage rate or the rate of interest for private credit or irrigation charges or charges for ploughing per unit area, and expect to get an unambiguous answer. In the short run, these nominal prices are steady with respect to transient conditions including those of supply and demand².

For example, consider daily wage rate in the village labour market. There are imbalances in supply and demand of labour - in particular in the lean period - but wage rate does not adjust to restore equilibrium of supply and demand. Thus, mean employment per day was 32 persons in the peak season and only 6.5 persons in the slack season. Involuntary unemployment is wide spread among labourers in the slack season, giving rise to excess supply of labour. But wage rate does not move downwards.

However, when large and persistent imbalances in supply and demand recur, the ruling price (wage rate) is likely to change. There will be a transition period, during which, hiring of labour takes place at several (transient) rates. Then the wage rate settles down at the new ruling price level. This could happen upon adoption of a new technology which may change both demand for labour and returns from agriculture - both changes, being of long term nature, influence the ruling price. It could also happen because of persistent high inflation. Thus, the going wage rate or ruling price in labour market responds to long term imbalances in demand and supply, profitability of venture where they are employed and inflation, but not to short term imbalances.

¹ This chapter owes much to countless discussions with Jean Dreze. His direct and indirect contribution to the ideas included here is gratefully acknowledged. It also partly draws on the discussion of "negotiable" and "non-negotiable" contracts in the context of labour market in Dreze and Mukherjee (1989).

² Of course, real prices vary according to changes in the rate of inflation (for credit) and changes in the price-level (for all others market rates).

There are other forms of contracts, in which going rate concept does not apply and terms of contract are not rigid. The "piece rate" (for task specific labour) has no such going rate and varies a great deal from contract to contract, even for the same type of work. The effective wage rate for such contracts varies across labourers, depending on their skills and effort capacity as well as their bargaining power. It also varies from season to season. This type of contract is far more responsive to imbalances in supply and demand. In the slack season, the mean daily earning for piece rate contracts is much lower than the daily wage rate, whereas the difference between the two is not statistically significant during the peak season. Also, the mean daily earning for piece rate contracts is much higher in the peak season compared to the same in the slack season.

Thus, the contract terms for task specific contracts are flexible and responsive to demand-supply conditions. This also provides a 'cushion' in slack season to the daily wage labour market which shows particularly downwards rigidity. The existence of piece rate contracts makes overall mean wage rate (effective daily mean wage payment for both task specific and daily wage work) responsive to demand and supply conditions in the short run also. The mean wage rate for all labour is significantly higher in the peak period than the same in the slack period.

The 'going rate' of interest in credit market appears to be more flexible for cash loans than for lending in kind. For lending in grains, the rate of interest is fixed at 50 per cent in kind, irrespective of identity of the lender or the borrower. Rate of interest on cash loans reflects (i) opportunity cost of capital, (ii) risk premium (default), (iii) monopoly premium, and (iv) subjective costs of lending/borrowing (Chapter 8). Thus, the modal rate of interest (for a lender) may vary from lender to lender. A lender may charge different interest rates to different borrowers depending on the relative bargaining power, personal relationship, purpose of loan etc.

Next the pricing practices or rules for hiring of services - mainly ploughing, transport, irrigation and threshing - are considered. For all these services a fixed uniform rate applies at all times and irrespective of parties involved in the transaction. For irrigation by diesel pumping set, the uniform hire rate is Rs. 10 per hour; for Persian Wheel it is Rs. 3 per bigha of land irrigated; for the tubewell the rate is Rs. 7 per hour; and for the tractor when hired out for irrigation, the rate is Rs. 12 per hour - irrespective of the identity of purchaser of irrigation. For hired ploughing by bullocks the rate is Rs. 4 per bigha per ploughing. Transport of sugarcane is charged at Rs. 2 per quintal. For all other transport the payment is negotiated between the parties. The threshing charges are 8% of threshed grain.

The pricing rule for these services appears to be a mark up over average cost to the resource owners. For the owners of these resources (except for threshing machines) the hiring out of these services is of secondary importance. It is rarely the case that these resources are acquired to exploit market opportunities for hiring them out. Even in the slack season hiring charges, which are much above marginal cost (or

running cost), do not come down. The suppliers are rationed. They can not sell their services to the full capacity.

Lastly, the tenancy contracts are considered. The basic structure of share contracts remains invariant across lessor and lessee households. For a given type of share contract, the sharing rules for costs and the output are fixed and uniform. These do not vary from season to season or person to person. On the other hand, there are no standard rates for non-share tenancy contracts. These later tenancy contracts - whether long-term or short-term (one year); whether the rent is paid in cash or in kind - are negotiated for each deal. The unit rent may vary from one rented plot to another.

10.3 "Negotiable" and "Non-negotiable"³ Contracts:

The contracts can be classified into these two broad categories. In each market (labour, tenancy, credit market etc.) the pricing rule is different in these two spheres of negotiable and non-negotiable contracts. Prices or 'market rates' respond to short term changes in supply and demand, quality of traded object and individual characteristics (in particular their bargaining powers) for negotiable contract segment of the market. Prices remain impersonal and rigid in non-negotiable contracts.

For each market, the negotiable and the non-negotiable contracts are summarised in Table 10.1. The terms of contract or 'prices' in non-negotiable contracts do not respond to short run supply and demand imbalances, whereas negotiable contracts do. In each of these markets non-negotiable contracts form the bulk of transactions. The negotiable contracts can be seen as a 'cushion' available for at least partially restoring imbalances, when the 'strain' on the market to operate only through non-negotiable contracts is too large or when the non-negotiable contract becomes impractical. For example for a cultivator in need of cash, only cash rent contract can meet his need since such rent is paid in advance, and not a share contract. So he leases-out land on cash rent, even though rents are low, if other means of meeting his cash needs are either closed (nobody willing to lend money) to him or not desirable according to him.

10.3.1 Emergence of Negotiable Contracts:

Negotiable contracts emerge when incentives for contract specific terms are strong. If a piece of land is of very low inherent fertility, leasing out on sharecropping may be impossible but there may be possibility of leasing out at a low cash rent. Another example, if a plot has very poor wheat crop, getting harvest labour at the standard wage rate (it is 5% of the produce for harvesting) may be impossible and a non standard wage contract may be necessary. It follows that the terms of contract vary according to specific nature of task for the same farm operation (e.g weeding, digging) where uniform terms can not apply. Thus for a

³ This terminology to describe functioning of factor markets is due to Jean Dreze and has been earlier used to understand certain characteristics of labour market in Dreze and Mukherjee (1989).

Table 10.1: Negotiable and Non-negotiable (Standard) Contracts

Market	Negotiable contracts	Non-negotiable contracts
Tenancy	Non-share contracts (Cash rents, Fixed kind rents)	Share contracts
Labour	Piece-rate contracts, Task-specific contracts	Daily wage contracts, Harvest wage system
Credit	Cash Loans	Kind Loans
Services/ Implements hire	--	Irrigation, Transport, Ploughing, Threshing

Source: Dreze-Mukherjee (1989), Table 10.2.

Note: Cash loans are not strictly in negotiable category. A certain rate of interest (5% per month) is perceived as common standard but deviations from this 'norm' are far too many and frequent in credit market (cash loans) than in any other market.

See text (section 10.3) for 'negotiable' and 'non-negotiable' contracts.

weeding contract, rates per area vary according to intensity of weeds and difficulty of removing them. Reasons for rate variation from plot to plot are strong.

Secondly, when market imbalances in supply and demand exist, contract specific negotiable contracts may be entered into, thus allowing non-standard payment without disturbing the standard, non-negotiable contract terms. It was seen to be the case with labour market in the previous section.

Thirdly, the terms of agreement for negotiable contracts are influenced by bargaining power of the agents. This becomes particularly important in the presence of market imbalances. To take an example from labour market, certain labourers who are in the least demand⁴ at the standard wage, may agree to work at lower effective wage rate through a piece rate contract. This way they get lower remuneration due to their poor bargaining power. At the same time they do not disturb the standard wage rate.

10.3.2 Emergence of Non-negotiable Contracts:

For non-negotiable contracts to emerge and prevail, it must be possible to ensure a minimum uniform standard. Thus for contracts to be uniform and impersonal, inter personal comparison should be possible. Also, the transactions must occur with sufficient frequency so that a common standard is seen to operate.

One reason for emergence of non-negotiable or 'standard' contracts in a small, isolated economy, as in Palanpur, is reduction in transaction costs and enforceability of contracts. Anything that emerges as a 'norm' is less open to arguments and becomes accepted and respected in the village as such. The possibility of cheating or violation of terms is reduced when the standard terms are known to and accepted by all. Deviating from the 'norm' or the 'standard', will amount to 'unfair' practice. Prevalence and insistence on standard terms may help to mask to a limited extent one's actual resource position and bargaining power.

Lastly, the existence of a norm or standard helps in reducing frictions between partners. This is important in a village society where everybody is known to everybody and frequent recurrence of friction is likely to add up to bigger conflicts and social tensions. Existence of standard terms of contracts reduces generation of such conflicts and friction since a 'menu' of contracts is available on a leave it or take it basis. Resolution of or mediation in subsequent conflicts that may still arise, is also made easy, due to known 'standard' or 'norm' for a contract.

10.4 Scope for Flexibility in 'Non-negotiable' Contracts:

It might appear that 'non-negotiable' or standard contracts are rigid with respect to terms of contracts applicable between any two partners. Though this is substantially true, there is certain amount of flexibility

⁴ In the slack season, when the employers can exercise greater freedom to choose the labourers, labour demand tends to become labourer-specific.

built into 'non-negotiable' contracts which allows certain variations according to inter-personal characteristics. These contracts - henceforth called 'standard' contracts - may be meaningfully viewed to have a 'non-negotiable' base or 'core' and negotiable or flexible 'fringes'.

Daily wage contracts have standard wages. In Palanpur (1983-4), the daily wage earners could be paid either Rupees 6+one meal or Rupees 7 for a day. But whether it is to be 'Rs. 7' or 'Rs. 6+one meal' is partially open to negotiations. In specific cases a labourer may be provided 'biris' to smoke. In these contracts flexibility is only marginal.

This type of flexibility in 'standard' contracts is more marked in share tenancy contracts. The 'core' of the contract consists of sharing rules for output and inputs. These are standard and well known to all villagers. Thus in a '*batai*' contract output and some inputs - fertilizer, irrigation and seed cost of certain crops like sugarcane and potato are shared equally between the tenant and the landowner.

Organic manure is normally supplied by the tenant at a specific rate (one bullock cart per bigha) for share contracts of one year duration or more. This rule is not strictly applied and is partially negotiable. Labour input comes from the tenant - family or hired - and is non-negotiable.

All other aspects in a '*batai*' contract are subject to negotiations. Which crops are to be grown and crop rotation over the year (normal contract period) is negotiated between the tenant and the landowner. The labour intensity is not part of the contract and is a variable in the control of the tenant. Yet the landowner keeps pressure on the tenant for 'desirable' level (in the landowner's perception) of labour input. As the landowners live in the same village, discussion on progress of cultivation (including labour application) is an on going process throughout the contract period.

How much of shared inputs are to be applied, frequency of their application and timing are open to discussion. The rule that shared inputs must be paid for by both the partners at the time they are applied to the crop is not strictly followed. Thus implicit credit involved, i.e. mode of cost-sharing (Chapter 4) is negotiable. This varies across the contracts according to personal characteristics of lease partners and their relations. This allows flexibility in input application with varying resource constraints of tenants and landowners from contract to contract.

Thus flexible elements of a standard contract are important in smooth functioning of these contracts.

10.5 Re-negotiation of Standard Contracts:

It is obvious that existence of negotiable contracts and flexible elements of standard contracts help to perpetuate these rates or terms of contract in the face of short run market imbalances. With long run changes in these imbalances, change of these rates or re-negotiation for new rates to emerge is inevitable.

For some contracts, like share tenancy contracts, changes are slow due to a degree of inherent flexibility. In these contracts changes are likely to occur in reorganization of inflexible 'core' elements and flexible 'fringe' elements of these contracts. In cases of acute pressure there may be deviation from standard terms even in the 'core'. One such case was found in the neighbouring village, Akroli, where the Headman of the village leased-out a plot of land on sharecropping without sharing in any input costs. When such deviations from norm become frequent - indicating more permanent market imbalances and not just seasonal imbalances - the new rates or terms of contracts are likely to emerge after a transient period when no 'norm' or 'standard' prevails.

Thus one observes long term adjustment to market imbalances and other economic variables, like inflation or rate of inflation, with short term rigidities in market rates or terms of contracts. Standard contracts are particularly important in a small rural society depending largely on oral contracts. Standardization of contracts is helpful in cutting down transactions costs - in particular costs of contract enforcement; and also in reducing number and intensity of disputes. Although negotiable contracts are helpful in reducing dis-equilibrium of supply and demand in these rural markets, *quantity rationing* is an inevitable result of non-negotiable contract rates in each of rural market (tenancy, labour, credit or services of other factor inputs).

TENANCY, PRODUCTIVITY AND DISTRIBUTION

11.1. Productivity, Input Use and Efficiency of Sharecropping:

There has been an ongoing debate on "efficiency" of sharecropping¹. The idea that sharecropping induces disincentives to investment dates back to Adam Smith. Marshall was perhaps the first to present it more formally and show that sharecropping induces dis-incentives leading to inefficient use of current inputs (labour). He also gave conditions under which resource use intensity on sharecropped land will be no different from that on fixed rent lease. But a more vigorous debate on this issue started after Cheung's contribution [Cheung (1968, 1969a)].

The debate has been mostly confined to the question whether share tenancy entails inefficient use of resources. If so, what are instruments available that can overcome this inefficiency? Indeed, with these additional instruments, sharecropping in some models attains the same outcome as that achieved by non-share contracts (cultivation with wage labour or fixed rent leases), whereas in some models it can not.

Share-cropping should be assessed in the prevailing conditions in the markets for factor inputs, and compared with alternate systems of cultivation *for the village (economy) as a whole*. It is not correct to take a piece of land and then compare outcomes *if* it is cultivated under alternative tenurial arrangements. The relevant question is whether this plot will be cultivated at all, if choice of tenure arrangements is restricted to any one of various alternative tenurial arrangements.

If share-cropping is prohibited and choice is limited to self cultivation with the help of wage labour (if required), then intensity and extent (in area) of cultivation will almost certainly go down. Those with opportunities elsewhere (e.g. having outside employment) and those with no family labour resources

¹ See Bardhan and Srinivasan (1971), Bell (1977a,b), Bell and Braverman (1980), Bell and Zusman (1979), Bliss and Stern (1982), Caballero (1983), Cheung (1968, 1969a), Currie (1981), Eswaran and Kotwal (1985b), Georgescu-Roegen (1960), Hossain (1977), Hsiao (1975), Jaynes (1982), Johnson (1950), Lipton (1985), Marshall (1956), Martinez-Alier (1983), Morooka and Hayami (1989), Nabi (1986), Newbery (1974), Quibria and Rashid (1984), Rao (1971), Rao (1988), Reid (1976), Sen (1966, 1975), Sen (1981), Shaban (1985), Srivastava (1989a), Stiglitz (1974), Taslim (1989) among many on theoretical debate and discussion of efficiency of sharecropping. Some relevant empirical studies on this question are: Bell (1977b), Bharadwaj (1974), Bhaumik (1991), Bhuiyan and Nandal (1987), Bliss and Stern (1982), Bray and Robertson (1980), Chakravarty and Rudra (1973), Chandra (1974), Chattopadhyaya (1979), Cheung (1969), Dantwala and Shah (1971), Dwivedi and Rudra (1973), Hossain (1977), Huang (1975), Islam and Banerjee (1987), Jabbar (1977), Jannuzi and Peach (1980), Khandker et al (1987), Morooka and Hayami (1989), Nabi (1986), Pant (1981), Rao (1971), Rao (1988), Reddy (1985), Ruttan (1966), Sau (1971), Sen (1981), Tripathy (1985), Vyas (1970), Zaman (1973). A large number of these empirical studies concern themselves with differences in productivity and occasionally with input use intensity on owner cultivated and share cropped land - an issue related to, yet distinct from efficiency.

(households without fit adult male) will increasingly leave their lands uncultivated². This is the expected outcome in the light of discussion on labour (Chapter 7). Even with supervision, 'hired' labour is far more costly than 'family' labour. But when there is absence of even these supervision resources available to such households, the costs of hiring labour (per unit of effort) will be prohibitively high. Those, now leasing-out part of their land on share-cropping and self-cultivating the rest, will, if tenancy were effectively prohibited, apply labour more thinly on all their owned land - again due to costly 'hired' labour. On the other hand labour resources of erstwhile lessees will be used more intensively on their own (now much smaller) cultivation holdings. Serious mis-allocation of resources is likely to result if share-cropping is banished in favour of wage labour.

If the changeover is from sharecropping to fixed rent leases, still similar remarks apply, given the rigidities in the capital market³. Not many erstwhile lessees have enough capital resources to pay the fixed cash rent and to invest also⁴. Thus, the extent of leasing will drastically go down, again resulting in a serious mis-allocation of resources. If capital markets (credit, insurance etc.) functioned better, these problems may not arise and fixed rent contracts may perform better. But then sharecropping is a response to precisely these conditions of markets and must be evaluated as such.

A distinct but related issue is that of input use intensity and output per unit area on sharecropped and other cultivated land⁵. If one assumes that value of a unit of a particular input is same for the society (village in this case) irrespective of from which source or household it comes, then by any criterion of efficiency these inputs should be combined in the same proportion on all parts of village land and produce same output for each unit of input or land. Under this assumption, equality of input use intensity and productivity on sharecropped and other cultivated land will also imply efficiency of resource use for the society⁶.

² It can also lead to a regressive re-distribution of land by sale, which will also lead to deprivation of (and increase in the size of) the landless class in rural areas.

³ Due to capital constraints faced by the farmers in the light of poor incomes, low savings, rigid and imperfectly functioning credit market and absence of a market for insurance (see Chapter 8).

⁴ Fixed kind rent arrangements face a serious problem of default as payment is made at the end of contract period, and are avoided by the lessors.

⁵ Other cultivated (i.e. non-sharecropped) land includes: (a) land owned and operated by the owner himself and (b) land leased-in on fixed-rent (kind or cash) terms.

⁶ Of course, it has been discussed earlier that homogeneity of labour or capital or land do not hold in reality. The moot point is whether they should be valued differently from the perspective of society as a whole - irrespective of subjective values placed by different individuals. There can not be any dispute about heterogeneity of land even from this perspective. But if it is randomly (or proportionately) distributed on sharecropped and other cultivated land, then the above proposition should hold: efficient use of resources for the society implies equal input/output ratios for sharecropped land and other cultivated land as a whole.

There is conflicting evidence on productivity and input intensity differences on sharecropped and other cultivated land as well as on "efficiency" of sharecropping on marginal productivity criteria. The scholars who report that the lessee farms are less productive than owner operated farms, include: Bell (1977b), Bharadwaj (1974), Bhaumik (1991), Bhuiyan and Nandal (1987), Chattopadhyaya (1979), Hossain (1977), Islam and Banerjee (1987), Jabbar (1977), and Tripathy (1985). And those who find that sharecropped farms are as productive as (or occasionally more productive than) owner cultivated farms include: Bray and Robertson (1980), Chakravarty and Rudra (1973), Chandra (1974), Dwivedi and Rudra (1973), Huang (1975), Khandker et al (1987), Morooka and Hayami (1989), Nabi (1986), Pant (1981), Rao (1971), Reddy (1985), Ruttan (1966), Sau (1971), Vyas (1970), and Zaman (1973). Sen (1981) reviewing a number of empirical studies, finds a mis-allocation of resources on sharecropped land. Srivastava (1989a) in a study of three villages from U.P. finds mixed responses. For most cases (input use intensity for different inputs, on different classes of farms for these three villages) he finds that there is no statistically significant difference between sharecropped and owner cultivated land. However, such differences are found to be significant for a few cases and, in these few cases, share-cropped land is less intensively cultivated. Bliss and Stern (1982) find that tenanted plots are as intensively (and, for some inputs, more intensively) cultivated as owner cultivated plots. For their sample of wheat plots they find a weak support for so called Marshallian inefficiency. Thus it is seen that the findings show different results from different areas and are likely to be a function of socio-economic conditions varying from one place to another.

The rest of this section is concerned with a statistical and pictorial analysis of productivity and input use intensity on land under different tenure classes for Palanpur⁷. Table 11.1 gives yield per bigha of major crops according to caste and operational holding classes. Distribution functions for per bigha input use and output have been constructed for plots held under different tenure types. For each plot variable costs incurred were computed under three cost concepts⁸. A point on the distribution function for productivity shows percent cumulative area on all plots reporting a given yield or less. Likewise for the distribution functions for input use intensity.

⁷ No analysis based on production functions or profit function (See Lau and Yotopolous: 1971 for use of profit functions for tests of *economic* efficiency) is carried out because of data problems on capital inputs. Such analysis is rarely reported in the literature. Moreover significance of marginal product criteria for efficiency in presence of uncertainty is doubtful. In fact, Tripathy (1985), using estimated production function, computes marginal product of factor inputs for tenanted and owner cultivated land and concludes that sharecropping involves production inefficiency. This conclusion is based on his finding that marginal product of labour and other inputs on owner cultivated land is *higher* than that on sharecropped land. The conclusion is obviously wrong since his finding does not convey anything one way or other. Moreover so called Marshallian inefficiency of sharecropping will lead us to expect *lower* marginal product of (non-shared) inputs on owner cultivated land than that on sharecropped land under assumption of diminishing marginal product of inputs considered.

⁸ These cost concepts are explained in notes to Tables 11.2 to 11.5. **COST1** includes all variable costs including hired labour.

Table 11.1: Yield (Kgn. per bigha) of Main Crops

	Wheat	Paddy	Sugar- cane	Potato	Bajra	Jowar	B.Mix	J.Mix
A. By Operational Holding Class of the Cultivator:								
Op. Holding class								
0 - 5	126	70	562	913	67	-	31	-
5 - 15	89	123	831	750	40	34	46	79
15 - 30	101*	115	1229	400	57	84	45	80
30 - 50	106	132	1328	693	49	65	49	76
Above 50	158	162	1505	1358	55	77	68	101
B. By Caste of the Cultivator:								
Caste								
Thakur	109	140	1204	567	59	55	48	99
Murao	111	151	1359	822	62	92	53	91
Dhimar	97	109	1782	912	42	56	10	58
Gadaria	105	117	1490	400	65	106	67	39
Dhobi	84	134	1261	-	33	-	69	24
Teli	113	171	691	547	41	35	57	113
Passi	94	65	1500	-	35	96	36	-
Jatab	86	89	748	639	31	28	31	39
Others	NA		-	-	-	-	-	-

**Yield per unit area for the Village
in units of**

Kgs/bigha	106*	134	1307	773	51	63	51	84
Kgs/acre	675*	858	8370	4947	324	403	328	535
Kgs/Hectre	1627*	2067	20170	11923	781	973	791	1289

Notes: '-' means no area under that crop.

* Excludes 17 Bigha of wheat where yields were not reported (by Household 903)

J.Mix means mixed crop where Jowar is the main crop.
B.Mix means mixed crop where Bajra is the main crop.

Figure 11.1 gives distribution function for yields (i.e. revenue per unit area) obtained for Rabi season⁹. Figures 11.2 to 11.6 show distribution functions respectively for: Fertilizer cost per unit area (FERTCOST/AREA); Irrigation cost per unit area (IRR. COST/AREA); Hired Labour Cost per unit area (LAB.COST/AREA); All variable costs per unit area (COST1/AREA) and Revenue per unit variable costs (REVENUE/COST1). Distribution functions for ratios involving COST2 and COST3 were almost identical to those involving COST1 and have not been presented here.

It can be readily noticed that distribution functions for all variables show that they are remarkably close for land under different tenure types, and in particular these functions are very close for sharecropped and owner cultivated plots. Thus, distribution of inputs and outputs per unit area (and also output-input ratio) is distributed very similarly for land under different tenure types.

Statistical tests have been carried out to test hypothesis that the input and output per unit area and output input ratios are equal on land belonging to two different tenure types. In each case Null Hypothesis and Alternative Hypothesis are:

$$H_0: X_i = X_j \text{ vs. } H_1: X_i \neq X_j$$

where i, j denote two tenure types (e.g. owner cultivation, fixed-rent lease or share-cropping) and X is input intensity or output (revenue) per unit area or output input ratio, as the case may be. F-test and t-test have been used for testing variance and mean respectively¹⁰.

⁹ In constructing the distribution functions, all cultivated plots are taken into consideration irrespective of the crop grown on a plot (except for the plots growing fodder and perennial crops which are excluded due to valuation problems). Thus these results incorporate effect of choice of crops on tenanted and owner cultivated plots. Crop specific analysis for wheat was also undertaken. Distribution functions for wheat are almost identical to those reported here and for this reason are not reported here. All variables are in value terms (rupees), except area which is in bighas.

¹⁰ See Bliss-Stern (1982) for similar tests on 1974-5 data. Let X_{1i} , $i=1, \dots, N_1$ and X_{2j} , $j=1, \dots, N_2$ be variables with means m_1 and m_2 and variances V_1 and V_2 respectively. Then,

(a) When variances are assumed to be equal, we calculate, t-statistic, as

$t = (m_1 - m_2)/W$, with $N_1 + N_2 - 2$ degrees of freedom, where,

$$W = \sqrt{\left(\frac{1}{N_1} + \frac{1}{N_2} \right) \cdot \left(\frac{(X_{1i} - m_1)^2 + (X_{2j} - m_2)^2}{N_1 + N_2 - 2} \right)}$$

(b) When variances are not equal, then, t-statistic

$$t = (m_1 - m_2) / \sqrt{(V_1/N_1) + (V_2/N_2)}$$

Figure 11.1:

DRILL. FNC. (HIT CROPS) : REL. AREA OVER REVENUE/AREA

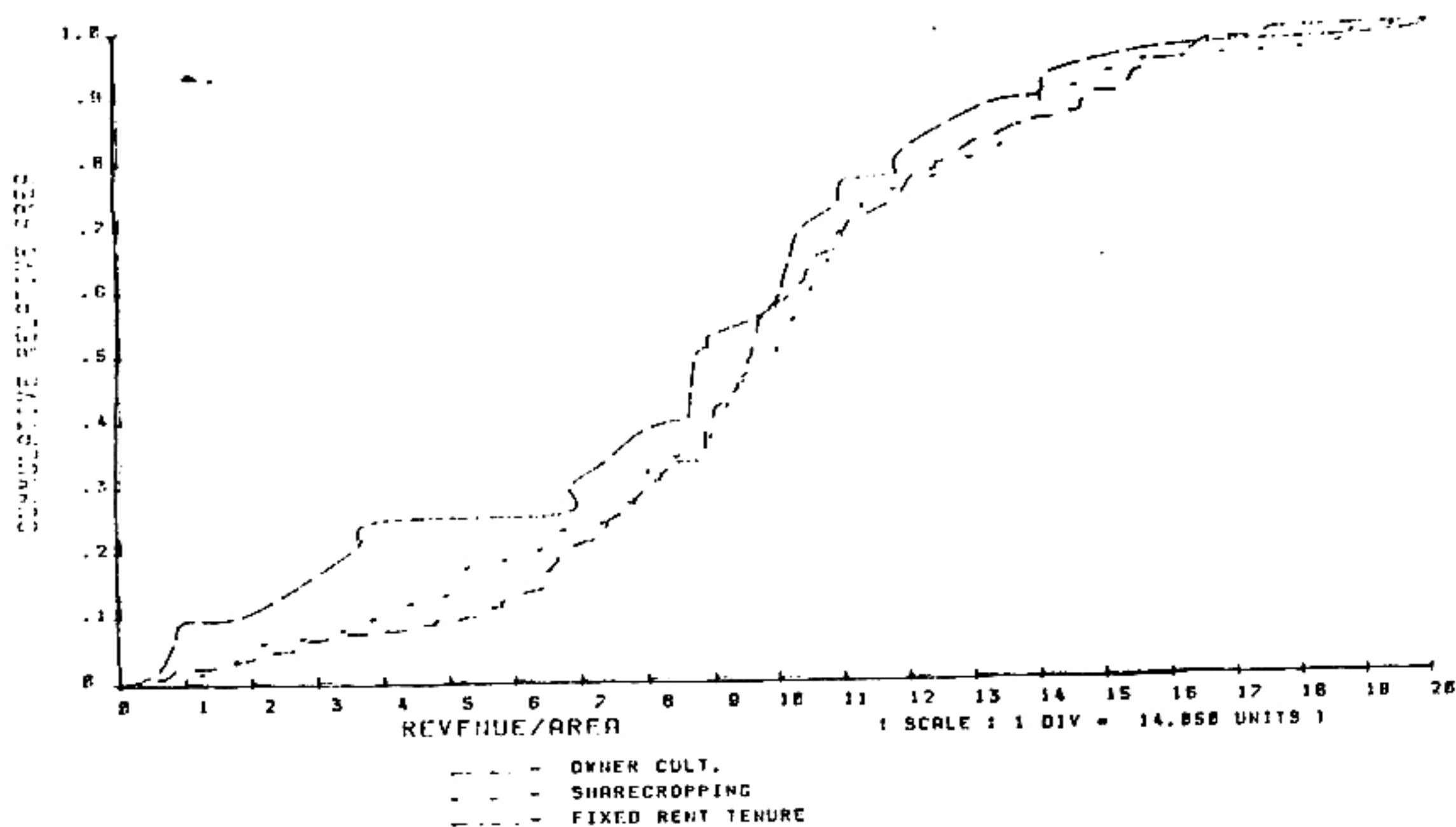


Figure 11.2:

DRILL. FNC. (HIT CROPS) : REL. AREA OVER FERT. COST/AREA

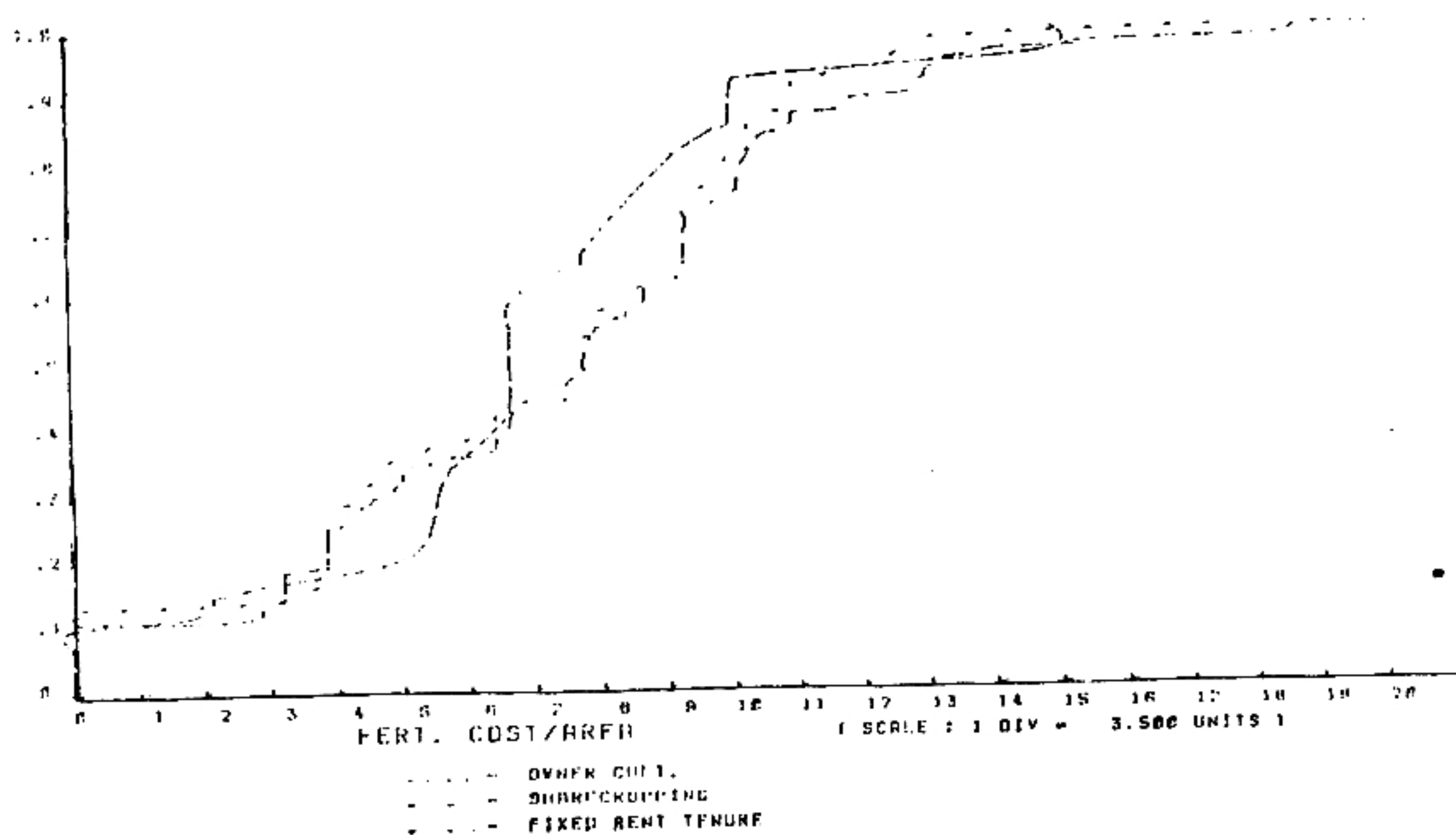


Figure 11.3:

DBTH. (HC. (H1. CRDPS) : REL. AREA OVER IRR. COST / AREA

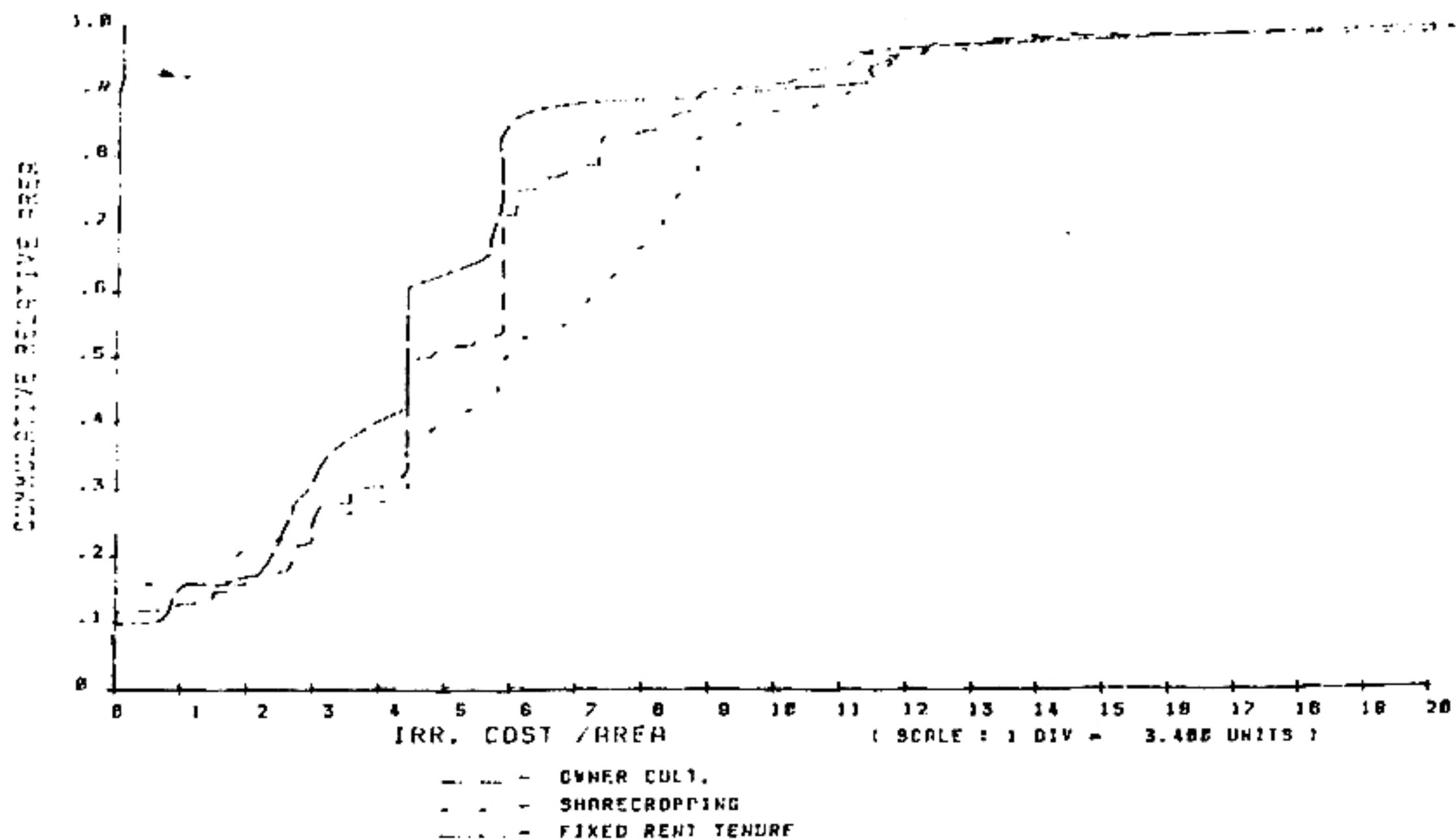


Figure 11.4

DBTH. FNC. (ALL CROPS) : REL. AREA OVER LAB. COST / AREA

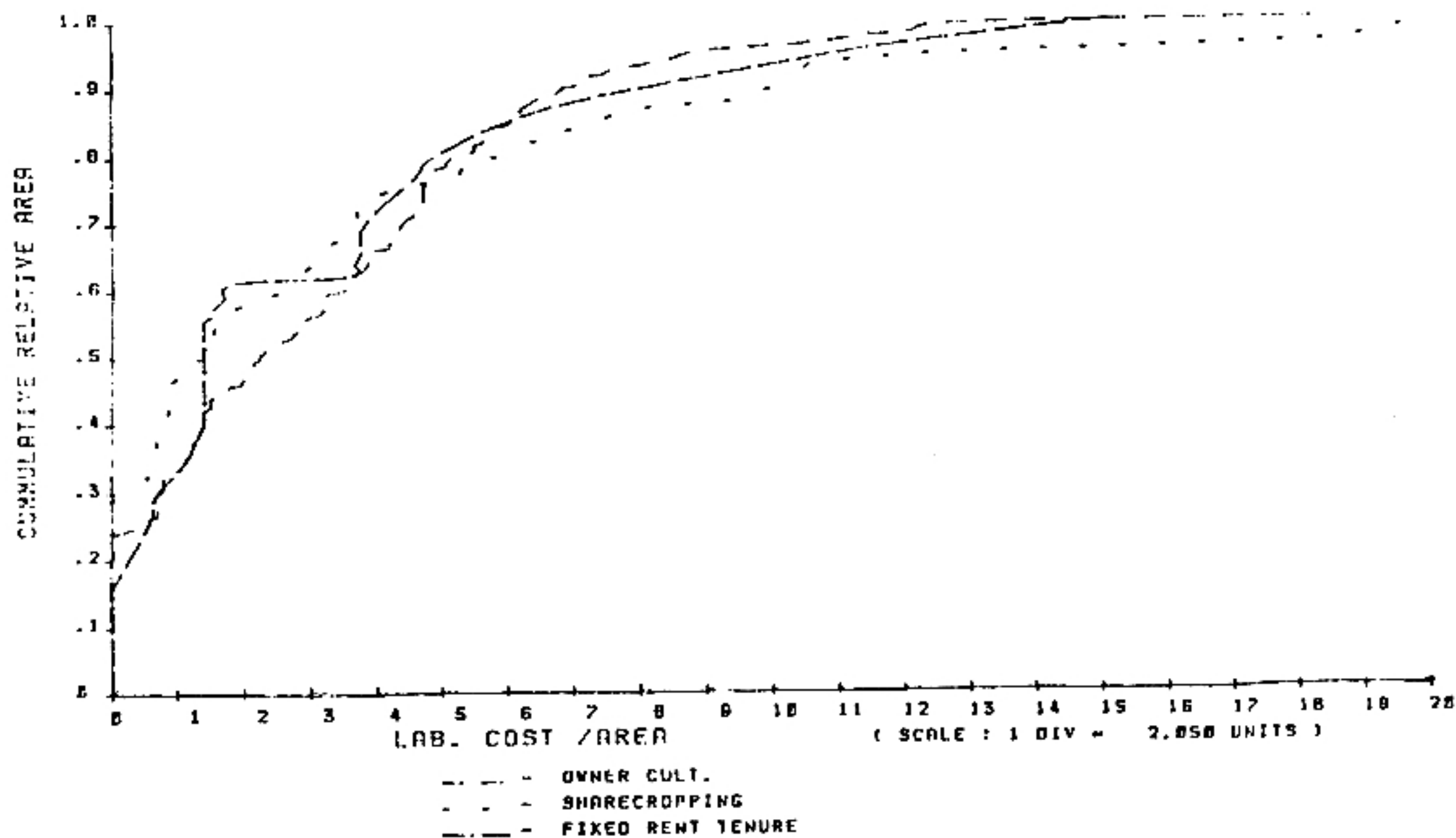
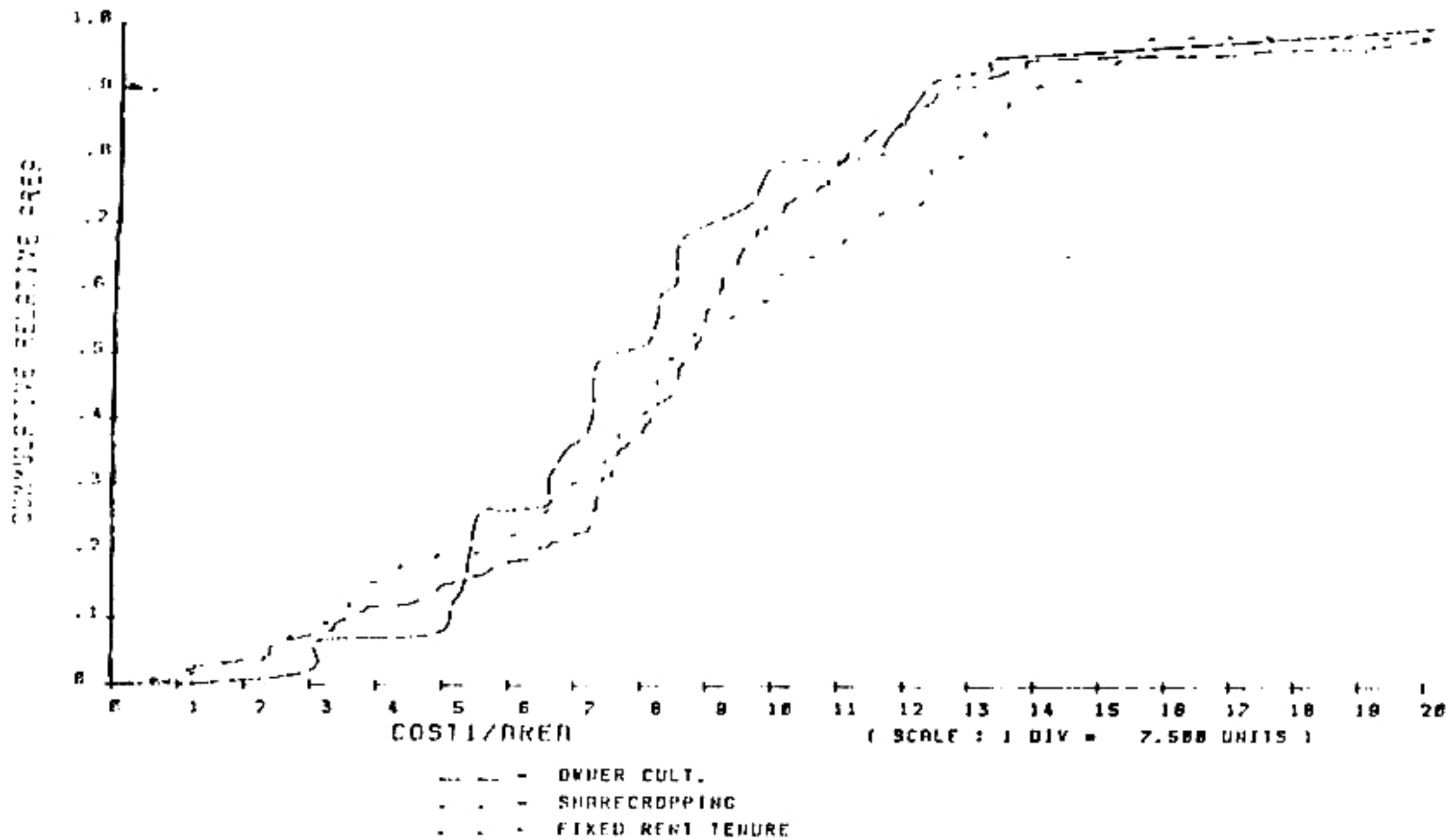


Figure 11.5

DATA. ENC. (ALL CROPS) : REL. AREA OVER COST1/AREA

Figure 11.6

DATA. ENC. (ALL CROPS) : REL. AREA OVER REVENUE/COST1

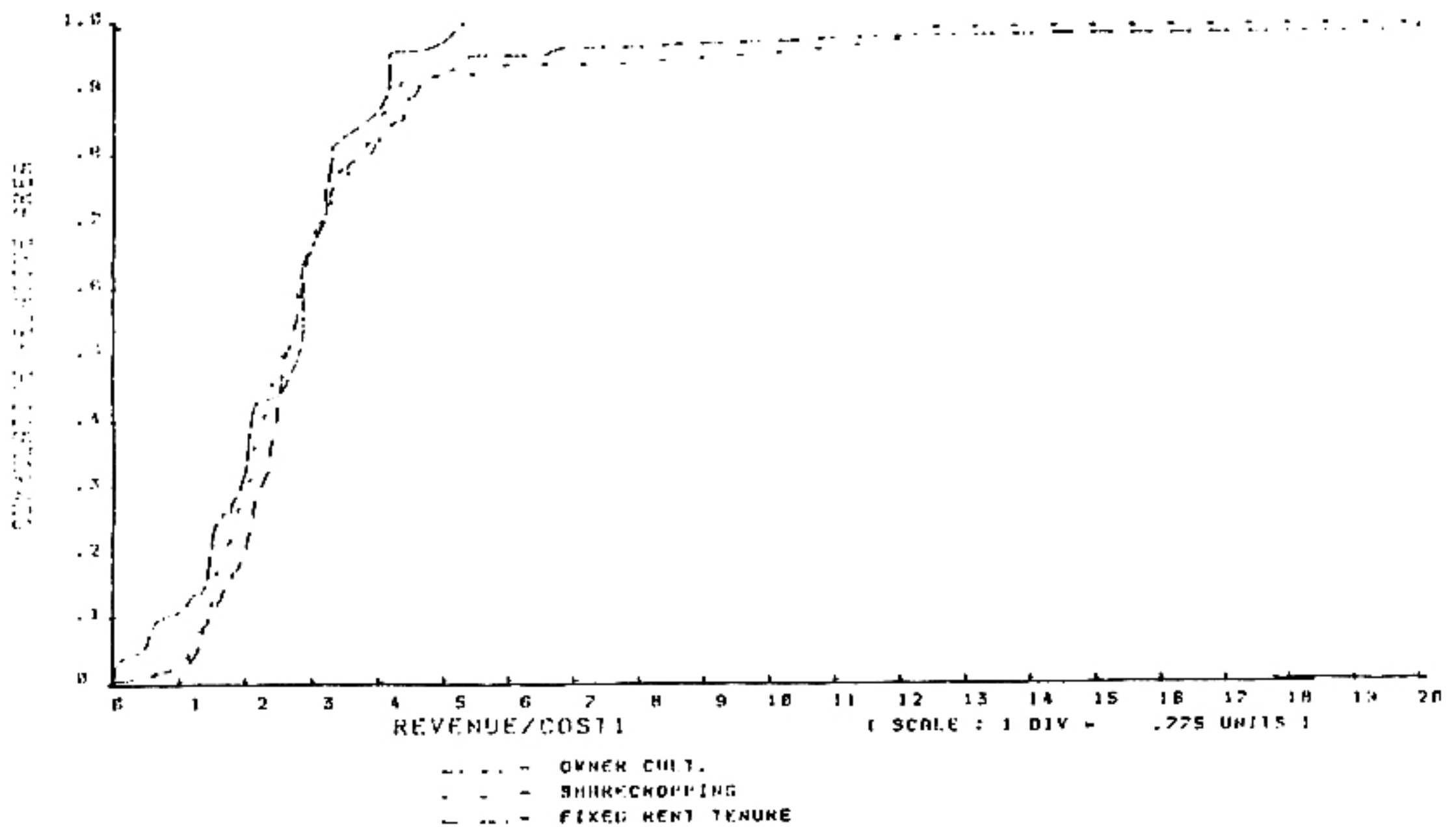
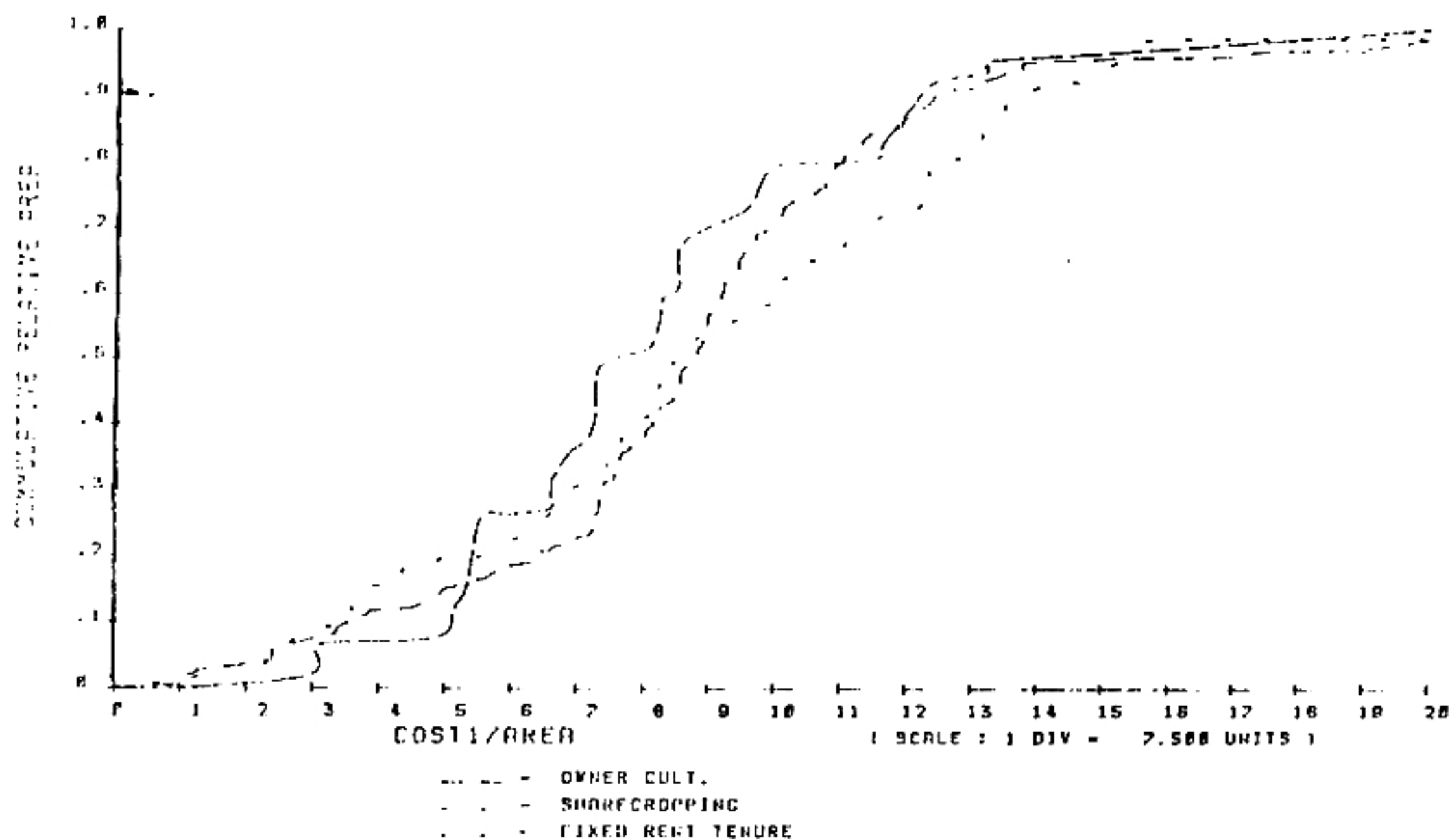
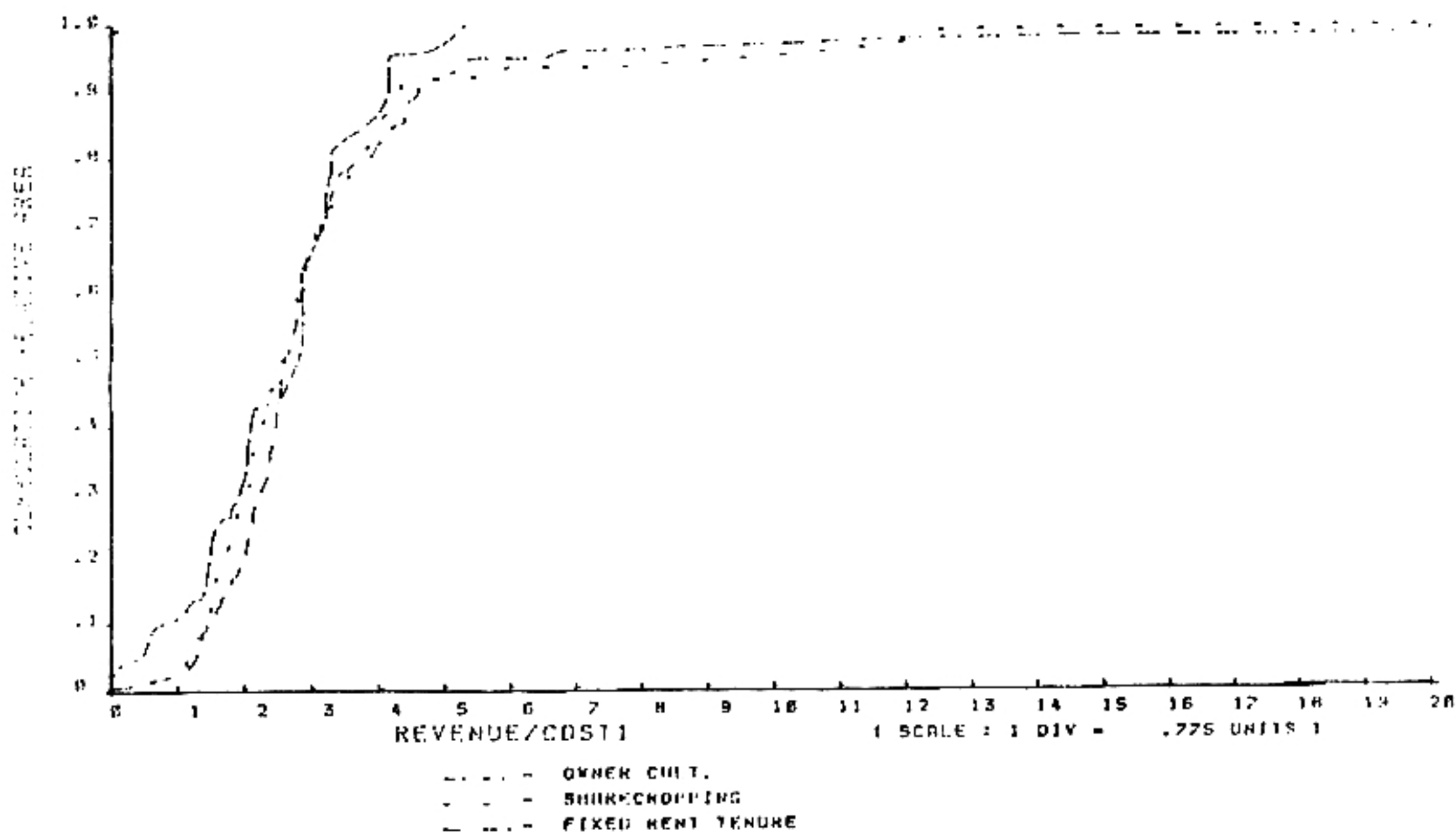


Figure 11.5

DATA. FNC. (ALL CROPS) : REL. AREA OVER COST1/AREA

Figure 11.6

DATA. FNC. (ALL CROPS) : REL. AREA OVER REVENUE/COST1



Family labour use data was available for sample households only and it was reasonably accurate and complete for wheat crop. Results of t-tests reported in Chapter 7 show that the difference in use of family labour per bigha on sharecropped land and the same on owner operated land was not statistically significant.

Tables 11.2 to 11.5 present results of these tests for input and output intensities for Rabi 1983-84 season. In Table 11.2 are results of statistical testing when each plot irrespective of who is the cultivator contributes one observation. It is assumed that variables are randomly and independently distributed. Since this gives a large number of observations (of the order of 100 to 250), these assumptions are likely to hold unless there is a systematic bias for all sharecropped land to come from a good stock (or bad stock). The variances are not always equal. Significant difference in variance is observed for labour use (between owner-cultivated and sharecropped land).

The difference in means, when sharecropped land is compared with land under other tenure, is not statistically significant for any of input or output variables. The only significant difference in means is shown for output-input ratios (REVENUE/COST1) between land rented-in at fixed rent and other tenure types. Output-input ratio is smaller on fixed rent leased land compared to both sharecropped land and owner operated land¹¹.

Table 11.3 presents result of test at household level. Each household cultivating some land under a particular tenure type contributes one observation to the variable of that tenure type, irrespective of that household cultivating any land on other tenure type or not. *Not even in a single case, the difference in the means of any relevant variable for land cultivated under two tenure types in a pairwise testing is found to be statistically significant.*

For the results presented in Table 11.4, a household contributes an observation to a tenure type, i, if and only if, that household cultivates some land under tenure type i, but no land under tenure type j, (that is being compared with tenure type, i). This means that the two sets of observations for tenure types i and

under the assumption that population means are equal, i.e. $\mu_1 - \mu_2 = 0$, with degrees of freedom (DF) as computed below:

$$DF = \frac{(V_1/N_1 + V_2/N_2)}{\frac{(V_1/N_1)^2}{N_1} + \frac{(V_2/N_2)^2}{N_2}}$$

(See Chapter 8, p.119, Dixon and Messey, Jr. (1969)).

¹¹ This result needs to be interpreted with caution, as number of observations for fixed rented land is small. Quality of land on fixed-rent may be poor, since much of it is leased-in from poor landowners.

**Table 11.2: Comparison of Input and Output Intensities
Plotwise Comparison**

Variable	NUM	DEN	Variance		DF	Mean		Mean is higher on
			DF	F-value		DF	t value	
1	2	3	4	5	6	7	8	
A. Comparing Sharecropped (SH) and Owner cultivated (OC) land.								
C1/A	SH	OC	123,255	1.87**	191	1.25		
FE/A	OC	SH	255,123	1.03	378	0.19		
IR/A	SH	OC	123,255	1.04	378	1.43		
LAB/A	SH	OC	123,255	7.60**	140	0.84		
REV/A	OC	SH	255,123	2.00**	331	0.23		
REV/C1	OC	SH	255,122	7.38**	361	0.82		
B. Comparing Sharecropped (SH) and Fixed rented (FR) land.								
C1/A	SH	FR	123,31	1.70	154	0.20		
FE/A	SH	FR	123,31	1.20	154	0.46		
IR/A	FR	SH	31,123	1.22	154	0.21		
LAB/A	SH	FR	123,31	5.05**	119	0.07		
REV/A	SH	FR	123,31	2.22**	74	0.50		
REV/C1	SH	FR	123,30	9.75**	147	2.19*		SH
C. Comparing Owner cultivated (OC) and Fixed rented (FR) land.								
C1/A	FR	OC	31,255	1.10	286	0.64		
FE/A	OC	FR	255,31	1.24	286	0.36		
IR/A	FR	OC	31,255	1.17	286	0.60		
LAB/A	FR	OC	31,255	1.50	286	1.00		
REV/A	OC	FR	255,31	4.44**	75	0.31		
REV/C1	OC	FR	255,30	71.96**	286	2.19*		OC
D. Comparing Share-cropped (SH) and non-sharecropped (NS) land.								
C1/A	SH	NS	123,287	1.86**	184	1.17		
FE/A	NS	SH	287,123	1.01	410	0.27		
IR/A	SH	NS	123,287	1.02	410	1.34		
LAB/A	SH	NS	123,287	7.21**	140	0.75		
REV/A	NS	SH	287,123	1.82**	313	0.28		
REV/C1	NS	SH	286,122	6.60**	407	0.65		

Note: Please see notes to Tables 11.2 to 11.5 at the end of Table 11.5.

Table 11.3: Comparison of Input and Output Intensities on the Basis of Household when all Cultivators are Eligible to Contribute an Observation

Variable	NUM	DEN	Variance		Mean		
			DF	F-value	DF	t	Mean is higher on
1	2	3	4	5	6	7	8
A. Comparing Sharecropped (SH) and Owner cultivated (OC) land.							
C1/A	SH	OC	45,74	1.51	119	0.26	
FE/A	OC	SH	74,45	1.40	119	1.00	
IR/A	OC	SH	74,45	1.77 ^{**}	117	0.06	
LAB/A	SH	OC	45,74	3.16 ^{***}	65	0.75	
REV/A	SH	OC	45,74	8.05 ^{***}	54	0.74	
REV/C1	SH	OC	45,74	3.07 ^{***}	65	0.50	
B. Comparing Sharecropped (SH) and Fixed rented (FR) land.							
C1/A	SH	FR	45,16	1.08	61	0.83	
FE/A	FR	SH	16,45	1.63	61	0.09	
IR/A	FR	SH	16,45	1.45	61	0.60	
LAB/A	SH	FR	45,16	1.95	61	0.72	
REV/A	SH	FR	45,16	3.05 ^{***}	53	0.85	
REV/C1	SH	FR	45,15	1.59	60	0.83	
C. Comparing Owner cultivated (OC) and Fixed rented (FR) land.							
C1/A	FR	OC	16,74	1.40	90	0.84	
FE/A	FR	OC	16,74	1.17	90	0.73	
IR/A	OC	FR	74,16	1.22	90	0.47	
LAB/A	FR	OC	16,74	1.62	90	0.44	
REV/A	FR	OC	16,74	2.64 ^{***}	21	0.41	
REV/C1	FR	OC	15,74	1.94	89	0.89	
D. Comparing Share-cropped (SH) and non-sharecropped (NS) land.							
C1/A	SH	NS	45,78	1.45	123	0.35	
FE/A	SH	NS	78,45	1.35	123	0.85	
IR/A	NS	SH	78,45	1.69 ^{**}	116	0.14	
LAB/A	SH	NS	45,78	3.33 ^{***}	63	0.92	
REV/A	SH	NS	45,78	7.80 ^{***}	53	0.90	
REV/C1	SH	NS	45,78	2.30 ^{***}	70	0.57	

Table 11.4: Comparison of Input and Output Intensities on Household Basis when Mutually Exclusive Household Categories Considered

Variable	NUM	DEN	Variance		Mean			Mean is higher on
			DF	F-value	DF	t	value	
1	2	3	4	5	6	7	8	
A. Comparing Sharecropped (SH) and Owner cultivated (OC) land.								
C1/A	OC	SH	34, 5	1.02	39	0.40		
FE/A	OC	SH	34, 5	1.16	39	0.30		
IR/A	OC	SH	34, 5	1.52	39	0.22		
LAB/A	SH	OC	5, 34	3.39 [*]	7	0.78		
REV/A	SH	OC	5, 34	2.98 [*]	7	1.24		
REV/C1	SH	OC	5, 34	20.68 ^{***}	7	0.79		
B. Comparing Sharecropped (SH) and Fixed rented (FR) land.								
C1/A	SH	FR	33, 4	5.22	37	1.31		
FE/A	FR	SH	4, 33	1.52	37	1.61		
IR/A	SH	FR	33, 4	2.32	37	1.15		
LAB/A	SH	FR	33, 4	52.96 ^{***}	39	2.54 ^{**}	SH	
REV/A	SH	FR	33, 4	7.80 ^{**}	20	1.91		
REV/C1	FR	SH	4, 34	2.02	38	0.89		
C. Comparing Owner cultivated (OC) and Fixed rented (FR) land.								
C1/A	FR	OC	3, 61	1.78	64	0.37		
FE/A	FR	OC	3, 61	1.39	64	0.59		
IR/A	FR	OC	3, 61	1.12	64	0.70		
LAB/A	OC	FR	61, 3	19.87 ^{***}	19	5.48 ^{***}	OC	
REV/A	FR	OC	3, 61	2.66	64	1.60		
REV/C1	OC	FR	62, 3	2.30	65	2.06 [*]	OC	
D. Comparing Share-cropped (SH) and non-sharecropped (NS) land.								
C1/A	NS	SH	36, 3	1.97	39	0.97		
FE/A	NS	SH	36, 3	1.25	39	0.77		
IR/A	NS	SH	36, 3	2.32	39	0.77		
LAB/A	SH	NS	3, 36	4.74 ^{***}	5	0.75		
REV/A	SH	NS	3, 36	3.79 ^{**}	5	0.85		
REV/C1	NS	SH	36, 3	1.69	39	0.29		

Table 11.5: Comparison of Input and Output Intensities on Household Basis when only Those Cultivating on Lands under both Tenure Types Considered

Variable	<u> t values when testing for difference between</u>			
	Sharecrop(SH) & Owner cult land (OC)	Sharecrop(SH) & Fixed rent land (FR)	Owner cult (OC) & Fixed rent land (FR)	Sharecrop(SH) & Other cultivated land (NS)
C1/A	0.47 (39)	0.06 (11)	0.02 (12)	0.42 (41)
FE/A	1.85 (39)	0.56 (11)	0.10 (12)	1.81 (41)
IR/A	0.50 (39)	0.03 (11)	0.21 (12)	0.27 (41)
LAB/A	1.05 (39)	0.13 (11)	0.14 (12)	1.34 (41)
REV/A	0.25 (39)	0.71 (11)	0.09 (12)	0.44 (41)
REV/C1	0.77 (39)	0.51 (11)	0.48 (12)	0.02 (41)

Note: Figures in the brackets are degrees of freedom for the computed t-statistic.

Notes on Tables 11.2 to 11.5

A. Abbreviations used

- For statistical tests for differences in input and output intensities for crops grown on land held under different types of tenures, the following abbreviations are used for the tenure status of the land concerned:

OC = Cultivator's own land
 SH = Leased on Crop Sharing basis (Batai or Chauthai)
 FR = Leased on Fixed Rent (independent of output) - fixed cash (Peshagi, UM, RL), fixed kind rent.
 NS = Cultivated land that is not sharecropped i.e. it is either owner cultivated or leased-in on Fixed Rent.

- Abbreviations for titles in the top row of each table:

NUM = Identification of variable in numerator
 DEN = Identification of variable in denominator
 DF = Degrees of freedom
 F-value = Value of F-statistic for testing of variances being equal
 |t| value = Absolute value of the t-statistic for testing of means being equal
 Mean is Higher on = When the test concerned shows that null hypothesis is rejected then this column indicates for which tenure status the relevant input or output intensity is higher of the two tenure statuses being tested.

2. Table 11.3 (Test 2):

The test is on household basis. A household contributes an observation of type ST1 if it cultivates some area held under tenure status ST1 regardless it cultivates or not any area under tenure status ST2. Likewise for observations of type ST2. This test includes all households under tests 3 or 4, described below.

3. Table 11.4 (Test 3):

Test is on household basis. A household contributes an observation to ST1 if the relevant crop it grows is on land under status ST1 only and none under ST2. Likewise for observation to ST2. Thus households under ST1 and ST2 form mutually exclusive sets. All those households that grow the relevant crop on both types of land are excluded.

4. Table 11.5 (Test 4):

Test is on household basis. A household contributes an observation to the test if it grows the relevant crop on some area of each type of tenure status. t-test is done on difference of intensities for each pairwise observation. Necessarily households contributing observations to this set of tests are complimentary (in the set of cultivating households) to those in set of tests reported in Table 11.4 (i.e. Test 3).

C. Notation for Statistically significant differences both for variance and mean.

- * H_0 rejected at 5% level
- ** H_0 rejected at 1% level

where $H_0: \mu = 0$ vs. $H_1: \mu > 0$ for **test 4** (Table 11.5).

and, for other tests i.e. **tests 1, 2 and 3** (tables 11.2, 11.3 and 11.4):

$$\begin{aligned} H_0: \mu_{ST1} &= \mu_{ST2} & \text{vs. } H_1: \mu_{ST1} > \mu_{ST2} \\ H_0: V_{ST1} &= V_{ST2} & \text{vs. } H_1: V_{ST1} > V_{ST2} \end{aligned}$$

j (for this test) come from mutually exclusive sets of households. The assumption of independence of variables is most likely to hold in this case. There is no significant difference between sharecropped land and owner operated land for any of the variables. *Labour use per bigha is less intensively applied on fixed-rent land than on sharecropped land.* Fixed rent land in comparison to owner operated land also shows less labour use per bigha, and less revenue/variable costs.

It has been suggested that the bias in characteristics¹² of owner operated and tenant households, if systematic according to tenure type, may influence or explain outcomes for these tests. This difficulty is overcome, if we consider sharecropped and self cultivated area of *the same household* - since the household characteristics remain invariant with respect to *tenure type of land*. Difference between productivity on sharecropped land and self cultivated land for the same household is, thus, an appropriate variable for such testing which eliminates household bias¹³. Table 11.5 reports results of precisely this test. Each household that cultivates some area under each type of the two tenures being compared, contributes an observation. Difference in yields or input intensities or output-input ratios (i.e. the variable for which the difference is being tested) on these two types of tenures for that household is one observation for the relevant variable. Under assumptions of these observations (i.e. differences) coming from an independently and normally distributed population, t-statistic is computed. Hypothesis being tested is:

$$H_0: X = 0 \text{ vs. } H_1: X > 0,$$

where X is difference in input intensity or output per bigha or output-input ratio. As can be seen from Table 11.5 the null hypotheses that $X = 0$ is maintained for all cases. *Under assumptions of this test, there is no statistically significant difference in input intensities and per unit area output irrespective of the tenure under which the land is cultivated.*

Such testing was not possible for Kharif crops since observations for any one crop were very few - there being a wide variety of crop mixes in Kharif season. In its place regression analysis is carried out for major Kharif crops. Dependent variable YIELD (output per bigha in physical units) is sought to be explained by two explanatory variables¹⁴ - (1) CULT (operational holding size for the household), and (2) FRSHARE (share-cropped area under a crop as a fraction of total cropped area under that crop for a household).

¹² Land and asset ownership, caste, skills, inclination to work, risk characteristics etc.

¹³ This point is particularly emphasized by Bliss and Stern (1982) and Hossain (1977).

¹⁴ Simple linear regressions for YIELD on CULT and FRSHARE separately were also estimated. The explanatory power of these regressions and significance of estimated coefficients is no different in these simple regressions either and they are not reported here.

The results of regression estimates for major crops for the estimated equation:

$$\text{YIELD} = a_0 + a_1 \cdot \text{CULT} + a_2 \cdot \text{FRSHARE}$$

are presented in Table 11.6. The very first thing to note is that explanatory power of all equations is extremely low. R-square and adjusted R-square never go above 0.20. Thus talking of significance of coefficient estimates does not have much meaning. It is also seen that none of the coefficients, except those for operational holding size for sugarcane crop, are significantly different from zero. For sugarcane yield per bigha shows distinct increasing tendency with operational holding size (also apparent from Table 11.1). Interestingly sign of FRSHARE is positive for wheat, sugarcane and jowar, although it is negative for other crops – i.e. paddy, chick pea, bajra and potato.

11.2. Cultivation Practices and Tenancy Arrangements

It may appear from the results presented in §11.1 that the resources are used as efficiently on sharecropped land as on other cultivated land¹⁵ and that alleged disincentive effect of sharecropping may not be operating. *It can be argued that cultivation practices are not different on owner cultivated and sharecropped land, as seen from absence of any significant difference in (per unit area) inputs applied and outputs obtained.* This is true for shared inputs – like fertilizer and irrigation, and for inputs whose costs are not shared like hired labour, family labour and other human and bullock labour that is employed for applying shared inputs like fertilizer and irrigation. Indeed it appears that the same production function (technology) applies for all cultivated land.

The question that must be addressed and answered is: whether this similarity of cultivation practices is due to absence of disincentive effects or in spite of them? In fact leased-out land is more likely to be inferior part of the land holding of the lessors, as they are likely to keep better land for self-cultivation¹⁶. If true, then it indicates that either the lessees are better or more skilled farmers or/and land owned by the lessors is of equally poor quality.

The question of cultivation practices on sharecropped land was put to all lessors and lessees among sample households (31 households). The lessors were asked whether they desire the same cultivation

¹⁵ It was argued in §11.1 that apparent inefficiency of resource use on particular plots under sharecropping does not necessarily imply inefficiency of sharecropping as a system. The evidence presented does not show any evidence of even the so called Marshallian inefficiency.

¹⁶ I am grateful to Professor Christopher Bliss for drawing my attention to this.

Table 11.6 Effect of fraction of cultivated area under share-cropping and cultivation holding size on yield per unit area: Results of regression analysis

Estimated equation: $YIELD = a_0 + a_1 \cdot CULT + a_2 \cdot FRSHARE$

CROP	Constant (a_0)	coefficient of		R^2	$\bar{R}^2$	F-value	DF	Mean yield (kg/B)
		CULT (a_1)	FRSHARE (a_2)					
Wheat	90.68** (15.42)	0.20 (1.40)	17.34 (1.86)	0.065	0.042	2.76	79	101
Bengal Gram	14.56 (1.19)	0.37 (1.41)	-4.01 (-0.32)	0.072	0.003	1.04	27	27
Sugar (planted crop)	1276** (5.13)	8.30 (1.56)	-145 (-0.45)	0.060	0.015	1.33	42	1559
Sugar (ratoon)	809** (6.79)	7.50* (2.71)	383* (1.88)	0.145	0.117	5.24	62	1120
Sugar (total)	861** (6.65)	9.60* (3.15)	207 (1.07)	0.137	0.112	5.40	68	1221
Paddy	123.33** (7.00)	0.54 (1.56)	-17.62 (-0.87)	0.073	0.040	2.20	56	136
Jowar	47.73* (2.96)	0.55 (1.53)	10.45 (0.49)	0.099	0.017	1.21	22	69
Bajra	52.84** (5.53)	0.09 (0.50)	-7.42 (-0.58)	0.021	-0.044	0.33	30	54
Potato	507.27 (1.63)	7.03 (1.41)	-86.01 (-0.29)	0.170	0.060*	1.54	15	737

Note: t-values for estimated coefficients are given in brackets. * = significant at 5% level. ** = significant at 1% level.

Number of observations = 3+DF. DF is degrees of freedom. Other variables are explained below:

CULT = Cultivation holding (bighas) of the household.
FRSHARE = Sharecropped land as a fraction of cultivation holding of household.

kg/B = kilograms per bigha (yield/area).

practices on the land leased-out¹⁷ as on land retained for self-cultivation or as on lessee's self-cultivated land. Or whether they leave this question entirely to their lessees. If the lessors want the same cultivation practices, how (if at all) they ensure it. Lessees were asked whether they follow the same practices on leased and self-cultivated parts of their operational holding. If so, why? Does lessor supervise the lessee's work? If so, do the lessees find it irksome interference, or something to be welcomed? The results of this survey are quite revealing.

With odd exceptions, all lessors and lessees agree that the same cultivation practices should be followed on sharecropped and self cultivated land. Though this is never a part of the contract, it is implicitly assumed. It must be cautioned that this is not the same as specifying labour inputs as suggested by Cheung (1968,1969a).

Several lessees clearly recognized that they receive only half the fruits of each additional input. But only one or two of them claimed that they cultivate sharecropped land less intensively than self-cultivated land. The share-croppers generally feel that it is not **right** to adopt different cultivation practices for sharecropped and self-cultivated land. They said that it amounts to **discriminating** against the lessor's land and it is not fair. One respondent said: "The lessor gives his land and invests in cultivation [his share of inputs]. If I do not put in enough efforts and do not work properly, the lessor will legitimately reproach me".

The disincentive aspect of sharecropping is very much alive in lessee's mind but it does not translate into lower input or labour use. In the responses of the respondents, the sentiments like: what is 'right' or 'fair'; what is 'wrong discrimination' etc. occur fairly often in support of the adoption the same cultivation practices. It is not his interest alone that enters lessee's point of view but also what is fair and joint interest. The reputation of being a good cultivator and hence worthy tenant is at stake, too - important for obtaining lease contracts in future by the lessee.

Almost all lessees agree that it is the lessor's right to supervise - and according to some lessees, indeed a *duty* of the lessor to do so. The supervision of operation of lease contracts should not be confused with supervision of daily wage labour which involves a great deal of effort on the part of the employer, including working along with wage labourers [Dreze and Mukherjee (1989)]. In the context of sharecropping, supervision mainly involves inspection of crops' health. A few lessees found it somewhat irritating while some of them claimed such inspection by the lessors to be positively beneficial, since the lessor may notice some shortcomings (which might have escaped the lessee's attention) and they can be subsequently

¹⁷ In this section, leasing on share-cropping alone is considered. Cultivation practices on land leased on fixed rent are of little theoretical interest and shall not be considered here. The tenancy questionnaire is reproduced in the Appendix to Chapter 2.