TENANCY REFORM AND ECONOMIC DEVELOPMENT

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The goal of this paper is to present the economics of sharecropping and the logic and limitations of tenancy reform. We have tried to inform our analysis with evidence and issues from Sri Lanka, but we are self-consciously not experts on agriculture in Sri Lanka. Nonetheless, we hope that our analysis can help frame debate and research about share tenancy in Sri Lanka.

The paper is divided into three main sections. Section 1 reviews the economic literature on sharecropping. Recent research identifies a multiplicity of economic rationale and a multiplicity of economic function fulfilled by share contracts in a world of missing and imperfect markets. If this research is correct, sharecropping is more than a vestige of feudal inefficiency, and it may represent a relatively efficient way to organize production. But, this literature does not imply that no efficiency gains from tenancy reform are possible, nor that sharecropping is a stable contractual form in the face of economic change.

Section 2 considers the "right policies" view of development that argues that because sharecropping and other contractual arrangements can lead to an approximately efficient organization of production, then only correct macro policies are needed to achieve agricultural growth and development. Land reform, and indeed the distribution of property rights, are unimportant from this view. However, Section 2 challenges this efficient contracts and right prices view of development on the grounds that propertyless individuals are vulnerable to the vagaries of the economic dislocation and change which occur during the process of agricultural transformation. Section 2 argues that there is a role for land reform to create safety nets for the "development loosers" who are otherwise created by a **laissez faire** growth process. Section 3 extends the argument in Section 2 and looks specifically at how an individual's place in the tenure structure determines both access to opportunities provided by economic growth, and vulnerability to the disruptions of economic change. Section 4 briefly summarizes the paper's main points about tenancy reform and economic development.

SECTION 1

SHARE TENANCY AND CONTRACTUAL STRUCTURE IN AGRICULTURE

Recent years have seen an outpouring of theoretical and empirical studies on the economics of sharecropping. Research interest in sharecropping was rekindled by the debate initiated by Stephen Cheung's (1968) work. Cheung disputes the view (which has been somewhat unfairly labeled the Marshallian view) that production is necessarily economically inefficient under sharecropping. Cheung argues that cultivation under sharecropping will always proceed with the same efficiency and productivity as cultivation under alternative forms of tenure and production relations. Subsequent contributions to the sharecropping literature have moved beyond the simple efficient versus inefficient views of sharecropping present in the Cheung efficiency debate. As will be seen below, this later literature on contractual structure in agriculture identifies good economic reasons why, under some distributions of property rights, production might be organized under sharecropping as opposed to some other form. This literature thus portrays sharecropping as an efficient contractual response to market problems and imperfections which make it difficult to organize agricultural production. However, because the rationale for sharecropping is rooted in market imperfections and problems, the contractual structure literature makes no global claims for the efficiency of sharecropping, as does Cheung. It thus admits the possibility that tenancy reforms programs might promote economic efficiency, although it equally warns that ill-conceived reforms could have quite unintended and negative consequences. Prior to reviewing the contractual structure literature, this section will briefly reconsider the Cheung efficiency debate.

The Cheung Efficiency Debate

Cheung disputes the proposition that resource allocation under sharecropping is inefficient. It had been argued by Alfred Marshall, among others, that the tenant has direct incentives to apply only a low level of variable inputs, especially labour, to the land. Because the tenant receives, say, only one half of total output, he has incentives to apply variable inputs only to the level where the value of the marginal increase in production from further input use is still **double** the cost of the additional input. For example, if an additional day's work (say of weeding) would increase the value of output by \$4, the tenant left to his own devices will not work that extra day if he can earn a wage elsewhere of say \$2.50 (since his share of the \$4 production increase would only be \$2). This despite the fact that it is socially profitable and efficient to input \$2.50 worth of labour in order to gain an extra \$4 of production. By contrast, an owner-operator who receives the entire value of any additional production will apply additional inputs up to the level where the value of the marginal increase in production just equals marginal input cost. Thus Marshall (1961) argued that without supervision, the tenant would farm at a lower intensity, and with lower production, then would the owner-operator. **Marshallian Disincentives** will be used in this paper to denote this tendency for inefficient underutilization of land under sharecropping. Because of these disincentives for intensive tenant cultivation, land reform which eliminates share tenancy would seem to be a logical way to increase agricultural production from a given land stock.

In disputing this scenario, Cheung notes that the landlord faced with tenants working at a low intensity has obvious incentives to contractually require tenants to work harder.[1] Cheung formally demonstrates that landlords can offer share tenancy contracts which require intensive labour inputs and yet still yield tenants an income equivalent to what they could earn as full-time wage labourers. Cheung thus reasons that tenants will be willing to sign such contracts, and that resource allocation and productivity will be the same under sharecropping as under owner-operatorship or other forms of production organization.[2] The distribution, or redistribution, of property rights thus would not affect production, and there is no productivity argument for tenancy reform according to Cheung.[3]

However, as Alfred Marshall's discussion makes clear, it is the enforcement, and enforceability, of input requirements under a tenancy contract which determine whether resource allocation under sharecropping will be efficient or inefficient. The Marshallian Disincentives for undersupply of inputs do not disappear in Cheung's model. It is simply that Cheung assumes that landlords can costlessly enforce input requirements on the sharecropper. In an earlier piece, D. Gale Johnson (1950) argues that sharecropping will be efficient because landlords can rely on the threat of lease non-renewal and other devices to force tenants to work intensively. More generally, as the contractual strurcture literature shows, that the Marshallian Disincentives and the cost of supervision under sharecropping have to be compared with the disincentives and costs of other ways of organizing production.

Prior to turning to the contractual structure literature, it is worth reconsidering the incentives for labour supply under sharecropping when labour markets are thin or absent. Both sides in the Cheung efficiency debate assume that the tenant can freely sell any amount of labour for some fixed wage. Thus the so-called Marshallian school argues that the tenant will apply only a low level of labour to the tenanted plot and then seek off-farm wage work once his or her share of marginal production falls below the wage. However, in the Marshallian model incentives for labour supply change if the tenant cannot freely allocate time between wage labour and on-plot work. If off-plot employment opportunities are limited or non-existent, then the market wage is not a good measure of the opportunity cost of the tenant's time. In such cases the tenant's choice is between plot work for half the value of incremental production ($2 in the example above), and leisure or non-market home production activities. The value of the latter, which the literature on interlinked household production-consumption models calls the "virtual" or "shadow" wage, depends on consumption preferences and income level (see Singh, Squire and Strauss 1985). If a tenant exists at a low income level, there is no reason to think he or she will apply little labour to the tenanted plot just because his or her share of marginal returns is less than an irrelevant market wage. In this case, the landlord can motivate the tenant to cultivate more intensively by making him poorer by leasing out smaller plots, as Johnson suggested in his seminal article.

1 "Contract" in this paper denotes implicit and explicit arrangements. It is not limited to formal written agreements.

2 Johnson 1950 made a similar argument two decades earlier. In fact, as Bliss and Stern 1982 show, Alfred Marshall anticipated the substance of Cheung's argument. Marshall's point was that without supervision or additional work incentives, share tenants would not cultivate intensively.

3 However, there is also no logically consistent reason for sharecropping to exist at all in Cheung's argument. As Jayne (1983) nicely summarizes, despite the fact that Cheung set out to demonstrate the economic rationality of sharecropping, he ends up without an explanation of why production should be organized under share contracts, or any particular tenure system. Production efficiency is identical under sharecropping and other forms in Cheung's model, yet presumably the choice of tenure and organizational form is not arbitrary in the real world.

While it is perhaps obvious that leisure has little value to hungry people, the sharecropping literature has generally underemphasized the efficiency implications of whether or not the tenant has off farm employment opportunities. (An exception is Shaban 1984 who shows that tenant incentives for resource misallocation vary with the structure of off-plot opportunities). Just as the peasant owner-operator may apply massive "unprofitable" doses of family labour to his fields (see, e.g., Carter 1984), so the share tenant may do the same, for the same reasons. This mitigation of tenant misincentives by poverty and weak labour market opportunities may explain the lack of evidence in Sri Lanka for inefficient resource allocation by share tenants (see Peiris, 1976, and Moore and Wickramasinghe 1980). Indeed, the ARTI (1974, p. 95) study of the Kandy District states that it is low living standards of tenants which encourage their intensive production practices and lead to observed yields which are **higher** on sharecropped than on owner-operated farms. To the extent that tenants have weak off-farm income opportunities, then even a Marshallian model would predict little efficiency differences between sharecropping and other tenure forms.

Contractual Structure in Agriculture

Despite, or perhaps because of the shortcoming of its argumentation (see note 3 above), Cheung's work encouraged search for economic explanations of share tenancy in terms of factors which would lead maximizing economic agents to select share contracts in preference to other contractural forms. This literature on contractual structure in agriculture has at some points yielded new insights, and at others has led to the rediscovery of old ones. Intermingled with this literature is the question of whether phenomena such as share tenancies or interlinked tenure-credit contracts are exploitative. By identifying economic factors which make it rational for agents to rely on, say, share tenancy, the contractural structure literature seems to respond negatively to the exploitation question. But it may be that such contractual forms make for every "efficient exploitation". In fact, the neoclassical approach to contractual structure is not well suited to addressing the exploitation question, and it is probably best to think of it as having little to say about it (see Carter, 1985). In any event, the review in this section will not deal with the exploitation issue, nor the related debate generated by Bhaduri's (1973) seminal paper. The focus instead will be precisely on those market imperfections which make sharecropping a rational contractual choice. Understanding those imperfections, and the functions that sharecropping fulfills, is critical to successful evaluation and design of agrarian reform.

Whereas Cheung's assumption that landlords select and enforce tenant work levels makes the Marshallian sharecropper disincentives irrelevant, the contractural structure literature maintains the significance of these disincentives. The innovative contribution of the contractual structure literature is to recognize that simple elimination of share tenancy need not improve the efficiency nor equity of resource allocation despite those disincentives. The fact that sharecropping is employed as the preferred contractual form, **despite its disincentive problems,** indicates that there are other problems, imperfections, in the economy which make other forms of production organization even less desirable.[4] To eliminate sharecropping, without addressing the more primary imperfections which motivated use of that contractual form, could lead to quite unintended results.

[4] The term "imperfection" is used here to indicate departures from an ideal type of the market economy. There is no intention of implying that these imperfections are somehow man-made creations which disrupt the natural order of the market system. Quite the contrary, imperfections are an unavoidable and pervasive feature of real economies.

In his summary of implications of contractual structure literature, Jayne (1983, p. 62) writes that "Agrarian reform must be concerned not just with the types of contracts in use, but with the institutional features that cause their use . . . (T)he use of share contracts must be understood as an imperfect response to incomplete and imperfect markets". The economic insight behind this remark was in fact part of the classical approach to land tenure as expressed in the writings of John Stuart Mill and Karl Marx. As quoted by Jayne, Mill (1926, p. 320) explicitly recognized the ambiguity of simple tenancy reform. Elimination of the landlord's share would certainly seem to make the tenant better off, but it would also in Mill's estimation disrupt the relation through which the sharecropper, "though not himself a capitalist, has a capitalist for a partner, and has the use . . . . of a considerable capital". Marx too recognized that credit constrainst prevent the tenant farmer from being his own capitalist, and made sharecropping a rational contractual form for the tenant within that constrained environment (**Capital,** vol. 3, cited in Jayne p. 51 — 2).[5]

An implication of this approach to share tenancy is that the tenancy relation does more than establish terms of a land exchange. The literature reviewed below presents in more detail the rationale for the complex exchanges which become interlinked into a tenency contracts. At this stage it may be useful to give some empirical substance to this point of view. In the case of Sri Lanka, reactions to the Paddy Lands Law of 1958 provides a good example of the subsequent ambiguity of reform effects. As described by Moore and Wickramasinghe, tenants in the Kandyan area where landlords typically took an active role in agriculture, were reluctant to participate in the reform. While residual political strength of landlords could explain that reluctance, tenants may also have felt that the costs of loosing access to inputs provided by landlords made the price of reform participation too high. Mangahas et al. (1976) describe similar timidity on the part of Philippine tenants motivated by fear of loosing access to landlord services if they participated in agrarian reform. Credibility is added to this interpretation by the ARTI (1974) surveys of tenancy relations in the Kandyan area which show that share tenancy relations are complex and varied. Although with crop share, tenancy contracts also specify collateral help, landlord—provided inputs etc., there is a good deal of variation between contracts.

Further testimony to the complexity of land tenure relations is given by evidence that fixed renters in Sri Lanka operate **larger** than average farms (Sanderatne 1972). This evidence is also consistent with findings from India about large scale, economically dominant tenants (Jodha 1984, and Nadkarni 1976). Clearly the rubric of tenancy can, include very diverse and multifacted relations. Following presentation of the basic insights from the contractual structure literature, we will return to this issue of the complexity of tenancy.

Stiglitz's (1974) "Incentives and Risk Sharing in Agriculture" is a seminal contribution to the contractual structure literature. In that paper, Stiglitz theoretically demonstrates the usefulness of share tenancy as a risk sharing, or insurance, mechanism. In the absence of crop insurance, a tenant under a fixed rent scheme bears all the risk of crop failure. Alternatively, under a wage labour production the landowner bears all risk. Sharecropping is a simple device for splitting risk between landlord and tenant, and may for that reason appear as the preferred contractual form.

[5] Literature on the "agricultural ladder" in the midwestern United States similarly protrays sharecropping as a device for (young) farmers to gain access to capital.

As Newberry (1977) emphasizes, however, a missing market for production insurance is by itself insufficient to explain share tenancy as an economically optimal contractual form. In a world where landlords and tenants can "mix contracts" by allocating some of their land and labour, respectively, to wage-labour production and to fixed-rent production, the risk-sharing benefits of sharecropping could be achieved by an appropriate mix of wage labour and fixed rent production. Sharecropping would thus be redundant and economically unnecessary.

Addition of a second market imperfection, however, salvages the unique risk-sharing role of sharecropping.[6] An important one is the imperfection of the market for wage labour. Because supervision of wage labour in agriculture is a costly proposition, one cannot pay a wage and assume that a days work will forthcome automatically. Without supervision the wage labourer has no incentives to work. The share tenant has at least some incentive to work without supervision, albeit an imperfect one as Alfred Marshall pointed out. Under the extreme assumption that supervision of agricultural labour is impossible, Stiglitz (1974) shows that sharecropping can be preferred to even mixed wage-labour and fixed-rent contracts, despite the presence of the Marshallian Disincentives. If indeed sharecropping has emerged as an optimal response to these risk and labour market imperfections, then the welfare effects of banning share tenancy would not be unambiguously positive. Besides forfeiture of the risk sharing implicit in sharecropping tenancy reform could move landlords towards mechanized cultivation as their second best organizational option given supervisory problems of wage labour production.[7]

The empirical veracity of the risk-sharing explanation of sharecropping has been disputed. Nonetheless, that explanation neatly demonstrates the importance of missing and imperfect markets for the determination of contractual structure. A generalization of the contractual structure approach is found in more recent literature which explains sharecropping as a device to effectively pool resources which cannot be exchanged through conventional market relations. Resources for which markets either do not exist, or are heavily burdened by enforcement or other transactions costs, include technical-managerial know-how, bullocks, capital, and family labour. Eswaran and Kotwal (1985b) note that different ways of organizing production (sharecropping fixed rent, wage-labour, etc.) can be seen as different techniques for combining unmarketed production inputs. For example, assume that one individual possesses land and technical know-how, and that a second possesses labour power. Under a fixed rent contract, the landlord would have no immediate incentive to provide technical advice (as his income is assured regardless of production), and the tenant would face the difficult task of forcing the landlord to perform the technical role. On the other hand, under wage-labour production the labourer has no incentives to provide his input, and the landlord would face the supervisory task. However, sharecropping is an organizational device which provides incentives for both parties to provide their inputs. In environments where it is especially difficult (or costly in terms of supervision) to purchase inputs, sharecropping can emerge as an economically rational contractual arrangement.

[6] Bliss and Stern (1982) review various market imperfections which in conjunction with risk factors are sufficient to logically explain sharecropping. These include imperfections in various inputs markets which make it hard to rent inputs which either the share tenant or the landlord would provide. Eswaran and Kotwal's (1985b) work, discussed below, clarifies this point.

[7] These considerations do not mean that tenancy reform should not be done. They do, however, warn that unless efforts are made, say, to simultaneously improve the working of input markets, tenancy reform may be counterproductive.

Prohibition of the mutual incentives of sharecropping without concommitant reform of the faulty input markets which led to the use of sharecropping in the first place, could disrupt the provision of agricultural inputs or lead to the unintended emergence of mechanized agriculture.

An important special case of this market failure approach to sharecropping has been analyzed in the literature on interlinked tenure-credit contracts (that is, a single individual functions as both landlord and lender).

The empirically observed phenomena of interlinked transactions in rural factor markets (see Bardhan and Rudra 1978, and the ARTI 1974 evidence discussed above) is analyzed at a general level by Basu (1984). Basu theorizes that transactions in one market (credit) become interlinked with a transaction in a second market (labour) when informational problems make it difficult to specify and enforce contractual terms in the first market. Basu notes that the credit market operates under a variety of informational constraints. If the lender were to make loans to anonymous individuals, then he would undoubtedly experience default on some proportion of the loans. In an environment where few borrowers have conventional collateral assets, such a rate of default might, even under competitive conditions, necessitate a high interest rate to cover this risk (this is the argument of Bottomley 1963). However, Basu notes that the lender can avoid this potential risk by lending only to individuals with whom he has transactions in the land or the labour market. The relationship in the second market can be used in the variety of ways to secure the credit transaction. Unattached individuals would thus have trouble obtaining credit in this type of economy for they would present a potential risk to the lender which he can avoid by simply lending to his labourers or tenants.

The effect of interlinkage is to stratify market opportunities to access land or obtain credit. Those individuals who are locked into a system of multiple relations have market opportunities. Those who are not have no opportunity to make an isolated transaction in a single market. In this environment, tenancy reform could simply cut reform beneficiaries off from access to credit.[8] Land reform must be sensitive to particular informational and missing market problems which have led to the use of any particular contractual structure. An effective program would have to substitute for the functions fulfilled by the interlinked contract structure.

The fact that sharecropping is functionally useful in some environments does not mean that sharecropping should be expected everywhere, or even to be stable in environments where it does appear. In a world of imperfect and missing markets, contractual structure will be influenced by the relative costliness of different imperfections. Eswaran and Kotwal (1985b), for example, explore how the cost of Marshallian disincentives under sharecropping relative to wage-labour supervisory cost influence contractual structure. In keeping with Rao's (1975) empirical analysis of India, and Day's (1967) analysis of the southern United States, they show how technical change can shift those relative costs and lead to a change in contractual structure and production organization. This potential instability of sharecropping as a preferred and conditionally efficient contractual form should be remembered for the discussion below on dynamic reasons for tenancy reform.

When viewed as a device for efficiently pooling non-marketed inputs, tenancy can be anticipated to arise in a variety of environments for a variety of reasons. The stereotype of an economically weak tenant taking land on shares from a powerful

[8] Extended analysis of these points is given by Braverman and Srinivasan (1981, 1983) and Braverman and Stiglitz (1982).

landlord can be reversed. Individuals with control of scarce non-land inputs can appear as economically dominant tenants taking in land from dependent landlords who have only land and labour. The work of Nadkarni (1976) confirming this sort of "dependent landlordism" was mentioned above. Finkler's (1978) study of tenure relations on irrigated Mexican **ejidos** shows a similar pattern of the nominal landowner working as a dependent labourer on his own land. In Finkler's study, the power of tenants was rooted in their control of water and other external relations.

The multiplicity of factors which can lead to share tenancy points to a number of considerations which need to inform land reform proposals. An obvious one is that tenants across agricultural environments may represent quite distinct classes. Tenancy relations which have emerged in dry zone settlement areas, are likely to be differently motivated, and to have distinct social implications from traditional wet zone tenancies. To treat them as homogeneous could lead to uncomfortable policy surprises.

A second consideration concerns the likely impact of land reform aimed only at the land exchange contained in a tenancy relation. If tenancy in fact represents a way of pooling non-marketed resources, simple land redistribution may not alter the fundamental social relations as expected. In the Soviet Union of the 1920s, the agrarian marxists persuasively argued that despite land redistribution fundamental class stratification persisted within the peasant economy because of uneven access to non-land means of production. As reported by Cox (1984), this school argued that individuals who possessed scarce work animals occupied commanding economic heights which allowed them to extract surplus from dependent resource-poor landowners. Eswaran and Kotwal (1985a) analytically demonstrate a similar point when they show that redistribution of land without redistribution of control over non-marketed inputs has dampened equity effects. Again the message is that tenancy cannot be examined in isolation from market and non-market means of access to other factors of production.

In summary, the literature on tenancy and agrarian contractual structure argues that share tenancy is not necessarily an inefficient feudel remnant but that it may represent the best contractual response to an imperfect market environment. In this **qualified** sense sharecropping can be an efficient institution. But it is important to recognize that this claim for the contingent efficiency of sharecropping is fundamentally district from Cheung's claim that share tenancy is efficient in an unqualified, global sense. First of all, sharecropping may cease to be an efficient or desirable way to organize production following changes in technology or market structure. The agrarian structure literature also admits the possibility that **comprehensive** tenancy reforms could in fact improve economic efficiency over that attained under sharecropping. However, just as important, that literature indicates that less comprehensive land reform can have ambiguous effects even on the welfare of its beneficiaries. Reforms undertaken without efforts to correct the imperfections in market access and existence which underlie sharecropping may be counterproductive.

Finally, the contractual structure literature has identified a multiplicity of reasons for the emergence of sharecropping. These range from the need for resource poor tenants to access capital and risk-sharing arrangements, to the need for resource rich tenants to spread their indivisible, non-marketable human and physical capital over a larger, efficiently-scaled land base. Tenants and tenancy are thus likely to be heterogeneous. It should be emphasized that the fact that sharecropping and market interlinkage fulfill economic functions does not rule out the possibility that they are part of an exploitative relationship. These contractual forms may make for very "efficient exploitation", as Carter (1985) puts it. Either way, consideration of the functions performed by tenancy contracts, greatly complicates any process of tenancy reform. We turn now to consider a second set of issues which influence the desirability and effects of tenancy reform.

Section 2

DEVELOPMENT LOSERS: SHARE TENANCY AND THE NEED FOR SAFETY NETS

The prior section has presented the argument that there exist economic reasons for sharecropping - that is, sharecropping can fulfill economic functions. Simple propositions about the global inefficiency of share tenancy, which ignore the economic reasons for its existence, may mislead policy. Sharecropping can be an efficient production arrangement in the imperfect economic environments which characterize the real world. While this argument does not mean that it is impossible to improve efficiency through a well designed tenancy reform, it does indicate that such reforms are likely to be complex, and that any gains from them are likely to be smaller than Marshallian propositions about the unequivocal inefficiency of sharecropping suggest. If one in fact starts from the position that existing tenancy and other contractual relations are approximately efficient, then it is tempting to conclude that ownership and tenure structure is economically unimportant. From this perspective, achievement of rapid output and employment growth would depend primarily on price and other macro policies. Giving primary emphasis to price policy may be correct, but there is need to worry whether land tenure is as unimportant to the welfare of rural people as this analytical perspective implies. Is a free market policy designed to ensure that prices reflect scarcity values sufficient to insure economic development? While recognizing the value-leaden nature of that question, this section will go on to argue that forces intrinsic to market-mediated growth are likely to make a simple free market policy a costly march to development. Avoidance of those costs, if deemed desirable, creates a further reason to seriously consider land reform.

The proposition that land tenure is of secondary importance to appropriate development policy is reflected in the work of Bruce Johnston. While it is inappropriate to characterize Johnston as a laissez faire advocate, it is convenient to use some of his ideas to develop what will be here called the "right macro policies" approach to development. Johnston contrasts "unimodal" with "bimodal" development policies (Johnston and Kilby; Johnston and Clarke; Johnston and Tomich). Using the agricultural development patterns of Japan and Taiwan as examples, Johnston argues for the efficiency of development based on a relatively egalitarian (unimodal) distribution of operating farm size. Combined with appropriate state policies for research, macro prices, and delivery systems, this approach can generate rapid rates of increase in production and employment, a stimulus to labour-intensive industrialization, and a low cost structure conducive for entering export markets (Mellor and Johnston). In the Johnston analysis, labour intensive unimodal development can occur through either tenant-or owner-operated farms. Ownership and tenure structure per se do not matter. Japan and Taiwan, for example, exhibited desirable rates of growth in their agricultural sectors before land reforms eliminated what had been high rates of tenancy. Johnston argues that even with substantial tenancy, a unimodal pattern of growth can occur and provide rural people with large rates of growth of employment, though with slow increases in average incomes. Given the relative abundance of labour and shortage of land, this is the expected result-income increases accrue to those who own land and not to those who merely own labour. But the more rapid growth of employment in this model compares very favourably to the much slower growth of employment in many Third World countries with very unequal distributions of operating farm units (bimodal agrarian structures).

But while the Johnston approach is explicitly about size-of-farm issues, it argues that what influences development is the choice between unimodal-versus bimodal agricultural development **policies**, not the choice between land tenure and **ownership structures.** Unimodal policies include research to generate divisible technologies, macro prices which keep labour cheap relative to capital and thus encourage use of labour-intensive technologies, and delivery systems which serve needs of small farms. It is these policies that matter because it is unimodal policies that create (or permit to persist) appropriate unimodal farm structure. If policy is correct, an efficient contractual structure (perhaps including share tenancy) will emerge to insure appropriate operating farm size irregardless of ownership structure. Johnston's emphasis on pre-land reform Japan and Taiwan seems to say that it was appropriate policies which encouraged Japanese landowners to rent their farms to small tenants rather than to directly manage their land as a single larger farm with less intensive use of labour. Test of the Johnston conclusions in the current situation in the Third World would require analyzing whether appropriate unimodal policies, not including land reforms, can in fact modify inegalitarian ownership structures in unimodal directions.

We do not, however, know of any such analyses having been made. In much of the Third World, the use of labour-saving technology is increasing on large farms, and increasing proportions of rural people are becoming landless. But this could be due to prevalent macro policies which make capital too cheap. At issue is whether a reversal of inappropriate macro policies would reverse these trends even in the presence of highly bimodal agrarian ownership structures.

Another way of viewing this issue is whether "purely economic" macro price policies are sufficient to provide security and promote welfare of rural people, or whether additional "safety net" policies are required to counteract the stresses generated in the transformation of rural societies. Avoiding price distortions and their adverse consequences is obviously very important. The need for labour-intensive policies is generally accepted. The issue remains, however, whether more intervention is needed than implied by the right macro policies position. Is it realistic to expect rural people to undergo the structural transformations of economic development without attempting to contain the burdens of adjustment by organizations of their own (like co-operatives) or by political pressure? Will rural people seek safety nets in face of the stresses and adjustments which development brings?

Neoclassical economic analysis tends to view this issue as an unimportant one. This position results from the assumption that markets are frictionless and that people displaced from one set of economic activities find alternative opportunities with little cost to themselves. Consequently, neoclassical analysis minimizes the stresses of adjustment and the necessity and legitimacy of attempts to diminish the cost of development to some groups. Carter (1982), however, argues that once one moves beyond the narrow bounds of (Walrasian) general equilibrium analysis which confines neoclassical development theory, the importance of adjustment costs comes into focus. Analyzed with alternative price-theoretic foundation, the process of market-mediated economic growth and transformation can be expected to generate an identifiable class of "development losers." The losers are individuals, dependent on market exchange for access to the means of livelihood, who in the process of adjustment to economic change are rationed out of employment and into a marginal economic existence.

The fact that propertyless individuals depend on the market, and hence are vulnerable to the efficacy of its operation is of course recognized by neoclassical economics. Indeed, economists from Marx to the neoclassicists have celebrated the beneficial mobility implications of free, propertyless labour. What is new is that from the perspective of non-Walrasian price theory, free labour's vulnerability matters because the market system is not buoyant enough to guarantee new opportunities for displaced individuals. The empirical significance of that vulnerability is dramatically demonstrated by A. K. Sen's essays brought together in the volume **Poverty and Famines.** Sen argues that famines typically occur despite biologically sufficient food supplies, and that famine victims are typically propertyless wage labourers who lack direct entitlements to food. It is the famine victims who bear the costs of adjustment to market disequilibrium. With perhaps a touch of analytical maliciousness, Sen dubs a capitalist market system without safety nets for its free labour as a P. E. S. T. (pure exchange system in transition.)

More generally, from a non-Walrasian theoretical perspective, land tenure may matter a lot. **Ownership** structure matters, unlike in the development through right policies argument, because concentrated ownership leaves propertyless individuals vulnerable to the costs of displacement and adjustment which are sure to come as technology and economy change. As is detailed in Section 3 below, a widely unequal distribution of landownership and a high rate of landlessness tend to generate preemption of opportunities by some rural strata, while other households find their opportunities diminishing. Without a firm set of entitlements rooted in property rights (or in a labour market which always guarantees access to employment), the landless are subject to "push factors". They cannot wait for new opportunities to pull, or induce, them away from declining opportunities, and they can become the development losers as their traditional economic niche is displaced. As was stressed in Section 1, the contingent efficiency of sharecropping is not a reliable guarantor of access to land in the face of economic change. By contrast, a more egalitarian distribution of land **ownership** enables most rural households to make their own decisions about how to adjust. As Moore and Wickramasinghe (1980, p. 98) note in the context of Sri Lanka, land rights may be highly valued as an employment guarantee despite low returns to labour.

It is these dynamic safety net features which are the central issue of alternative land tenure and land reform systems, rather than the static efficiency issues which have preoccupied much of the literature. A variety of tenure systems, when combined with appropriate policies and service institution, can function efficiently at any point in time. The static efficiency of different tenure systems is not the crucial issue. Where systems differ is in their allocation of the costs (and benefits) of economic change and transformation.

In summary, this section has argued that right prices and efficient contracts are not sufficient conditions for development, if by development is meant a process which does not occur in the backs of dispossessed development losers. Land tenure does matter in ways not incorporated into either the contractual structure literature or the development through right macro policies approach.

Section 3

LAND TENURE AND THE STRUCTURE OF OPPORTUNITY AND VULNERABILITY

The previous section offered the perspective that land tenure matters primarily because it influences the opportunities to benefit from development and the vulnerabilities to adjustments imposed by development. This section extends and examines the implications of this perspective in the context of the interactions between tenure structure, and rates of development and of population growth.

These interactions can be described as occurring in product and factor markets. On the product market side the supply response of farmers is primarily based on the utilization of new technologies. Technologies can be distinguished as divisible or subject to indivisibilities. Divisible technologies such as high yielding varieties and fertilizer applications are likely to be available and appropriate to almost all farmers large and small. Indivisible technologies such as tubewells are directly available to farmers with sufficient land to exceed the break-even costs of indivisible capital. However, such capital may become accessible to smaller farmers if the services of capital become available through markets, exchange arrangements, joint or cooperative ownership or through state agencies. Examples of such provision of capital services include sale of irrigation water, hire of tractor and driver (custom work), so called threshing "rings" in the United States before wide use of combines (joint ownership of stationary threshing machines which were moved sequentially from farm to farm and worked by all the joint owners together), joint ownership of irrigation wells or machines by a few farmers, and of course co-operatives and state agencies as indicated above. Whether such capital services are available as readily and at as low a cost as ownership of capital by larger farmers depends on a number of factors. Costs of hired capital services may be higher due to reasons such as unavailability of the service at optimum time for doing the work or to poorer maintenance and repair of the equipment. Of course, even with higher costs, capital services may be less expensive than traditional animal-drawn equipment or hand tools, but higher costs of capital services may shift the comparative advantage from smaller to larger farms.

The availability of capital services depends on both technology and the institutional form by which such services are available. Market for tractor services can arise readily and spontaneously since tractors are mobile machines and competition between buyers and sellers of the service is fairly likely to arise. Sale of irrigation water from a well is constrained by distance and topography to a group of farmers adjacent to the facility. Thus a small farmer for whom an investment in a well would pay off only if assured of sale of irrigation water above his needs, would need an understanding with his neighbours before undertaking the investment. If the institutional means for capital services depends on joint ownership, exchange arrangements, co-operatives or state agencies then of course their provision requires efforts to organize them and then to efficiently carry on the organizational structure and the technical activity.

But problems of indivisibility do not arise only with physical capital. Access to credit, inputs, markets, processing facilities, and technical advice may also be more readily available or available at lower cost to larger than to smaller farmers. Thus such services may not be fully divisible, or may require organization of new institutions (such as cooperatives or state agencies) to make these services available to small farmers.

On the factor market side the major possibilities for change are capital-labour substitutions and the intensification of land use in various ways. Some of these changes occur differently on large and small farms.

On larger farms labour is employed either as hired workers or by renting out land in small holdings to tenants. Labour arrangements can be changed by shifting from tenants to hired workers, or from permanent hired workers to seasonal ones. Total amount of labour days employed can be decreased by mechanization. Thus it is the decision making on these farms that is crucial for determining how labour-intensive the development path will be. Variables which influence the decisions of these farmers include macro prices, the type of agricultural technology that is becoming available, and rigidities in markets and social arrangements. On the other hand, the decisions of larger farmers create consequences for their tenants and workers which may include loss of employment, or shift to less secure seasonal employment. These are "push" effects which force adjustments on landless families and which can be contrasted with "pull" effects arising from product markets as opportunities to increase agricultural production.

On smaller owner-cultivator farms the incentives for capital-labour substitution are different and more complex. On many such farms the dominant problem is accommodating the increase in the number of people as children grow up. This effort includes making the best use of family owned resources, principally land, combined with increased utilization of outside opportunities of work on other farms, nonfarm work, various kinds of self employment. The net effects are likely to be subdivision of the parental farm, increased off-farm work by family members resident on the farm and migration of some family members to other locations where employment can be found. These responses are dominated by availability of outside employment opportunities. Under usual Third World conditions such outside employment is sufficiently scarce so that the net effect of the above changes is a decrease in average size of farm and increase in the ratio of days of human labour to land. Under these conditions substitution of capital for family labour or additions of capital to family labour is minimal but may occur in some farm tasks. For example, it may occur if rapid completion of work increases yields or makes doublecropping possible, or it may occur for tasks which replace animal but not human labour, for tasks which are very physically demanding, or for tasks in which mechanization substitutes for hired seasonal labour. The possibilities for such substitutions depend on the nature and cost of capital equipment and on wages of hired labour; that is on the cost and efficiency of small tractors and other small machines or on the possibility of hiring or otherwise obtaining machine services.

The incentives for capital-labour substitution on smaller owner-cultivator farms become much greater when nonfarm employment opportunities increase sufficiently rapidly to result in a decrease in farm employment. Under those conditions, capital (typically tractors and other equipment) is substituted for labour at the level of the agricultural sector. At the farm level, some farm families add capital to their labour and utilize it to farm more land obtained by purchase or lease from other families who migrate out of agriculture or who maintain a farm residence, but decrease their agricultural operations. These of course are adjustments which are likely to be found at later stages of development when wage levels and nonfarm employment has increased substantialy.

Under Third World conditions the intensification of land use on smaller farms occurs primarily by the application of the divisible technologies of high yielding varieties and chemical inputs (already discussed above in describing the supply response of farmers) by the introduction of irrigation and to some extent by more intensive use of labour.

The factor adjustments on small tenant farms are likely to be similar to those of owner-cultivators, if the tenants retain the lease of their farms. They may be, however, under pressure from landlords to accept lower tenant-shares of share leases or higher cash rents. The net impact on hired labour opportunities arises from the adjustments and decisions made by their employers. In the specific situations where harvest labour is paid with a share of the crop, employers may press workers to accept lower shares, or to eliminate the social obligations of the farmer to honor traditional rights to participate in the harvest by landless members of his community.

Thus land tenure places rural families in different positions in relation to the opportunities and vulnerabilities that arise in the course of development. These can be summarized as follows:

1. Families owning larger farms may have, on the product market side, the opportunities to increase production using both divisible and indivisible technology. On the factor market side, they have the alternatives of substituting capital for labour and modifying the arrangements by which labour is employed. Their employment alternatives include possibilities of substituting hired labour for tenants, seasonal workers for permanent workers, and machines for any kind of labour.

2. Cultivator families owning smaller farms have opportunities to increase production by the use of divisible technology. As appropriate markets and institutions for delivery of services arise they may gain access to less divisible technologies. They also have a greater opportunity to continue in their traditional ways of producing and living on their own land either because developmental opportunities are not available to them or because they are not ready to utilize such opportunities because of factors such as risk avoidance, habit, advanced age or infirmity, etc. Thus their response to development is one of responding to the attractions or "pull" factors generated by development. Their response however is not entirely one of "pull" factors. The increase of population in their own families or increases in costs of inputs that they use may diminish their per capita incomes if the increases in their numbers are larger than their opportunities for increasing production and earning off farm income. And as indicated above they may shift some of the costs of their own population increase onto the landless by substituting family for hired labour.

3. Rural families not owning land and earning income as tenants or landless are the most vulnerable portion of the rural population. Their income opportunities arise out of derived demand for labour generated by the increases in agricultural productivity interacting with increases in agricultural population. Population increase is likely to dampen increases in labour incomes, but under favourable circumstances, these rural families can benefit from increases in employment. But employment increases are limited by decisions of landlords and employers to substitute capital for labour. Thus this group is vulnerable to "push" factors. Such decisions might be due to macro price policies which make capital cheap, rigidities of crop shares and of wages and obligations to use labour of community members, which can more easily be overcome by mechanizing or by using entirely new institutional arrangements to which no traditional social obligations are attached.

Regardless of the proximate cause which leads to the destruction of a traditional employment niche, the point remains that it is this third group which is most vulnerable to the costs and disequilibrium of economic transformation. A good example of the reality and significance of the vulnerability of propertyless individuals is the change in labour arrangements for harvesting rice in Java in the 1970s (Collier). In the traditional pre-green revolution system any member of the village community, at his or her own discretion, could participate in the harvest and receive in exchange one out of every eight or nine bundles harvested. In the '70s this traditional arrangement was being replaced by a system in which the cultivator sells the standing rice crop to a middleman who in turn selects and hires harvest workers limited to the number required to do the job. In the latter system the number of harvest workers is much smaller, though the earnings per works are higher (Collier, pp. 12—16).

Before World War II a rice cultivator who attempted to reduce the number of harvest workers would be ostracized in his village (Collier, p. 20). Thus in the previous labour arrangements under the customary procedures and sanctions, landless members of the village community possessed the right to participate in the harvest while cultivators had no discretion to select harvest workers. Under the new system the rights of the landless disappeared and the cultivators acquired the right to determine the terms under which rice would be harvested. Landless members of the village community had previously held a property right which disappeared under the new system, while the cultivators enlarged their property rights by acquiring greater discretion. The gain to the cultivators from this shift in rights is not purely an increased efficiency in resource allocation. It is also a means of throwing the burden of adjustment on others (the landless).

As a policy issue it does not matter whether the above illustration is interpreted as one in which property rights have been lost, or if it is claimed that harvest workers never had a right and that only the opportunities of cultivators enlarged with new technologies and access to wider markets. It could be interpreted as a dissolution of patron-client relations associated with a loss of legitimacy by patrons. Under all of these interpretations a safety net previously available has disappeared and the burden of adjustment has been thrown on weaker members of rural society.

The issue is not confined to labour arrangements in the rice harvest in Java but is present in relations between social groups in many countries in the process of commercialization of agriculture and introduction of improved technology. Another major occurrence is the dismissal of tenants by landlords in order to capture a greater portion of benefits and higher yields by direct management of land rather than by leasing. The work by Eswaran and Kotwal (1985b) and supporting empirical literature, discussed in Section 1 above, identifies the economic factors which would underlie such a shift in agrarian structure. The important point here is that with a different ownership structure, the process of change and the distribution of its costs would be quite different. Indeed it is exactly this argument which underlies Moore and Wickramasinghe (1980) call for tenancy reform in Sri Lanka as a way to avoid premature mechanization and labour displacement.

The above distinctions between the opportunities and vulnerabilities faced by different classes make it possible to indicate the role of various policies in relation to development and the welfare of farm people, both the more strictly "economic" policies of appropriate macro prices and the reformist policies of special programs for small farmers and land reforms.

Appropriate macro price policies are desirable. They not only increase employment in agriculture but also encourage a more labour-intensive development of industry and greater competitiveness in world export markets (Mellor and Johnston, 1984). They thus help to absorb more of the growth of the labour force outside of agriculture. The problem is whether in the Third World employment increases are sufficient to absorb the growth of the labour force even under the most favourable circumstances that appropriate macro prices can create. The evidence that argues against this possibility is the absorption of labour in small family farms and increase in marginal populations in both rural and urban areas. It is the ownership of land by small farmers, that enables these farms to absorb increased numbers of people. In a sense, ownership of land by a substantial portion of rural families is a safety valve for absorbing labour that does not find ready employment for the various reasons of population pressure, of inappropriate macro prices, and of other government interventions that tend to generate rent-seeking activities. While better economic policies should improve employment creation, there is no assurance in current Third World conditions, that such policies would suffice to provide employment and minimal income for all rural families.

Section 4
SUMMARY

The presence of population growth, the risk of displacement from employment and income, and the dearth of nonfarm employment make it desirable to consider more interventionist policies in the Third World. At the same time, one should recognize that these are difficult conditions to resolve and that interventionist policies face both large political obstacles, budget limitations and considerable problems of implementation. Thus there are no ideal solutions and different countries will probably pursue different paths through the stresses of development. The following considerations seem important for the analysis of the desirability of tenancy and other interventionist reforms:

1. Without reforms the currently existing larger farms can preempt development opportunities. They have readier access to indivisible technologies and existing delivery systems. On the factor market side, a passive role of the government leaves them with the discretion of determining the labour intensity of the development path, and therefore of determining the opportunities of the landless (recognizing, of course, that macro price policies will modify the employment decisions of these farmers in desirable directions.)

2. A desirable outcome of land reforms that widen ownership of cultivating families is precisely the enlargement of the number of rural families that gain autonomy in determining, for themselves, the path of agricultural development. This may include survival at low income levels with existing production practices, which, however, may be superior to alternative opportunities available to such families.[9] Ownership and autonomy in decisionmaking may be particularly important given the inability of governments to implement their objectives and the limitations of their budgets. However, it should be recognized that politically opportune times for carrying out land reforms are limited. Also in many Asian countries with small average size of farm, the scope for further reforms is limited. And as Wanigaratne (1984, p. 300 ff.) indicates, new class distinctions and new vulnerabilities may appear after only one post-reform generation.

3. Interventionist reforms may well be needed in improving, delivery systems for small farmers in providing credit, inputs, markets, technology and technical assistance. As discussed in Section 1, abolition of traditional arrangements through tenancy reform may leave reform beneficiaries without access to capital and other indivisible or scale sensitive inputs. Some of the indivisibilities may be overcome spontaneously by the rise of appropriate markets and informal arrangements among farmers, but such developments cannot be taken for granted. Co-operatives and state agencies may be needed to fill gaps. This again is not an easy task, and committment of control governments and budgets are not enough to achieve successful implementation. But inattention to this area decreases opportunities for small farmers and increases the stresses of development.

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[9] Thus, Wanigaratne (1984, p. 318) describes how the egalitarian tenure system in dry zone settlements gives individuals an alternative to being pushed out as a surplus labour onto a thin labour market.

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