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Rural labour markets and poverty in developing countries

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Preface

Samir RADWAN *

Hiring out their labour has increasingly become a source of livelihood for a large number of workers in the rural areas of developing countries. It is therefore somewhat surprising that, despite the impressive progress of development theory, the part of it that deals with the conditions of these labourers remains only partially developed. Theories attempting to model the rural economies of developing countries have exhibited a notable divorce from reality (Radwan, 1989). Since Arthur Lewis (1954) advanced his surplus labour hypothesis, the main focus of research has fallen on wage determination.[1] While we have no intention of minimising the contribution of wage determination theories, two observations need to be made: first, the share of wage labour in developing countries' agriculture is generally low (not more than 20 per cent on average). Second, labour income takes a variety of non-wage forms so that any attempt at conceptualisation should go beyond wage determination to include the wider question of determining returns to labour: wage and non-wage.

A major issue, therefore, is the adequacy of prevailing labour market models to accommodate the complex relationships that characterise the labour process in present-day agrarian economies. For instance, the competitive model which seeks to explain labour returns in terms of smoothly functioning labour markets has now been widely rejected.[2] Similarly, the simple Marxist model that is based on the idea of polarisation between landowners and wage earners has been seriously challenged by the phenomenon of the "persistence of the peasantry" observed in Asia, Africa and Latin America.

* Chief, Rural Employment Policies Branch, International Labour Office. This special issue contains selected case studies from a larger project on Rural Labour Markets and Employment Policies which was carried out under ILO auspices over the past few years and included 14 country studies in Asia, Africa and Latin America. Many people have generously contributed to the preparation of the issue by commenting on and suggesting changes in the texts, and particularly Jayati Ghosh and Hamid Tabatabai. Geraldine Ople and Sandra Cerutti patiently typed successive drafts. To all of them I am most grateful. Most of the research was financed by the Swedish Agency for Research and Co-operation with Developing Countries (SAREC).

[1] Paul Samuelson once commented that although there exists a multiplicity of theories on the subject of wages, economists are still uncertain how wages are determined: "I fear that when the economic theorist turns to the general problem of wage determination and labour economics, his voice becomes muted and his speech halting. If he is honest with himself, he must confess to a tremendous amount of uncertainty and self-doubt concerning even the most basic and elementary part of the subject" (quoted by Dasgupta, 1984, p. 28).

[2] For a detailed discussion of these conceptual problems see, inter alia, Bardhan, 1984, Binswanger and Rosenzweig, 1984, and Godfrey, 1986.

Certainly, there have been several attempts to deal with these shortcomings (Bardhan, 1979; Hansen, 1983; and Binswanger and Rosenzweig, 1984). Two sets of approaches may be singled out in this respect: first, the efficiency wage approach, which assumes a technically determined relationship between a worker's nutritional level and his effort (Mirrlees, 1975; Rodgers, 1975; Stiglitz, 1976; and Bliss and Stern, 1978); and second, the interlocking transactions approach, which argues that labour market outcomes are determined by linkages with other factor markets such as land and credit (Bardhan and Rudra, 1981).

Most of these analyses assume, however, that labour transactions can be explained in terms of market functioning. As will be demonstrated by the case studies, this is not necessarily so in the real world. In dealing with the relationship between labour hiring and returns to labour, the role of non-market and extra-economic factors can be crucial in determining labour incomes.

It is against this background that the present issue of the *Review* should be seen. It aims at providing some further empirical observations on how rural labour markets function, and the complex factors that condition their outcomes. In selecting the case studies to be presented here, no attempt was made to provide a systematic typology of the variety of labour contracts under different agrarian systems. Rather, an effort was made to choose countries and/or regions that reflect specific characteristics of rural labour transactions and to relate these to the macro-economic and institutional contexts in which they operate. Thus our case studies can be said to provide a testing ground for the various theoretical approaches that have been advanced for analysing the realities of rural labour, particularly in poor agrarian economies.

By documenting the mechanisms through which rural labour, and in particular that of the poor, is exchanged under a variety of institutional forms, these studies aim *(a)* at throwing some light on the important issue of what determines the returns to rural labour if we reject the simple competitive model; and *(b)* at trying to establish the linkage between labour exchange and rural poverty. Thus the primary focus is on identifying the nexus of factors that influence labour exchange and determine its outcomes. This may explain the heavy emphasis on policies and institutions that affect the formation, functioning and outcomes of labour markets. But it should not be construed as a total rejection of the role of markets. As Bardhan has warned, "there are, of course, some who have always been critical of the glib 'neoclassical' assumption of smoothly operating market mechanisms or well-behaved production functions. But more often than not, they in their own analysis have not gone beyond a kind of murky institutionalism: economic analysis has got lost in the thick fog of smug statements of it-all-depends-on-institutions-and-the-class-structure variety" (Bardhan, 1984, p. 1).

With this cautionary note very much in mind, the present case studies attempt to provide empirical underpinnings that may help us to arrive at a better model of the way in which rural labour markets function.

Allowing for the peculiarities of the different situations dealt with in this special issue, we may nevertheless single out three underlying themes common to all the studies: that in many poor agrarian economies labour markets are in the process of evolution; that the determinants of returns to labour are too complex to be explained by markets alone; and that the outcomes of labour contracts are the result of survival strategies adopted by rural labour vis-à-vis a profit-maximising strategy by those who hire labour.

While it is not our intention to provide a summary of the case studies, three observations are called for: first, the determinants of returns to labour are much more complex than current labour theories tend to suggest, and hence the merit of the present case studies is that they provide empirical support for a step forward in conceptualising the functioning of rural labour markets; second, the persistence of the peasantry emerges as an important theme in the three continents of the developing world; and finally, the main source of vulnerability of rural labour is its weak bargaining power.

The last point brings us to the issue of the policy implications of the analyses presented in the case studies. A central question is how to improve the outcomes of rural labour markets, especially in terms of returns to labour, and particularly for the poor. Past work on problems related to land tenure, agrarian reform and poverty has addressed the distributional aspects of development strategies. Little has been done to combine that discussion with labour market analysis in order to determine the implications for policy interventions in the labour market. Broadly speaking, two types of policies may be mentioned (ILO, 1983): first, policies to improve the operation of the labour market either by abolishing some coercive labour contracts (e.g. bonded labour), or by improving the conditions of these contracts (e.g. minimum wage legislation). The second type of policy intervention is more drastic since it aims at enhancing the bargaining power of rural labour through increasing its resource endowment. This is usually achieved by land redistribution and ensuring equal access to education and training. It falls beyond the scope of the studies presented here to go into detail about these policies. It needs to be emphasised, however, that such policies should not be considered in isolation, but rather as part of a coherent larger package designed to enhance the bargaining power of rural labour and hence contribute positively to both efficiency and equity.

It is hoped that these studies will help to advance the analysis of rural labour markets by bringing it closer to the realities of the agrarian economies of the developing countries.

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Employment and livelihood

The rural labour process and the formulation of development policy

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Limits to industrialisation in a dual economic structure

It has come to be generally accepted that an economic development strategy based on the industrialisation experience of the advanced capitalist countries may not be viable for most developing countries. At least three major distinctive factors exert a strong influence on contemporary industrialisation. First, the decline in the death rate and the corresponding rise in the *net* birth rate in most developing countries have generated strong pressure to increase wage employment more rapidly through industrialisation – a problem accentuated by the deteriorating land/man ratio and the severely limited scope for international migration. Large-scale emigration, particularly to the United States (and the Americas in general), provided a significant escape route from population pressure for many European countries during their industrialisation process, but no escape route of comparable magnitude exists today for the relatively large developing countries with high population density.

Secondly, the technological environment for industrialisation has radically altered. The vast stock of technological knowledge available in the industrially advanced nations is a double-edged weapon in the context of developing country industrialisation. It opens up the possibility of rapidly raising labour productivity; but, because of the greater dependence of developing countries nowadays on international trade, it also threatens to impose a heavy economic penalty on those of them that fail to catch up technologically. Thus developing countries cannot avoid adopting a conscious technological policy as part of their industrialisation strategy. By and large, this need was not felt at the time of the Industrial Revolution in Western capitalism, where technological development proceeded more or less simultaneously with the process of capitalistic accumulation.

Third, and most important from an economic point of view, it has become more difficult to finance industrialisation internally, and the developing countries do not have colonies from which to extract surplus.

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Moreover, domestic wage-price-productivity relations have changed. For instance, the real wage per adult male worker hardly increased in Britain during the first six decades of the nineteenth century, despite a substantial increase in labour productivity in this initial phase of the Industrial Revolution. Similarly in France, *money* wages remained almost constant during the entire period from 1810 to 1850 (Boyer, 1979), while *real* wages fell perceptibly between 1840 and 1856 as the cost of living rose sharply (Lhomme, 1968). In contrast, in the organised industrial sector of today's developing countries, money wages in general tend to respond much more rapidly to rises in prices and the cost-of-living index, and this, added to downward inflexibility of the real wage rate in the organised industries, weakens the classic mechanism of surplus generation in a capitalist economy. Inflationary redistribution from wages to profits often boils down to an even more cruel process of redistribution mostly at the cost of the weaker and more vulnerable workers in unorganised industries, who are unable to protect themselves against the rising cost of living.

The role of real wages in an underdeveloped (or, for that matter, in a developed) capitalist economy should not be misunderstood. It is not principally a means of substituting labour for "capital" by reducing the relative price of labour, as is asserted by orthodox neoclassical economic theory. It is not evident, as Keynes pointed out, that depressing the real wage rate would increase the derived demand for labour. With lower real wages the level of effective demand tends to fall, and the strong negative "acceleration effect" of a lower level of effective demand may well outweigh the higher profitability of investment associated with a lower real wage rate and keep both investment and effective demand in a depressed state. Thus it is by no means certain that lower real wages in a developed or underdeveloped capitalist economy would help to reduce unemployment. Only when investment is centrally planned and a lower real wage can be used to redistribute income from the already employed to the unemployed, will the stimulating effect of lower real wages on the employment level be certain to operate.

Most so-called labour-surplus developing countries are therefore ill placed to deal with growing unemployment. While high net population growth without significant scope for international migration and the need to catch up technologically pull the developing countries towards faster industrialisation, a weaker mechanism for generating and utilising social surplus makes the financing of industrialisation more problematic.

The classical assumption of a *given* real wage rate at which labour supply remains perfectly elastic was used by Lewis (1954) to capture some of the essential features of industrialisation in a dualistic economic structure. With profit maximisation in the modern capitalist sector at that given real wage, it is assumed that in a long-run process of industrialisation all savings (profits) in the capitalist sector are automatically invested to finance further industrialisation. And, as labour productivity in the modern sector rises while

the real wage rate remains constant, both savings out of profit and the share of investment rise and can be used to increase the pace of industrialisation. Another result is the transfer of surplus labour at an increasing rate from traditional peasant agriculture.

In his later assessment (1979, p. 223) Lewis himself candidly admitted: "It [the model] predicts quite well for nineteenth century Europe, on whose experience it was based, but when applied to one hundred LDCs over the past quarter century, its [predictive] performance is spotty."

The model seems to have lost its contemporary relevance in at least three crucial respects. First, the assumption that all savings (profits) of the modern sector are *automatically* invested back into the economy fails to capture investment behaviour in a predominantly capitalist, underdeveloped economy. In a centrally planned economy it may be a reasonable approximation to assume that savings are invested back, but the essential feature of any capitalist economy, developed or underdeveloped, is the relative autonomy of private investment guided by prospects of profits, to which savings tend to adjust. The model has nothing to say on how the size of the domestic or home market affects the pace of investment and therefore of industrialisation.

Secondly, the process of surplus expropriation is inadequately specified in the model. Apart from identifying the profits of the modern sector as the investable surplus of the economy, the model does not explicitly deal with the issue of how adequate agricultural surplus is generated to support the expansion of the modern industrial sector by matching demand for and supply of food. Instead, the traditional peasant agricultural sector is largely treated as a passive variable, with both the level of agricultural surplus and the labour supply adjusting to the requirements of industrialisation.

Finally, not only does the model gloss over the problem of surplus extraction, it also fails to link variation in the level of agricultural surplus with the pace of migration to modern industry over time. The conclusion is that Lewis-type dualistic models grossly underestimate the social phenomenon of migration to urban areas and the associated enormous cost of urbanisation, which threatens the very process of industrialisation. Inasmuch as higher extraction of agricultural surplus to finance industrialisation may constitute a strong "push" factor propelling migration to urban industries, in addition to the standard "pull" factor of higher urban wages, the pressure for industrial employment creation can reach a level that is simply unmanageable.

Two simple sets of calculations illustrate the nature of the problem. On the *requirement of agricultural surplus*, consider the broad magnitudes in the Latin American context. In the early 1950s about 30 per cent of the Latin American population was urban and 70 per cent rural. By 1985 the situation was almost reversed with nearly 70 per cent of the total population living in urban areas. Assuming that all profits and no wages were saved and that there was no net import of food grains, this would have meant that the rural

labour force L_r was able to support the food consumption of the urban labour force L_u in the 1950s provided that agricultural productivity x_a was about 1.43 times higher than the average real wage w in the economy in terms of food, according to the simple formula:

$$w\,L_u = (x_a - w)\,L_r \qquad (1)$$

$$\text{or} \quad \frac{L_u}{L_r} = \frac{.3}{.7} = \frac{x_a}{w} - 1$$

$$\text{or} \quad \left\{\frac{x_a}{w}\right\}_{1950s} = 1.43$$

However, in 1985 the same formula would have required a ratio of agricultural productivity to the average real wage of $x_a/w_{1985} = 3.33$. In other words, the drastic change in the urban-rural population balance over three-and-a-half decades would require something of the order of a 133 per cent increase in agricultural labour productivity to generate a sufficient agricultural surplus to meet the new needs, on the assumption of a constant and uniform real wage rate. Even this would be an underestimate if either the urban-rural wage differential were to widen or the real wage were to rise over time in favour of the urban sector.

The other dimension is the *requirement of job creation in industry*. Even a modest target of 3 per cent growth in total employment, if it had to be achieved by the industrial sector alone, would require wholly unrealistic industrial growth rates. Consider, by way of example, some typical values: the industrial sector engages 20 per cent of the total active labour force and the output elasticity of employment n is around 0.3. Using the traditional three-sector classification into agriculture, industry and services, represented by subscripts a, i and s respectively, we can define the growth in total employment L as a weighted average, i.e.

$$\frac{\dot{L}}{L} = \frac{\dot{L}_a}{L_a}\,\frac{L_a}{L} + \frac{\dot{L}_i}{L_i}\,\frac{L_i}{L} + \frac{\dot{L}_s}{L_s}\,\frac{L_s}{L}$$

$$\text{where} \quad \frac{L_a}{L} + \frac{L_i}{L} + \frac{L_s}{L} = 1 \text{ by definition.}$$

Since, by assumption,

$$\frac{\dot{L}}{L} = \left\{\frac{L_i}{L}\right\}\left\{\frac{\dot{X}_i}{X_i}\right\} n \qquad (2)$$

where the output elasticity of employment in the industrial sector is definitionally given as

$$n = \frac{\dot{L}_i/L_i}{\dot{X}_i/X_i} = 0.3 \text{ (assumed constant value)},$$

it follows from (2), that for $L_i/L = 0.2$ and a *total* employment target of 3 per cent per annum, i.e. $L/L = 0.03$, the required growth rate of industrial output X_i/X_i has to be 50 per cent a year.

Thus a necessary condition for a sustainable process of industrialisation must be to moderate its requirements for extraction of agricultural surplus and creation of industrial employment. Such conditions can be satisfied only when rural livelihood is reasonably stabilised to slow massive out-migration to urban areas. In other words, the earlier dual-economy models may be fundamentally misleading precisely because they concentrate on the dynamic growth of the "modern" industrial sector as the prime mover of the system. Instead, in some contexts, the traditional sector may play the crucial role, not merely by generating the required agricultural surplus or even providing the domestic market for industrial goods but, more importantly, by reducing the almost intolerable pressure for industrial job creation and accompanying urbanisation.

Expropriation of agricultural surplus and the survival strategy in traditional agriculture

The dual-economy model implies that the dominant social form of labour utilisation is different in the "traditional" and in the "modern" sector, modern organised industry being based on wage labour, while traditional agriculture depends heavily on the use of family labour.

The industry-agriculture division does not, however, sufficiently capture the distinction in the social form of labour utilisation for one central reason: the nature and extent of inequality in private property ownership exert a decisive influence. Thus, while large landowners may often organise production on the basis of wage labour in agriculture, small enterprises may rely heavily on family labour in unorganised industry and the service sector. In general, both in agriculture and in industry, self-employment through reliance on family labour increases in importance as one moves down the scale of private ownership of property. The very existence of a large traditional agricultural sector presupposes that a large number of direct producers are not separated from the ownership of the means of production, that is, they own their small plots of land, and/or have access to the use-right of land through an active land-lease market.

The coexistence of wage-labour-based production on large farms and self-employment-based family-operated farms reflects the underlying inequality in the land ownership pattern in traditional agriculture. This inequality in land and other resource ownership forces the vast majority of agricultural households to devise survival strategies – in which context it is necessary to focus on the concept of *livelihood* as distinct from wage employment.

Survival strategies involve two interrelated aspects: (i) the use pattern of household labour (and other household-owned resources); and (ii) the

relationship of households with "the market" both as buyers and as sellers. Although the two aspects are not usually distinguishable in practice, it is analytically useful to make this separation. Households, operating small plots either as owner-cultivators or as tenants, tend to use their family labour most intensively in order to obtain maximum yield per acre of land. This is a reflection of their limited access to land in relation to available household labour; it is also a reflection of their need to survive by trying to get the maximum out of that land, almost irrespective of the additional income/output obtainable from extra effort on the part of the family.

The resulting higher yield from land does not show itself so much in terms of a given single crop, but arises from choosing, say, a more labour-intensive crop composition which maximises monetary yield per acre (or allows small producers to be more favourably placed in relation to the market, as discussed later). Thus the much debated inverse relation between land size and land productivity seems to have a firmer empirical basis when yield per acre, taking into account all crops, is considered (Bharadwaj, 1974).

However, choice regarding crop composition and cropping intensity is constrained by land quality, ecology, control over water, credit availability, and so on. In this context, longer-term investment may become another choice variable, mostly concerning the use of family labour in land improvement, such as better drainage and irrigation facilities to improve future production potential. But longer-term land improvement can be a valid option only for family-owned farms, or for tenant-operated farms enjoying long-term security of tenure. In this way, property relations in the form of *continuity* of land-use rights may also exert a strong influence on the extent of choice in the more intensive use of family labour.

Some empirical evidence from India suggests that "smaller farms generally have a higher percentage of their area irrigated" (Bharadwaj, 1974, p. 41). This may result from two different motives for family labour utilisation. First, it may reflect the tendency to use family labour more intensively in improving land quality, as mentioned above. But secondly, it may reflect the threat to survival imposed on small-sized tenant-operated farms by an indirect control of the labour process by the landowner. This indirect control may be exercised by leasing out more fertile or irrigated land in smaller parcels than less fertile land under, say, share-cropping arrangements. A tenant family is forced to cultivate the more fertile irrigated land more intensively because the size of operational holding parcelled out by the landowner is reduced in proportion to its fertility. Some further evidence has been recently accumulated in India to suggest that the higher productivity of small farms in traditional agriculture may well be partly explicable by a more intensive pattern of land improvement and capital expenditure (see table 1). However, even if this evidence holds as a more general pattern, higher capital investment in smaller holdings may be the complex resultant of at least three interacting economic forces: *(a)*

Table 1. Capital expenditure/investment in agriculture by operational size groups: India, 1951-52 and 1971-72

Size [1]	Average expenditure [2] per acre (rupees)	
	1951-52	1971-72
Small cultivators [3]	19.3-22.1 [4]	34.1-43.2 [4]
Medium cultivators	16.4	30.4
Large cultivators	15.9	39.1

[1] The 1951-52 and 1971-72 data are not strictly comparable in terms of size group classification, as the former uses a "relative frequency" approach, while the latter uses the land ownership per household as the criterion. [2] Excludes expenditure on purchase of land or land title, but includes expenditure on land improvement (also imputed values). [3] The 1951-52 classification defines small cultivators as the bottom 30 per cent of land-owning households; in the 1971-72 classification they comprise "marginal" (up to 0.8 acre) and very small (up to 2 acres) farmers, accounting for a larger percentage (about 47 per cent). [4] Tentative estimate of range, based on varying imputed value to family labour.

Source: Recomputed from Banerji, 1984, on the basis of All India Rural Credit Survey (1951-52), All India Debt and Investment Survey (1971-72) and National Sample Survey, 8th round.

complementary investment to higher labour use per acre of land in *current* production; *(b)* higher family labour use to expand *future* production potential, as a part of the survival strategy; and *(c)* smaller operational holdings of better endowed and more fertile land enforced by some landowners.

Yet another important complexity in family labour use patterns arises out of the survival strategy. Given acute land scarcity in relation to available family labour at the lower end of the land ownership spectrum, there is naturally a strong tendency to lease in land on the part of the landless and near-landless or marginal cultivators. However, with the fragmentation of land ownership as a result of population pressure and inheritance laws and rights, leasing in frequently leads to extremely unconsolidated landholding patterns, where even a smallholding may be divided into several pieces. Such fragmented holdings reduce the effective use of family labour and increase the "setting-up" costs of cultivating each fragmented piece. Thus, paradoxically, the pressure for survival that leads to leasing in several unconsolidated plots of land with a view to better use of family labour may ultimately result either in subletting or in greater reliance on outside, hired labour even by very small and marginal landholders.

The dependence of small-to-landless peasants on the land-lease market is in turn only one component of overall survival strategy which revolves round their complex relation with the market in general both as buyers and as sellers.

It has been customary in traditional theory to oversimplify and view *all* market exchange as based on the motive of "gains from trade". This view rests on the assumption that trade or exchange in the marketplace is strictly

voluntary while specialisation in production, according to comparative advantage, operates as the general rule. In the case of poor peasants serious doubt may be cast on the validity of both these assumptions. Small and marginal peasants are often involved in the market for agricultural produce in a series of *involuntary* exchanges, simply dictated by their need for survival. Thus there is the widespread phenomenon of cycles of post-harvest distress selling and pre-harvest distress buying in which many small peasants are caught up. The fact that they regularly sell at a low post-harvest price and buy at a high pre-harvest price would seem to suggest that "voluntary" trade is not a particularly meaningful term to apply in the present context. Indeed, evidence also suggests that smaller farms quite often have a high degree of market involvement, in terms either of the proportion of output sold or of the proportion of land devoted to cash crops or both (Narain, 1961; Bharadwaj, 1974; and a theoretical explanation and additional data in Bhaduri, 1983, Ch. 1). Because smaller farms typically have less "surplus" to sell in the market, such market involvement cannot be easily explained in terms of voluntary sales. To highlight this *involuntary* nature of the market involvement of small peasants, we employ the term "forced commerce". It emphasises that, more often than not, small peasants are forcibly caught up in a commercial network through indebtedness largely incurred by taking out regular consumption loans in order to survive from harvest to harvest (Bhaduri, 1983, Ch. 1 for empirical details relating to India).

Such forced commerce has a dual role in traditionally backward agriculture through its impact on the livelihood of the small peasantry. On the one hand, it might superficially appear that many small peasants would not have a viable livelihood were it not for regular recourse to consumption loans and the associated network of forced commerce it involves. On the other hand, such forced commerce is also an important device to extract a surplus from even the smallest producers in agriculture by obliging them to participate in the market under duress, and thus represents an increased threat to their survival.

The threat to survival posed by forced commerce and the associated method of extraction of agricultural surplus generally operates in two distinct ways. So long as an indebted small peasantry is able to service its debt from consumption loans, the interest payments on the loans in various explicit or implicit forms (e.g. undervaluing the standing crop as collateral) constitute the main mechanism of surplus extraction. When the peasants are unable to service their debt, the method of surplus extraction takes other forms. A major consequence of default is the transfer of "assets" from the peasants, including land and future labour services as undervalued collaterals (Bhaduri, 1983, Ch. 5). The steady erosion of such assets through loan defaults poses an obvious threat to their traditional livelihood. In turn, this creates a strong "push" factor in traditional agriculture as many small peasants ruined by unpayable debt burdens are compelled to look for alternative livelihoods.

In most traditional agriculture with its acute inequality in land distribution, the small peasantry account for a relatively small proportion of total agricultural output or surplus, and since the method of forced commerce based on a threat to survival basically operates on them, it may not be quantitatively the most important means of extracting agricultural surplus. And yet it could threaten the traditional livelihood of a very substantial proportion of all agricultural households. The consequence is extremely unfavourable for sustained industrialisation: not only is the agricultural surplus that is expropriated through forced commerce to finance industrialisation relatively unimportant, but the pressure it creates for alternative job creation by destroying traditional livelihood in agriculture is disproportionately large.

Alternative methods of surplus extraction, such as a higher indirect tax on essentials or a higher land revenue demand by the State, which may be passed on to the smaller direct cultivators, can likewise bring the smaller peasantry into the grip of forced commerce by depressing their consumption level. In that case alternative modes of surplus extraction, including the claims made by the State, would interact in a complex way. If the final outcome strengthens the grip of forced commerce and threatens the livelihood of the smaller peasantry in traditional agriculture, this would jeopardise the very process of sustained industrialisation for which agricultural surplus is extracted by the State in the first place. Nor can this difficulty be easily circumvented by manipulating the terms of trade between agriculture and industry. Most agricultural labour households and marginal-to-small peasants are not genuine surplus producers voluntarily participating in the market for "gains from trade". They may either be *net* buyers of food grains (e.g. agricultural labourers) or be involuntarily involved in the market as net sellers under a contrived system of forced commerce. In either case, they cannot be expected to benefit from a movement in the terms of trade in favour of agriculture. At the same time, the logic of forced commerce would allow the moneylenders and merchants to expropriate the benefit of higher agricultural prices along with large, genuine surplus producers. Manipulation of the terms of trade may thus be ineffective. So long as this system of forced commerce maintains its grip on the small peasantry, it will, in the process of extracting agricultural surplus, continue to ruin traditional livelihoods. In this way the *method* of extraction of agricultural surplus exerts a crucial influence on the longer-term viability of the development strategy in a predominantly agrarian economy. It follows that both the *method* and the *pace* of extraction of agricultural surplus must not be allowed to result in the uncontrolled destruction of traditional livelihood in agriculture.

The contradictory dynamics of rural livelihood

The destruction of livelihood in traditional agriculture under the surplus-extracting role of forced commerce is by no means a unilinear

process, basically because of the essential flexibility of rural livelihood in contrast to wage-labour employment. Within a broad margin such flexibility permits both the sources and the pattern of livelihood to adapt to changing economic circumstances, and, in turn, this generates a complex dynamic of simultaneous creation and destruction of rural livelihood.

The flexible nature of livelihood in traditional agriculture arises from its three distinguishing characteristics.

1. Since the whole family rather than the individual is the relevant labour unit, economic activities can be more easily diversified over space and time.
2. The survival strategy of a poor family with limited land and other resources usually requires dependence on several sources of earning and other family-supporting activities.
3. The labour use pattern of the family, that is, the labour process associated with rural livelihood, is governed by its survival strategy but usually is not directly controlled by others. This lack of direct control allows family labour to change and adapt its use pattern in accordance with its preferred survival strategy over time.

As forced commerce becomes the centrepiece in the mechanism for eroding traditional livelihood by transferring land and other means of production from poor peasants to the moneylenders and merchants, the flexible response of the livelihood pattern may become visible. The overall or *macro-economic* impact of the transfer of land and other assets from defaulting peasants depends to a large extent on its repercussions on the organisation of production in traditional agriculture. In so far as it means a mere transfer of property rights without any fundamental change in the organisation of production (e.g. reducing the defaulting peasant from owner-cultivator to tenant), its impact on livelihood is relatively limited. It has the effect of depressing the consumption level of the direct cultivator without a consequent change in the organisation of production. However, in other instances the transfer of property rights may entail basic changes in the organisation of production (e.g. a changeover to capitalistic from peasant farming). Even assuming that the transfer of property rights in land leads not only to concentration of land ownership rights, but also to simultaneous consolidation and cultivation of land in larger operating units along capitalistic lines, its overall effect on rural livelihood would be the resultant of two opposing tendencies. On the one hand, traditional family-based cultivation of smallholdings decreases, while on the other hand wage-employment opportunities on larger operating units are created. When irrigation and other forms of capital investment raise the cropping intensity of the larger units, the potential for wage employment tends to increase further. Thus the net effect in terms of labour absorption in agriculture depends on a complex interaction between the destruction of relatively independent family-based cultivation and the creation of fresh wage

employment in larger and perhaps more productive (thanks to capital investment) modern capitalist holdings. However, the overall net impact on labour absorption in agriculture is likely to be adverse so long as labour use per unit of land is higher on smaller than on larger farms.

Nevertheless, a lower average labour absorption per unit of land in agriculture must not be confused either with a necessarily lower employment potential or with lower average earnings for agricultural households. The wage income opportunities generated in the larger farms created by land transfer may outweigh the disadvantage of land alienation by giving higher earnings to *some* of the small peasant families. Thus a part of family labour may still be used in the cultivation of the small family plot, while the remaining family labour (usually that of the adult male member of the family) finds wage employment on the larger farm. Under these circumstances, total earnings from all sources may actually increase for some families. Such enhanced earnings should weaken involuntary market involvement, and consequently weaken the grip of forced commerce by slowing the process of land transfer through debt default. The result would be a marked tendency for a number of small farms to persist over time, despite an overall trend towards concentration in the landholding pattern – in other words, for traditional agriculture to be polarised.

If smaller landowning groups are able to supplement their income with opportunities for additional earnings *outside* agriculture, for example through animal husbandry, artisan work, or employment in local industry, a more autonomous dynamic of employment opportunities would be superimposed on the internal dynamics of land alienation and simultaneous creation of wage income opportunities *inside* agriculture.

Under these circumstances it is possible to visualise complex interactions of "push" and "pull" factors determining the overall rate of out-migration from agriculture. If the pull factor creates additional income by attracting some members of the family to work in the city or industry and remittances are sent back to stabilise the small, family agricultural holdings, such migration to cities, often in the form of temporary "relay migration", may paradoxically contribute to the stabilisation of livelihood in traditional agriculture. Indeed, there is evidence that migration to plantations and to urban areas has allowed small peasant proprietorship to stabilise in some instances, as the figures in table 2 based on an intensive survey of four villages in the Noakhali district of Bangladesh suggest.

The final column of table 2 shows a definite tendency towards polarisation in land ownership through net transfer of land from the two smallest size classes (owning up to 0.6 acre) to the larger ones. Nevertheless, this polarisation is relatively slow, as nearly half the households in the two smallest size classes retained at least some of their inherited land (see column 3 of the table) and persisted as very small farms. However, further investigation revealed that their persistence was made possible mostly by additional income opportunities in the form of leasing in land and wage-

Table 2. Persistence of small-owner farms despite land transfer: Four villages in Noakhali District, Bangladesh

Size of current landholding (acres)	No. of households	% of "stable" households [1]	Net transfer of land ownership as % of currently owned land [2]
(1)	(2)	(3)	(4)
Up to 0.2	350	50.9	–21
0.2-0.6	200	46.0	–13
0.6-1.6	222	41.4	+13
1.6-4.0	118	39.0	+20
Over 4	46	52.2	+11

[1] Calculated by the ratio of currently owned to inherited land; "stable" households are those in which this ratio remains close to unity (between 0.9 and 1.1). [2] The bases on which the percentages are calculated are different for different ownership size groups. The bigger landholdings gained more land than the smaller ones lost in absolute amount. This discrepancy can be explained by out-migration from agriculture and by new areas brought under cultivation.

Source: Consolidated from tables 1 and 2 of Bhaduri et al., 1986.

labour employment and, to a lesser extent, artisan and similar non-agricultural activities. Interestingly enough, this activation of the rural wage-labour and land-lease market was in part a consequence of the process of land transfer from the small landowning group as a whole. Thus additional agricultural income opportunities for some of these households also meant dispossession of land for others within the same size class. In this way, polarisation and persistence figure as opposite sides of the same process.

It is important to note that the ability of small farms to persist over time under a system of forced commerce does not depend critically on efficiency considerations. Once it is recognised that many smallholdings provide a livelihood for peasant families without alternative means of subsistence in traditional agriculture, it is easy to see how they may persist with subsidiary income opportunities that are barely viable. Indeed, an essential aspect of the survival strategy is the family's ability to eke out a livelihood irrespective of efficiency considerations.

Reversing the Schumpeterian imagery of "creative destruction" caused by technological progress under industrial capitalism, we may identify polarisation as the destructive force operating on rural livelihood which typically prevails over the conserving force represented by the persistence of small family farms, made viable by supplementary income opportunities. However, it is essential to distinguish between situations in which such additional income opportunities are created for certain small peasant households at the cost of others, and those where the additional income opportunities arise either through additional asset or resource creation or at the cost of the more privileged higher-income groups. Thus, when some

peasant families find wage employment on newly created large farms through a general process of land alienation, the situation can be aptly described as a "zero- or constant-sum game": the subset of more fortunate families are able to stabilise their livelihood only at the cost of other households in the same category who have lost their land and livelihood. On the whole, this would typically be a *poverty-augmenting* way of creating supplementary income, as the losers outnumber the gainers in the process (the Bangladesh study points to this situation).

By contrast, supplementary income opportunities arising from, say, better animal husbandry, better marketing, or consisting in non-farm artisan work or off-season guaranteed employment on public works schemes, can be created either by redistribution from more privileged higher-income groups or by introducing new types of resource formation in traditional agriculture. In essence, this is the *poverty-reducing* way to stabilise rural livelihood.

Systematic empirical research on the changing pattern of alternative sources of income opportunities at different levels of family income in rural areas is not available. It would be a highly desirable, indeed a necessary, line of research to give operational content to this distinction between poverty-augmenting and poverty-reducing ways of stabilising livelihood in traditional agriculture. The major policy implications of the preceding analysis hinge on such a distinction. In the course of our discussion of rural development policy in the next section, we shall try to identify on an *a priori* basis a few important poverty-reducing ways of stabilising rural livelihood with brief comments on their political feasibility in different contexts.

Some implications for rural development policy

The critical role of agricultural surplus in financing industrialisation has been widely recognised, especially in the context of dual economies. However, it has been far less common to recognise that the *methods* of expropriation of agricultural surplus can exert a virtually decisive influence on the sustainability of the industrialisation process. If the method of expropriation of agricultural surplus leads to uncontrolled destruction of livelihood in traditional agriculture, then the pressure for creating alternative employment opportunities in industry and services, and the associated urbanisation cost, may mount at a disastrous rate, as has been the recent experience of many developing countries. Yet the ability of organised industry and of services to create employment is severely limited.

It is not possible to generalise meaningfully about the repercussions of alternative methods of agricultural surplus extraction on rural livelihood without reference to context. For instance, a traditional tax-like land-revenue demand by the State can have disastrous consequences for rural livelihood *if* the heavy revenue demand burden is primarily passed on to the small direct cultivators, resulting in rack-renting. This indeed was an important lesson from colonial experience in many parts of South Asia.

Unless the method of surplus extraction can be restricted to the better-off agrarian sections, its effects on rural livelihood and consequent out-migration from agriculture may assume disastrous proportions.

The argument of this paper has concentrated on the role of *forced commerce* in extracting agricultural surplus, not because it is quantitatively important in terms of surplus generated – it usually is not – but because of its wide-ranging negative repercussions on rural livelihood. It may not be important in many developing countries and perhaps its direct relevance is mostly limited to the contemporary South Asian context, but because it simultaneously destroys rural livelihood, it has a wider analytical relevance: it clearly and specifically demonstrates how a *method* of surplus extraction can, quantitatively speaking, be relatively unimportant (as it relies on extracting surplus from the poorest stratum of the peasantry) and yet can seriously threaten the survival of the smaller peasants.

Because certain methods of extracting agricultural surplus like forced commerce may ultimately be counterproductive for economic development, it is useful to consider an alternative attack on the problem. If the real wage in terms of agricultural produce can be reduced, then the same level of investment can be financed with a lower level of surplus. This can create a larger volume of employment with the same real wage bill without extracting higher levels of agricultural surplus. However, this option is generally not open to an underdeveloped capitalist economy since a lower real wage also reduces effective demand in the domestic market and may therefore depress the level of private investment. Only in a centrally planned economy can an effective assault be made on the employment problem by redistributing income from the already employed to the unemployed through a reduction in real wages, maintained by a central rationing system. This indeed has been the experience of several centrally planned economies in their early phase of industrialisation.

While flexibility of the real wage rate affects mostly the demand for agricultural surplus in the course of industrialisation, on the supply side the central policy issue must be to identify *methods* of obtaining agricultural surplus that do not seriously endanger livelihood in traditional agriculture.

It is essential to strengthen the survival strategies of the small and marginal peasantry as an integral part of a sustainable development process. This requires identifying a whole range of what we have termed "poverty-reducing" supplementary income generation measures.

Redistribution of land, as well as of other productive assets (e.g. milch animals), and higher productivity on smaller landholdings would increase income and strengthen the survival strategies of the poorer peasantry. However, the political barriers to such redistribution can be formidable. Even longer-term land improvement through better irrigation and drainage facilities on smallholdings requires security of land-use rights as well as land consolidation so that the tenant has adequate incentive to utilise family labour in land-improving investment. The poor implementation of tenancy

laws in many developing countries makes it doubtful that these minimum conditions for improving the productivity of smallholdings would actually obtain.

An alternative thrust of policy could prove more feasible in some existing political regimes. Whenever forced commerce exists on a significant scale, rural credit and marketing reform could be an essential first step for strengthening the survival strategies of the poorer agricultural households.

For the reform of rural credit, it would be necessary to provide institutional loans to small borrowers on a continuing basis, especially by accepting such collateral securities as these underprivileged borrowers can offer (e.g. the future crop and labour services mentioned earlier; for details see Bhaduri, 1977). Since the recurring dependence of these borrowers on consumption loans is a reflection of the constant threat to their survival under a system of forced commerce, its grip can be weakened only if institutional loans can be assured for the same purpose on a *continuing* basis. The success of such a credit reform depends crucially on being able gradually to convince poor borrowers that they will have access to institutional credit in times of distress. Without generating this confidence, mere occasional availability of institutional credit cannot become an integral part of their survival strategy. Precisely for this reason the process is bound to be a long and gradual one. Enactment of superficial laws, such as imposing a legal ceiling on private interest rates or banning certain kinds of loan arrangements, is likely to be ineffective in strengthening the survival strategy until alternative institutional sources of borrowing can be confidently relied upon by the small and poor peasants.

In this context, it is also understandable why large public works programmes intended to guarantee wage employment during agricultural slack seasons so often fail to make a sufficient dent in the system of forced commerce. For such supplementary income opportunities to become an integral part of the survival strategy, they too must be available on a *continuing* basis over the years. However, by their very nature (e.g. a major road-building, irrigation or drainage project) they are not recurrent schemes in the context of the village economy.

Some of the problems associated with strengthening the survival strategy seem more tractable if collective rather than individual survival strategies are focused on. Thus it may be extremely difficult to make adequate marketing reforms for each individual producer at the village level. Instead, the villagers' collective survival strategy could be strengthened if direct exchange among them could be organised through mutual marketing co-operatives. Because this would not necessarily require recourse to generalised monetary exchange, it would not expose them to exploitation by contrived market relations under the system of forced commerce. Decentralised local exchange, largely based on local skill and production patterns among the poorer section of the rural population and supplemented by credit reform, could play a significant role in expanding the scope of rural

livelihood whenever commercial exploitation is a dominant method of surplus extraction from the poor peasants.

At the political level, policies favouring commercial reform may in some circumstances turn out to be more feasible than the conventional radical policy of redistributing land and other productive assets. In situations where the rural commercial class is fused with the landed élite, the political power of both groups will become intertwined in such a way as to create an insurmountable barrier to any reform, moderate or otherwise. But where the rural commercial class is in opposition to, and is outgunned by, the political power of the landed élite, commercial reform may be possible (whereas land reform will certainly not be). The task of honest economic policy formulation is not to avoid these uncomfortable political realities but to understand why scope for moderate reforms does or does not exist in different historical circumstances.

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Rural labour in Latin America

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Introduction

The status of rural labour and the performance of rural labour markets in Latin America have changed markedly in recent years under the pressure of rapid urban industrial development, modernisation of agriculture, changing land tenure patterns and labour laws, and increasing integration of rural and urban labour markets. Yet studies of Latin American agriculture have focused on other subjects dictated by changes in the dominant issues and reforms of the moment. Agrarian studies have concentrated on the distribution of landownership and on patterns of land use in the context of the land reforms of the 1960s, on the diffusion of modern technologies in the context of the Green Revolution in the late 1960s, on the status of the peasantry in the context of the rural development programmes of the early 1970s, and on the role of multinational agribusiness in the context of the increasing internationalisation of capital in the late 1970s.

In contrast with the extensive Asian literature, little is known of the status of rural labour and the performance of labour markets in Latin America. Yet landlessness is extremely high there; the peasantry is dependent on wage earnings for its survival, and its share of the agricultural economically active population (EAP) has not declined; surplus labour in agriculture remains high, and poverty is concentrated in rural areas in spite of the gradual shift of marginality towards the urban areas. It is thus important to give greater attention to Latin American rural labour, as regards both the economic performance of agriculture and the welfare of rural workers and peasants. It is the purpose of this article to provide a broad characterisation of the recent transformations of labour markets and labour relations in Latin American agriculture since the 1950s and to discuss the causes of some of the changes observed. The empirical basis is principally: the agricultural and population censuses; the research of the ILO and the Regional Employment Programme for Latin America and the Caribbean (PREALC); data from informants for Brazil, Chile and Mexico; and numerous cases studies, more often than not in unpublished form.

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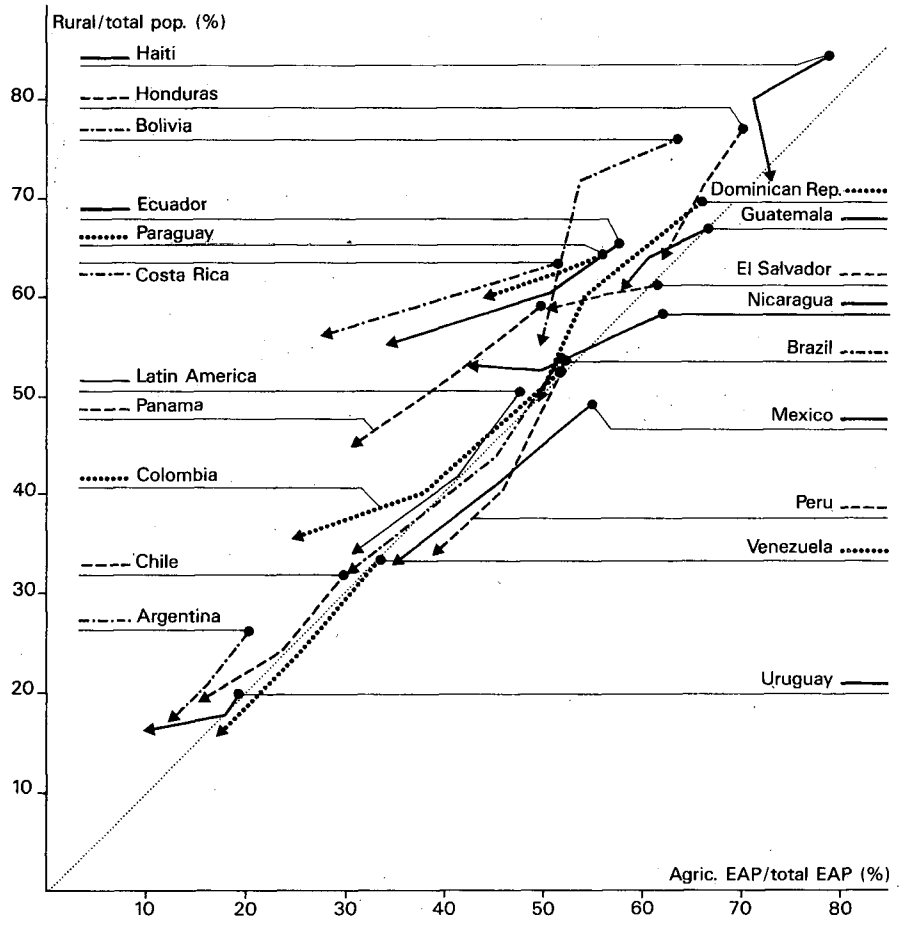
Figure 1. Shares of agricultural EAP and rural population, 1960, 1970 and 1980



Sources: As for appendix table.

The article is divided into four parts dealing with: changes in the rural and agricultural populations and the patterns of rural-urban migration; the structure of employment and the importance of wage employment in agriculture; the evolution of agricultural wages and surplus labour; and household incomes and the incidence of rural poverty.

The dynamics of population growth and employment

Agricultural and rural populations

While the average annual growth rates of population and of total EAP for Latin America (19 countries) between 1960 and 1980 were both high

Table 1. Characteristics of country groups, 1980

Indicator		Group 1	Group 2	Group 3
1.	GDP per capita (US$)	1 075	829	354
2.	Agricultural GDP as % of total GDP	8.4	12.9	23.0
3.	Rural population as % of total population	17.6	34.4	59.5
4.	Agricultural EAP as % of total EAP	14.7	31.9	56.3
5.	Ratio of share of rural population to share of agricultural EAP (3/4)	1.20	1.08	1.06

Sources: As for figure 1.

(about 2.6 per cent), as the appendix table shows, the growth rate of the rural population was only 0.65 per cent and that of EAP in agriculture 0.43 per cent, reflecting intense migration towards the urban sector and the weak employment-generating capacity of agriculture and the rural economy relative to population growth. The shares of rural population in total population and of agricultural EAP in total EAP have both declined rapidly, the first from 50.2 per cent (1960) to 34.3 per cent (1980) and the second from 48.7 to 31.7 per cent. Three groups of countries can be distinguished (figure 1):

(1) highly urbanised countries with low shares of both rural population and agricultural EAP – Argentina, Chile, Uruguay and Venezuela;

(2) industrialising countries with intermediate shares of both rural population and agricultural EAP – Brazil, Colombia, Costa Rica, Ecuador, Mexico, Panama and Peru;

(3) agrarian economies with high shares of both rural population and agricultural EAP – Bolivia, Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Nicaragua and Paraguay.

As shown in table 1, the GDP per capita declines from group 1 to group 3, while the share of agricultural GDP in total GDP increases. The ratio of rural population in total population to agricultural EAP in total EAP falls, indicating that the richer and less agrarian economies are those where non-agricultural employment in the rural sector is relatively more plentiful. Given economic growth, we can thus expect to see a greater ability of the rural economy to retain population in non-agricultural activities.

For all countries combined (see table 2), the share of EAP in agriculture declined slightly faster than the share of rural population (2.0 per cent faster per decade). Even excepting a few countries such as Colombia, Costa Rica, Ecuador and Uruguay, which all had relative declines in agricultural EAP of 15 per cent or more per decade, the data indicate a weak employment-

Table 2. Relative decline of agricultural and rural population, 1960-80

Country	Growth rate of share of rural population in total population (% per decade)	Growth rate of share of agricultural EAP in total EAP (% per decade)	Col. 2 – col. 3
(1)	(2)	(3)	(4)
Argentina	–18.3	–19.4	1.1
Bolivia	–14.4	–11.7	–2.8
Brazil	–22.4	–23.6	1.2
Chile	–22.3	–26.3	3.9
Colombia	–16.3	–29.2	12.9
Costa Rica	–5.6	–25.5	19.9
Dominican Rep.	–16.2	–13.9	–2.3
Ecuador	–8.1	–22.4	14.4
El Salvador	–2.3	–9.4	7.2
Guatemala	–4.5	–6.9	2.4
Haiti	–7.3	–3.4	–3.9
Honduras	–8.7	–5.5	–3.2
Mexico	–17.7	–19.6	1.9
Nicaragua	–4.6	–17.2	12.6
Panama	–11.7	–21.3	9.6
Paraguay	–3.0	–10.7	7.7
Peru	–19.5	–12.8	–6.7
Uruguay	–10.3	–25.9	15.6
Venezuela	–29.2	–26.9	–2.4
Latin America (19 countries)	–17.3	–19.3	2.0

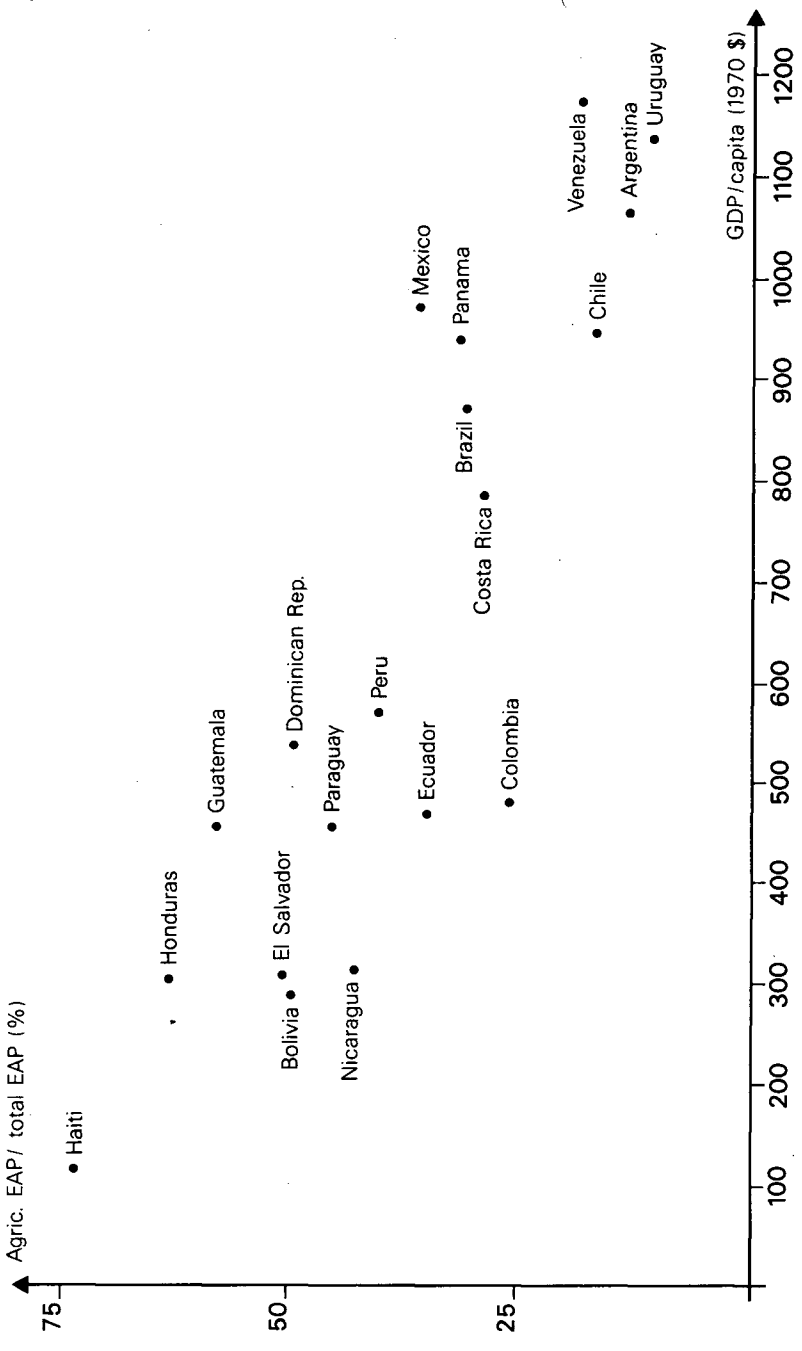
Sources: As for figure 1.

generating capacity in the rural sector of Latin American economies generally. Moreover, the apparent correspondence in the declining shares of agricultural EAP and rural population masks two complementary labour market shifts: more agricultural labour is coming from urban areas and more non-agricultural activities are located in rural areas. This increasing integration of the rural and urban labour markets will be analysed later.

As pointed out by Kuznets, there exists a close inverse relationship between GDP per capita and the share of EAP in agriculture (figure 2). The share of EAP in agriculture (1980 figures) ranges from 74 per cent in Haiti to 13 per cent in Argentina and 11 per cent in Uruguay, while GDP per capita ranges from US$115 in Haiti to US$1,132 in Uruguay and US$1,172 in Venezuela.[1] The share of GDP originating in agriculture also declines as

[1] GDP per capita figures are at constant 1970 prices and come from World Bank, 1983.

Figure 2. Share of EAP in agriculture by income level



Source: Based on data from World Bank, 1983.

Table 3. Rural out-migration and natural increase (%)

Country	Migration rates [1]			Share of urban population in 1975	Rate of natural increase in rural areas, 1970s
	1950s	1960s	1970s		
Argentina	3.25	...	2.29	80.5	2.26
Brazil	1.94	2.27	4.48	60.7	2.43
Chile	2.69	2.89	3.98	78.5	1.61
Colombia	1.77	...	4.56	65.4	2.24
Dominican Rep.	0.99	1.55	2.29	45.8	3.00
Ecuador	0.88	0.85	0.68	41.9	3.48
El Salvador	0.46	0.52	0.07	39.9	3.20
Guatemala	...	0.55	0.26	37.0	3.26
Mexico	...	1.93	3.07	63.0	3.16
Nicaragua	0.77	...	1.59	50.2	3.48
Paraguay	...	0.64	0.49	37.9	3.69
Peru	...	2.44	3.28	62.8	2.57
Uruguay	...	0.25	2.67	83.0	0.30
Venezuela	3.67	3.47	3.06	80.2	3.44

[1] Net rural out-migration as a percentage of average rural population over the decade.

Sources: Data for the 1950s and 1960s are based on United Nations, 1980. For the 1970s, rural and urban rates of natural increase were estimated using the 1960 ratios of urban to rural natural increase, and the average urban share of population in 1970 and 1980. Net rural migration was then calculated by comparing this urban rate with the growth rate of urban population during the decade. Data and estimations of urban population were taken from United Nations, 1980, total population from World Bank, 1983.

GDP per capita increases. Sharp declines in the share of EAP in agriculture can thus be expected to continue if the Latin American countries pursue their current styles of development, which are strongly biased towards a geographically concentrated urban industrial sector and labour-saving technology in modern agriculture.

Rural-urban migration

Rural-urban migration has been a very important demographic phenomenon in Latin America over the past three decades. As other studies show (e.g. United Nations, 1980), migration rates are higher in Latin American than in other developing countries – the Asian countries, in particular. Table 3 reveals significant variations in both levels and trends in migration rates across countries. While the rates have been high and increasing for most countries, Argentina and Venezuela have high but decreasing rates, and Ecuador, El Salvador, Guatemala and Paraguay all have low and decreasing rates.

For Latin America generally, we found that the variables most closely correlated with migration rates are initial GDP per capita and initial proportion of population in urban areas. Thus a pull effect appears to be the dominant motivating force for migration.

However, ranking the countries according to both the level of GDP per capita in 1970 and the migration rate provides an almost perfect division into a high GDP per capita, high migration group (1), and a low GDP per capita, low migration group (2).[2] For group 2 (which consists of relatively agrarian countries), although migration rates are low, both the rate and the change in the rate respond very closely to increases in the growth rate of GDP per capita, while the low positive association of migration rate with the growth rate of agricultural GDP per capita suggests that growth in the agricultural sector has been more or less neutral with respect to labour absorption. In contrast, agricultural growth has been fairly strongly associated with migration in the group 1 countries, probably owing to a combination of the increased use of labour-saving technology and land concentration.

Correlations of migration rate and change in migration with lagged urban unemployment show that, while the latter does not deter migration in absolute terms, it does slow its rate of increase. This is consistent with the Harris-Todaro theory that rural-urban migration is a function of expected urban wages.

The share of the peasantry in agricultural EAP is negatively correlated with both migration rate and change in migration (although the former coefficient is very small in absolute value), suggesting that the peasantry is effective as a buffer sector, particularly in slowing the rate of increase in migration. But causality in this correlation can be read more meaningfully the other way around, namely that rather than the successful expansion of the peasantry lowering the migration rate, it is the lack of migration opportunities (weak pull factors) that lead to an accumulation of surplus population in the peasant sector.

The rate of natural increase of the population in rural areas is negatively correlated with the migration rate overall, but rather different results are obtained when the two groups of countries are analysed separately. Population pressure appears to act as a push factor for group 2 countries but not for group 1 countries, which have a lower average rate of natural increase than those in group 2.

In addition to high levels of rural-urban migration, there is an increasing incidence of rural-rural migration in the form of seasonal labour markets, a phenomenon well documented in Mexico (Pare, 1977; Astorga Lira and Commander, 1983). These seasonal labour markets are based on regional disparities and the development of areas of advanced commercialised agriculture which, because of crop specialisation and partial mechanisation of the labour process, require large numbers of casual workers for short periods of time. The development of one such migrant labour market in the northern states of Sinaloa and Sonora complements the more traditional migrant labour market of the southern coffee and sugarcane regions.

[2] Group 1 comprises Argentina, Brazil, Chile, Dominican Republic, Mexico, Nicaragua, Peru, Uruguay and Venezuela; group 2 comprises Ecuador, El Salvador, Guatemala and Paraguay. Colombia was the only country with inconsistent rankings of GDP per capita and migration rate. For the detailed results, see de Janvry, Sadoulet and Wilcox (1986).

These migrant labour markets draw on the large pool of landless labourers and those *ejidatarios* and *minifundistas* who can afford to stay away from their plots for long periods of time. Local labour markets, which increasingly offer more sporadic and casual employment than before as specialisation and mechanisation invade all regions of the country, draw more and more on women and children and smallholders living nearby. This off-farm employment is a necessary complement to production for many smallholders who cannot support a household from their plots.

As will be seen in table 7, the implicit remuneration of family labour on small farms has been eroded relative to the minimum wage. Smallholders who can secure a sufficient number of days of wage work (perhaps by joining a migrant labour stream) are probably well off compared with those who are tied to the land and pick up whatever casual employment they can in the local labour market.

The Latin American correlations corroborate what has been found in a study of all developing countries (United Nations, 1980). In that study, the net flow of migrants from rural areas was found to increase with the rate of natural increase of rural population, with growth in agricultural productivity, and with higher share of urban population. Using regression analysis, these variables were found to explain most of the wide range of migration rates that are observed across the different regions.

A specific analysis of rural migration in Latin America (Shaw, 1974) also suggests that the land tenure system is an important factor in explaining rural migration rates since it conditions employment opportunities in agriculture. A more concentrated land tenure system acts as a push factor, while a large small-farm sector allows a retention of population in agriculture and a reduction in migration rates.

While the limitations of correlation analysis must be borne in mind,[3] the major conclusion to be drawn is that pull factors appear to be more important than push factors as causes of migration, although population pressure does appear to be important for the small group of low-migration, relatively agrarian countries.

Patterns of employment in the rural and urban sectors

Table 4 presents some aggregate results based on country-level data compiled by ILO/PREALC (1982) concerning the shares of the economically active population in the traditional agricultural, modern agricultural and traditional urban sectors.[4] The data are based on population censuses but have been adjusted by PREALC so as to derive a more exact measurement of EAP. The EAP in traditional activities in both the agricultural and the

[3] Owing to the small number of countries for which various data were available, regression analysis was not feasible.

[4] For results at the country level see de Janvry, Sadoulet and Wilcox, 1986, table 6, pp. 24-26.

Table 4. Employment structure in the rural and urban sectors of Latin America, 1950-80 (17 countries)

Year	EAP in traditional agriculture				EAP in modern agriculture		
	% of total EAP	% of agricultural EAP	No. in millions	Index: 1950 = 100	% of total EAP	No. in millions	Index: 1950 = 100
1950	34.3	60.7	18.190	100.0	22.2	11.801	100.0
1960	29.1	60.5	18.473	101.6	19.0	12.061	102.2
1970	27.0	63.7	22.113	121.6	15.4	12.589	106.7
1980	23.0	65.1	26.117	143.6	12.3	14.027	118.9

Year	EAP in traditional urban sector		EAP in traditional activities					
	% of total EAP	No. in millions	% of total EAP	No. in millions	Index: 1950 = 100	Urban as % of agricultural	Adjusted EAP in millions	Adjusted agricultural EAP in millions
1950	13.1	6.951	47.3	25.141	100.0	38.2	53.103	29.991
1960	15.6	9.908	44.8	28.381	112.9	53.6	63.376	30.534
1970	16.9	13.832	43.9	35.945	143.0	62.6	81.936	34.702
1980	19.3	21.918	42.2	48.035	191.1	83.9	113.720	40.143

Note: The traditional sector in agriculture includes workers on own account and unpaid family members, excluding professionals and technicians. The urban traditional sector includes workers on own account and unpaid family members in non-agricultural activities, excluding professionals and technicians, and domestic services. The 17 countries included are Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, Uruguay and Venezuela.

Sources: Shares of EAP in traditional agriculture, in modern agriculture and in the traditional urban sector are from ILO/PREALC, 1982; adjusted EAP and agricultural EAP are authors' calculations (see text).

urban sector is defined as including workers on own account and unpaid family members. In the urban sector, paid domestic services were also included in the traditional sector. The modern agricultural sector includes agricultural workers, employers, professionals and technicians. Because the population censuses tend to underestimate the importance of women in the agricultural EAP, the data on the number of unpaid family members and agricultural workers were adjusted by comparisons with the agricultural censuses. PREALC only reports the resulting shares of EAP in the traditional rural and urban sectors. In order to compute the absolute number of workers in the different categories, adjusted total EAP and agricultural EAP were estimated by taking the difference between the shares of agricultural EAP. This difference was attributed to traditional agriculture.

The total size of the marginal sector, defined as the sum of the EAPs in the agricultural and the urban traditional sectors, shows only a minimal decline in percentage of the total EAP over 30 years – from 47 per cent in

1950 to 42 per cent in 1980. Marginality is thus a highly resilient structural feature of Latin American societies. In absolute numbers, the EAP in the marginal sector increased by no less than 91 per cent – from 25 million in 1950 to 48 million in 1980.[5] This dramatic increase in the number of marginals shows the failure of recent modern sector economic growth to create productive employment in spite of rapid overall rates of industrialisation and economic growth.

Between 1950 and 1980, there has been a marked displacement in marginality from the agricultural sector towards the urban economy as indicated by an increase in the ratio of traditional urban to traditional agricultural EAP from 38 per cent to 84 per cent. This urbanisation of marginality occurred in all 17 countries for which data are available, except Uruguay. Countries with higher levels of GDP per capita have a higher proportion of marginal population in the urban sector, reflecting the fact that growth has induced migration and urbanisation and displaced marginality to the cities, though regression analysis shows the strength of this relation decreasing over time. In addition, the higher the growth rates of GDP per capita, the less the increase in the urban share of marginality, indicating that high growth rates are successful in drawing urban marginals into the economy, although the impact of this effect also diminishes with time. Growth of agriculture has not been employment-creating and has contributed to increasing displacement of marginality towards the urban sector.

In spite of the fact that the percentage of total EAP in agriculture declined from 32 per cent in 1950 to 20 per cent in 1980, the percentage of agricultural EAP in the traditional sector increased from 60.7 in 1950 to 65.1 in 1980; and the absolute volume of EAP in traditional agriculture increased by 43.6 per cent over the 30-year period. The share of peasantry in agricultural EAP increased in all countries, except five, all located in Central America and the Caribbean. The absolute number of peasants increased in all countries except Mexico, the Dominican Republic and Honduras. This indicates that, despite rapid urban migration and the displacement of marginality towards the cities, the peasantry remains a large refuge sector for surplus population and a labour reserve for modern agriculture.

Modern agricultural sector employment increased by only 19 per cent in 30 years in spite of a total increase of about 84 per cent in agricultural GDP over the period. A 1 per cent increase in agricultural GDP thus contributed only a 0.2 per cent increase in modern sector employment. The result is that the share of agricultural EAP working in modern agriculture declined slightly from 39 per cent in 1950 to 35 per cent in 1980. While countries with low agricultural growth (less than 2.8 per cent annually) had absolute losses in modern agricultural sector employment (Argentina, Chile, Peru and

[5] There is no exact correspondence between traditional and marginal sectors, particularly in the urban area where the traditional sector includes own-account workers such as shopkeepers and owners of repair shops, many of whom are not marginals. The traditional sector, as measured here, thus somewhat overestimates the true size of the marginal sector.

Uruguay with an average growth rate of 2.4 per cent and a 36 per cent employment loss), high-growth countries had a mixed employment performance (Bolivia, Brazil, Colombia, Ecuador and Nicaragua had an average growth rate of 3.9 per cent but an absolute employment loss of 17 per cent, while Costa Rica, the Dominican Republic, El Salvador, Guatemala, Honduras, Mexico and Panama had an average growth rate of 3.2 per cent and a modern sector employment gain of 113 per cent). It must thus be concluded that the employment performance of modern agriculture has on the whole been highly unsatisfactory and that higher growth rates in agricultural output would not necessarily improve this performance so long as the current patterns of labour-saving technological change and land concentration are followed.

The results thus show that a higher level of GDP per capita, which is fundamentally determined by non-agricultural GDP, induces rural-urban migration and a displacement of EAP out of agriculture. It should both reduce total marginality and displace it to the urban centres. In rural areas, however, the share of marginality in agricultural EAP remains high as increasing agricultural growth fails to generate enough employment; and the share of marginality in urban EAP increases rapidly with GDP per capita and remains absolutely constant as a share of total EAP (for Latin America as a whole, it remains at 30 per cent between 1950 and 1980), following a Todaro-type migratory effect.

It is distressing to observe that the very rapid economic growth that has characterised the past decade is not as employment-creating as earlier growth, thus reducing the expected positive effect of higher incomes on marginality. It is for this reason that the share of the marginal sector in total EAP has remained relatively constant in spite of rapid growth. In the recent period, modern non-agricultural employment has only been able to compensate for the inability of the growth of modern agriculture to generate employment.

Land and labour

Data on the number and average size of small farms over time confirm the observation of a peasantry growing in absolute numbers. Of the 17 countries for which there are data, 15 have an increasing number of small farms and only two (Panama and Venezuela) a decreasing number. A Latin American aggregate of the number of small farms, based on linear extrapolations for the years 1950 and 1980, indicates a growth of 92 per cent, corresponding to an annual compound growth rate of 2.2 per cent. It is thus clear that the peasantry did increase significantly in number, even if the qualitative nature of that peasantry changed over time.

Another clear direction of change over time is the decline in the size of small farms that accompanied the growth in their numbers. Of the 16 countries for which there is information, 11 have declining peasant farm size and only three increasing size; the other two showing no significant change. An aggregate for the 14 countries on which there is recent information, using

Table 5. Extent of landlessness

Country	Source	Year	Basis	Landless as % of basis
Brazil	(1)	1972	Rural households	61.3
Chile	(2)	1965	Agricultural EAP	36.1
Costa Rica	(3)	1965/1970	Agricultural EAP	2.0
El Salvador	(3)	1965/1970	Agricultural EAP	17.0
El Salvador	(4)	1961	Rural households	12.0
El Salvador	(4)	1971	Rural households	29.0
El Salvador	(4)	1975	Rural households	41.0
Guatemala	(3)	1965/1970	Agricultural EAP	7.0
Honduras	(3)	1965/1970	Agricultural EAP	26.0
Nicaragua	(3)	1965/1970	Agricultural EAP	31.0
Nicaragua	(5)	1978	Agricultural EAP	39.6
Nicaragua	(6)	1978	Agricultural EAP	31.5
Nicaragua	(7)	1970	Rural households	32.5

Sources: (1) J. Graziano da Silva et al.: *Estructura agrária e produção de subsistencia na agricultura brasileira* (São Paulo, Editora Hucitec, 1980), pp. 60-63. (2) P. Marchetti: "Reforma agraria y la conversión difícil", in *Estudios Rurales Latinoamericanos* (Bogotá), Vol. 4, No. 1, Jan.-Apr. 1981. (3) S. Barraclough and P. Marchetti: "Agrarian transformation and food security in the Caribbean Basin", in G. Irvin and X. Gorostiaga (eds.): *Towards an alternative for Central America and the Caribbean* (London, George Allen and Unwin, 1985). (4) E. Klein: "Pauperización campesina", in *Nueva Antropología* (Mexico City), Vol. IV, 1980, pp. 13-14. (5) International Fund for Agricultural Development: *Informe de la Misión Especial de Programación a Nicaragua* (Rome, 1980). (6) P. Peek: *Agrarian reform and poverty alleviation,* WEP Working Paper (Geneva, ILO, 1984). (7) A. Hintermeister: "El empleo agrícola en una estructura en transformación", in *Estudios Rurales Latinoamericanos,* Vol. 6, Nos. 2 and 3, May-Dec. 1983.

extrapolations for 1950 and 1980, shows that the average size of peasant farms declined from 2.4 to 2.1 hectares, an annual compound growth rate of –0.4 per cent. This observation confirms the interpretation of the peasantry as a cornered sector of population, increasingly dependent on non-farm sources of income but unable to find sufficient employment opportunities either to migrate and abandon the agricultural sector or to depend fully on wage earnings for subsistence. Thus, while the peasantry grows quantitatively, it undergoes significant qualitative changes from being pure farm producers towards increasing integration in the labour market.

Landlessness is generally not measurable through census data since a large number of workers who appear as hired workers in the agricultural EAP also have plots of land which are not sufficient to support their households. Thus the extent of landlessness must be estimated through household surveys or by other means, which often lead to widely varying estimates.

In table 5, data on the extent of landlessness have been compiled from a variety of case studies. Data over time are available only for Nicaragua and El Salvador, and these data, which come from different sources, are spotty and often inconsistent. In addition, the data for Brazil and El Salvador refer to rural not agricultural households and thus overestimate landlessness in the

agricultural labour force. The data for both Nicaragua and El Salvador indicate an increase in landlessness over time. In Nicaragua the share of agricultural EAP that is landless increased from 31 per cent in 1965/70 to 32-40 per cent in 1978. In El Salvador the proportion of landless rural households increased dramatically from 12 per cent in 1961 to 41 per cent in 1975.

While other data are not available over time, we notice the high levels of landlessness that exist in all cases and the relatively higher levels of landlessness in countries (such as Brazil, Chile and Costa Rica) with low shares of agriculture in total GDP compared with agrarian countries (such as Guatemala, Honduras and Nicaragua) having high shares of agriculture in total GDP. On this basis, one can expect that the current high level of landlessness in Latin America will further rise as the share of agriculture in an increasing total GDP falls.

The survival of the peasantry

The similarity in the evolution over time of the rural population and of the agricultural labour force could be erroneously interpreted as indicating a stable commitment of the rural population to agriculture. This is not the case. Deep transformations have occurred over the last 20 years which have led to an increasing integration of the agricultural and urban labour markets. The agricultural labour force has become more and more urbanised (mainly town-based) and the rural labour force increasingly works in non-agricultural activities.

The increased integration of the urban and rural labour markets can be seen in table 6 by examining two distinct, but complementary, processes: the share of the agricultural EAP that is urban-based has increased as has the share of the rural EAP that is employed in non-agricultural activities. For every country the share of urban-based agricultural EAP has increased, most strikingly in Puerto Rico and Brazil. At the same time, the proportion of rural EAP employed in non-agricultural activities increased in every country except Peru, with the greatest percentage increases in Brazil, Mexico and Nicaragua. In most cases, the magnitudes of these two patterns of change were dramatic.

It is important to note that census data tend to overestimate non-agricultural employment in rural areas. This is due to the fact that peripheral urban areas are often still classified as rural areas, and that, although most of their residents work in the urban areas, they are classified as rural workers. The overestimation is particularly high in countries where migration to the urban periphery has been extensive.

The origin of the urbanisation of the agricultural labour force can, in many cases, be traced to the introduction of new agricultural labour laws (Brazil and Chile) which led to the expulsion of resident workers from the large farms, their relocation in urban towns, and the generalisation of the practice of contracting non-resident workers on a temporary basis (in Brazil, in particular), often through labour contractors. In Chile labour legislation forced employers, in 1970, to replace payment in kind (land usufruct against

Table 6. Growing integration of agricultural and urban labour markets

Country	Year	% share of agricultural EAP in urban areas	% share of rural EAP working in non-agriculture
Brazil	1970	12.3	15.2
	1980	17.7	23.4
Pernambuco	1970	13.1	...
	1980	16.3	...
São Paulo	1970	26.6	...
	1980	38.0	...
Costa Rica	1963	5.4	29.1
	1973	6.2	41.2
Ecuador	1962	6.5	19.3
	1974	6.8	26.4
Mexico	1970	23.8	23.1
	1980	26.0	42.4
Nicaragua	1963	11.0	12.8
	1971	11.7	20.0
Peru	1961	18.3	20.1
	1972	23.7	18.8
Puerto Rico	1960	6.5	56.1
	1970	11.8	80.8

Sources: For Brazil and Mexico, censuses for 1970 and 1980; for other countries, United Nations, Department of International Economic and Social Affairs: Patterns of urban and rural population growth, Population Studies No. 68 (New York, 1980).

payment of land in labour services) by 100 per cent payment of the minimum wage in cash, which induced landlords to replace permanent workers *(inquilinos)* by temporary workers. In 1979 labour laws restricted union activity to farms with more than 15 permanent workers, further inducing landlords to reduce their permanent workers and employ temporary farmhands instead. Land concentration and the resulting increase in landlessness also accelerated rural out-migration in most countries.

This labour force of landless workers tended to concentrate in the neighbourhood of small rural towns, especially in the areas of temporary employment in agriculture, where labour contractors could easily mobilise them. Klein (1985) argues that, where this has happened, town-based rural labour increasingly displaces the traditional peasantry from employment opportunities since they are easier to mobilise on a temporary basis and do not have employment conflicts with the labour needs of their own farms as peasants often do in the critical weeks of harvest. The traditional peasantry then becomes increasingly disconnected from the labour market and is forced to migrate to the towns if it cannot subsist on its small plots of land.

In Chile, between 1970 and 1982, the rural population increased at an annual average rate of 0.2 per cent and the population of the large cities by 2.8 per cent, while that of small towns increased by 3.6 per cent (Rivera and Cruz, 1984). Living in these urban areas and working in agriculture, principally on temporary contracts, induced this labour force also to participate in the urban labour market and contributed to the greater integration of the two markets. For Chile, in 1982, Rivera and Cruz show that the structure of household income for residents of small rural towns was as follows:

	%
Agricultural temporary labour	33
Agricultural permanent labour	10
Urban temporary labour	11
Urban permanent labour	7
Public minimum employment programmes	6
Self-employment	33

An important consequence of this increased integration of the two labour markets is a narrowing of the gap between agricultural and non-agricultural wages. As will be seen later, this narrowing occurs particularly in periods of rapid economic growth when competition of the non-agricultural sector with agriculture for access to temporary urban-based labour increases.

For Brazil, Rezende (1985) observed a decline in the level of qualification of temporary workers in agriculture due to the increasing integration of markets. Jobs in agriculture usually have less desirable features, such as instability, interruptions, lack of social security rights, and weak enforcement of labour legislation, than employment on the urban labour market, and, consequently, agriculture does not attract the more competitive workers. Data reveal an increased participation of unskilled workers, the handicapped, women, old men and children in this urban-based agricultural labour force. Thus the market for temporary agricultural labour increasingly acquires the characteristics of a secondary labour market.

Competition between this new urban-based labour force and the peasantry for complementary temporary work can, indeed, in many circumstances turn against the semi-proletarianised peasantry. While the economic structure of peasant households, with family labour generating income from the home plot, allows them to compete for lower levels of wages than a fully proletarianised labour force (the theory of functional dualism), the conflict between their own labour needs and the needs of employers in periods of peak seasonal employment will operate against the peasants. Urban-based workers (once plentifully available owing to dispossession of the peasantry through changing labour laws and reduced access to land) are,

by contrast, more flexibly accessible, and the concentration of urban dwellings facilitates and cheapens access to workers by labour contractors.

While the traditional semi-proletarianised peasantry remains the major labour reserve for the modern agricultural sector in most countries, we increasingly witness a weakening of this role with the emergence of a landless town-based labour force that gravitates with great fluidity from one temporary employer in agriculture to another, and between agricultural and urban employment opportunities. The rural and urban labour markets are thus increasingly integrated, and wages paid on the two markets tend to converge, except for differences in labour skills, with agriculture acquiring the features of a secondary labour market.

Returns to rural labour

Evolution of agricultural and non-agricultural wages

Data for 15 countries compiled by PREALC (de Janvry, Sadoulet and Wilcox, 1986) show that only in a few countries was the real agricultural wage (either minimum or average) substantially higher in 1979-80 than in 1965-66. These countries are Mexico (where it was some 60 per cent higher); Ecuador (52 per cent higher than in 1968); Colombia (47 per cent); Brazil, Chile and Costa Rica (40 per cent); and Panama (30 per cent). It should be noted, however, that a 40 per cent increase over a 15-year period corresponds to an average annual increase of only 2.3 per cent. In all the other countries, real wages in 1980 were either at the same level as 15 years before or substantially lower, the most extreme cases being Argentina where the real average wage fell by more than 40 per cent and Nicaragua where it fell by 30 per cent. During this period, 1965-80, GDP per capita (although erratic in movement) increased significantly in most countries. The result is that, during this favourable growth period of 15 years, agricultural wage earners lost very significantly compared with the average income in the nation in nearly all countries (Chile and Mexico being the exceptions).

This absolute impoverishment in a majority of Latin American countries has further worsened in the 1980s. During this period, real agricultural wages have fallen drastically in all countries, the only exceptions being Colombia, Honduras and Panama. In Mexico, for example, where wages had risen enormously between 1965 and 1980, the dramatic fall in the early 1980s has brought the real agricultural wage back to its 1965 level. In Brazil, wages were only 11 per cent higher in 1984 than in 1965; in Chile, 17 per cent.

For some wage earners, falling real wages may have been compensated by greater access to land. Indeed, the number of small farms increased by 92 per cent between 1950 and 1980 while agricultural EAP increased by 67 per cent. Yet we do not know whether the growing number of small farms is a result of landless people gaining access to land or of medium-sized farms being increasingly subdivided. While land reform programmes have given

landless workers access to land in Peru, for instance (Brass, 1980), the aggregate effect of these reforms has been small, and subdivision would appear to predominate in the creation of small farms.

The impoverishment of agricultural wage earners has been shared by urban unskilled workers as well. In fact, wages of urban unskilled workers have declined even more than agricultural wages during the last 20 years. The result is that, relative to their urban counterparts, agricultural workers have improved their wage conditions in all countries except Ecuador and El Salvador. Wages of agricultural and non-agricultural workers have thus converged over the past 20 years in a downward movement as rural wages fell less than urban wages.

This overall evaluation of wage movements during the past 20 years does not adequately reflect the very contrasting periods through which each country has passed. Most have, indeed, had very unstable growth of GDP per capita with, in most cases, either a change in economic regime or a short recession in the mid-1970s. Exceptions are Colombia, Costa Rica and Ecuador, which have had moderate but sustained growth, at least until 1980. The evolution of wages is observed to be strongly influenced by macro-economic changes. For most countries, a periodisation of the macro economy also gives a good periodisation of wage movements (de Janvry, Sadoulet and Wilcox, 1986).

It is interesting to note that agricultural wages do not seem to be influenced by the growth of the agricultural sector itself but rather by overall economic growth. This confirms what was found in the analyses of migration and employment patterns, in which pull effects outside agriculture clearly predominate over push effects that originate in agriculture.

Cross-country comparisons of the growth periods show a great diversity in the movement of real wages but some regularity in changes in the ratio of agricultural to non-agricultural wages. During the growth periods of the mid-1960s to the mid-1970s, characterised by annual growth rates of GDP per capita of 2 to 4.5 per cent and by fairly low rates of inflation (below 15 per cent for most countries), the ratio of agricultural to non-agricultural wages remained fairly constant in most cases. In the growth periods of the late 1970s, characterised by higher growth rates (3.5 to 7 per cent) and higher rates of inflation (over 20 per cent in most countries), the ratio of agricultural to non-agricultural wages rose. This resulted from either a larger decrease in the urban wage or a larger increase in the agricultural wage (ILO/PREALC, 1980). The narrowing of the wage gap can be attributed, as was seen in the study of the changing employment structure of rural and urban populations (table 6), to an increasing integration of the agricultural and non-agricultural labour markets, particularly in periods of rapid economic growth.

Periods of stagnation and of recession, by contrast, exhibit less regularity in the evolution of relative wages. But absolute levels of real wages remain strongly affected by overall economic performance and the rate of inflation. In the periods of stagnation in the late 1970s and in all recessions,

real wages declined everywhere except Colombia. However, the magnitude of the decline seems to be related more to the rate of inflation than to the depth of the recession as such. This also emerges when real wages are related to inflation on a year-to-year basis within each period contrasted.

Unemployment and underemployment in agriculture

Data on unemployment rates for Chile, Peru, El Salvador, Mexico and Brazil show sharply rising levels, particularly through the 1970s and the early 1980s, with regard to both national and agricultural unemployment. However, it assumes different forms in the urban and agricultural sectors, with higher levels of open unemployment in the former and higher levels of underemployment in the latter.

Open unemployment in Chilean agriculture increased from 2.2 per cent of the agricultural labour force in 1966 to 4 per cent in 1975 and 9.1 per cent in 1980.[6] There was a similar sharp increase in Mexico with open unemployment in agriculture increasing from 0.8 per cent in 1950, to 1.3 per cent in 1960 and 6.3 per cent in 1970.

In Chile, labour surplus in agriculture (defined as the sum of open unemployment and underemployment measured relative to labour needs for observed production) decreased from 18 to 11 per cent between 1955 and 1970, basically as a result of rapid rural-urban migration and a declining agricultural labour force. Between 1970 and 1980, however, labour surplus increased to 17 per cent in spite of continued migration and a declining rural labour force owing to loss of access to land in the agrarian reform sector and a sharp increase in overall unemployment.

What is striking are the very high estimates of agricultural underemployment in countries such as Peru (60-70 per cent), El Salvador (39-47 per cent) and Brazil (29 per cent). These figures show no tendency to decline and indicate the permanence of large masses of surplus labour, low labour productivity, and poverty for a very large part of the rural population.

Implicit remuneration of family labour

In Brazil the number of active family members per farm increased slightly between 1970 and 1980 (table 7), and the average size of farms smaller than 10 hectares declined, increasing population pressure on land for small farms. Nevertheless, income per family worker increased substantially in real terms because of rising product prices, with the result that average implicit income of active family members in agriculture caught up with and surpassed the average wage of permanent workers between 1970 and 1980. However, for all small farmers – on farms of less than 5 hectares (which

[6] For derivations and sources of these and other figures in this section, see de Janvry, Sadoulet and Wilcox (1986).

Table 7. Implicit remuneration of family labour

Brazil

Farm size (ha)	Active family members				Income per active family member [1]				
	No. per farm		% distribution		In 1970 cruzeiros		Annual growth rate (%)	As % of average wage of permanent workers	
	1970	1980	1970	1980	1970	1980		1970	1980
0-5	2.09	2.13	33.0	32.8	417	719	5.6	27.7	31.1
5-10	2.34	2.41	14.7	14.0	718	1 436	7.2	47.7	62.1
10+	2.48	2.53	52.2	53.3	1 783	3 986	8.4	118.4	172.5
Total	2.32	2.38	100.0	100.0	1 163	2 487	7.9	77.2	107.6

Chile (Region IV, 1976)

Farm size (ha)	% distribution	Income per active family member [2]			
		In 1976 US$		As % of minimum wage	
		On-farm income	Total income	On-farm income	Total income
0-2	59	92	224	17	42
2-5	25	385	511	72	95
5-10	11	830	967	156	181
10+	4	1 899	2 270	356	424

Mexico

Farm characteristics	Farm income per active family member [1] (in 1950 pesos)			As % of minimum wage		
	1950	1960	1970	1950	1960	1970
Ejido	656	597	779	99	55	39
Private, 0-5 ha	340	103	745	51	10	38
Private, 5+ ha	2 254	2 574	4 747	339	239	239
All farms	1 060	787	1 315	159	73	66
Rural minimum wage (250 days worked)	665	1 078	1 985			

[1] Income calculated as difference between gross value of sales and expenses. [2] Income from all sources; 3.8 active family members per household.

Sources: For Brazil, *Agricultural census* (various years); for Chile, A. Monardes: *El empleo en la pequeña agricultura: Un estudio del Valle Central de Chile* (Santiago, University of Chile, 1979); and for Mexico (wages), C. Hewitt de Alcantara: *Modernizing Mexican agriculture: Socioeconomic implications of technological change, 1940-1970* (Geneva, United Nations Research Institute for Social Development, 1976) and (other data) *Agricultural census* (1950, 1960 and 1970).

account for 37 per cent of all farms and employ one-third of family labour) – income from home production is only 31 per cent of the wage of permanent workers, a percentage that barely increased during the 1970s. On the large farms, by contrast, implicit income increased from 118 per cent of wages to 173 per cent. Thus, although the absolute income of the poorest increased at an annual rate of 5.6 per cent, inequality in family farm incomes grew substantially over the decade. In other words, there was a reduction in absolute poverty and an increase in relative poverty – which is consistent with similar changes noted at the national level.

Implicit remuneration of family labour from home production on small farms is only a fraction of the wage of permanent workers and can be used as a measure of surplus labour on such farms if the wage of permanent workers is taken to indicate their potential full-time income. We conclude that there is considerable surplus labour for one-third of family members on farms of 0 to 5 hectares, reaching 69 per cent in 1980, and note that this surplus did not decline appreciably over the last decade. On farms of 5 to 10 hectares, with 14 per cent of family labour, surplus labour was still 38 per cent in 1980, but it had declined by 28 per cent during the previous decade. Absorption of surplus labour thus appears to have benefited the medium-sized more than the smaller farms.

In Chile (Region IV), as in Brazil, on-farm income for family members increases rapidly with farm size, indicating how important land is as the limiting factor on income levels. Again using the minimum wage of permanent workers as a measure of full-time income, we see that the small farms (0 to 2 hectares), with 59 per cent of farm households, have as much as 83 per cent surplus labour; and farms of 2 to 5 hectares, with another 25 per cent of farm households, still have 28 per cent surplus labour. Off-farm income, principally wages, nearly eliminates surplus labour for this latter farm category, but for the smallest farms there is still 58 per cent surplus labour when both on- and off-farm incomes are taken into account.

In Mexico, as in Brazil, the data on implicit remuneration of family labour show a substantial increase in real income on small private farms between 1950 and 1970 (an average annual growth rate of 4 per cent), whereas on the *ejidos* real income per active member remained essentially constant (an average annual growth rate of 0.9 per cent). The distribution of income thus worsened between private and *ejidal* sectors, while the ratio of family incomes on small private farms to those on large ones remained constant (16 per cent in 1970). The ratio of *ejidal* to large private farm income deteriorated from 29 per cent in 1950 to 16 per cent in 1970.

The real rural minimum wage increased sharply between 1950 and 1970 (an average annual growth rate of 5.6 per cent). Using this as a yardstick of full-time employment income on family farms, we see that surplus labour increases greatly over the 20-year period on both small private farms and *ejidos*, with surplus labour reaching 61 per cent in 1970. The deterioration was particularly severe on the *ejidos* where surplus labour increased from

1 per cent in 1950 to 61 per cent in 1970, showing the increasing need for *ejido* family members to seek off-farm income. While *ejido* family labour was relatively better off than small private farmers in the 1950s, their conditions converged in the 1970s to a common situation of large surplus labour and a high level of dependency on off-farm income.

Incomes and poverty

Sources of income

Data on sources of income by farm size are scarce, even for specific micro regions where household surveys have been conducted (table 8), and cannot be aggregated in any systematic way to reflect the overall Latin American situation. Yet there is a considerable degree of consistency across the data available, showing a high level of dependency on non-farm sources of income for a large percentage of farm households. Among off-farm income sources, wages are always by far the largest contributor, indicating high levels of semi-proletarianisation among small farmers. For farms of the same size, the share of wage labour in total income is higher in areas with well-developed labour markets (Cajamarca, Puebla and Guatemala) than in predominantly peasant areas with few employment opportunities (García Rovira). Wage earnings are thus important in enabling small farmers to continue to subsist when home plot production alone would not suffice. The more employment opportunities are available, the smaller the viable farm size. Thus small farmers constitute a large reserve of cheap labour for the rural and urban labour markets.

There are unfortunately no data on sources of income over time, and we cannot directly observe whether small producers are increasingly dependent on wage income or not. We have to rely, for this purpose, on other indicators such as the declining average size of small farms.

Rural poverty

The available data for 1970 indicate that poverty is much more widespread in rural than in urban areas of Latin America (table 9). For Latin America as a whole, 62 per cent of rural households lived in poverty and 34 per cent were destitute. The corresponding urban figures were 26 and 10 per cent. Ranking countries in three groups by decreasing level of rural poverty results in the statistics shown in table 10. It will be seen that, although the percentage of rural households below the poverty line declines sharply as GDP per capita and agricultural GDP per capita increase, the main focus of poverty, as measured by the ratio of shares of rural to urban households below the poverty line, is increasingly in the rural sector. Thus, in spite of rising average per capita income in the country as a whole, and in spite of the relocation of marginality towards the urban sector, the rural sector remains the principal reservoir of poverty.

Table 8. Sources of income by farm size

Country and farm size (ha)	Source	Year	% share of farm households	% shares of income derived from:			Total household annual net income (US$)
				Farm activities	Wages	Other activities	
Bolivia (South)	(1)	1976-77					
0-5			67	38	← 62 →		320
5-10			15	63	← 37 →		373
Brazil (Vertentes)	(2)	1979					
0-10			16	...	56	...	...
10-20			49	...	15	...	...
Chile (Region IV)	(3)	1976					
0-2			59	36	48	16	848
2-5			25	73	21	6	1 941
Colombia (García Rovira)	(4)	1972					
0-4			20	79	16	5	365
4-10			45	86	10	4	543
Ecuador	(5)	1974					
0-1			34	23	63	14	561
1-5			43	57	35	8	579
5-20			16	79	12	9	1 218
Coast	(6)	1974					
0-1			...	32	53	15	...
1-5			...	60	31	9	...
5-20			...	77	14	9	...
Sierra	(6)	1974					
0-1			...	19	54	27	...
1-5			...	52	36	12	...
5-20			...	71	12	17	...
El Salvador	(7)	1975					
0-1			49	59	31	10	...
1-2			22	75	19	6	...
Guatemala (N.W. Altiplano)	(8)	1978					
0-1.4			63	24	63	13	...
1.4-3.5			22	42	47	11	...
3.5-44.8			15	58	34	8	...
Mexico							
Chamula	(1)	1970-74	...	11	← 89 →		240
Puebla	(4)	1970					
0-4			71	32	58	11	393
4-8			25	64	32	3	675
Peru (Cajamarca)	(9)	1973					
0-3.5			72	23	50	27	223
3.5-11			17	55	24	21	270

Sources: (1) C. D. Deere and R. Wasserstrom: "Ingreso familiar y trabajo no agrícola entre los pequeños productores de América Latina y el Caribe", in *Agricultura de ladera en América tropical* (Turrialba, Costa Rica, CATIE, 1981). (2) E. da Silva: *Peasant production, labor reserve, and the food economy of Northeast Brazil,* unpublished Ph.D. dissertation, Department of Agricultural and Resource Economics, University of California, Berkeley, 1983. (3) A. Monardes: *Empleo de mano de obra, producción e ingresos en predios de pequeña agricultura del Valle Central de Chile,* Documento de Investigación No. 17 (Santiago, Departamento de Economía, Universidad de Chile, 1977). (4) A. de Janvry: *The agrarian question and reformism in Latin America* (Baltimore, Johns Hopkins University Press, 1981), p. 245. (5) S. Commander and P. Peek: *Oil exports, agrarian change and the rural labour process: The Ecuadorian sierra in the 1970s,* WEP Working Paper (Geneva, ILO, 1983), p. 33. (6) E. Ortega: "Peasant agriculture in Latin America", in *CEPAL Review* (Santiago de Chile), No. 16, Apr. 1982, p. 94. (7) C. D. Deere and M. Diskin: *Rural poverty in El Salvador: Dimensions, trends, and causes,* WEP Working Paper (Geneva, ILO, 1984), p. 6. (8) A. Hintermeister: *Pobreza rural y crédito agrícola al campesino* (Santiago de Chile, PREALC, 1985), p. 37. (9) C. D. Deere and A. de Janvry: "A conceptual framework for the empirical analysis of peasants", in *American Journal of Agricultural Economics* (Ames, Iowa), Vol. 1, No. 4, Nov. 1979, pp. 601-611.

Table 9. Rural poverty: Estimates of poverty in Latin America around 1970

Country	% of households below poverty line [1]		% of households below "destitution" line [2]	
	Rural	Urban	Rural	Urban
Argentina	19	5	1	1
Brazil	73	35	42	15
Chile	25	12	11	3
Colombia	54	38	23	14
Costa Rica	30	15	7	5
Honduras	75	40	57	15
Mexico	49	20	18	6
Peru	68	28	39	8
Uruguay	...	10	...	4
Venezuela	36	20	19	6
Latin America	**62**	**26**	**34**	**10**

[1] Income sufficient to cover the cost of minimum food needs, housing and publicly provided services such as health care and education. [2] Income sufficient to cover the cost of minimum food needs.
Source: Oscar Altimir: *The extent of poverty in Latin America,* World Bank Staff Working Paper No. 522 (Washington, DC, 1982), p. 82.

Table 10. GDP and poverty in Latin America by country group, 1970

GDP and poverty indicator	Honduras, Brazil and Peru	Colombia, Mexico and Venezuela	Costa Rica, Chile and Argentina
Rural households below poverty line (%)	73	49	22
Rural poverty/ urban poverty	2.1	2.1	3.1
GDP per capita (US$)	479	652	933
Agricultural GDP per capita (US$)	46	85	104

Conclusion

The empirical information on the labour process in agriculture and on the rural labour market analysed in this article gives us only a partial and imperfect picture owing to the lack of systematic information and the paucity of rural labour studies in Latin America and to the tremendous heterogeneity of Latin American nations. The general picture that nevertheless emerges is of a rapidly declining share of agriculture in the total labour force, of weak capacity for generating non-agricultural employment in rural areas, and of extremely rapid rural-urban migration dominated by pull factors. With lack of employment creation in the modern agricultural sector, insufficient access to land, and limited urban and rural non-agricultural employment

opportunities, the peasantry persists not as a superior form of agricultural production but principally as a refuge sector for surplus population. The result is that, even though total marginality (which has remained roughly constant as a share of total EAP) is being increasingly displaced towards the urban sector, the size of the peasantry has increased over the past 30 years both in absolute numbers and in share of agricultural EAP, that size being inversely related to the global performance of the economy. Over time, the number of small farms has grown rapidly; but average farm size has been falling and landlessness may well have risen as well. Peasants are thus forced to rely increasingly on off-farm income opportunities – principally employment on larger farms. Semi-proletarianisation of the peasantry has thus increased.

Unpaid family labour remains the principal source of work in agriculture. The bulk of wage labour still appears to be supplied by semi-proletarianised peasant household members, not by full-time wage workers. It is for this reason that, to be complete, an analysis of rural labour markets in Latin America needs to incorporate a study not only of the landless population but also of peasant households.

Increasing integration of the rural and urban labour markets has induced a partial catching-up of rural with urban wages. But a rapid decline in permanent relative to temporary employment together with land consolidation has relocated in rural towns a significant proportion of agricultural workers who compete with the semi-proletarianised peasantry for scarce temporary employment in agriculture. Being easier to recruit on a short-term basis, they may well be preferred by employers. The net effect on peasant welfare is, however, not clear from the existing data: real wages in agriculture have fallen in most countries since 1965 and particularly since 1980; land availability per peasant household has declined; but temporary employment has increased as has access to non-agricultural employment.

In countries and regions where large masses of peasants remain, they provide the bulk of labour supply; and wages are subsidised by unpaid family labour on the home plot in what has been described as functional (but contradictory) dualism. Where a substantial town-based labour force is available and well-integrated labour markets have developed, this system of functional dualism increasingly breaks down either because peasant labour is unavailable or because it is not cost competitive with town-based workers for temporary recruitment, particularly at peak seasons. In this case, agricultural wages tend to increase. How the labour of the rest of the household is utilised, how it may still subsidise agricultural wages, and whether the annual real income of rural workers and households is higher than under functional dualism are questions to which the answers are unknown at this stage and warrant further research.

It is nevertheless clear that rural poverty remains extensive in Latin America and that agriculture harbours an increasing share of total absolute poverty in spite of the displacement of total marginality towards the urban areas.

Changes in the labour process in agriculture are characterised by a rising capital/output ratio, indicating rapid mechanisation in the medium-sized and large farms and explaining the slow pace of employment creation in spite of eventually rapid rates of agricultural output growth. Mechanisation tends to increase the seasonality of employment except in the most advanced areas where mechanisation of all the stages of the labour process has been completed. There has been a rapid shift away from permanent employment towards the use of temporary labour.[7]

By contrast with Asia, there is sparse evidence of interlocked factor markets, with land and credit transactions related to transactions in the labour market. In Latin America labour increasingly assumes the form of a pure commodity traded for a cash wage in response to the forces of supply and demand. While open unemployment is small, hidden unemployment is extensive, indicating massive surplus labour relative to the labour needs of the modern agricultural sector. The rural labour market takes the form of a secondary labour market with lower-skilled and lower-paid workers and increasingly precarious labour contracts. Wage determination is dominated by pull factors and wages tend to rise when urban migration tightens the rural labour supply.

The analysis suggests several lines of policy intervention to improve the welfare of rural workers and semi-proletarianised peasant households.

1. Lack of access to land remains the key determinant of poverty in rural Latin America. Consequently, policies that promote redistributive land reforms should be the prime instrument of poverty alleviation. Even access to small plots of land which allow the valorisation of the labour of household members with low or no opportunity cost on the labour market provides an important complementary source of income to wage earnings. Thus, even where land is so scarce that redistributive land reforms could not create viable family farms, access to small plots of land can contribute significantly to welfare. In most of Latin America, however, land is still sufficiently plentiful for redistributive land reforms to create viable family farms if the political will to do so were present.
2. Technological and factor price biases that favour mechanisation in modern agriculture militate against employment creation because they prevent the benefits of eventually rapid agricultural output growth in the medium-sized and large farms from benefiting the landless and marginal farmers. Removing these price and technological distortions in order to stimulate employment creation and tighten up rural labour markets is thus an important instrument for alleviating rural poverty.
3. A significant proportion of rural labour households remains tied to small plots of land. Rural development programmes should be set up to increase labour productivity in semi-proletarianised peasant farms of sufficient size

[7] For more details see de Janvry, Sadoulet and Wilcox (1986).

to use modern technologies. It should be clear, however, that a majority of peasant households will not benefit from such programmes because their access to land is insufficient. Thus effective rural development programmes need to come as a sequel to redistributive land reform and not as a substitute for it, as has all too often been the case in the past 15 years.

4. By contrast with Asian countries, Latin American nations have not been particularly successful in developing non-agricultural sources of employment in the rural areas. To correct this, decentralisation of the highly concentrated pattern of urbanisation and industrialisation is required.

5. General labour-absorbing economic growth is one of the main determinants of migration and reduction of surplus labour in agriculture. With the peasantry as a refuge sector for surplus population, the best antidote to rural poverty is therefore an actively growing and labour-absorbing urban economy, particularly if rural reforms and decentralisation of economic activity are not forthcoming.

6. Institutions that facilitate the integration of the rural and urban labour markets and ease the meeting of supply of and demand for labour in agriculture should benefit landless and semi-proletarian peasant households. They include public land bureaux to provide information on employment opportunities, skill development programmes for the rural labour force to give it better access to non-agricultural employment opportunities, and enforcement of labour laws.

7. Finally, special anti-poverty programmes directed towards the rural areas are warranted by the observed inability of current patterns of economic growth to reduce rural relative to urban poverty. Examples are employment creation programmes through rural public works, social welfare programmes to increase access to health, education, potable water and other social amenities in the rural areas, and food subsidies for that portion of the population which is at immediate nutritional risk.

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Appendix. Population data for Latin America, 1950-80

Country/ year	Population (millions)				Rural/ total popula- tion (%)	Agricul- tural EAP/ total EAP (%)
	Total	Rural	Total EAP	Agri- cultural EAP		
Argentina						
1950	17.085	...	7.070	1.778	...	25.1
1960	20.611	5.441	7.887	1.592	26.4	20.2
1970	23.748	5.130	9.055	1.486	21.6	16.4
1980	27.740	4.882	10.068	1.314	17.6	13.1
Bolivia						
1950	3.019	...	1.387	1.009	...	72.7
1960	3.428	2.605	1.180	0.752	76.0	63.7
1970	4.325	3.110	1.387	0.745	71.9	53.7
1980	5.570	3.097	1.782	0.886	55.6	49.7
Brazil						
1950	51.973	...	17.689	10.572	...	59.8
1960	72.594	39.128	23.089	12.030	53.9	52.1
1970	95.847	42.269	29.944	13.655	44.1	45.6
1980	118.332	38.340	42.801	12.992	32.4	30.4
Chile						
1950	6.058	...	1.148	0.674	...	58.7
1960	7.585	2.442	2.479	0.744	32.2	30.0
1970	9.368	2.323	2.935	0.699	24.8	23.8
1980	11.104	2.154	3.581	0.583	19.4	16.3
Colombia						
1950	11.330	...	3.847	2.182	...	56.7
1960	15.754	8.161	4.689	2.410	51.8	51.4
1970	21.266	8.549	6.193	2.347	40.2	37.9
1980	25.892	9.399	7.509	1.937	36.3	25.8
Haiti						
1950	...	...	1.769	1.052	...	59.5
1960	3.630	3.064	1.973	1.557	84.4	78.9
1970	4.235	3.392	2.297	1.641	80.1	71.4
1980	5.009	3.632	2.717	1.997	72.5	73.5
Honduras						
1950	1.372	...	0.472	0.338	...	71.6
1960	1.943	1.500	0.610	0.428	77.2	70.2
1970	2.639	1.882	0.783	0.521	71.3	66.5
1980	3.691	2.377	1.107	0.693	64.4	62.6
Mexico						
1950	26.282	...	8.201	4.983	...	60.8
1960	37.073	18.240	10.705	5.898	49.2	55.1
1970	51.176	20.982	13.933	6.298	41.0	45.2
1980	69.393	23.108	18.893	6.726	33.3	35.6
Nicaragua						
1950	1.133	...	0.374	0.233	...	62.3
1960	1.411	0.827	0.484	0.301	58.6	62.2
1970	1.836	0.969	0.527	0.264	52.8	50.1
1980	2.672	1.424	0.767	0.327	53.3	42.6
Panama						
1950	0.795	...	0.282	0.158	...	56.0
1960	1.095	0.643	0.350	0.178	58.7	50.9
1970	1.464	0.766	0.484	0.201	52.3	41.5
1980	1.835	0.839	0.555	0.175	45.7	31.5

Costa Rica						
1950	0.859	...	0.293	0.167	...	57.0
1960	1.236	0.785	0.361	0.186	63.5	51.5
1970	1.732	1.044	0.512	0.215	60.3	42.0
1980	2.279	1.290	0.765	0.219	56.6	28.6
Dominican Republic						
1950	2.136	...	0.794	0.331	...	41.7
1960	3.047	2.127	0.895	0.592	69.8	66.1
1970	4.006	2.392	1.339	0.726	59.7	54.2
1980	5.431	2.661	1.815	0.890	49.0	49.0
Ecuador						
1950	3.231	...	1.316	0.841	...	63.9
1960	4.422	2.901	1.454	0.841	65.6	57.8
1970	5.962	3.607	1.803	0.920	60.5	51.0
1980	8.354	4.628	2.342	0.814	55.4	34.8
El Salvador						
1950	1.922	...	0.670	0.442	...	66.0
1960	2.542	1.568	0.825	0.508	61.7	61.6
1970	3.398	2.059	1.171	0.657	60.6	56.1
1980	4.540	2.674	1.565	0.790	58.9	50.5
Guatemala						
1950	2.791	...	0.989	0.679	...	68.7
1960	3.966	2.657	1.229	0.820	67.0	66.7
1970	5.353	3.442	1.608	0.981	64.3	61.0
1980	7.262	4.437	1.639	0.946	61.1	57.7
Paraguay						
1950	1.397	...	0.491	0.274	...	55.8
1960	1.778	1.145	0.599	0.337	64.4	56.3
1970	2.290	1.440	0.743	0.391	62.9	52.6
1980	2.982	1.807	1.019	0.458	60.6	44.9
Peru						
1950	8.217	...	2.889	1.519	...	52.6
1960	9.665	5.190	3.223	1.678	53.7	52.1
1970	12.833	5.197	3.829	1.770	40.5	46.2
1980	16.610	5.780	5.126	2.029	34.8	39.6
Uruguay						
1950	2.193	...	0.493	0.211	...	42.8
1960	2.538	0.505	0.970	0.191	19.9	19.7
1970	2.808	0.503	1.083	0.197	17.9	18.2
1980	2.908	0.465	1.122	0.121	16.0	10.8
Venezuela						
1950	5.035	...	1.718	0.403	...	23.5
1960	7.632	2.549	2.354	0.793	33.4	33.7
1970	10.709	2.549	3.133	0.803	23.8	25.6
1980	14.930	2.493	4.368	0.786	16.7	18.0
Latin America (19 countries)						
1950	146.828	...	51.892	27.846	...	53.7
1960	201.950	101.478	65.356	31.836	50.2	48.7
1970	264.995	111.605	82.759	34.517	42.1	41.7
1980	336.534	115.487	109.541	34.683	34.3	31.7

Sources : Based on data from World Bank : *World tables,* 1976 and 1983, for population ; and ECLA : *Statistical Yearbook for Latin America, 1983,* for economically active population.

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Social structure and the labour market in Turkish agriculture

Çağlar KEYDER *

Introduction

Landlessness and associated poverty are not significant features of Turkish agriculture. Rather, the observer is struck by the predominance of owner-occupied farms and the limited extent of wage labour. Such a situation clearly requires a radically different set of tools to identify and measure poverty than the more familiar one where landowners and landless are clearly delineated. To begin with, labour markets – types of employment and labour contracts, modes of payment, wage levels, permanence and certainty of employment – are not the primary determinants of the income and consumption levels of a majority of the rural inhabitants, but rather access to and quality of the land, and the amount of labour available to a family. These initial endowments provide the greatest part of the rural household's livelihood, the hiring out of labour usually being a subordinate and supplementary strategy.

In this article it is argued that there is a pattern of social differentiation within the peasantry, based on diverging paths of transformation in the rural sector. In the absence of a large landless category, this pattern results in the petty commodity producing sector supplying both permanent labour through emigration to urban areas and abroad, and temporary labour through seasonal migration to other rural areas. A seasonal labour market in agriculture matches the supply of labour from petty commodity producers with the demand from larger landlords.

The incidence of landlordism: Share-cropping and capitalist farming

The advent of tractors after the Second World War transformed Turkish agriculture. A much increased credit supply, permanent emigration to the urban areas and the formation of a large, efficient rental market in agricultural machinery all contributed to a decline in share-cropping and the consolidation of the traditional independent peasantry. Credit availability in

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state-subsidised organised markets broke the bond of usury; migration and remittances made it possible to hold on to small property despite output levels below subsistence; and the availability of labour-saving machinery severed the chain of causation that had led from productivity differentials to differential accumulation and from differential accumulation to land concentration: it became possible to farm even when the most productive categories of labour were in short supply.

Thus the post-war period saw the emergence of a new type of absentee owner who, despite migrating from the village, retained ownership of his land and leased it out. In most cases the "tenant" was a tractor owner whose own landholding was not large enough to use his technical capacity to the full. A 1970 census showed 16.5 per cent of all farmers cultivating more land than they owned [1] but unfortunately did not indicate the nature and extent of landownership of those renting in. According to a 1963 census, peasants farming no land or cultivating smallholdings of less than 2 hectares were also the major renters-out of land. In other words, small landowners were more likely to rent out their holdings while middle-sized owners tended to expand their farming activity through renting in of land. Farmers cultivating holdings of between 5 and 50 hectares on average rented in land equivalent to about one-eighth of their owned area.[2]

More recent studies indicate that this trend of renting out by small owners and renting in by middle-sized owners has continued. Such a pattern has a major consequence: it tends to preserve the existing rural ownership structure since small peasants (and possibly other categories of owners) are able to leave their villages without having to sell their land.[3] Thus members of small peasant households can offer their labour seasonally or permanently in rural or urban, national or world markets, while maintaining the security of the ownership of land, and possibly receiving some income from its cultivation.

This form of renting out of land is quite distinct from "classic" tenancy arrangements between large landlords and landless peasants. Even the 1970 census figure of 1.5 per cent of all holdings consisting entirely of rented land (that is, holdings operated by individuals who themselves own no land) probably includes a fair proportion of tractor tenancies.[4] And where a landless peasant with no other livelihood leases land, he deals with lessors who are predominantly smallholders. Thus a picture portraying the large landlord as enjoying a specially privileged position vis-à-vis the landless peasant – armed with superior economic power and dominating interlocking markets – would be misleading.

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[1] Devlet Istatistik Enstitüsü (DIE – State Institute of Statistics): *1970 Tarim Sayimi Geçici Sonuçlari* [Agricultural census: Provisional results] (Ankara, 1971).

[2] ibid.

[3] cf. the State Planning Organisation project in Çorum and Cankiri provinces, reported by G. Özler and K. Kartal. SPO, manuscript report, 1978.

[4] DIE: *1970* . . ., op. cit.

The 1970 census also shows 3 per cent of farmers with holdings consisting solely of land operated in a share-cropping arrangement (including other non-rental crop-sharing practices). The 1980 figure is just below 1 per cent. The 1963 census, which aimed only at enumerating the areas of holdings under different types of tenure, showed 9.2 per cent of the area as operated under share-cropping arrangements. The corresponding figure for 1970 was 2.8 per cent and that for 1980 only 0.7 per cent.[5] Share-cropping is, and has been, mainly confined to areas in the south-east populated by sedentarised Kurdish tribes.

Where share-cropping coexisted with petty production, the introduction of tractors enabled former share-croppers to establish themselves as independent peasants on land which had until then remained uncultivated. In the south-east, by contrast, the landlord's status was such that he could appropriate all the new land made accessible by technology, either using force or with the collusion of the political authorities. However, share-cropping remained a prevalent practice even after labour was made redundant through technical change. Although the landlord was powerful enough to appropriate newly opened up land, he was not sufficiently powerful simply to drive the peasantry off his new enclosure. As a result, a situation arose that was reminiscent of the coexistence of domain and peasant land in the manorial economy, with part of the village enclosed by the landlord and the rest share-cropped by families. It could, however, only be an uneasy coexistence since it was the landlord's ambition to enclose the entire village, and the villagers' ambition to establish full rights of possession over both their current and their former fields. The outcome depended on local and national politics. Faced with the threat of land reform and the belligerence of the villagers, some landlords chose to allow the land to be subdivided through inheritance or to sell plots to the peasants at nominal rates. In other cases the landlord succeeded in driving the most militant peasants out of the village, imposing only nominal rents on those who remained as collaborators. On the whole, in the small number of cases in the Mediterranean and Aegean regions subdivision seems to have been the predominant outcome, while in the south-east enclosures were relatively more successful.

The last point brings us to the incidence of wage labour in capitalist agriculture. As pointed out above, owing to the nature of the social structure the peasantry could not readily be dispossessed by large landlords; furthermore, the high land/labour ratio, i.e. ready availability of land, militated against the formation of a landless peasantry. However, in the south-east landlord regimes were not unusual, with the lands of entire villages held by single families. In these villages the introduction of machine-intensive techniques effectively made the peasantry redundant but did not introduce extensive wage labour. In the case of wheat farming, the number

[5] ibid. and DIE: *1980 Genel Tarim Sayimi* (Ankara, 1983), p. 56.

of permanent employees is often very small – a manager for the farm, as many driver-operators as there are tractors, and a few handymen. There is, in fact, no plantation-type agriculture in Turkey. In more labour-intensive crops, the employment of seasonal, temporary labour recruited not from the landless peasantry but from the petty commodity-producing sector, is prevalent.

There is no perfect correspondence between the landless peasantry and permanent wage labour categories in agriculture. In the censuses settlements of fewer than 5,000 inhabitants are considered rural, and the "landless" category naturally includes individuals whose primary occupation is not agriculture. In fact, even in the smaller settlements, the proliferation of consumer goods and of technology has created an increasing range of non-agricultural or ancillary ("non-basic") occupations. A quarter of a century ago, an Anatolian village supported one to three coffee houses and a general store, providing their owners' main source of income. Now, every village boasts a number of full-time taxi or van operators, tractor drivers and retail merchants, which means that the "landless" include a considerable contingent of the non-agricultural petty bourgeoisie. A 1970 study suggests that, while 16 per cent of the population surveyed could be considered landless in the sense of not owning or renting land, only one-tenth of the landless were agricultural labourers. Thus, when artisans (6.2 per cent), government employees (2.6 per cent), non-agricultural wage labourers (1.6 per cent), students (1.5 per cent) and the unemployed (2.4 per cent) are allowed for, only 1.7 per cent of the rural population (or one in 60) remain as agricultural labourers with incomes deriving exclusively from wage employment,[6] which in 1970 came to a total of fewer than 100,000 adult males. There are also a small number of permanent agricultural workers who own land of their own, and their inclusion would increase this number. It must not be forgotten, however, that agricultural workers are not necessarily found in typical capitalist relations of production. A striking example is the village shepherd who is usually landless and receives a fixed rate per sheep from each village household [7] and is thus by status a communal employee. Other agricultural workers are found in a capitalist relationship with the State. Some 5,000 permanent workers are employed on 22 state farms; a larger number work for the state forestry administration.[8]

Thus in Turkey capitalist relations of production, defined as the permanent employment of landless peasantry, play an insignificant role in agriculture. Nor is there any evidence that the number of peasants employed

[6] Cited by K. Boratav: "Türkiyede Tarimin 1960lardaki Yapisi ile Ilgili Bazi Gözlemler", in *Ankara Üniversitesi Siyasal Bilgiler Fakültesi Dergisi*, Vol. XXVII, 1972, No. 3.

[7] According to our observations, there is at least one shepherd per village, usually a landless migrant from a different region. Larger and more prosperous villages usually have more than one. The shepherd category may thus account for a considerable number of landless wage labourers.

[8] See T. C. Gida: *Devlet Üretme Çiftlikleri* (Ankara, Tarim ve Hayvancilik Bakanliği, 1977).

as wage labourers has been increasing. On the one hand, landless peasants have the opportunity to migrate to urban areas or to other rural areas where they have a better chance of renting land or engaging in non-basic occupations. Since there does not seem to be any concentration of land at the expense of small owners, there have been no new dispossessions. On the other hand, problems of labour management, the law of inheritance, fear of land reform, and political pressure from below, have been forcing owners of large estates either to subdivide them among their heirs or simply to sell them in lots to the richer peasants. In other words there is gradual erosion of even the small amount of permanently labour-hiring capitalist agriculture that exists.[9]

Seasonal labour markets

We have established that strictly capitalist relations of production in agriculture are of limited importance in Turkey, and that there is no reason to think this will change. The defining characteristics of the agricultural labour market are to be found rather in the seasonal employment of small peasants. Let us begin by outlining the technological conditions creating a demand for temporary labour.[10] Technological change has tended to lead to an uneven and cyclical use of labour for all of the important crops except grains, where tractors and mechanical harvesters have replaced labour in all operations – preparing the field, ploughing, sowing and harvesting. In some labour-intensive crops, technology has not had any impact on the traditional cycle of labour use – examples are small-scale tea, hazelnuts, vineyards, and cultivation of the Turkish variety of tobacco (which does not lend itself to mechanical harvesting). For one important crop – cotton – unevenness in labour use has nevertheless been extreme. Cotton is grown on approximately 5 per cent of the land under cultivation;[11] it is a totally commercial crop, and the geographical area of its cultivation (the Çukurova and Söke plains) coincides with regions of relatively concentrated land ownership.

Before the large-scale use of tractors, commercial cotton was mostly grown on a share-cropping basis, the tenants also growing wheat for subsistence needs. After the introduction of tractors labour was no longer needed all the year round and it was possible for small producers to grow cotton commercially. The overall effects were a rapid increase in the area under cotton, the disappearance of share-cropping arrangements and an intensification of peak labour demand during the harvest season. There had

[9] For a similar assessment see O. Aresvik: *The agricultural development of Turkey* (New York, Praeger, 1975), pp. 37-38. ("The large holdings are being divided rapidly and the average size of the large holdings is diminishing even faster than their number.")

[10] This point is elaborated in T. Aricanli and Ç. Keyder: *Notes on labour demand during structural and technical transformation in agriculture*, ESA Working Paper No. 1 (Ankara, Ekonomik Sosyal Arastirmalar, 1979).

[11] Cotton cultivation peaked in the 1960s; since then there have been annual fluctuations but no long-term growth. See *Statistical Yearbook* (Ankara, DIE) for various years.

always been a need for labour from outside the area at harvest time even when share-cropping practices were the rule, but after mechanisation former share-croppers had the option of working on their own plots during the harvest, which increased the discrepancy between labour demand during ploughing and harvest seasons. As a result two distinct organisational forms of cotton cultivation emerged: one, on small plots, using primarily family labour and additional village labour under reciprocal arrangements; and the other, on larger farms, employing a small number of permanent (year-round) wage labourers together with a large number of seasonal migrant labourers.[12] These larger cotton-growing farms account for the bulk of seasonal wage employment in agriculture. Although no figures are available, an estimate (based on average weight of cotton picked by an individual) of around 200,000 persons (1.6 per cent of the agricultural labour force) entering the seasonal labour market each year to harvest the cotton crop seems reasonable. The supply of labour originates from all regions of Turkey, making this the only national and formal labour market in agriculture.

It has already been suggested that seasonal labour must derive from the small peasantry. Technically, most petty producers would be potentially available for seasonal employment during the cotton-picking season, but in order to identify actual labour supply sources we have to distinguish between different types of petty producers, their allocation of family labour, and the mechanisms which bring them into the capitalist sphere. In particular we need to focus on the various means of integrating different types of petty producing households into the national commodity and labour markets. From the point of view of the household, these amount to income-earning strategies. A decision-theoretic model, taking into consideration parameters imposed by the socio-economic environment, can explain the "rationality" of a household's behaviour in allocating its labour to wage employment. In our account, the dominant focus will be on the socio-economic environment of households and their economic behaviour.

In the Anatolian context this environment is the village. There are some 35,000 villages in Turkey, with an average population of 100 households.[13] For purposes of identifying types of rural transformation, the village provides an intermediate level of determination, between the household and the larger social formation, which serves to constrain structurally the behaviour of the household. Thus, by focusing on the village as an analytic choice, we can predict household behaviour based on the dominant structural characteristics of the village. It is not only because all the households in a

[12] According to the *Statistical Yearbook* for 1981, there are 110,480 farms growing cotton, of which 312 are larger than 100 hectares and comprise 15 per cent of the cotton area. The majority of the cotton-growing farms are found in the less-than-4-hectare category, with 53 per cent accounting for 18 per cent of the area. These are exclusively family farms and the above-100-hectare category exclusively capitalist farms. The middle category, between 4 and 100 hectares, may belong to either group.

[13] According to the 1980 census, 70 per cent of the villages had populations of between 200 and 1,000, the median population being between 400 and 500.

village share a physical environment, with the technical constraints it imposes, that they behave similarly. The common history of the village also plays an important role, for example, in migration decisions, in technology or crop innovations, or in land reclamation. Furthermore, communal decisions may circumscribe the choices of individual households. The best example is the two-year fallow pattern in wheat-growing areas, under which half of the village land is cropped while the other half is left as common grazing ground,[14] making it extremely difficult for any one family to change its cropping pattern.

Although the ratio of subsistence to commodity production may vary widely, households in all village types predominantly employ family labour in production processes that they themselves control. A majority of villages combine subsistence-oriented and market-oriented production but a small minority may be said to be totally commercialised. We may divide petty production into three different types: subsistence production, diversified commodity production that pursues a subsistence strategy, and accumulation-oriented petty production.[15] We will argue that what we have called subsistence production characterises villages which are suppliers of permanent migrants to national markets. "Diversified commodity production" describes a second type of village which is integrated into national labour markets essentially through the supply of seasonal workers; the "petty production" type is distinguished by crop specialisation and accumulation at levels sufficient to employ all of the existing family labour. Consequently, villages in this third type participate minimally in rural labour markets, and then only to hire in temporary workers, although, of course, their share in the demand for seasonal labour is much smaller than that of large cotton growers.

Subsistence-oriented villages and permanent migration

Villages in the "subsistence production" category are distinguished by a steady decline in population since the 1950s. Permanent out-migration has eroded their demographic base, resulting in a skewed age distribution towards the elderly and the very young. As a consequence their productive activities have suffered in terms both of current potential and of future prospects. Although the technical means of cultivation may be available, population decline has led to part of the marginal land being abandoned; and the departure of the working-age population has effectively precluded the introduction of new activities and other productive innovation.

These villages are net recipients of transfers from the urban (or frequently the world) economy. Migrants who have left the village continue

[14] See P. Stirling: *Turkish village* (London, Weidenfeld and Nicolson, 1965), pp. 48-49.

[15] For the full argument see Ç. Keyder: "Paths of rural transformation in Turkey", in *Journal of Peasant Studies* (London), Oct. 1983, pp. 34-49.

to maintain their ties with the family members remaining behind, often leave their children with the grandparents, and themselves spend part of the summer in the village. They also feel an obligation to support their elders financially. When – as has now started to happen – urban workers retire and earn pensions, they come back to the village to live and spend their incomes. The village thus emerges as an economy whose consumption exceeds its production potential.

In the case of permanent migration to urban centres, during the initial years of the move the worker seems to transfer a significant portion of his wage income back to the village.[16] As he becomes more permanently settled in the city, he no longer invests in the village (buying land or constructing a house) but he continues to send money or presents to his relatives. With migrants to the Federal Republic of Germany the process is even more clear since, at least in the beginning, they travel alone and leave their immediate family behind. Their contributions to the village economy are naturally more substantial: estimates indicate that up to one-third of a village's income may derive from such remittances.

In two villages [17] of the interior, which closely correspond to the above description, household surveys were carried out to determine the frequency of permanent migration. One village in the Ankara province came closest to the ideal type: of the 15 households surveyed 13 had members who had permanently migrated, averaging 2.5 persons per household. Among these people five had found work abroad, in the Federal Republic of Germany and Australia. As a consequence, eight out of 15 households had abandoned some previously cultivated fields. None supplied temporary labour, and only three sold any crops in the market. Furthermore, the average household size was only 3.9 and the average age of the head of the household was 51.

In a second village, in the province of Cankiri, 17 of the 20 households surveyed had on average 2.8 members who had permanently migrated, all within Turkey. Only five individuals in 20 households had done seasonal work over the past ten years, as temporary migrants. Nine of the 20 households had abandoned varying quantities of land and only eight marketed any part of their produce.

In different regions of the country, villages of the "subsistence production" type responded to the growth of employment opportunities at different times. In villages located on the tired soil of the arid Anatolian plateau, the excessive fragmentation of property, out-migration and consequent depopulation started in the late 1950s; in areas that had less access to urban centres or were institutionally disadvantaged in sending workers to the Federal Republic of Germany, the process did not start until

[16] This point has been illustrated through a survey of Ankara shanty towns in a study by S. Kemal Kartal: *Ekonomik ve Sosyal Yönleriyle Türkiyede Kentlilesme* (Ankara, 1983).

[17] These illustrations are from a survey conducted by a team at the Middle East Technical University in 1980-81. The research, funded by the Population Council, was directed by the author; T. Aricanli, B. Akşit, D. Seddon and N. Sirman were other members of the team.

the late 1960s. In the more distant eastern region it occurred even later. Depopulation was also geographically differentiated. While the share of rural population declined from 75 per cent in 1950 to 68 per cent in 1960, 61 per cent in 1970 and 56 per cent in 1980, regional rates of relative decline in rural population varied widely in each period.[18]

Commodity production and seasonal migration

The subsistence-oriented village with a declining population is not the norm. More common are villages in which a diversified commodity production strategy with alternative sources of income is pursued. There seems to be no single historical or geographical factor which determines whether a village will develop a subsistence orientation or diversified commodity production. There are numerous examples of villages making the transition from subsistence orientation to diversification, with consequent changes in their mode of involvement in the labour market because, as we have argued, subsistence orientation leads primarily to permanent out-migration while diversification generates a supply of seasonal rural labour.

Since the degree and timing of market integration or capitalist domination were linked with geographical location, villages in different regions made the transition at different times. There may be, for instance, villages in the eastern region which are moving towards diversification during the 1980s, while most villages in western Anatolia did so during the early 1960s. During the initial period of transition, seasonal employment in agriculture is more common but, once the transition is under way, an intensification of commitment to specifically agricultural activities is probable, which lessens involvement in temporary employment. In other words, there are large numbers of seasonal rural workers in villages that are just beginning to be substantially integrated into the national market.

In order to investigate further the nature of commodity and income source diversification, the example of an inland village in Western Anatolia may be useful.

Y is an old village, with relatively infertile soil, where holdings are small and fragmented as a result of population pressure and inheritance practices. Nevertheless, the economy is lively and the majority of the population is gainfully occupied. Up to the early 1950s it would have been impossible to predict the present vitality of this village. At that time it was much closer to the subsistence model, with traditional crops, some permanent out-migration and a stagnant population. Mechanisation, however, increased the demand for seasonal agricultural labour in the nearby cotton-growing provinces, providing opportunities for temporary employment and an extra source of income. Once connections were established, employment was available every

[18] See population censuses. It should be mentioned that 19 per cent of the rural population live in towns with more than 2,500 inhabitants; and as towns increase in size, so do employment opportunities in non-agricultural occupations.

picking season. As well as contributing to the household budget, income from seasonal employment allowed people to undertake new activities. Tobacco, among other new crops, came to be cultivated in the village during this period. Since tobacco growing is labour-intensive, an average family could not cultivate more than 0.5 hectares. So there were households that had a comparative advantage in cultivating tobacco and others that engaged in seasonal employment, both groups being low in the village land ownership scale. At the same time, villagers began to engage more actively in petty trade such as carrying vegetables to town and selling produce in weekly markets in nearby centres. Agricultural production diversified further, and tobacco, poppy, maize, poplars, grapes, chick peas and vegetable growing became important activities.

In the early 1980s petty trading, commerce, and small-scale transport were booming sectors, and there was a growing non-basic population in the village. In our survey of 20 households, seven heads of household gave their occupation as craftsman, shopkeeper or driver, which they regarded as their principal activities despite the fact that they also farmed.

The demographic history of the village clearly reflects its economic fortune. Stagnation and decline, which might have produced a profile similar to that of subsistence-oriented villages, were reversed in the 1960s, and population began to increase at a normal pace. More recently, there was even some migration into the village. This capacity to support a larger population resulted from the introduction of more labour-intensive agricultural practices and non-agricultural activities. Temporary wage employment was one mode of more intensive use of family labour. Of the 20 heads of households, five gave their principal occupation as agricultural (seasonal) worker, although they all owned land of between 0.5 and 3 hectares. In these households between two and five persons annually found employment outside the village for periods of between two weeks and four months. Eight more households in the survey supplied one to five family members as seasonal agricultural labourers. By contrast, there had been no permanent migration out of the village during the past ten years; and the demographic structure suggested a youthful population with each household consisting, on the average, of 7.5 persons.

Within this overall picture, it was the smaller landowners who engaged in activities involving the most drudgery, and produced labour-intensive crops – mostly tobacco – with family labour. They also earned a high proportion of the household income in the form of wages through temporary employment. It is not certain, however, that their overall income was smaller than that of larger landowners.

The village of Y provides an example of highly developed activity diversification. In most other cases diversification would not be as extensive. In villages of eastern Anatolia, for example, seasonal employment constitutes the most important and frequently the only secondary source of income. There, income from temporary employment tends to preserve

existing productive structures. It seems that as long as seasonal employment remains a possibility, small peasants can reproduce themselves economically, and are in a good position to resist any threat to their land from larger owners.

Petty commodity producers and sporadic labour demand

The third type of village development is that characterised by accumulation through petty commodity production. Households in such a village predominantly produce a single crop, most of which is marketed. Each family is able to expand its land holdings so as to absorb the production capacity of the household labour force using current technology.

The limits of family labour capacity become an effective constraint on further expansion because of the rigidities encountered in hiring outside labour. The family as an enterprise finds it difficult to manage a farm through formal wage relations. Employment of permanent wage labour is rare; temporary labour may be employed for short periods, at times of peak demand. The structure of production, and consequently the quantity of labour employed during peak demand periods, depend very much on the nature of the crop. When the single important crop is wheat, employment of temporary labour is sporadic. In one wheat-growing village,[19] despite land holdings of between 50 and 100 hectares, only four out of eight farmers hired any labour and then only one worker for periods of between three weeks and two months during the year. Those hired were taken on during harvest time to help in packing and transporting straw.

When a similar landholding structure is encountered in cotton growing, the seasonal demand for labour is much higher. Even when holdings are sufficiently small to be worked by family members during most of the production process, picking the cotton requires extra help, so that cotton-growing petty producers emerge as important sources of demand for seasonal labour. However, since the labour required by each family farm is small in absolute terms, it is possible to satisfy it through local labour markets and indeed mostly through informal relations that bypass the market. In one Aegean cotton-growing village [20] all the petty producers surveyed had access to such relations: cotton-picking teams were formed in which all the kin and neighbourhood youth participated. During the picking season, from mid-September to mid-November, the teams went from one holding to another, and outside labour was needed only by the larger farmers. In this exchange of labour, informal accounting ensured strict reciprocity, with deficits in labour time made up through the exaction of other chores. Since all of the

[19] This village is in a fertile area to the west of Ankara.

[20] This village is in Söke, the primary cotton-growing area in the west, to the south of Izmir. I am indebted to Nükhet Sirman for much of the information on cotton-picking practices.

households that participated in the exchange held similar amounts of cotton land (between 2 and 4 hectares) such deficits were not large. Despite the demand for seasonal labour, these cotton-growing families may be classified with the wheat-growing petty producers: both depend predominantly on family labour, and for both the scale of operation is a function of family size.

To summarise, accumulating petty commodity producers require temporary wage labour, but only seasonally and in small quantities. It may be added that this requirement tends to be met, as much as possible, through informal labour exchange arrangements. Even when these do not exist, the likelihood is that local labour supplies will be sufficient to meet demand. In other words, the participation of what we have termed accumulating petty commodity producers in the labour market is marginal when compared with the demand originating from larger cotton growers. In these latter operations the scale is no longer determined by family labour potential; family members often do not live on the farm, and year-round tasks are performed by permanent wage labour.

We now turn to the functioning of the seasonal labour market in which demand originates on the large cotton farms.

The seasonal labour market in cotton [21]

The crucial factor in the demand for labour in cotton is the strict timetable for picking the crop. As soon as cotton is ready for harvesting a team of pickers must enter the field and complete the first picking in sufficient time for the lint to ripen for the second picking. Depending on the weather, the usual interval between the beginning of the first picking and the end of the second is about six weeks. Labour supplies therefore have to be sufficient and secure for the duration of the harvest; otherwise the farmer risks losing his crop or part of it through spoilage.

Thus the large farmer seeks to secure a supply of labour for the whole of this period, and also to make sure that the workers do not abandon the fields in mid-harvest. All the practices that dominate the seasonal labour market may be interpreted by reference to this constraint. If the agrarian structure had been such as to provide an abundant supply of wage-dependent landless labour, technical limitations would not be as constraining. In that case, landlords could depend on a supply of casual labour engaged for short periods of time. The fact that most seasonal workers are also petty producers creates a more difficult situation. Such workers need to be attracted and contractually bound to work within a restricted schedule. During the earlier stages of the production process, in hoeing and weeding for example, more casual day labour is employed. This is because there is no strict agronomic requirement for the timing of these tasks, and because relatively small numbers of workers are needed. Consequently, labour from adjoining

[21] The information in this section is based on a 1981 survey of seasonal labour in Söke.

villages or nearby provinces is mostly employed for hoeing. It is also not uncommon for a worker to stay a few days on the job and then depart.

Cotton pickers are contracted to work for the entire duration of the first and second pickings. Because of the length of the contract, workers need to be from those villages which have not developed sufficiently as centres of economic activity, so that they are free to supply family labour after the summer wheat has been harvested. This is why most of the non-local labour comes from villages of petty production in the eastern highlands of Anatolia, and why workers can usually migrate (for the season) with their entire families. In the Aegean area of our survey, migration from the east involved a trip of two days by bus or truck. From the employers' point of view as well, labourers who have come from a distance are preferable since they are, in a sense, more captive. One finding of the survey was that the larger the group that was employed the farther they had come.

The distance between workers' homes and their place of employment requires an intermediary to handle preliminary contacts between capital and labour. In cotton picking this role has traditionally been performed by a contractor (known as the *dayibaşi* or *elçi*), who is usually from the same village as the workers. The employer negotiates only with this intermediary and makes no individual contracts with the workers. Typically the labour contractor will talk to one or more employers during the spring and will guarantee the supply of a certain number of workers for the duration of the first and second pickings. He will also receive a money advance to lend to and thus bind the individual workers as well as to cover the cost of transport. When the picking season comes the workers arrive at the place of employment and start working, again without directly entering into any contract with the employer. Any problems relating to the details of the contract or to supervision are handled through the labour contractor. In this fashion large employers attempt to avoid the problems associated with labour management.

The system of payment also facilitates labour management. There is no daily wage: remuneration is based on the weight of cotton collected each day. The payment, however, is not made until the end of the second picking. There is a price for the first picking, and sometimes a slightly higher price for the second, more difficult one. These prices are not known in advance. Workers contract for the job knowing the previous year's price and are reasonably sure – depending on the political climate – that the rate per kilogram will increase as a function of inflation and wages in the urban sector. Some time after the workers arrive the rate is announced by the farmers' association of the region, and is usually accepted by the workers without dispute. Even in the politically volatile late 1970s this rate did not give rise to argument and conflict, possibly indicating a reluctance by the large farmers to alienate the workers. The workers view this rate-setting process in the same way as the small cotton farmers: both parties say that it is for the large farmers to set the rate and for others to follow suit.

There is a rough correspondence between these rates and urban wage levels, but the expected relation between the demand for labour and workers' wages (given a constant supply) does not seem to obtain. An important jump in the area under cotton between 1980 and 1981 coincided with a real decline in the piece rate. This tends to confirm the impression that the piece rate in cotton picking is determined at a national level (with politics and non-agricultural labour markets playing important roles) rather than within the confines of the rural labour market.

The income derived from cotton picking depends very much on skill and experience. An experienced adult worker may pick between 100 and 150 kg a day, while newcomers average between 60 and 80 kg. It is usually the case that all the younger adults in a family, together with the children, travel to pick cotton while the land and animals are left in the care of an older father or uncle. This means that between two and five members of the same household may be working together, and their incomes are combined at the end of six to eight weeks. It is possible, on the basis of these figures, to calculate the average monetary earnings of such a family. Leaving aside provisions in kind provided by the employer (rudimentary housing or tent space, firewood and water), we can estimate that a family of four picking between 250 and 300 kg of cotton a day, or between 1,500 and 1,800 kg a week, would have earned between 130,000 and 160,000 Turkish lira (TL) over eight weeks in 1982. For comparison, the legal minimum wage in industry at the time was only 13,000 TL a month, and a university lecturer earned 50,000 TL a month. This is yet another reminder that the prevalence of petty producers and the low incidence of landlessness in Turkey make the market for labour more of a sellers' market than elsewhere.

Conclusion

Turkish agriculture has historically been characterised by the predominance of an independent small peasantry. This characteristic persists to the present day and the landless poor do not constitute an important category within rural society, with the result that the labour market for permanent wage employment is very small. The seasonal demand for and supply of labour, however, are much more extensive. The parties involved are, typically, small peasants with sufficient livelihood from agriculture who prefer not to emigrate permanently, and large farmers mostly growing cotton whose demand for permanent labour is very low. This agrarian structure gives rise to a particular pattern of labour demand and supply in seasonal employment, and the conditions in which such wage contracts are made are a further indication of just how important is the absence of a substantial landless category.

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Contractual constraints on labour exchange in rural Kenya

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Introduction

Because of the rapid changes that have occurred in the rural economy since Independence in 1963, Kenya provides material for an important case study of the links between rural poverty and the rural labour market. By the time of Independence the coercive rural labour system of the colonial economy had already been dismantled leaving the rural economy characterised in the early 1960s by a largely uncommercialised peasantry. In the past quarter of a century, however, peasant participation in both commodity and factor markets has increased substantially: a greater proportion of output is marketed; a greater proportion of labour is hired; and land rights have gradually been privatised through a registration programme. Debate on this process of commercialisation has so far centred on whether it is causing increased concentration in rural assets (especially land) and greater income inequality. A neglected issue, and the focus of this article, has been the impact of commercialisation on the allocative efficiency of resources within peasant agriculture: in particular, whether it has reduced or mitigated the effects of differences in man/land ratios across farms.

The justification for asking this seemingly arid question is that it produces far from arid answers. It will be shown that factor market transactions within the peasant economy now actually amplify differences in man/land ratios between smaller and larger farms and that, partly as a result, there is massive resource misallocation. In the early 1960s transactions in factor markets did not have this paradoxical result. We will further show that the present failure in resource allocation has serious distributional consequences and that rural poverty, in particular, has unquestionably worsened. The conclusion is that simply increasing the scope for market transactions does not always increase either efficiency or equity in situations where such markets develop partly by destroying, but without fully replacing, more traditional allocative arrangements. Finally, we seek to explain why in Kenya, unlike several Asian economies, factor markets are constrained to forms of contract in which the observed inefficiencies become predictable.

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Resource reallocation among peasant households: A brief statement of theory

In rural Kenya, as in most developing countries, there are substantial differences in the proportions of land, labour, fixed capital, material inputs and finance at the disposal of peasant households. If all operate on the same production functions, these different proportions will result in differences in marginal products: the marginal product of labour will be lower on small farms than on large, and that of land lower on large farms than on small. Such differences are indicative of allocative inefficiency, since output could be higher if resources were reallocated, which could be achieved either through the operation of social rules of allocation or as a consequence of market transactions. Social rules of allocation might range from directives issued by a centralised bureaucracy to social conventions observed because of a shared value system. Market transactions might range from use of hired labour to land tenancy or to specialisation in commodity production, or several transactions in different markets might be packaged in complex contracts. Let us consider this diversity of possible market transactions in more detail.

If they were unconstrained, costless, certain and enforceable, it would make no difference whether landowners hired labour or workers rented land, whether capitalists rented land and hired labour, or acted as moneylenders. Alternatively, some specialisation in commodity production could remove the need for factor market transactions. In such a world, poverty would be related directly to a lack of entitlements. The "exchange-entitlement mapping" (the ability to use given entitlements to meet needs (Sen, 1981)) would be the same for all households.

In practice, these assumptions do not hold. Labour transactions may involve an uncertain quantity of "effort" on the part of the worker and may involve some skill formation. Land transactions may involve uncertainty over changes in land quality resulting from cultivation practices, and over repossession at the end of the contract – both concerns for the landlord – or uncertainty about land fertility – a concern for the tenant. Credit transactions may involve uncertainty about repayment. In addition to these contract-specific risks and uncertainties, both parties operate in a general environment of uncertainty concerning climate and crop prices, and they may accordingly wish to enter into insurance or hedging transactions.

Because exchange in rural markets may involve risk, uncertainty about quality, and enforcement difficulties, the contractual forms needed to overcome such obstacles may well be complex. A simple contract such as one confined to a single transaction in a single market to be undertaken here and now at a specified price and quantity – the ideal-typical "spot" contract – is in many circumstances not a practical proposition. Share-cropping, as commonly practised in Asia, is an instance of a contract blending transactions in the labour, land, credit and insurance markets, which is both economically rational in circumstances of risk or uncertainty, and efficient in the sense that

output per acre is not lower than on owner-operated farms (Binswanger and Rosenzweig, 1984).

In some circumstances there may be no feasible contract that would enable efficient transactions to take place in a particular market, but this does not necessarily break the direct connection between poverty and entitlements. Initial differences in land/labour ratios between households will give rise to differences in exchange-entitlement mappings only if neither specialisation in commodity production nor efficient exchange in land or labour markets is feasible. Such a global failure of markets results in both a generalised loss of efficiency and a different distribution of income from the case of efficient exchange. To understand poverty in these circumstances it is necessary to understand the constraints that operate to confine feasible contracts to inefficient exchanges in all markets.

Processes of resource allocation at Independence

In the traditional peasant economy of rural Kenya commercial transactions had little effect on resource reallocation. In particular, factor markets had not developed. This does not mean that no process of resource reallocation existed: traditional land law gave private rights to land which entitled a particular household to exclude others from its plot (Okoth-Ogendo, 1976), and such rights could be inherited. However, they were of usage rather than of ownership, and households could not be excluded from idle land by the ownership claims of others. Further, given a common hoe technology, there were clear limits to the quantity of land a household could use, and land could be reallocated between households as they grew or shrank in size.

By Independence, commercial transactions had become common in peasant commodity production but not in factor markets. Land transactions, whether of tenancy or outright purchase, were very rare. In some areas vestiges of traditional attitudes to land rights persisted in the practice of land borrowing, without contract or payment. Rural labour market transactions by peasants were predominantly sales of labour to agricultural estates rather than to other peasants. As an indication of orders of magnitude, the number of persons (almost entirely male) in agricultural wage employment in the "formal" sector (agricultural estates) in 1963 was 216,000.[1] The labour force working on smallholdings at the time was around 2.5 million and survey evidence suggests that at most some 5 per cent of it was hired,[2] implying a market of some 125,000. Hence total agricultural wage employment would have been about 340,000, some two-thirds of it in the formal sector.

[1] This was about 15 per cent of the rural male population aged 15-60, which the 1962 Census reported as being 1.5 million.

[2] Although there is no national survey for this period, a large sample survey of Central Province was conducted in 1963. Since Central Province was the most commercialised peasant area, the finding that only 5 per cent of labour input on smallholdings was hired is likely to be an upper bound for the proportion nationally.

Table 1. Hired labour days per acre: Central Province, 1963

District	Farm size (acres)		
	<4	4-8	8+
Kiambu	10.0	10.7	16.2
Fort Hall	6.2	4.9	9.2
Embu	1.8	5.9	4.8
Nyeri	8.4	8.4	16.9
Meru	3.7	6.5	9.1

Source: Government of Kenya, 1968, tables 18 and 28.

Larger holdings relied more than smaller ones upon hired labour in each of the five districts covered by the survey (table 1). Thus labour hiring among smallholders, although very limited, contributed to efficient resource reallocation by reducing disparities in man/land ratios between smaller and larger farms. Nevertheless, the disparities remained considerable. Depending on district, man/land ratios were between one-and-a-half and three times higher on farms of less than 4 acres than on farms of over 8 acres.

Since Independence there have been four major changes in the nature and extent of trade in rural factor markets. First, there has been substantial urbanisation, most notably the growth of the city of Nairobi, the African population of which grew from 156,000 in 1962 to 421,000 in 1969 and around 800,000 by 1980. The main source of the migrants – predominantly male and attracted by urban wage employment – was Central Province, whose entire population in 1969 was only 1.6 million. These urban workers commonly retained or acquired wives on rural holdings, visiting the holding occasionally and returning to it on retirement from wage employment (Collier and Lal, 1986). As a consequence of urbanisation, by the mid-1970s around 30 per cent of the smallholdings in Central Province were farmed by an absentee holder.

Second, there has been a substantial government programme aimed at privatising landholdings with considerable resources devoted to registering plots and conferring legal ownership titles. A legal framework was thus provided for land sales and tenancy, though the latter did not in fact develop. Although not extensive, owing to continuing social and legal restrictions, land sales appear to have increased land concentration, probably because the new urban middle class accumulated land as a speculative asset. The only reasonably reliable guide to land concentration is for Central Province between 1963 and 1974. There the share of land worked by the bottom 40 per cent of smallholders fell from 26 to 18 per cent and that of the top 30 per cent rose from 44 to 54 per cent over this period (Collier and Lal, 1986).

Third, hired labour has become more important to peasant agriculture. In Central Province (the only province for which a time series can be constructed), hired labour doubled over the same period from 5 to 10 per cent of total labour used on smallholdings.

Fourth, employment on the estates became less significant. Employment in formal sector agriculture grew slowly in absolute terms, but declined as a proportion of the rapidly growing rural labour force, with the result that there was less opportunity for peasants to sell part of their labour to estates, and thereby help to reduce disparities in land/labour ratios.

To summarise, during the post-Independence period there has been some development of peasant factor markets and a decline in the importance of colonial factor markets. However, this partial commercialisation of peasant factor use has coincided with the growth of absentee land ownership, which is now widespread. The question we now turn to is whether this commercialisation has improved resource allocation.

The present state of rural labour processes

In our brief statement above of the theory of resource allocation we identified three market mechanisms, or "labour processes", by which transactions could increase the efficiency of factor use: labour hiring, land rental or sale, and specialisation in commodity production. It is implicit in the commercialisation which has occurred since Independence that, potentially, any of these mechanisms might have been activated. Indeed economic theory predicts that at least one of them would be bound to operate to achieve full, or at least improved, efficiency. We investigate this hypothesis by considering each of the mechanisms in turn.

Labour transactions

The most striking fact about labour use in Kenyan smallholder agriculture is that hired labour still forms only a small part of total labour input – about 10 per cent in 1974 (the most recent year for which data are available). Even in the most commercialised area of rural Kenya, Central Province, hired labour accounted for only 11.3 per cent of the days worked on smallholdings (and only 10 per cent of the hours).[3] Further, much of it was used to meet seasonal demand rather than to offset permanent differences in land/labour ratios between households, and, in the slackest four-week period, it contributed only 6 per cent of total labour input. Of the hired labour used during the year on smallholdings, two-thirds of the workers had casual day labour and one-third regular (monthly-based) labour contracts.

[3] The data source for this and much of the subsequent analysis is the *Integrated Rural Survey I, 1974-75* (Nairobi, Bureau of Statistics, 1977). In this survey, which we refer to as IRS-I, a smallholding was defined as a holding of less than 20 hectares. Some 97 per cent of surveyed holdings were in fact smaller than 8 hectares.

However, even the regular hired labour force was largely seasonal, only 30 per cent being employed in the slackest periods. Now the theory of multi-transaction contracts which include a labour transaction predicts that if regularly hired labour were employed through such contracts, there would commonly be a differential between the wage rates of casual and regular hired labour. There is no evidence of such a difference between these groups in the Kenyan smallholder hired labour market: mean daily earnings were virtually identical.

Table 2 analyses the contribution made by labour hiring to reducing *ex ante* differences in factor proportions among smallholdings. In panel A of the table the data base is the IRS-I, which provides the closest approximation to national coverage currently available. *Ex ante* differences in factor endowments are large; for example, land per household member on holdings above 5 hectares is 19 times greater than on holdings of less than 0.5 hectares. One paradoxical finding is the clear inverse relationship between farm size class and labour hiring per hectare. Compared with hired labour per hectare on holdings of over 5 hectares, holdings of 2.0-4.9 hectares use 48 per cent more hired labour, holdings of 0.5-1.9 hectares 175 per cent more, and the smallest holdings 450 per cent more. Labour hiring therefore tends to widen the absolute gap in the amount of labour used per hectare between larger and smaller holdings. However, since smaller holdings hire less labour *per household member*, the gap between labour/land ratios is narrowed. *A priori* it is not clear whether the net result is to reduce or to further widen the absolute and relative difference between the marginal product of labour on large and small farms.

One possible explanation of this paradox might be that the national data on land area used in table 2 make no allowance for differences in land quality. It might be that the larger holdings consist of tracts of inferior land which can only sustain low labour/land ratios. However, as table 2 reveals, there is a close correspondence between shares by value (where market value can presumably be taken as a proxy for land quality) and shares by area, with a tendency for the larger holdings to have a *higher* value per hectare. Further evidence that large holdings hire less labour per hectare than smaller holdings is provided in panel B of table 2, where the data refer to a single sublocation with a uniform land quality. It will be seen that holdings below 4 hectares use 123 per cent more hired labour per hectare than holdings above 4 hectares. We may, therefore, conclude that labour hiring by smallholders does not make any substantial contribution to equalising the marginal productivity of factors and may even increase inequality.

We now consider whether labour sales by smallholders serve as an effective alternative. These can be divided into labour sold to other smallholders and labour sold to non-smallholders. We have seen that in total some 10 per cent of labour used on holdings is hired. There are no direct data on the proportion of this hired labour provided by smallholders as opposed to landless labourers, but using indirect estimates based on the IRS-I and the 1978 Labour Force Survey, approximately 60 per cent (within a range of 50 to

Table 2. The hiring in and out of labour by farm size

Item	Farm size (hectares)				
	<0.5	0.5-1.9	2-4.9	5+	All
A. National data					
% of population	13.5	42.0	27.4	17.1	100
% of land by area	1.5	21.0	41.2	36.3	100
by value	1.5	16.4	41.8	40.3	100
% of hired-in labour [1]	5	35	37	22	100
Hired-in labour per hectare [2]	5.50	2.75	1.48	1.00	..
% of hired-out labour [3]	14.0	45.0	29.0	12.0	100
Hired-out labour per hectare [2]	28.23	6.48	2.13	1.00	..
Hired-out labour per household member [2]	1.48	1.53	1.51	1.00	..
B. Mwogeto sublocation			0-4 ha	4+ ha	All
% of population			76.5	23.5	100
% of land area			38.0	62.0	100
% of hired-in labour			57.8	42.2	100
Hired-in labour per hectare [4]			2.23	1.00	..
% of hired-out labour			86.3	13.7	..
Hired-out labour per hectare [4]			10.28	1.00	..
Hired-out labour per household member [4]			1.94	1.00	..

[1] The data in IRS-I are derived from the farm wages bill. In order to convert them into labour quantities we assume that the mean wage rate paid does not differ between size classes. [2] 5+ farm size = 1. [3] The data in IRS-I are for earnings from both casual and regular employment. In order to convert them into labour quantities we assume that the mean wage rate earned does not differ between size classes. In support of this assumption (which is reconsidered below) there are no significant differences between size classes in the ratio of casual to regular earnings. [4] 4+ farm size = 1.

Sources: For A, IRS-I; for B, derived from Bager, 1980, table 14.

75 per cent) of hired labour appears to be landless, the remainder owning some land, though generally less than average. Thus only about 4 per cent of total labour input on smallholdings is provided by smallholders working for other smallholders, and much of this is merely seasonal interchange. This level of labour sales is by itself clearly inadequate to even out the large differences in factor proportions between farms.

The non-smallholder labour market provides more extensive opportunities for smallholders to sell their labour. Again, there are no direct data on how much smallholder labour is sold on this market. Using indirect procedures,[4] our best estimate is that 15 per cent of total smallholder labour is sold to non-smallholders.

[4] One means of estimating non-shamba (non-farm) labour using IRS data is to take the proportion of the population aged 17 and above who are working on other holdings. Eighteen per cent of men and 2 per cent of women are in this category, or 9 per cent of the total labour force. Nine per cent is probably an underestimate of the proportion of the smallholder labour force engaged in non-shamba employment since the labour force does not include all persons over 17 and does include some under 17. The Labour Force Survey can also be used to generate an approximate estimate of the quantity of non-shamba wage employment. Depending upon the assumptions used, the estimate ranges between 10 and 20 per cent of total smallholder labour.

Our estimate of the allocation of labour resulting from labour transactions is set out below:

Labour allocation	Best estimate (%)	Probable range (%)
Total smallholder labour	100	100
of which: hired to other holdings	3	1.5-3.5
hired to non-shamba employers	15	10-20
work on shamba	82	76.5-88.5
Landless labour hired for smallholdings	5	4-7.5

It will be seen that some 18 per cent of smallholder labour endowment is hired out. The distribution of these labour sales by farm size is presented in the last three rows of table 2, which show that on holdings under 5 hectares some 50 per cent more labour per household member is hired out than on holdings over 5 hectares, but this fairly uniform level of sale of labour per person represents radically different labour sales per hectare. The conclusion is that labour sales narrow the absolute differences in labour input per hectare but only slightly reduce the differences in labour/land ratios, leaving the differences among the first three size categories of holdings unchanged.

Unlike labour hiring, labour sales do tend to equalise the marginal products of factors on farms of differing sizes. It is noteworthy that over 80 per cent of smallholder labour sales are to non-smallholders, but the combined effect of all labour market transactions by smallholder households may increase differences between marginal products of factors on farms of differing sizes. In table 3 the data of table 2 are combined with our estimates of labour transactions to calculate the resulting net change in farm factor proportions in different size classes.

Each size category is a net seller of labour, but the net sales of the largest holdings are close to zero while those of the smallest are around 16 per cent of the total labour endowment. However, the contribution made by labour markets to equalising factor proportions is small and their contribution to equalising the marginal product of labour is ambiguous. From row 8 of table 3 we see that the absolute differences in land per worker between size classes are generally increased. For example, the smallest holdings show an increase in land per worker of only 0.007 hectare compared with a mean increase for all holdings of 0.037 hectare. The difference in factor proportions between the smallest and largest holdings is reduced from 19:1 to 16:1, but the absolute difference in land per unit of labour actually widens.

While the figures in table 3 represent only orders of magnitude, the central conclusion is quite robust: participation in rural labour markets by smallholders has failed to be of such a magnitude or to have been in such a direction as to make a substantial contribution to reducing the poverty and

Table 3. The contribution of labour transactions to smallholder factor proportions

Indicator	Farm size (hectares)				
	<0.5	0.5-1.9	2-4.9	5+	All
1. % of household labour hired out	18.7	19.3	19.1	12.6	18
2. % of household labour remaining for use on holding: 100–(1)	81.3	80.7	80.9	87.4	82
3. Labour hired in as % of household labour	3.0	6.7	10.8	10.3	8
4. Net market effect (%) on labour used on holding: (3)–(1)	–15.7	–12.6	–8.3	–2.3	–10
5. Labour used on holding as % of household labour: 100–(4)	84.3	87.4	91.7	97.7	90
6. Hectares per worker before labour market transactions	0.037	0.183	0.502	0.703	0.334
7. Hectares per worker on the holding after labour market transactions	0.044	0.209	0.548	0.719	0.371
8. Change in hectares per worker on the holding due to labour market transactions: (7)–(6)	+ 0.007	+ 0.026	+ 0.046	+ 0.016	+ 0.037

Sources: Table 2, IRS-I and text.

inefficiency resulting from inequalities in entitlements. Such equalising tendencies as the labour market does provide come predominantly from differential sales of labour to non-smallholders rather than from the direct exchange of labour among smallholders.

The preceding analysis has sought to establish four characteristics of the rural labour market in Kenya. First, an inverse relationship is found between hired labour per hectare and farm size. Second, the extent of labour hiring by smallholders is very limited (around 10 per cent of total farm labour input) despite large differences in factor proportions. Third, the extent of sales of smallholder labour on the non-smallholder rural labour market is also very limited and does not provide an alternative means of equalising factor proportions used on farms. Finally, the net effect of rural labour transactions by smallholders may well be to amplify rather than reduce initial differences in area per cultivator.

These facts leave us with three puzzles: the limited extent of transactions in the smallholder hired labour market, given existing modes of contract, and the paradoxical pattern of the transactions; the limited extent of smallholder labour sales to non-smallholders; and, more generally, why these transactions are restricted to a mode of contract which both theory and Asian experience suggest is inappropriate. Are constraints on the form of contracts at the root of the manifest failure of the Kenyan labour market to cope with endowment differences?

There is a standard argument that, because of supervision costs and the low incentive for unmonitored effort, hired farm labour is more expensive than family labour. Some indication of the lower productivity of hired labour in Kenya is provided by the effect of the introduction of piece rates. Cowen and Murage (1974) give two instances of a change from day rates to piece rates: in 1962 tea picking switched to piece-rate contracts and mean output per person per day rose by 275 per cent; in the late 1930s when contracts for land digging changed to piece rates, productivity more than doubled.

The lower productivity of hired labour provides an explanation for its limited use. But in order to account for the differential use of hired labour on large and small holdings this simple model must be modified, one way being to introduce some seasonal variation in the demand for farm labour. Consider, for example, a two-season model in which labour is used first for planting and subsequently for harvesting, labour inputs in the two seasons thus being complementary. Now suppose that planting requires less labour than harvesting to the extent that all households use only family labour for planting, and, finally, assume for simplicity that the family labour input is the same in the two periods. Small farms, which have more family labour per hectare both for planting and harvesting, may have a larger demand for hired labour per hectare because the extra labour used during planting raises the productivity of labour during harvesting. This may offset the usually expected result: viz. that, because more family labour is available per hectare on small farms during harvesting, less hired labour will be needed. However, one implication of the model is that either no labour is hired in the slackest period of labour demand or larger farms hire more labour per hectare than smaller farms. We have no Kenyan data with which to test this prediction, but, while the annual differences in hired labour use by farm size reported in table 2 are very large, the monthly variations in the use of hired labour are not (the trough being around half of the peak). If farms over 5 hectares use more labour per hectare in the trough month than farms of less than half a hectare, it seems unlikely that over the year the latter should use 450 per cent more than the former.

An alternative (or additional) explanation regards the inefficiency of hired labour as a variable. Family labour may play a supervisory role as well as being directly productive, so that the efficiency of hired labour is a function of the quantity of family labour input on the farm. This is likely to be a particularly powerful consideration in the event of absentee ownership, where the "cost" of hired labour may encourage a very land-intensive form of cultivation.

Little evidence is available on the extent of absentee ownership in Kenya. The IRS-I found that nationally 20 per cent of holders lived away from the holding and consequently did not make day-to-day operational decisions. In Central Province, the most commercially advanced region, the figure rose to 31 per cent. A small survey conducted by Cowen and Murage found that 90 per cent of the smallholdings over 7 acres were owned by absentee heads of household such as teachers and businessmen.

Both these explanations focus on factors that influence the marginal product of hired labour. Another explanation focuses on a divergence between the marginal product of hired labour and the wage rate. In simple models of household income maximisation, hired labour is employed up to the point at which its marginal product equals the wage rate. However, since the wages of hired labour must be paid before output is either known or sold, this equality will not survive the introduction of borrowing costs, financing constraints or uninsurable risks. In such situations the hiring of labour will be restricted to a level at which its marginal product is above the wage.

In Kenya the hiring of agricultural labour involves a substantial cash flow burden. To hire a full-time labourer in 1975 would have cost around 2,000 shillings a year. But mean household income was only 3,650 shillings, and mean asset value per household only 6,900 shillings, largely in illiquid form, such as land, buildings and planted crops. Paradoxically, an important means of financing hired labour might well be income from wage employment. For example, households with holdings of 2-4.9 hectares both hire in and hire out more labour than those with holdings above 5 hectares. It may be that households with large holdings are not impelled by population pressure to seek non-shamba employment, while those with small holdings are pushed off their land but are then able through wage employment to finance a labour-intensive form of cultivation.

While financial constraint can help to explain why so little labour is hired, it cannot explain why smaller holdings hire more labour per hectare unless it is maintained that the financial constraints *per hectare* are more severe for larger holdings. In some rural factor markets that might apply (Griffin, 1976), but in Kenya, as we shall see below, credit to smaller farms is so attenuated that this thesis lacks plausibility.

It must be recalled that in 1963 hired labour transactions showed no trace of the paradox noted in 1974 (see table 1), so we must reject explanations which would have predicted the paradox in both periods. The one explanation that would predict its *emergence* after Independence relates to the variable efficiency of hired labour according to the extent of landowner absenteeism. Absenteeism on a substantial scale was a new phenomenon which developed as a consequence of rapid urbanisation during that period.

This thesis might still need to be qualified in view of the fact that between 1963 and 1974 hired labour doubled from 5 to 10 per cent of the total labour used on holdings. However, that increase was not due to the development of a genuine market process but resulted partly from a greater demand for hired labour and partly from a probable cheapening of hired labour relative to family labour. The greater demand came about through an increase in land concentration, larger farms using a much greater proportion of hired to family labour than smaller farms. Thus if the ratio of hired to family labour had stayed constant for each holding size group, land concentration would have raised the average share of hired labour from 5 to

9 per cent. Over the same period the poorest 40 per cent of smallholders in Central Province suffered a fall of a quarter in their share of total household income, their real incomes rising much less rapidly than the better-off 60 per cent of smallholders. Since the poorer households form the bulk of labour sellers while the demand for hired labour comes predominantly from the better-off, this change in relative incomes probably generated a change in factor prices. The opportunity cost of family labour in the labour-hiring households may have risen relative to the wage rate needed to attract hired labour, which would have induced a further substitution into hired labour and away from family labour. Hence the observed doubling of the share of hired labour cannot be construed as reflecting an evolution of market transactions to take up previously missed opportunities for efficiency. Rather, the need for hired labour increased and its relative cost fell.

The remaining aspect of the rural labour market to be considered is the failure of the non-smallholder sector to hire sufficient smallholder labour to equalise factor proportions on holdings. *A priori* it might be expected that the opportunity of smallholders to sell their labour to this sector would establish a common rate of return to labour, and hence common factor proportions, on all but the largest holdings. We argue that in fact the more attractive employment opportunities are not freely accessible to smallholders, while the opportunities that are accessible offer unattractive returns.

The major hirers of rural labour other than smallholders are the estates, which currently employ around 260,000 workers – probably less than the number of landless working for smallholders. The IRS-I estimated the number of smallholdings at 1,480,000 with, on average, about four workers per holding, 10 per cent of whom were hired – equivalent to around 590,000 work-years of wage employment. Assuming that some 40 per cent of this hired labour was supplied by smallholders, as estimated earlier, this would imply total employment of the landless of around 350,000 work-years. The estates are no longer in a dominant position in the hired agricultural labour market, the bulk of hiring (about 70 per cent) being by smallholders.

However, the market appears to be geographically segmented for reasons of differing tribal affiliation, limited diffusion of information and limited housing. A labour shortage in Coast Province coexists with a labour surplus in Western Kenya, and even within Western Kenya there are some estates that have considerable difficulty in hiring labour. Labour shortage can only mean that at the existing wage rate the employer wishes to hire more workers than are available, and this must imply that the marginal product of labour is above the wage rate. Employers are therefore choosing to set wages below the market-clearing level. This is the classic behaviour of the monopsonist and provides a clear case for legislated wage increases. A minimum wage rate for estate labour above present levels would benefit the landless and near-landless poor and could also increase employment, which would rise on estates where labour is currently supply-constrained.

The estates' monopsony power persists despite their low overall share of hired agricultural labour because of geographic segmentation. Regulation of them is made difficult by their use of casual labour contracts for one-third of their employees, and their practice of subcontracting employment, recruitment and supervision to agents outside the scope of official regulation. In part, this may be a response to the inefficiencies of the "spot" labour hiring contract, which it replaces with an implicitly longer-term contract subject to close monitoring of performance, but it is probably, at least in part, a means of avoiding even the limited regulation currently enforced.

Two other important employment sources – non-agricultural formal sector wage employment and self-employment – may not be accessible to the rural near-landless. To some extent access to jobs in the formal wage sector has been rationed by educational requirements, while access to self-employment commonly requires both skills and finance. The remaining accessible sector is wage employment in the informal non-agricultural sector. In urban areas wage rates have been bid down to extremely low levels, partly because young, single, male migrants manage to survive on very little while living as dependants in wage-earner households, perhaps while learning skills or simply waiting for something better to turn up. Wage rates in this sector are frequently below the level at which a worker could support a family, so can provide only limited income opportunities for near-landless households. Too little is known about wage employment in the rural non-agricultural informal sector to ascertain whether it shares these urban characteristics.

Rural wage rates are generally low. The Labour Force Survey of 1978 showed modal earnings of agricultural labourers in the range 100-200 shillings per month, the urban minimum wage being 390 shillings. IRS-I data show that, if all the family labour available to the mean smallholder household were sold on the smallholder hired labour market, it would generate an income of some 1,950 shillings a year. This, then, must have been approximately the income level of landless households with the same demographic structure as smallholder households but dependent upon selling their labour to smallholders, whereas the mean income of smallholder households was 3,650 shillings a year – nearly double that of labouring households. The survey by Cowen and Murage found an even wider differential of 190 per cent although this was partly accounted for by a smaller household size.

To summarise, we have sought to establish that the rural labour market does not prove effective in equalising factor proportions across holdings of differing size, primarily because of a failure in the smallholder hired labour market. Given the existing mode of contract by which smallholders hire in labour, the productivity of additional hired labour is potentially very low, especially on the larger holdings, and this disincentive is compounded by financial constraints which restrict labour hiring to a level at which the marginal product of hired labour is probably well above the wage. A second labour market mechanism which, potentially, might equalise factor

proportions – the sale of smallholder labour to other sectors – fails to do so because monopsony and entry barriers combine to depress earning opportunities.

As noted above, however, land transactions or specialisation in commodity production can equalise factor returns even in the absence of a labour market. In other words, the failure in the labour market acquires significance through its conjunction with the failure of both of the alternative mechanisms. It is to these that we now turn.

Land transactions

Land exchange may occur in a variety of ways. The length of contract can range from seasonal rental to the infinite rental period constituting a permanent transfer of ownership. Payments may precede or lag behind the use of land, forming an interlinked land and credit contract. Payments may be fixed in advance or depend on output, forming an interlinked land, labour and insurance contract. In none of these forms is there an extensive land market in Kenya: most holdings are acquired through inheritance.

Bager's survey of Kisii in 1978 (Bager, 1980) found that only 3 per cent of the total area farmed by smallholders in his sample had been purchased, and that a further 6 per cent was "rented". This 6 per cent included land that had been left with a relative while the holder was outside the district, although rent was not usually paid in such cases. Carlsen's survey in Nyanza and Coast provinces (Carlsen, 1980) found that 9 per cent of smallholder households were renting some land and 10 per cent had purchased some. There is little evidence regarding the relationship between land rental and land size. Carlsen reports survey data for Kisii that show some tendency for smaller holders to rent more land than larger holders: those with holdings below 2.5 acres were renting twice as much land as those with over 5 acres, and the same amount of land as those with 2.5-5 acres. The land rental market thus probably tends to equalise factor proportions, but its effect is slight because of the limited extent of tenancy. This is confirmed by the land distributions shown in tables 2 and 3, which show large differences in factor proportions, allowance having been made for land rentals.

Not only is a very small proportion of land exchanged through rental contracts but Kenyan land rental contracts typically display the reverse of the normal interlinkage between land and credit transactions. Bager notes that all the rental is paid at the start of the contract, the normal renting period being one, two or three years. Since those who rent land are generally poorer than those who lease it, and receive no income from the land until the first harvest, they are usually in debt. This reverse interlinkage points to some powerful obstacle to factor market transactions. Why, for example, is rent not paid over the period of tenancy as the land is cultivated?

While the land rental market is so small as to have had only a negligible equalising effect, land purchase appears to have transferred land from

smaller to larger holdings. Migot-Adholla (1976), Carlsen (1980), Livingstone (1981) and Collier and Lal (1986) all suggest that there has been some increase in land concentration through purchases and sales in the land market. Carlsen shows that the poor were making land sales and higher income groups were making purchases. Collier and Lal found that in Central Province over the period 1963-74 there was a substantial increase in the concentration of holdings as a result of various types of land transaction – rentals, sales, inheritance and settlement. Although hard data are not available, it would appear that land market transactions are insufficient in scale – as well as being quite probably perverse in direction – to serve as a mechanism for equalising factor proportions between larger and smaller holdings.

Land transactions thus present three puzzling features: the limited extent of land rental, perverse land-credit interlinking, and the inability of households with too little land to purchase it. Consider, now, some possible explanations.

Our explanation for the limited extent of tenancy parallels our hypothesis regarding the failure of the hired labour market, namely that the form of contract involves the parties in enforcement problems. Probably the most important constraint is that, in the absence of any tenancy tradition, there is no social value system to enforce the contract, causing the landlord to fear permanent loss of his property rights because of the difficulty of ensuring repossession.

Even on registered holdings there must be considerable uncertainty for a potential landlord. In rural Kenya land law and land policy remain in a state of flux: in particular, there are many thousands of "squatters" on some large farms and others have been unofficially subdivided by their multiple owners. At some stage the position of these groups will have to be regularised and use may once again become the criterion for establishing property rights.

The absence of a social value system to enforce tenancy contracts may also explain the perverse interlinking of land and credit transactions: landlords may fear that they will be unable to ensure regular payment of rent. For absentee owners, the monitoring and enforcement of payments are likely to be even more difficult.

While the potential property rights of tenants might account for the attenuated rental market, they do not explain the limited extent of land sales. If those with little land relative to their labour can neither rent land nor effect an offsetting exchange through labour markets, why do they not purchase land? We shall seek to arrive at an answer by way of a discussion of asset pricing, wealth composition and credit. The fact is that land values are high relative to the non-land wealth of smallholders so that purchases of land would have to be financed by credit, as we shall show.

The average value per hectare reported in the 1974 IRS was 780 shillings, but this conceals substantial variations. In densely populated areas

the price is very much higher: Bager reports a land price in Kisii in 1972 of 23,000 shillings per hectare and an annual rental of 400 shillings. The average price of 780 shillings thus radically understates the cost of land in land-scarce areas. Overwhelmingly the most important realisable smallholder asset (other than land itself) is livestock, ownership of which is correlated with land ownership, partly because private grazing is often required. On average, for example, households with less than half a hectare of land owned 1,500 shillings' worth of livestock and those with 0.5-2 hectares owned 1,900 shillings' worth. Using the IRS data, at the Kenyan average land price, sale of this livestock would finance the purchase of about 2 hectares of additional land; at the land price prevailing in Central Province it would purchase 1 hectare; and if Bager's figure is correct, then in Kisii it would purchase less than one-tenth of a hectare. But in buying land the household would also commit itself to the purchase of inputs necessary for cultivation, costing approximately 100 shillings per hectare. In addition, it would lose the income formerly derived from its livestock, which, for holdings of below 2 hectares, averaged 257 shillings a year, against annual cash outgoings of around 1,700 shillings. Thus land purchase, other than on credit, would compel a household either to part with its liquid assets or to curtail its expenditure drastically. The amount of land which households in the smallest land size categories could purchase, even if they were prepared to realise all their liquid assets, would merely raise them to the next larger size category. Land purchase financed by assets could not therefore make a major contribution to equalising factor proportions.

In fact, since land is a lucrative asset even as a speculative investment, evidence suggests that a considerable amount of land has been bought by absentee urban high-income groups. Directly, this leads to an increase in land concentration and worsens the imbalance in factor proportions between larger and smaller holdings. Indirectly, by raising land values relative to other assets, it inhibits the intra-smallholder exchange of land whereby land-scarce households could purchase land from land-abundant households. The inability of land-scarce households to finance land purchases out of liquid wealth would not matter were they able to borrow, but this they cannot do, as we shall explain below.

Having established that factor proportions are not equalised across farms either through labour market exchanges or through land exchanges, we now turn to the pattern of commodity production to see whether this acts as a substitute for factor markets.

Commodity specialisation

It is one of the standard theorems of international trade that differences in factor proportions will not lead to differences in factor returns provided that appropriate specialisation occurs. In the Kenyan context "appropriate" specialisation would be for the larger holdings to be planted dis-

Table 4. Commodity specialisation

Item	Farm size (hectares)				
	<0.5	0.5-1.9	2-4.9	5+	All
A. National data					
% of total land area	1.5	21.0	41.2	36.3	100
% of total area under local maize, hybrid maize and beans	6.1	35.8	36.8	21.3	100
Propensity to use land for major food crops [1]	6.93	2.91	1.52	1.0	1.70
% of holdings [2] in size class growing:					
Pyrethrum	6.2	8.8	8.6	16.2	..
Coffee	10.2	32.9	30.7	10.9	..
Tea	8.3	26.9	32.1	11.7	..
Total [3]	24.7	68.6	71.4	38.8	..
B. Three sublocations					
	<2.5	2.5-4.9	5-7.4	7.5+ acres	
Mwogeto					
Major food crops [4] area (%)	47	40	37	37	
Major cash crops [5] area (%)	24	32	37	24	
Other land uses (%)	29	28	26	39	
Ratio cash area/food area	0.51	0.80	1.0	0.65	
Werugha					
Major food crops [6] area (%)	57	47	33	17	
Major cash crops [7] area (%)	19	19	13	5	
Other land uses (%)	24	34	54	78	
Ratio cash area/food area	0.33	0.40	0.39	0.29	
	<4	4-6.9	7-13.9	14+ (acres)	
Kikoneni					
Major food crops [8] area (%)	92	77	59	56	
Major cash crops [9] area (%)	8	21	37	23	
Other land uses (%)	0	2	4	21	
Ratio cash area/food area	0.09	0.27	0.63	0.41	

[1] 5+ farm size = 1. [2] IRS-I does not give data on the area of these major cash crops broken down by size of holding. [3] This total will include some double counting of holdings that grow more than one of the three crops. [4] Maize, millet. [5] Pyrethrum, tea, coffee. [6] Maize, beans. [7] Onions, potatoes, tomatoes, coffee. [8] Maize. [9] Sugar, tree crops.

Sources: For A, IRS-I; for B, derived from Carlsen, 1980.

proportionately with land-intensive crops (predominantly the food crops) and the smaller holdings with labour-intensive crops (predominantly pyrethrum, coffee and tea).

In table 4 IRS data are arranged by farm-size class for the three major food crops and the three major cash crops. It will be seen that there is some evidence of commodity specialisation *but the direction is perverse*: the smaller

holders tend to specialise in land-intensive crops and the larger holdings in labour-intensive crops. Table 4 also presents data at the sublocation level derived from Carlsen: with the exception of the largest farms, the same perverse situation is evident.

So it is clear that commodity specialisation has not provided a mechanism for preventing the unfavourable initial entitlements of the poor from leading to an even more unfavourable exchange-entitlement mapping. Again we shall attempt to explain a paradox in rural factor utilisation, in this case perverse commodity specialisation. The land-intensive crops are generally food crops, and it is a risk-averting strategy for the household to grow at least a proportion of its own food since this eliminates one risk – of an increase in the price of food relative to that of cash crops. The risk is obviously less if the holding diversifies into many cash crops, if income is high, or if liquid wealth is substantial, but all these mitigating factors are themselves correlated with land size. In Kenya maize is sometimes rationed so that reliance upon purchased food involves the additional risk that none will be available. Subsistence cultivation is therefore a rational choice for those with little land even though it reduces the returns to household labour.

The major labour-intensive crops, by contrast, are tree crops with long maturation periods. This is particularly true of coffee, the main smallholder cash crop, from which there is no yield for four or five years after planting. Labour-intensive crops therefore impose severe cash-flow problems on smallholder households. In addition to the financing of inputs needed during the maturation period, there is the output forgone by diverting land to tree crops, which is higher for those with smaller holdings since, as will be shown, they have considerably higher yields per hectare than larger holdings. As with the hiring of labour and the purchase of land, the problem can be traced back, at least in part, to an unsatisfied demand for credit. It is therefore necessary to consider why the rural credit market does not cater adequately for the needs of land-scarce households.

Contractual constraints on credit

Smallholder credit is, by its nature, a market that will tend not to clear through price adjustment alone (the interest rate). Because the default risk increases with the interest rate, in equilibrium credit will generally be rationed (Stiglitz and Weiss, 1981). The obvious criterion for rationing is to select borrowers with the lowest risk of default. David and Wyeth (1978) have shown that the commercial banks, which now provide considerable flows of credit in rural Kenya, favour applicants with collateral or those with secure wage employment in the formal sector. The most common form of collateral is land already owned, which clearly works to the disadvantage of those with little land. Secure formal sector wage employment thus provides the key to credit from the commercial banks for the near-landless. It is, for

Table 5. Wage income by type of job and farm size: Mwogeto sublocation, 1978 (mean shillings per household)

Type of job	Farm size (hectares)		
	<1.0	1.1-4.0	4.1+
Qualified jobs	574	1 014	1 133
Unqualified jobs	857	232	0
Casual jobs	129	28	29
Total	1 560	1 274	1 162

Source: Bager, 1980, table 14.

example, quite common for secretaries in Nairobi to borrow from banks to finance land purchases. This pushes the problem for the landless one stage further back – to finding appropriate wage employment. Here the near-landless might appear to have an advantage over those with land: table 2 shows that they receive a disproportionately high share of the wage income generated by sales of smallholder labour. However, to reach that conclusion would be to ignore differences in the type of employment obtained. National data are not available on this point so we must rely upon the sublocation data collected by Bager. He disaggregated wage employment into "qualified", "unqualified" and "casual". A qualified job is defined as one requiring some previous education, and table 5 shows that, while households with large holdings earn considerably less in total from wage income, they earn more from wages for qualified employment than households with smaller holdings.

Thus both the criteria employed by commercial banks tend to favour those who already possess larger holdings. Banks could lend to the landless simply on the collateral of the land to be purchased, but they do not do so, presumably because they fear a high risk of default and subsequent recovery problems. To the extent that the landless would devote a higher proportion of their new acreage to subsistence cultivation, the banks might expect lower sales per hectare on small holdings, making repayments more difficult. In fact, the reverse appears to be the case (Livingstone, 1981). However, banks might also anticipate difficulties in repossessing land, especially if it is the site of the only homestead. Finally, repossessed land once sold might not cover debts, so that banks might feel the need to require additional forms of collateral. For whatever reason, the commercial banks have failed to provide finance for land acquisition by the near-landless.

The commercial banks are not the main channel of smallholder finance (though they may be a major source of funding for land purchases). This role is played by marketing co-operatives, which are generally funded by aid agencies. The societies also ration loans in the face of excess demand, but the security demanded is a direct deduction from the value of future crops marketed through the co-operatives. This value is typically estimated on the

basis of sales over the previous three years, which favours those already growing cash crops. The main loan programme, the Integrated Agricultural Development Programme, concentrates on loans with a duration of only 12 months, and it seems unlikely that this could provide a mechanism for the near-landless to acquire land.

The rules of fund allocation by co-operatives thus tend to perpetuate rather than to remove differences in income. In Central Province, where loan financing is most developed, IRS-I found that smallholders earning less than 2,000 shillings a year had loans of only 200 shillings on average compared with loans of over 1,000 shillings for smallholders with annual incomes above 4,000 shillings.

Between them, the commercial banks and the marketing co-operatives account for nearly all available smallholder credit. Moneylenders, common in rural Asia and West Africa, are almost entirely absent, presumably because of fears of a very high default rate as informal debts other than those within the extended family would lack the enforcement of social sanction.

Efficiency, poverty and policy

So it would seem that none of the potential market mechanisms by which factor returns might be equalised in fact operates, owing to the inadequacies of existing forms of contract: transactions are being inhibited by a contractual framework in which major elements of the transaction are either unenforceable or unknown. The question that naturally arises is why it has not proved possible in Kenya to devise different forms of contract to overcome these inefficiencies, as has been done in rural Asia. With regard to the latter a study by Bliss and Stern (1982), for example, found that one-quarter of all farm land in Palanpur was cultivated under contracts of share tenancy. Productivity was as high on tenanted land as on owned land, and the relationship between farm size and productivity per hectare was neutral.

One explanation for the absence of share tenancy in Kenya might be that, with no tradition of market relationships, complex contracts have not had sufficient time to develop. Such an explanation can almost certainly be rejected; one complex contract – plough-sharing – is relatively common, under which, in exchange for ploughing a field, the plough owner retains part of the field for his own cultivation for the duration of a single crop. This differs from share-cropping in three key respects. First, the landowner gets all the payment for his land rental in advance (by way of having his land ploughed) instead of in arrears, thus eliminating default risk. Second, as the landowner himself cultivates a substantial part of the field in question, the plough owner does not become the sole user of an integral unit of land, which reduces difficulties of repossession. Third, the landowner is able to gain access to a scarce and powerfully labour-saving capital good, thus overcoming financial constraints on plough purchase or cash rental.

If Kenyan smallholders are sufficiently ingenious to devise the plough-sharing contract, it is reasonable to conclude that what inhibits share-cropping and other complex modes of contract is not a lack of ingenuity; rather, smallholders are constrained to inefficient contracts because other modes are not feasible. The roots of these constraints, we have suggested, lie in a combination of a non-capitalist conception of land rights with widespread absenteeism of landowners. In such an environment landowners cannot monitor labour input, which makes labour hiring inefficient, while, at the same time, land hiring is precluded by the limited rights of landholders. Many mutually profitable transactions may thus be impossible to embody in feasible contracts. Even as a general proposition in economics this formulation has received relatively little attention. As a proposition relating to developing country agriculture, it has been largely neglected (except tangentially in the literature on Asian share-cropping, with regard to the provision of smallholder credit). As a proposition explaining the near-total failure of factor markets in rural Kenya it appears to be new. If so, the failure to recognise its importance is surprising because the consequences are calamitous.

The first prediction of a hypothesis postulating contractual constraints on market exchange is that factor returns will not be equalised across farm size. Specifically, the expectation is that smaller holdings will have lower marginal and average returns to labour but higher returns to land. This is indeed the case. IRS data show that the value of output per unit of labour rises systematically with size of holding. Compared with the smallest holdings, the second size group has a 13 per cent higher return on labour, the third size group a 38 per cent higher return, and the largest holdings a 62 per cent higher return. Conversely, output per hectare is far lower on larger holdings, in terms of the value of total output, the value of marketed output and the volume yield of specific crops.

Three main consequences follow – for output, for income distribution, and for poverty.

First, agricultural output will fall short of its potential because of allocative inefficiency. Since agricultural output represents either food or foreign exchange, both of which can be regarded as inputs in the Kenyan context, the loss of agricultural output results in a larger loss in national output. An estimate of the agricultural output loss is made in table 6 by comparing the productivity of farms of 2.0-2.9 hectares with that of all farms. We would expect farms in this middle-sized category to have factor proportions similar to the mean factor proportions for all farms: i.e. households would cultivate their holdings using factor proportions that would be those used by all farms if factor markets had succeeded in equalising factor proportions. Market failure implies that farms that happen to employ factors in these proportions should have above-average productivity. In fact, the mean labour use per hectare on farms of 2.0-2.9 hectares is very close to the mean for all farms (see the second row of table 6), while non-labour

Table 6. An estimate of the loss of agricultural output

Item	Farms of 2-2.9 ha (1)	All farms (2)	Col. 1/ col. 2 (3)
Mean farm size (ha)	2.38	2.37	1.004
Total labour use per hectare (sh.)	151	147	1.027
Non-labour inputs per hectare (sh.)	155	169	0.917
Output net of non-labour inputs per hectare (sh.)	1 060	954	1.112

Source: IRS-I.

inputs are rather below the mean. Yet net output per hectare is 11.2 per cent greater than the average for all farms. Unless there are explanations for the difference in productivity unrelated to factor inputs, we may conclude that, were it not for factor misallocation, output would be at least 11.2 per cent higher. This is clearly an underestimate of the true output loss because most farms in the middle-sized group will not actually use factors in the same proportion as the group mean.

The second consequence of contractual constraints in rural factor markets is a different distribution of income from that which would result from efficient transactions. The loss in agricultural output is not shared equally by all households. The groups most affected by market constraints are those with the most atypical land/labour ratios. The effect on income distribution is thus ambiguous, because both the near-landless and those with the largest holdings lose out. The commonly used measure of inequality, the Gini coefficient, is more influenced by income distribution within the upper-income half of the population than by that within the poorer half. Therefore, the Gini coefficient of income distribution of Kenyan smallholders may give an impression of egalitarianism as compared with a similar economy in which market exchanges are less curtailed.

Although the consequence for income distribution is ambiguous, the effect on poverty is unambiguous. The near-landless, poor through their limited land entitlements, have their poverty compounded by atypically low returns to labour. Poverty becomes a matter both of inadequate entitlements and an unfavourable exchange-entitlement mapping. In the resulting distribution of income, the critical cleavage is more likely to be between the poor and the rest rather than between the rich and the rest. Compared with a situation where factor markets operate efficiently, it is difficult to generate a high smallholder income. Further, the returns to land accumulation by the better-off peasantry are low because extra land cannot be used efficiently. However, at the other end of the income spectrum, it is easier to fall into destitution because the return on labour for near-landless households is very

low. The landless and near-landless are caught between the contractual inefficiencies of factor markets and the low returns at the margin to cultivation of their own holdings. The alternatives to cultivating mainly food crops with a very high input of labour per hectare are low wages from labouring for other smallholders, low wages on the estates, low wages in the informal sector owing to competition from the young dependants of formal sector employees, or migration to dry land areas. It is, of course, because none of these alternatives is attractive that smallholders decide to use their labour on their own holdings and, hence, why such widely differing factor proportions are observed.

The commercialisation of the Kenyan peasantry appears so far to have contributed to increased inefficiency in resource allocation, as developments in the hired labour market indicate: in 1963, before the growth of absentee land ownership, hired labour transactions were not perverse; by 1974 such transactions actually amplified initial differences in labour use per acre. This is not to argue that in general the commercialisation of the peasantry will lastingly worsen resource allocation. It is possible to envisage (and to point to instances of) fully commercialised peasant economies that display allocative efficiency. However, it does suggest that the limited commercialisation which characterises the Kenyan, and indeed many African, peasantries may not represent a steady move towards efficiency. Even if the present is seen as a transitional stage to a fully capitalist peasant economy, the transition may be a lengthy one involving at least for a time worse resource misallocation than a pre-commercial economy. Alternatively, present contractual modes might constitute a socio-legal equilibrium that condemns the economy to permanent gross inefficiency and accentuated poverty.

The policy choice is between making market mechanisms work by accelerating the transition, or introducing non-market reallocations of factors through some type of land reform. Faced with this choice, the Government is currently considering promoting the institution of tenancy as a means of equalising factor proportions without resort to hired labour. However, since this would increase the return to absentee land ownership and reduce the return on land to the near-landless, it might have the effect of gradually increasing concentration in land *ownership* even if it reduced concentration in land *operation*. It is quite possible that (unless tenancy functions as a perfect "spot" market) concentration in ownership could increase to the point where even concentration in land operation became greater than at present.

Thus the dynamic consequences of tenancy might be such as to reverse the initially beneficial effects upon agricultural output and rural poverty. No part of the above analysis should therefore be interpreted as an espousal of the case for promoting tenancy in Kenya. However, it does strengthen the case for a redistribution of entitlements to land. In addition to its direct contribution to equity, such a redistribution would reduce poverty through its impact upon the exchange-entitlement mapping of the poor, and generate a substantial increase in national output.

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Agricultural commercialisation and the growth of a migrant labour market in Mexico

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Introduction

The post-war development of the Mexican economy highlights the danger of adopting rigid models of dynamic change to explain a situation of considerable diversity. This is not to deny that the dominant trend in that economy has been the expansion of exchange relations and the commercialisation of agricultural production, but the nature and pace of change have been specific to Mexico, particularly in agriculture. Lenin's analysis (referred to by de Janvry, 1981, pp. 107 ff.) of the two ways to capitalism in agriculture – the "farmer" and the "Prussian" road, the first by the evolution of some peasants into capitalist farmers, impoverishing the rest, the second by the evolution of feudal estates into capitalist enterprises employing a proletarianised peasantry – cannot be applied to Mexican agriculture without distorting the reality. While differentiation of the peasantry is clearly far advanced, it has not led to the complete proletarianisation of the majority of smallholders with meagre capital endowments. Within Mexican agriculture elements from the "farmer" model continue to coexist with a transitional pattern that more closely resembles the "Prussian" model.

The growth of capitalist enterprise has led neither to mass proletarianisation in the smallholder sector nor to the dominance of particular production units in the rural areas. Rather, it has consolidated regional and sectoral disparities, linking, through increasing labour flows, enterprises favourably endowed with capital and land with those whose main asset is labour. In particular, a substantial migrant labour market has emerged. While not strictly dualistic, the linkage clearly does not necessarily lead to the suppression of one productive structure by the other. Indeed, a major characteristic of the Mexican rural labour market is the existence of a pool of underemployed workers whose periodic sale of their labour does not preclude continued petty commodity and subsistence-oriented production.

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The growth of a migrant, and predominantly seasonal, agricultural labour market is a relatively recent phenomenon arising from shifts in the nature of production on larger farms situated mainly in the north and north-west of the country. Significantly, this growth has not been at the expense of local labour market transactions but has complemented them. The fact that it has not created severe shortages of labour in local markets points to the existence of a considerable labour surplus, relative to land and capital assets, in most regions. While initially this surplus was reflected in the outflow of labour towards the urban sector, in recent years rural-rural migration has become more important.

This study focuses on the conditions under which seasonal labour has become a crucial production input, especially in the most dynamic agricultural regions. It also discusses the reasons for this release of labour from the more backward regions.

Shifting priorities of agricultural policy

Although the growth of a seasonal migrant labour market can be traced to developments within the rural economy since the 1950s, out-migration from rural areas is not a recent phenomenon. Historically, however, it has largely taken the form of permanent migration to the expanding urban areas, thus serving as a vent for rural surplus labour, though its importance in this respect has decreased over time. While the average growth rate of labour absorption in all sectors was about 4.1 per cent a year in the 1950s, by 1970 it had fallen to less than 1.5 per cent (Cifuentes, 1981). Much of this decline, as we shall see below, can be attributed to constraints in the agricultural sector, but part was also due to the towns' diminishing capacity for labour absorption.

While in 1930 roughly a third of the population could be classified as urban, the proportion is now over two-thirds (Scott, 1982, pp. 123 ff.). Migration from rural areas accounted for much of this growth, especially in the 1940s. Thereafter, high rates of natural increase in the urban population became a more significant factor. One constant feature has been the progressive concentration of population, with nearly a third living in the seven largest cities by 1980. Mexico City and its surrounding suburbs alone account for 22 per cent of the country's population, and growth rates in urban areas continue to exceed by a substantial margin those prevailing in the rural hinterland (World Bank, 1982, tables 17 and 20). Rural migrants to the large urban conurbations help sustain these demographic trends, especially in Mexico City where at least two-fifths of total migrant growth is concentrated (Unikel and Victoria, 1970).

With urbanisation, the scale and function of the industrial and service sectors of the economy have increased, and the consolidation of the urban industrial sector has had a pronounced impact on the demand for, and utilisation of, labour. By 1980, 29 per cent of the labour force worked in the

industrial sector and a further 35 per cent in services (World Bank, 1987, p. 265), while between 1965 and 1980 the proportion of the labour force in agriculture fell from 50 to 37 per cent. These trends were strengthened by the deployment of oil revenues. Oil output increased severalfold in the 1960s and 1970s and the revenue feedback into the economy was substantial. The direct impact was most striking in the oil-producing region of Tabasco itself, where high rates of in-migration have accompanied galloping local inflation and a glutted labour market (Sanchez, 1983). At the macro level, oil revenues were mostly channelled into the urban sector, leading initially to a construction boom. Given the State's inability to reform the fiscal structure, however, oil revenues increasingly came to finance growing public expenditures.

Despite high growth rates in the industrial and service sectors, the expanded rural-urban migration of the 1960s led to problems of labour absorption, and a rapidly growing urban labour pool – outside the organised urban labour market – came into existence in most large towns. These "informal" labourers were unable to achieve stable earnings or sustained employment. Partly as a response to the consequent political pressures, the Government subsidised the cost of basic necessities in urban areas (Solís, 1981). This moved the terms of trade against the agricultural sector, depressing farm prices and encouraging a shift out of basic food crop production, which led to a decline in the area devoted to traditional subsistence crops, such as maize and beans.

By the end of the 1960s major production bottlenecks, particularly for food crops, had emerged in the agricultural sector. At the same time, slower industrial growth led to an overall decline in the demand for labour. While in 1925 a cropped area of some 6 million hectares produced around 9 million tonnes of maize, wheat and barley for a population of around 16 million, by the late 1970s some 15 million cropped hectares produced only 19 million tonnes (Redclift, 1981a). In the meantime, the population had more than quadrupled.

The most immediate consequence of the inability to raise food production was a growing reliance on grain imports, which rose from 2 per cent of total consumption in 1960 to 36 per cent in 1979, largely from the United States. This placed an additional burden on the balance of payments: in 1965 Mexico had a positive trade balance of $191 million with the United States; by 1980 this had been transformed into a deficit of $805 million (Meissner, 1981, p. 221). In response the State embarked, somewhat tardily, upon a programme to raise production levels in the non-irrigated regions. Initially, it concentrated on expanding the commercialised farming regions in the north. Much of the investment went on irrigation, combined with higher-yielding seed inputs. These measures succeeded in raising output, but their effect was confined to the regions immediately concerned and was largely achieved at the expense of poorer farmers. Moreover, the biggest gains were made in wheat production, as farmers switched out of cultivating poorer quality food crops.

As most farm land is still effectively rain-fed, the crucial issue became how to raise output and marketed surplus on the less commercialised, small farms located in the more backward regions. This led by degrees to an attempt to put into reverse farm policies associated with the "stabilising development" strategy of the 1960s and the concentration on large-scale irrigation programmes of the 1970s (see, in particular, World Bank, 1977). In 1980 the Government introduced the *Sistema Alimentício Mexicano* (SAM). Designed to reduce rural unrest through increased agricultural development aid, the SAM aimed to adjust prices, principally by pushing up the guaranteed price for maize, and at the same time to increase the proportion of output purchased by public sector agencies. In the mid-1970s such purchases were less than 3.5 per cent of total marketed maize (Hall and Price, 1982; Redclift, 1981b). By the early 1980s the operation of the SAM had not materially altered the situation.

While the larger commercial wheat farms of the north responded to price stimuli, the response among maize and beans producers was far weaker. The short-term result, despite a massive redirection of credit to the rain-fed regions, was a bigger marketed surplus for wheat but at substantial cost. A policy based on raising producer prices while also directly subsidising urban consumer prices could be expected to have a disastrous impact on the public sector deficit. Indeed, Mexico's financial crisis has jeopardised the continuation of the programme. In any case, strategies that do not combine redistributive with manipulative policies – in other words, land redistribution with terms of trade adjustment – are unlikely to overcome the major bottlenecks in the rural economy. Furthermore, as we shall see, shifting guaranteed prices in favour of maize rather than wheat cannot check the very pronounced trend towards livestock farming that is evident in many Latin American economies today.

State policy towards the agricultural sector has thus been characterised by a shifting set of priorities. Initially, in the post-war period growth was achieved by extending the cultivated area and improving yields of the major crops, especially wheat and commercial non-food grain crops such as cotton and sugarcane (Venezian and Gamble, 1969). Much of this output growth was due to the expansion of irrigation in the northern regions as a result of massive investment in the irrigation infrastructure. The areas touched by the Green Revolution became progressively more differentiated from the backward, rain-fed areas in which small farms predominated. At the same time, acceleration of commercial agricultural production supported the Government's wider industrial growth and protection policies not only by obviating the need for food imports, but also by transferring income through the price system from agriculture to the urban industrial sector (Hewitt de Alcantara, 1976, pp. 101 ff.). This shift was associated with a growing pattern of migration from rural areas to the highly concentrated urban growth poles. Relatively low rates of industrial labour absorption resulted in a large "informal" sector labour force, whose potentially explosive political chemistry was a major reason for the maintenance of consumer subsidies. By

the 1970s, however, deceleration of agricultural growth rates and sharply declining food grain output reversed this situation. Oil revenues were used to support more interventionist policies by the public authorities, though with limited effect in bridging the divide between the commercialised and the partially market-integrated small-scale farms. The absence of adequate land and capital endowments has thus led increasingly to a temporary transfer of labour from the backward regions to the commercialised ones. Shifts in government policy and the declining rate of industrial growth have contributed to labour reallocation, which has been consolidated by the pattern of labour demand that has accompanied the spread of different crop mixes and the growing use of machinery.

Agricultural production and the demand for labour

By far the most important factors influencing agricultural production in Mexico in recent decades have been the impact of new seeds, the extension of the cultivated area and the use of supporting inputs, such as fertilisers and pesticides. In the early 1960s they made it possible for gross agricultural output to grow by around 4.5 per cent a year, with crop production increasing at an even higher rate (Hewitt de Alcantara, 1976). Between 1900 and 1958 Mexican crop production increased only two-and-a-half times, but it more than doubled in the five-year period from 1959 to 1964 (Venezian and Gamble, 1969). Although this trend did not continue into the 1970s, one lasting consequence was the shift away from food towards commercial crops and fodder. In 1960 wheat, beans and maize accounted for 76 per cent of the total cropped area; ten years later the share had fallen to 68 per cent and at the end of the 1970s to 51 per cent (table 1). The shift out of food crops had a decided regional bias. Thus in the rain-fed, petty-producing central areas nearly two-thirds of all farms grew maize, whereas in the richer north-west fewer than 30 per cent did so.

Linked to this process of regional differentiation in cropping and incomes was not only the shift towards more lucrative cash crops but also the parallel enlargement of the area devoted to pasture and fodder cropping. Again this was most marked in the northern and northern Pacific zones, as well as in the Gulf region around Tabasco and Veracruz (ECLA, 1982). The major concentration on livestock appears to be on small and middle-sized farms, whereas larger enterprises concentrate on wheat and cotton cultivation. If the area under pasture is added to that devoted to fodder and oilseeds, possibly as much as 86 per cent of the area utilised in agriculture is accounted for by stockraising. This is one important reason for the inability to raise food production in line with domestic demand. At the same time, labour absorption in pasture farming clearly remains far lower than in arable cultivation.

Yield increases of over 7 per cent a year through the 1960s for wheat, and between 2.0 and 2.8 per cent for corn and beans (Hewitt de Alcantara,

Table 1. Relative importance of principal crops as percentage of total cultivated area and value, 1970-79

Crop	Cultivated area			Value		
	1970	1975	1979	1970	1975	1979
Maize (corn)	50.3	43.2	39.7	24.2	21.0	17.2
Beans	11.8	11.3	7.8	5.2	7.2	3.0
Wheat	6.0	5.0	4.0	6.8	6.4	4.2
Fodder crops	8.4	11.6	11.4	9.6	15.9	9.1
Oilseeds	3.1	3.7	5.0	2.7	3.2	3.0
Sugarcane	3.7	3.2	3.2	7.1	5.5	5.7
Cotton	2.8	1.5	2.4	6.6	3.3	5.9
Coffee	2.2	2.4	2.2	5.3	4.2	6.6

Source: ECLA, 1982, p. 301.

1976, pp. 110 ff.), further served to widen regional differences. The change in labour requirements within Mexican agriculture resulted not only from the impact of mechanisation in the commercialised areas but also from the movement away from traditional, basic subsistence crops with their higher labour absorption capacity.

Understanding this process requires some knowledge of the regional character of the Mexican economy (Cárdenas Ortega, 1975; van Ginneken, 1980). Urban industrial production and labour demand have been concentrated in the major conurbations (particularly Mexico City), mostly located in the central part of the country. With the growing prosperity of the northern regions – coupled with their proximity to the United States – the expansion of "offshore" assembly for North American enterprises has somewhat diversified the geographical distribution of industry. However, the labour demand of these offshore units is very specific, being almost entirely for female labour, and relatively small. Even in the major industrial and manufacturing sectors demand is mostly for semi-skilled and skilled labour, so that entry into these occupations is rarely an option for rural migrants to the towns. Thus, while substitutability may exist between seasonal construction workers and the type of labour required by agricultural enterprises, there is evidence of segmentation in the respective labour markets. Given the generally capital-intensive nature of industrial technology, rural migrants are pushed into the "informal" labour market.

The rural labour market does not display the same type of segmentation. To some extent this situation is changing under the impetus of mechanisation, so that an important component of the overall labour input on the larger northern commercial farms is formed of semi-skilled workers, such as tractor drivers. However, this is by no means a widespread

Table 2. Economically active labour force in agriculture by socio-economic group and subsector, 1970

Socio-economic group	Large private farms	Small private farms	*Ejidos*	Total
Large-scale employers	19 900	–	–	19 900
Salaried employees	28 333	–	2 858	31 191
Regular wage earners	255 949	–	–	255 949
Small-scale employers	395 241	467 024	1 307 607	2 169 872
Day labourers	1 341 344	179 239	747 537	2 268 120
Family workers	194 196	229 466	642 475	1 066 137
Total	**2 234 963**	**875 729**	**2 700 477**	**5 811 169**

Source: van Ginneken, 1980.

phenomenon – which is important in explaining the scale and function of seasonal migratory movements. By 1970 the number of seasonal migrants exceeded 24 per cent of the total agricultural wage labour force (*Censo Agrícola*, 1975), their function being to harvest a range of commercial crops outside the regions in which their own *ejidal* plots are located. For, although part of this labour force consists of landless labourers, the bulk comprises petty farmers supplementing their meagre on-farm incomes by hiring out their labour.

One significant migratory channel links the predominantly food crop-producing regions of the south and centre to the prosperous, irrigated districts of the north. Even as late as 1978, the northern region cornered nearly half of all government and private credit directed towards the rural sector (World Bank, 1981, Statistical Appendix, p. 35), and investment in the region led to sustained growth in agricultural output and in commercial cropping in particular. A similar pattern can be found in the lowlands along the Gulf coast. In these dynamic regions cotton, wheat, sugarcane, coffee and market fruit farming, as well as livestock raising, predominate. The shift away from maize and bean cultivation has been pronounced.

By and large commercialisation has enhanced regional prosperity, though very unequally. In the agricultural sector in the northern regions GDP per economically active person is up to three times higher than in the majority of southern and central districts (van Ginneken, 1980), while data on income distribution suggest a strong short-term trickle-down effect accompanying a longer-term trend towards stratification.

But if commercialisation has involved a shift in cropping, leading to both higher productivity and an increase in regional income disparities, both processes are fundamentally linked to conditions in the land market and the

Table 3. Distribution of landholdings, 1923 and 1970

Size (ha)	Number of holdings		Area		Average size (ha)
	'000	%	'000	%	
Before reform – 1923					
Private farms	622	100	159 105	100	256
Less than 5	367	59	1 230	0.8	3
5-100	201	32	8 660	5	43
100-1,000	41	7	19 100	12	466
1,000+	13	2	130 115	82	10 009
After reform – 1970					
Private farms	910	31	70 143	54	77
Less than 5	522	18	881	0.7	1.7
5-100	313	11	8 436	6	27
100-1,000	65	2	18 986	15	292
1,000+	10	0.3	41 840	32	4 184
Ejidatarios	1 986	69	60 724	46	30
Total	2 896	100	130 867	100	45

Source: Eckstein et al., 1978, p. 21.

size distribution of operated holdings (table 3). Here the situation is complicated by the existence of *ejidos*, created in successive waves of land reform that date back to the period following the Revolution. Strengthened in particular during the Cárdenas presidency, *ejidal* land comprised nearly half the total cultivated area by 1950 (Eckstein et al., 1978). While the *ejido* is constituted as communal property with private usufruct rights, the majority of cultivators are *minifundistas*, their lands concentrated in rain-fed areas. Given the institutional framework of the *ejido*, access to credit has been extremely restricted so that overall productivity in physical terms has, not surprisingly, been low compared with the private sector. In terms of social productivity the *minifundista ejido* is calculated to be the most productive unit (Restrepo and Eckstein, 1975; Barchfield, 1979); but the fact remains that more than one in five *ejido* holdings are of less than 1 hectare and more than 50 per cent are under 4 hectares.

The fragmentary data available on income distribution suggest that low land and capital endowments in the *minifundio* sector result in correspondingly diminished incomes. Using a basic cut-off level of 1,621 pesos as a proxy for the poverty line, Bergsman has estimated that of families falling below this line at least one-third were *ejidatarios* (1980, pp. 21 ff.; see also table 4).

One reason for the low income of most petty producers in the more traditional agricultural regions is that labour market entry is a very uncertain

Table 4. Farm numbers and incomes by type, 1968

No. and income	Commercial		Subsistence non-market
	Mechanised	Non-mechanised	
No. of farms ('000)	201.5	1 140	1 474.4
Ejidos	120.3	676.2	1 062.3
Private	81.2	463.8	412.1
% of total	7.1	40.5	52.4
Incomes (pesos)			
Per farm	62 840	9 282	3 472
Per capita	9 975	1 428	489

Source: Bergsman, 1980, p. 38.

means of raising income levels. With the economically active population growing by some 44 per cent in the 1970s, one consequence was growing underemployment in agriculture. Van Ginneken estimates that roughly 4 out of 5 million remunerated economically active persons in agriculture are productively employed for fewer than 150 days a year, a rate of underemployment that is more pronounced amongst smallholders. This situation was already visible in the 1960s when the annual growth in the potential supply of labour exceeded the demand for remunerated labour – 2.6 per cent as against 2.3 per cent (Altimir, 1974). With slackening growth rates in both the primary and secondary sectors since 1975, the degree of underemployment can only have worsened.

As early as 1969 possibly as much as 45 per cent of the labour force could be classified as underemployed, of which over 60 per cent were in the primary sector (Solís, 1981). This reflects a number of factors: low productivity, sharp rates of demographic increase and an inadequate command over resources and credit within the numerically preponderant *ejidal* sector. The majority of *minifundistas*, lacking access to irrigation, new seeds and secure marketing networks, and cultivating over half the current available crop land, are consequently forced onto the labour market. In the 1960s this frequently took the form of migration to the cities, but more recently it has increasingly taken the form of migrant labour. Regions with large farms and larger peasant holdings draw upon this pool of labour to satisfy harvesting requirements. In all, possibly as many as 1.5 million labourers look to this migrant demand for temporary employment.

For the overwhelming majority, "push" factors lie behind the need to migrate. Even if migration does not necessarily result in sufficient work or a reliable and attractive wage, it does at least offer the prospect of a chance to earn. For their part, employers are attracted by a low-wage, non-organised labour force, whose reproduction costs are borne to a large extent by the migrants themselves.

Alongside the growth of a seasonal migrant labour market, the inequalities of land distribution create a distinctive pattern of labour supply according to farm sizes. In the commercially developed regions comprising the states of Sonora, Sinaloa, Nayarit and Baja California, distribution of land in both the *ejidal* and the private sectors is highly skewed. In the private sector agricultural capitalists and commercial peasant enterprises account for over 85 per cent of the cultivated area, while in the *ejidal* sector there has emerged a class of prosperous peasant farmers. The poorer *minifundistas*, comprising about 38 per cent of the *ejidatarios* and over 31 per cent of the *campesinos* in the private sector, act as a labour pool for the more prosperous cultivators and farmers of the region. In the less dynamic bean- and maize-producing areas of the centre and south the great majority of holdings do not provide even a subsistence income (ECLA, 1982). In the central region, for instance, over 60 per cent of all cultivators fell into this category in 1970 and the proportion was even higher in the southern Pacific tracts of Oaxaca, Chiapas, Colima and Guerrero (table 5).

This structure of land control leads to a growing proportion of outright wage labourers in the total agricultural labour force. By 1970, of the 20 per cent of the total economically active labour force classified as day labourers, over four-fifths were working in agriculture *(Censo General de Población, 1970)*. The number of small cultivators whose sown area is insufficient to absorb their own and their family's disposable labour time has also increased substantially. On the demand side, cultivators and agricultural capitalists with adequately sized holdings have more need to hire in seasonal labour for the harvest.

Hiring in of labour takes a wide variety of forms and extends to a genuinely broad range of producers, even to those with holdings as small as 2 hectares in some areas. This can be explained mainly by the fact that at the lower end of the agricultural scale the cultivation process tends to be very labour-intensive. In the rather backward Mixteca Baja region, for example, the current average deployment of household labour in a corn and beans cultivation cycle is about 172 work-days a year, or roughly 66 per cent of the total household labour input on and off the farm. However, over two-thirds of the farms normally hired day labourers and their labour input amounted, on average, to a further 68 work-days (Barbosa-Ramírez, 1976). As the average holding is less than 3 hectares, it is clear that size of plot is not necessarily an accurate guide to the extent of hiring in.

Elsewhere, in some of the intermediate agricultural zones, labour demand may be *less* than in the backward zones. A study of prosperous *ejidal* peasant enterprises in Las Huastecas (San Luis Potosí) reveals that, with holdings averaging over 7 hectares and production geared to on-farm consumption and low levels of monetised inputs, households in the sample averaged 275 work-days with only a further 52 work-days accounted for by hired labour (Barbosa-Ramírez, 1979).

It is in the predominantly irrigated areas with a high level of monetised inputs that demand for hired labour is greatest. In the Bajío area

Table 5. Distribution of agricultural holdings by type of producer, sector and region, 1970 (%)

Type of producer	*Ejido sector*	Private sector	By region					Total
			Northern [1]	Pacific North [2]	Central [3]	Gulf [4]	Pacific South [5]	
	N = 1,763,933	N = 793,137	N = 479,897	N = 144,777	N = 1,140,391	N = 331,184	N = 460,821	N = 2,557,070
Campesinos								
Below subsistence [6]	52.3	63.2	55.7	14.3	61.0	44.7	63.3	55.6
Subsistence [7]	19.0	10.0	19.9	16.3	15.3	15.9	14.8	16.2
Marginally surplus [8]	7.5	4.3	6.2	6.7	6.6	8.9	4.6	6.5
Surplus [9]	8.1	8.4	5.7	23.3	6.9	13.2	5.7	8.2
Transitional producers [10]	12.2	10.3	10.6	31.3	9.2	15.3	9.8	11.6
Agricultural capitalists [11]								
Small	0.8	1.9	1.2	5.2	0.6	1.2	1.1	1.2
Medium	0.1	0.9	0.4	1.4	0.2	0.5	0.4	0.4
Large	–	1.0	0.3	1.5	0.2	0.3	0.3	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] Coahuila; Chihuahua; Durango; Nuevo Léon; San Luis Potosí; Tamaulipas; Zacatecas. [2] Baja California North and South; Nayarit; Sinaloa; Sonora. [3] Aguascalientes; Federal District; Guanajuato; Hidalgo; Jalisco; México; Michoácán; Morelos; Puebla; Querétaro; Tlaxcala. [4] Campeche; Quintana Roo; Tabasco; Veracruz; Yucatán. [5] Chiapas; Colima; Guerrero; Oaxaca. [6] Fewer than 4 ha. [7] 4-8 ha. [8] 8-12 ha. [9] Over 12 ha. [10] Those who hire in labour to a significant degree. [11] Those who cultivate almost entirely with hired labour.

Source: ECLA, 1982, pp. 114 and 118-119.

Table 6. Total unskilled work-days by level of mechanisation, 1975-79 (millions)

Crop	Cultivated area (ha)	Mechanised	Partially mechanised	Non-mechanised
Cotton	320 841	30.6	35.8	51.4
Coffee	386 113	...	...	...
Tobacco	42 245	4.4	4.7	5.3
Sugarcane	505 828	...	...	...
Sorghum	1 334 158	29.6	48.2	73.3
Alfalfa	206 643	12.8	26.9	27.9
Barley	288 769	3.2	6.9	11.9
Beans	1 255 537	42.1	69.8	79.6
Maize/corn	6 741 412	163.1	242.6	343.7
Wheat	745 818	9.8	21.7	32.4
Tomatoes	62 122	5.1	5.6	6.4
Soya	285 600	6.9	11.8	17.4
Sesame	234 589	10.6	14.6	19.0

Source: Calculated from *Anuario Estadístico de los Estados Unidos Mexicanos, 1980* (Mexico City, 1982), table 4.2.1.

(Guanajuato), where capitalist farmers predominate, there is a strong positive correlation between farm size, purchased inputs, commercial cropping and hired labour use (ibid.; see also Roberts, 1982).

The resulting demand for labour in all agricultural regions tends to be satisfied for the most part through local networks of recruitment and labour provision. But beside this local rural labour market – which often displays a wide range of contractual forms, including share-cropping (Finkler, 1978) – there exists a parallel, regionally specific labour market which draws upon migrant labour and whose requirements are highly seasonal. Whereas in many of the intermediate regions hired-in labour is predominantly local and not necessarily confined to the harvest season, the opposite is true for much of the commercial crop production in the dynamic regions, and the coffee and cotton plantations in Chiapas and Oaxaca. Such areas attract migrant workers, some of whom, in the northern regions at least, subsequently attempt to cross into the United States. In the south the migrant labour force is complemented by and in some cases competes with similar workers from neighbouring Guatemala and El Salvador.

The demand for labour generated by commercialised agriculture is determined not only by seasonality but more fundamentally by the labour-absorbing capacities of individual crops (table 6). Crops such as cotton and sugarcane which have a high overall labour input requirement, also tend to be those that demand a far more uneven spread of labour across the agricultural year. In the case of cotton, for instance, 40-50 per cent of labour input is concentrated in the harvest period. These patterns of labour use are

meshed in with the structure of landholding and production. Thus, in the predominantly wheat, cotton, fodder crop and fruit-producing areas of the north, the dominance of larger enterprises has led to higher levels of capital investment in agriculture. The resulting mechanisation serves to depress labour absorption, while altering the demand for categories of labour. Semi-skilled labour (e.g. tractor drivers, irrigation workers) has tended to displace unskilled labour while mechanisation demands a reduced but more permanent labour force, particularly in wheat-growing areas (e.g. Sonora).

Where mechanisation has been less advanced, as with cotton, coffee, cane and fruit crops, the demand for labour, with its strong seasonal component, exceeds local supply and is met by migrant labour. In Guerrero, Oaxaca and Chiapas, for instance, the importance of coffee in the local economies reflects not only its high commodity value as compared with other crops but also the size of the seasonal migrant labour force required to complete the picking. In the northern regions cotton is the major crop attracting seasonal migrant labour.

The structure of the migrant labour market

The emergence of an important migrant rural labour market derives from continuing pressure on the landholding structure. This has important implications for the smallholding *ejidatarios* who look to the labour market to supplement on-farm incomes. In this respect, the growth of commercial farming in the north and in the older plantation areas in the south of the country acts as a means for preserving, if on an increasingly tenuous basis, the *minifundio* sector as a labour pool.

Despite the growth of the migrant labour force, the literature on the subject remains very limited. What follows will thus be an attempt, based on the authors' field work in 1981-82, to describe the framework in which this flow of labour occurs. A number of key areas in which seasonal migrants are a crucial input to the production process were selected. These include the northern cotton plantations of Baja California and Sonora, their counterparts in the southern states of Chiapas and Tapachula, and the highland coffee plantations in Chiapas and Xicontepec de Juárez (Puebla).

In the cotton-growing areas of Sonora, Tapachula and Chiapas the process is set in motion by some five or six experienced workers signed up specifically for the purpose. Two months prior to the harvest they announce by radio and handbill that "cotton pickers are needed to harvest 40,000 hectares" in the Yaqui Valley, adding that fares and medical care are provided. This news is passed through some 12 states outside the northern region. In all the recruiters aim to reach nearly 500 key *ejidos*, principally in Jalisco, Michoacán, Durango and Guanajuato.

Since 1958 formal control over recruitment has been in the hands of the Joint Commission for the Control of Cottonpickers, a body established by government and managed by the cotton producers. Its aim is to co-ordinate

the recruitment of migrant labour, thereby keeping down the costs borne by individual farmers. For a payment of 15 pesos per tonne of cotton, the farmers can use the Commission's services, as well as being entitled to a federal subsidy of 50 per cent towards the peon's fare. By this means cotton farmers in the prosperous Yaqui Valley recruit their seasonal labour force of some 35-40,000 workers mainly from the poorer southern and central regions. Much the same applies to the additional 10,000 peons involved in picking the cotton crop in the coastal zone of Hermosillo. Attracted by the possibility of work, the migrant labour force habitually travels considerable distances in response to the Commission's announcements. Until 1965 the Commission also extracted labour from the thousands of peons waiting at or near the United States border for entry visas by making it a condition of exit. On one plantation this corvée-like labour involved picking over 2,000 kg of cotton per peon – work that would occupy at the least some 40 days in the fields.

However, more recent methods of labour procurement have drawn on a mixture of "partial" cultivators and outright wage labourers, with the result that a striking characteristic of the labour market in the cotton areas is oversupply. This appears to be a deliberate strategy devised by the Commission. In the Yaqui Valley, for instance, where a labour force of around 9,000 peons is required, recruitment in 1980-81 exceeded 40,000. By glutting the labour market, farmers can depress wages and ensure more favourable contractual terms.

The recruitment and transportation of migrant peon labour

Migrant labour tends to be recruited by a number of different methods: for example, by advertisement, by word of mouth or by employing workers speaking the local dialect as agents for the Commission or farmers. Sometimes, as in the Zamora strawberry industry, peons are collected by estate owners from local railway stations or town squares. Alternatively, in areas far distant from the prospective place of work the more formalised channels of labour procurement described above are used. The supply of migrant labour is in part a function of local harvests and prices and tends to contract in years of plenty.

At harvest time the peons mostly travel initially by rail, being collected from the local railheads by trucks belonging to their employers. This applies not only to cotton farms but also to the hundred thousand peons involved in harvesting vegetables in Sinaloa, and to migrant workers on the coffee estates in areas like Xicontepec de Juárez and Tapachula, where seasonal labour demand exceeds 20,000 peons.

In the highlands of Chiapas the labour force used to harvest the 150,000 hectares devoted to coffee is predominantly Indian. While a large number are locally recruited from the small indigenous communities that surround

the main town in the region – San Cristóbal de las Casas – others come from Guatemala in the harvest season. The coffee producers themselves rarely recruit directly but rely on local *enganchadores* (recruiters) or the Agricultural Labourers' Union.

The recruiters work on a commission basis. The *caporal* (head peon), who normally lives in one of the communities, announces in local dialect the going wage rate, assembles up to 50 peons, takes them to town and "sells" them to an *enganchador*. The rate fluctuates widely but may be as high as 15 pesos per head in addition to the cost of the bus fare to San Cristóbal.

Once the Indian labour has "changed hands", the *enganchador* is responsible for registering the peons with the local union (10 pesos per head), paying the municipal tax of 2 pesos and arranging transport to the coffee estates. The peons are normally given an advance of 20 pesos and a further 70 pesos for their travel expenses. The system thus not only benefits the coffee producers – many of whom are relatively recent German immigrants – but also provides income for the recruiters and the local union. The latter acts merely as a rubber-stamp, sanctioning the recruitment of Indian labour and receiving in return a fixed sum per peon recruited. It also exacts sums of money periodically from the *enganchadores*.

In other words, labour recruitment in the coffee region of Chiapas is highly organised. The costs of recruitment are mostly borne by the coffee producers. Each peon recruited effectively costs the grower 413 pesos, out of which 10 go to the *caporal*, a further 10 to the union and 70 to the *enganchador*. The latter normally makes a net profit of 50 pesos per peon. As at least 30,000 Indian migrant workers are recruited through San Cristóbal for the Chiapas coffee region, the sums involved are considerable, with the most prosperous *enganchadores* earning up to 1 million pesos a year. In addition, non-official recruiters with lower overheads supply nearly a third of the total labour and their margins are, if anything, greater. They are frequently used by the growers to complement the official recruitment channels, which ensures that the union and registered *enganchadores* are unable to entrench themselves so firmly as to monopolise the labour market.

The use of official recruiters and middlemen is widespread elsewhere. The Sonora landowners, for example, commonly hire peons, offering them 1,500 pesos per hectare, who in turn recruit other workers from the surplus labour regions of the centre and south, paying them 1,200 pesos per hectare. The difference is the middleman's profit.

Somewhat different from these "mobile middlemen" are the fixed, institutionalised labour recruitment channels, such as the Joint Commission for the Control of Cotton Pickers in Sonora and those used to recruit for the sugar mills. But in general public or government-organised recruitment channels are less widespread than those provided by private bodies, such as local associations of producers or individual farmers who organise the collection of peon labour from centres where the workforce congregates.

While recruitment for coffee picking often draws on local subsistence cultivators and migrant Indian labour from Guatemala, for cotton and grape picking in the north the labour force is mostly non-local. In all instances, the majority of workers are themselves "partial" cultivators whose plots cannot provide an adequate income and subsistence.

Having left their homes these migrants settle for the season in villages and towns near their workplace. In the Yaqui Valley, where nearly 20 per cent of the irrigated area is sown with cotton, the numbers involved have been about 40-45,000 peons a year. They are distributed across seven to eight local villages where they spend the nights and are picked up each morning by trucks for work. In all, the harvest season lasts six weeks and for all that time their homes are mainly the dirt tracks – or street dividers – of the local villages. In each village, in the heat of summer, some 8,000 persons spread themselves out along these dividers by night. Hardly surprisingly, the social problems, let alone those of hygiene, are often acute and are compounded by the fact that because of oversupply of labour the departing trucks invariably leave behind a large number of unemployed peons. When, as in the 1980/81 season, mechanised reapers began to be used, the problem was made worse.

Similar conditions exist in the commercial cotton- and grape-producing areas along the coast of Hermosillo in the north of the country. Here, the township of Miguel Alemán – known to the peons as "Calle 12" – now houses around 12,000 migrant workers who use it as a transit stop on their way to the worksite. They crowd into the township, which is surrounded by a barbed wire fence, where as many as 1,000-2,000 are guarded by two policemen. Room rents are exorbitantly high – 10 pesos a night to sleep in the corridor and 60 pesos for a room – and facilities are almost non-existent. Crime is rife and local recruiters and the police effectively prey upon the migrant workers. In short, the very process of seeking work has itself become an ordeal.

Characteristics of the migrant labour force and labour process

The type of labour required for seasonal work varies according to crop. Grape picking, for instance, is normally done by women and children, while other fruits, such as guavas and bananas, are cut down by men. The packing is mostly done by children. For the major seasonal crops – coffee and cotton – the labour force is mixed and varies according to region. On the Hermosillo coast cotton farms in 1979 the majority of workers classified as "single males" were over 30 years of age, but in general the migrant workforce tends to be younger.

Working conditions are often harsh and in some cases the work is sufficiently heavy to require a predominantly young labour force. In the wealthy oil-producing region of Poza Rica in Veracruz, for instance, orange

picking involves the peon carrying on his back, in the four to five months he is employed there, at least 120 tonnes of oranges. Every day he makes several trips between the orchard and the truck that will cart the produce away, carrying between 90 and 125 kg of fruit. Then, to dump it into the lorry, he has to mount a 4.5-metre ladder – labour so strenuous as to ensure that only peons in their early 30s or less are hired. Once past that age, they are replaced by younger workers eager to earn the daily wage of 300 pesos.

Apart from often back-breaking labour, migrant workers face problems associated with the use of insecticides and sprays, particularly in vegetable picking. But the most striking features of migrant labour remain the intensity of the work and the fluctuating and often depressed levels of real wages.

Cotton picking is extremely hard work. In Sonora (Yaqui Valley) the pickers often start work before dawn and indeed often prefer to pick at night because it is cooler.

Disputes between farmers and the migrant workers arise mainly over the quality of the cotton. As the wage is determined by weight the picker naturally takes little care to select only the purer bolls of cotton. If he did his income would barely exceed 100 pesos a day – not enough for basic subsistence. Consequently, for every bag he brings in to be weighed, 4-6 kg are deducted arbitrarily for impurities, which means that 10 per cent of his labour is unremunerated, leaving, on average, a daily income of around 145-160 pesos. Once the picker has had his bag weighed and been paid he may, if he wishes, quit immediately and seek work elsewhere. But he has no right to negotiate the wage, or to protest about arbitrary deductions.

Migrant labour and Mexican agriculture: Some conclusions

Growing regional income and employment disparities within the Mexican economy are not a new phenomenon. What is novel is the form this process took over the 1960s and 1970s. In the past, the concentration of plantations specialising in crops, such as sugarcane and coffee, was a feature of the southern regions. This labour market has now been complemented by that in the prosperous northern states where massive irrigation and other infrastructural investment have succeeded in restructuring agricultural production. The shift into intensive commercial wheat, cotton and fruit farming has led to a big increase in seasonal migrant labour demand. The operation of the seasonal labour market has also been facilitated by the ability to mobilise – often over long distances – a sufficient supply of temporary labour.

A large proportion of the migrant, seasonal labour force that moves out of the more backward, rain-fed agricultural regions is composed of *minifundistas*. These "partial" cultivators complement the flow of landless labour to the commercial regions, driven by high levels of on-farm underemployment in their own regions. With the labour force in agriculture

expanding by 3.4 per cent a year, the capacity for full-time labour absorption on smallholdings is continuously weakened and seasonal work provides a necessary supplement to on-farm income for many small-scale peasants. This process is particularly marked in the *ejidal* sector where low land and capital endowments have historically been coupled with limited access to credit and input subsidies. With declining labour absorption in the urban and industrial sectors the options for unskilled migrant labour have become increasingly circumscribed (Schumacher, 1981). This may partly explain the growing importance in the 1970s of migration towards the southern states – particularly California – of the United States. However, emigrants are more likely to be landless than seasonal migrants. One survey found that over 35 per cent of emigrants were landless, while only 13 per cent could be classified as *ejidatarios* or other small-scale farmers. Part of the explanation may be that most emigrants eventually aspire to work in North America largely on a non-seasonal basis even though seasonal work may be their initial objective. The number of Mexican migrant workers crossing the border annually has fluctuated between 500,000 and 1.2 million, and estimates of the total number of Mexican workers in North America vary from 6 to 11 million. The scale of cross-border migration is closely associated with seasonal conditions in Mexican agriculture, as well as with labour demand in the United States. In lean years when internal labour demand falls, external migration increases. This pattern also applies within Mexican agriculture. Good years invariably lead to reduced internal migration and force *enganchadores* and labour-hiring farms to raise wage rates in an attempt to attract more labour. It is partly as a response to this internal, agriculturally determined labour supply cycle that recruitment of labour in all years is based on the premise of attracting more migrants than are really needed. This depresses wage rates and prevents major supply bottlenecks.

Both the external migratory labour market and that within northern Mexican agriculture draw to a large extent upon petty producer labour from the central and southern zones of the country. In particular, migrants appear mostly to originate from the States of Michoacán, Jalisco, Zacatecas, Guanajuato and Nuevo León. In the southern plantation economies and the fruit-growing zones, labour is brought in not only from surrounding districts but also from neighbouring countries. On the cotton, banana and sugarcane farms of Chiapas, for example, Guatemalan migrant labour is a crucial input. The largely Indian workforce, recruited from highland areas, lacks access to sufficient land while the non-intensive cropping mix of maize, potatoes and wheat is often insufficient for on-farm consumption requirements. Wage rates in Mexico are some 35-50 per cent higher than in Guatemala, and the higher cost of basic provisions is offset, to some extent, by the fact that the owners subsidise the migrants' food requirements. Additionally, severe political discontent and internal disruption of Guatemalan agriculture in the border zones have led to a growing exodus of labour, both seasonally and permanently.

The "wage-pull" effect, important in the southern plantation labour market and in migration towards North America, has less influence on internal migration, though data on wages are rarely of sufficient quality to support firm conclusions. Official statistics suggest that between 1970 and 1979 rural real wages rose on average by some 12 per cent. However, this figure relates not only to wages within agriculture but to other forms of wage work in rural areas. Looking at the purchasing power of the minimum daily rural wage in terms of basic food crop entitlement, it would appear that for maize, wheat and rice the real wage increased though not substantially. For chili and beans there was a relative fall.

The problem with using data based on minimum wages is that in many cases the minimum wage is purely fictional and this clearly applies to much of the seasonal migrant labour market. Frequent over-recruitment and market glutting depresses wage rates for unskilled workers. However, for selected categories of workers, such as the orange pickers in the Veracruz region, wages can be considerably higher than the minimum. Payment of some 300 pesos a day, for back-breaking work, gives a money wage that is more than double the minimum rate. High levels of labour productivity are encouraged by a piece-rate system of payment (or, more exactly, an output rate). But this type of harvest labour is normally condensed into a short period of time and some of the ostensible pay advantages may be offset by high local provisioning costs.

In conclusion, one of the most striking recent developments in Mexican agriculture has been a substantial expansion in the demand for seasonal migrant labour. This market for labour is qualitatively different from the more traditional, localised labour market transactions that previously characterised Mexican agriculture. Drawing most specifically on under-employed labour within the small producing sector as a complement to landless labour, commercial farming has generated increasing migrant labour flows. These are made feasible by continuing pressures on the incomes and labour absorption capacity of the *minifundio* farms, in particular within the *ejidal* sector. This squeeze on smallholdings (as well as on the landless) tightened over the 1970s. While consumer prices showed a sharp upward trend – more than doubling between 1970 and 1980 – average rural prices of subsistence crops rose very marginally (by 8 per cent between 1972 and 1979) and those of some commercial crops actually declined over the same period. In a context of continuing high demographic growth rates and a skewed pattern of land and income distribution, these factors accelerated the expansion of a migrant labour force. The result is that the enlargement of capitalist relations in agriculture has been based on the preservation of the petty producing sector rather than on its suppression.

This has major implications for the nature of labour markets within Mexico and their relation to macro-economic processes. On the one hand, the survival of the petty producing rural sector depends upon and determines the profitability of the more dynamic capitalist sectors in agriculture and

industry, because of the possibility of seasonal/casual employment. On the other hand, the present crisis in the Mexican economy operates to constrain the growth of the capitalist sectors. Thus the latter's ability to absorb labour from the petty producing sector is limited, and may even shrink in absolute size. This will undoubtedly have major effects on the various labour markets.

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Survival strategies among petty commodity producers in Guatemala

Carol A. SMITH *

Introduction

Until recently, most research on Third World rural smallholders assumed them to be peasants whose livelihood was conditioned by access to land, and little attention was paid to their alternative, non-agricultural sources of income. Yet, generally speaking, the "peasant model" gives a far from adequate picture of the activities of present-day rural smallholders and certainly does not "fit" the rural economy of western Guatemala. There, smallholders do much more than farm, and land-poor households have many more options open to them than working on the farms of richer households or as seasonal labourers on plantations. Consequently, the amount of land owned is a poor predictor of rural income: the highland smallholders who make up most of the seasonal labour force on Guatemala's lowland plantations are those with the least viable alternatives to farming, not those poorest in land. In fact, it is the organisation of marketing that explains variations in rural employment and income better than any other factor.

Using data gathered between 1976 and 1978 on production, marketing and consumption from 2,544 households in 143 rural communities of western Guatemala,[1] as well as information from a 1984 occupational survey, this article describes some of the ways in which rural markets are organised, what causes them to vary, and what impact this has on farm and non-farm rural employment. It concludes with a brief discussion of what we know and what we simply assume about Latin American "peasants".

The organisation of market zones

Western Guatemala, which is bordered on the north and west by Mexico and on the south by the Pacific Ocean, includes both highland and lowland agricultural zones. Just over 2 million people (as of 1973) live in the region's 174 municipalities (the smallest administrative divisions in

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Guatemala), which are commercially linked to one another by a regional marketing system comprising about 250 market centres. Fewer than 10 per cent of the population live in towns with over 10,000 inhabitants and the population of the largest urban centre in the region, Quezaltenango, did not exceed 60,000 in 1973. Export-oriented plantations – mostly coffee but also cotton and sugar – and cattle dominate the southern lowlands (one-fifth of the total land area), and small-scale agriculture oriented towards domestic (but not necessarily household) consumption the remaining parts of the region.

Mayan Indians make up 60 per cent of western Guatemala's population, the rest being Ladinos (mestizos claiming Spanish descent and culture). Most Indians live in rural areas, most Ladinos in small towns or on plantations. The majority of Indians are small-scale domestic commodity producers whereas most Ladinos either have urban occupations or play some role in the plantation economy.

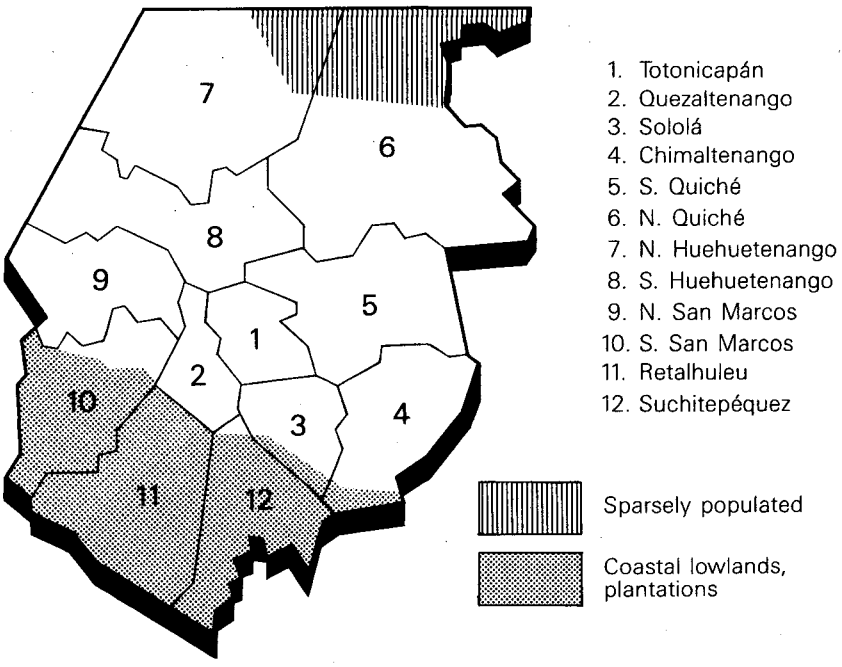
The marketing system centres on Quezaltenango and nearby San Francisco el Alto, located in the department and marketing subsystem of Totonicapán. Were it not for professional long-distance traders and these twin centres, a regional marketing system would not exist, for it is the 12 subsystems that service most producers and consumers in the region and they operate more or less independently of one another (see map).

These subsystems can be grouped into four zones according to commercial and local production characteristics, themselves underpinned by differences in local urban and Ladino populations. Western Guatemala's administrative towns, mostly populated by Ladinos, cluster towards the centre of the region, where rural population density is highest. Ten of them act as focal points for marketing subsystems, but two subsystems are remote from administrative towns and are centred upon smaller provincial towns. Rural marketplaces are densest in the area between the major administrative towns, and important rural wholesale centres exist in an inner band between the administrative centres, surrounding Quezaltenango and San Francisco el Alto.

This *core zone* (numbered 1 on the map) is the first, and most important, of the four groupings. Few people in this zone have worked seasonally on plantations since about 1920, and most rural households produce specialised non-agricultural goods with purchased inputs for market sale.

Most rural people in this core zone (which is identical with the single marketing subsystem of Totonicapán) live within 10 or 15 km of a major market centre in which they can sell their specialised goods – indeed most can walk to any of several major markets in a few hours or reach them cheaply by bus. Competition is therefore intense and prices are relatively low. There are virtually no trade monopolies and many urban services are provided by Indians as well as Ladinos. In fact, relatively few Ladinos live in the zone, and then exclusively in the towns, along with an equal number of urban Indians. The geographical concentration of markets, the wide availability of

Map showing the location of the 12 marketing subsystems of western Guatemala



urban services, the lack of monopolies, the general dependence on purchased inputs for production and the intense competitive pressure create the best marketing conditions in the whole region. In local terms the zone is perfectly competitive, and in regional terms it offers producers and traders considerable advantages. While it has only 4.4 per cent of the land in the region and 13 per cent of the population, the core has half of the region's major wholesale markets and 40 per cent of the long-distance rural trade specialists who carry highland goods to the plantation area and the peripheral highland zone.

Surrounding the core zone, in and around the major administrative towns, is the most fertile and "developed" farmland of the region, other than the plantation area. In this *central zone* there are four marketing subsystems (numbered 2-5 on the map), each headed by an administrative town (Quezaltenango, Sololá, Chimaltenango, Santa Cruz Quiché). Here, most rural households produce food for market sale although they are themselves rarely self-sufficient in food. The extent to which they supplement their own production with seasonal work on plantations is variable and depends on overall economic conditions. At the time the surveys were carried out (1976-78), market conditions were good because a large amount of post-earthquake

construction was going on, and few people were working on the plantations. In other periods, however, many more people work on plantations than in local construction.

Marketing conditions approximate "normal" competitive conditions, i.e. there are no monopolies but urban areas have a considerable market advantage over rural areas. Most rural households are 15 to 30 km from a major market centre and thus have more limited choices of markets than producers in the core zone. Typically they sell in one or two major marketplaces, to which they travel by bus, but many buy consumer goods in smaller retail marketplaces within walking distance. The towns are strongly dominated by Ladinos, one-quarter of the total population, who hold monopolies over transport and some commercial facilities as well as over many urban services. Thus, while this zone has a competitive, "interlocking" rural market structure, it is one that favours urban over rural people and Ladinos over Indians.

The two remaining groupings have few of the market advantages of the core and central zones for rural households. The first, the *peripheral zone*, which comprises four marketing subsystems stretching across the north and west of the region (numbered 6-9 on the map), is a very large area with relatively low market density. It has only one important urban centre and only a dozen major wholesale market centres, mostly located near the centre of the zone. In other words, the market structure of the zone is essentially dendritic: most marketplaces are small and have retail rather than wholesale functions, and are linked to a single higher-level market centre which supplies them and is supplied by them. Hence, in the peripheral zone there is on average one small wholesale market centre for seven or eight smaller retail centres, whereas in the central zone there are two or more large wholesale centres servicing seven or eight minor centres. In consequence, most rural producers in the periphery must either travel more than 75 km to find a wholesale marketplace with competitive buyers or sell their goods to wholesale dealers who come out to visit them from the core and who alone have access to information about prices and market conditions in the region. Increasingly, it is local intermediaries who actually transport the goods which, however, they usually resell to core-zone wholesalers.

Smallholders in the peripheral zone supplement subsistence food production with handicrafts and petty trade. But they also provide the bulk of the seasonal labour force for plantations. In good years, as many as 20 per cent of the adult male labour force work for three or four months on the plantations; in bad years, the proportion may rise to more than 50 per cent. Huehuetenango, the only major town, consists almost entirely of Ladinos who make a living from employment in government administration, from local commerce, or as labour recruiters for plantations. They are thus well placed to control all the major trade centres of the peripheral zone, which has 57 per cent of the region's land area, slightly more than one-third of the population, and nearly half of the total number of marketplaces. But it has

only 15 per cent of major wholesale markets and fewer than 10 per cent of the major long-distance traders. Urban population is only 15 per cent of the total and is almost entirely Ladino.

Finally, the *coastal zone* consists mainly of plantations and a few large administrative and commercial towns which service them. The three largest towns, Retalhuleu, Mazatenango and Coatepeque, stand at the heart of the three marketing subsystems of the coast (numbered 10-12 on the map). Between the plantations and highlands there is a narrow, steeply sloping area where a small number of rural smallholders live – probably less than 10 per cent of the total population of the zone. Most of these small rural producers have access to more and better land than those in the other zones and thus, somewhat surprisingly, constitute something like a traditional "peasantry". Virtually all, however, produce agricultural goods for sale as well as for subsistence.

The coast has an essentially "primate" market structure in that a very few large urban centres have the only important marketplaces. Rural and small-town marketplaces do exist but they are invariably very small and have only retail functions. (The ratio of major to minor market centres is 12 : 1 and there are no major rural wholesale markets.) In this zone, then, rural households are not so distant from a major market as in the periphery – the average is about 40 km – but most have no choice of market centre in which to sell their goods. The buyers consist of long-distance traders from the core and local urban middlemen, both groups ethnic "strangers" with access to much more information about regional market conditions than local Indians. There is, however, competition among middlemen for the purchase of rural goods and the sale of consumption goods, and the small coastal-zone producer is not nearly at such a disadvantage in the market as his equivalent in the periphery.

Rural production diversity

The data gathered on petty commodity production in hamlets and households in all parts of western Guatemala, excluding the plantations, were broken down according to the four market zones just described. Table 1 provides statistics on the sample size and general hamlet characteristics of each zone.[2]

The hamlet survey covered a 6.1 per cent sample of all rural Indian households in western Guatemala (3.5 per cent of the total population) and the household data a 1 per cent sample (0.6 per cent of the total population). The coast sample appears small only because it is compared to the total rural population in the zone rather than to the total smallholder population (whose size is not known). Since most of the rural Indian population in the coastal zone consists of plantation workers, the coast sample also represents at least

[2] For details of the sampling strategy, see Smith, 1986.

Table 1. Characteristics of sampled hamlets by zone, western Guatemala

Sample size/ characteristics	Zone				Western region
	Core	Central	Peripheral	Coast	
Hamlets sampled	17	51	43	32	143
% of total	20.3	5.2	3.3	2.7 [1]	5.7
% of rural Indians	30.4	8.3	5.0	6.6 [1]	9.7
Households sampled	909	753	787	95	2 544
% of total	1.9	0.8	0.6	0.1 [1]	0.6
% of rural Indians	2.8	1.2	0.9	0.2 [1]	1.1
Hamlet characteristics					
% Indian	99.4	87.5	89.6	75.2	88.7
% recent settler	–	7.1	6.6	19.3	7.5
% Protestant	15.9	14.7	17.7	21.8	17.2
% with electricity	29.1	20.0	0.9	9.3	14.3
% literate (adult males)	24.4	10.3	11.7	5.7	13.2
% children in school	64.5	77.4	64.3	65.8	66.6
Average no. of households per hamlet	221	128	116	161	156

[1] These percentages relate to total plantation-area population, not just the smallholder population.

1 per cent of the relevant (smallholder) population. The sampled population is more "Indian" than the general population though it is representative in most other respects. The survey deliberately concentrated on Indian households and hamlets since Indians make up the majority of smallholders in the region.

As table 1 indicates, the core zone is more ethnically Indian than the other zones. It also lacks recent settlers whereas Ladinos and Indian "strangers" make up nearly 45 per cent of the coastal sample; in the other two zones Ladinos and recent settlers constitute less than 20 per cent of the rural hamlet populations. Other general characteristics vary considerably. The core zone, while more occupationally diversified than the others, remains culturally traditional in many respects: it has a comparatively low proportion of its children in school (though a higher proportion achieves literacy later in life) and fewer adherents of non-traditional religion. They show other conservative characteristics, such as retention of Indian language, dress and ritual, which are not tabulated.

Table 2 provides data on the marketing characteristics of the four zones as reflected in hamlet statistics. Hamlets throughout the region have at least one small local consumer goods store for every 35 families and the average household, wherever located, spends an estimated US$20-30 in cash per month for food alone. Most families estimate their annual cash need as between $300 and $400. On these criteria, the core and central zones are not

Table 2. Market characteristics of 143 hamlets: Zonal averages

Market characteristics	Zone			
	Core	Central	Peripheral	Coast
Km to major urban market	17.8	31.7	113.0	40.6
Km to major rural market	10.5	13.2	61.8	39.2
Bus fare to major urban market ($)	0.30	0.75	2.75	0.75
Bus fare to major rural market ($)	0.25	0.50	1.50	0.75
Weekly bus trips	132	81	45	42
Road condition [1]	1.2	1.6	2.5	2.1
No. of local vehicles	2.6	1.8	0.05	0.5
Household/vehicle ratio	85	142	2 320	322
No. of local stores	7.4	6.2	2.7	4.2
Household/store ratio	32	34	28	22
Household cash expenditure ($) [2]				
Food, monthly	29	22	26	23
Clothing, yearly	218	186	149	131
Funeral	320	254	180	200
Annual cash need	409	332	307	400

[1] Roads were scored 1 if paved, 2 if all-weather, 3 if seasonal and 4 if impassable by motorised transport. [2] Rough estimates made by local informants.

very different from the other two, but market access varies considerably. One measure is local (hamlet) ownership of means of transport: one local vehicle for every 85 families in the core zone; 1 : 142 in the central zone; 1 : 322 on the coast; and 1 : 2,320 in the periphery.

Table 3 gives information on the farm characteristics of the different zones based on statistics from both the hamlet and household surveys. While the core zone has much less farmland than the others (a total of about 3.5 acres per household), its farmers make far better use of it. The amount of land held by the average household in the core is only one-fifth of that held by the average household of the periphery and coast, and less than half of that held in the central zone, yet the cropped area is nearly the same everywhere except the coast (just under 2 acres in the core, nearly 3 acres in the peripheral and central zones, and 12 acres on the coast). This high ratio of cropped to total land is achieved in the core not so much because the land is intrinsically better (it is about the same in quality as that of the central zone and coast) but because it has been *made* better. Core-zone farmers put more labour into land improvement (clearing, terracing, crop rotation, fertilisation and the like). The statistics on labour days put into maize production show some, but not all, of this variation in farming intensity. More significant is the labour put into annual "field" preparation, a matter into which the surveys did not adequately inquire.

Table 3. Farm characteristics of 143 hamlets and 2,544 households by zone

Farm characteristics	Zone			
	Core	Central	Peripheral	Coast
Hamlet averages				
Farm size (adjusted cuerdas) [1]	35.3	89.0	176.8	173.6
Cropped	12.3	18.6	17.8	76.5
Fallow	3.9	23.7	55.3	22.1
Firewood (uncleared)	19.1	46.7	103.7	75.0
Sown land under cash crops (%)	64.0	36.1	28.2	47.7
Farmers using hired labour (%)	38.9	54.4	41.8	45.4
Household averages				
Months of maize food supply produced	10.6	11.4	8.2	11.4
Farm wage per day ($)	1.34	1.23	1.00	1.79
Labour days per cuerda of maize	11.6	13.1	10.3	9.1
Maize yield per cuerda (quintals)	1.9	2.4	1.6	2.0
Annual net farm income ($)	313	195	167	1 098

[1] One cuerda is equivalent to 25 x 25 metres in most areas. Cuerdas in the central and coastal zones are larger (40 m x 40 m) and have been converted to standard size.

It will be seen that, while the land-poor farmers of the core zone produce on average about ten months of their annual basic food needs (in maize), the land-rich farmers of the periphery produce only enough to cover eight months. (Most households in the other two zones manage to meet nearly all their annual food needs.) More interestingly, the core-zone farmers put a larger percentage of their land under cash crops (nearly two-thirds) than other farmers and have a higher income from their land than all but the coastal peasants. This is clear evidence that the amount of land available to smallholders in highly commoditised rural economies is less important to their overall productive potential or welfare than the extent to which they capitalise their farm and non-farm productive activities (see also Smith, 1975a, b). That in turn depends upon the systemic organisation of production and marketing in a smallholder area.

Let us now consider zonal differences with respect to non-farm production. Virtually all rural households produce some non-agricultural goods, most of which are sold. This production can be divided into two types – handicraft and artisanal – depending on whether or not purchased inputs are used. Handicraft production – baskets, mats, rope, some pottery and certain other household goods – uses only materials produced by the household itself. The returns tend to be very low, but there is relatively little risk involved because little or no capital investment is required. It fits in especially well with non-intensive agricultural production. In some hamlets the handicraft specialists are mainly women; sometimes different hamlets do

different tasks; and sometimes virtually every household plays some role in production.

Artisanal production requires the purchase of raw materials and usually also some fixed capital (such as a sewing machine). Thus artisanal products could theoretically be produced anywhere in the region, though production is in fact heavily concentrated in the core zone (Smith, 1975a). The main artisanal product is clothing: women's native dress (now rarely produced by the wearer), much of men's everyday wear (shoes, sombreros, belts and most of the other items of men's clothing) and some other textiles such as blankets.

Table 4 focuses specifically on rural artisanry, as opposed to handicraft production. It shows the extent to which artisans are concentrated in the core zone (Totonicapán) but registers some artisanal production in the other zones. It should be noted that, had the author used a narrow definition of artisanal production – requiring a minimum level of fixed capital – the number of producers recorded outside the core would have dropped sharply.

Artisanal production is typically a family enterprise using women's labour as much as men's. While women rarely run a capitalised business, they increasingly work for wages in rural industries before marriage (but are paid much less than men throughout the region). Women play a much more independent role in handicraft production. In certain zones (mainly the centre and periphery) nearly half of the adult women are engaged in some kind of handicraft production. Most wage workers, male and female, are young and unmarried. In the core zone, for example, only 6.2 per cent of male heads of households are wage earners whereas 35.7 per cent of male non-heads are wage earners in artisanry. In the municipality of Totonicapán the average age of an artisanal employee is 25 while that of a self-employed artisan is 44.

Table 4 also shows how the zones vary in the amount of capital invested and in the annual income earned from rural artisanry. As one would expect, both are much higher in the core zone than elsewhere. The income figures reported here are the average net returns to artisanal production per household. Most households, even the most specialised, have several different sources of income, so this figure does not approximate a total household income figure for any zone.

To summarise, the degree of market dependence, as measured by proportion of consumption goods obtained by cash, does not vary with wealth. Both poor and wealthy communities in western Guatemala depend heavily on the market for many, in fact most, subsistence basics. The stated cash "needs" of households are about the same everywhere – between $300 and $400 per year. Yet, as we shall see, households in the core zone typically earn four to five times that amount while the earnings of households in the periphery often barely reach it. However, the cash needs of core-zone households are much higher than they estimate since a specialised artisanal

Table 4. Artisanal characteristics of 143 hamlets and 2,544 households by zone

Artisanal characteristics	Zone			
	Core	Central	Peripheral	Coast
Hamlet averages				
Male labour force in artisanry (%)				
Owner-operators and family workers	24.5	10.9	5.8	6.7
Wage earners	19.2	4.2	3.2	0.3
Female labour force in artisanry/crafts (%)				
Craft production	25.8	48.2	42.5	21.1
Artisanry (wage earners)	19.7	4.4	2.9	8.0
Average daily wage in artisanry ($)				
Male	2.13	1.75	1.59	1.55
Female	1.17	0.75	0.74	0.69
Household averages				
Capital in artisanry ($)				
Materials	289	73	16	26
Fixed capital	838	330	176	122
Annual income in artisanry ($) [1]	1 775	1 025	997	361

[1] These income figures, unlike those in table 9, pertain only to households engaged in artisanal production.

household must invest heavily in capital (for both farm and non-farm operations) to maintain its relatively high return. One could argue that core-zone households must invest twice the capital of central households to obtain the same overall annual return to labour – a point to which we return below.

Rural occupational diversity

Occupational information on rural households from national censuses fails to reveal the zonal pattern of occupational specialisation in western Guatemala and partially conceals it. This is because most Guatemalans – including many "peasants" and census takers – believe that all rural people are peasants and all peasants farm. Thus if, without probing, one asks Indian smallholders what they do for a living, they almost always reply that they are *campesinos* – interpreted by most investigators as meaning subsistence farmers. To most rural Guatemalans, the word *campesino* signifies a status rather than an occupation *per se*: the status of being rural, powerless and poor. It also signifies that the person in question does *some* farming. But how much farming is not revealed.

Table 5 divides the Guatemalan census figures on occupation into four main categories for the whole country, for the western region and for

Table 5. Occupational distribution of employed males (%)

Primary job	Guatemala	Western region	Totonicapán (department)
Agriculture	57.2	71.5	34.1
Manufacturing/construction	17.9	14.7	37.5
Commerce	7.4	5.8	23.2
Services	15.3	6.9	4.1
Other	2.2	1.1	1.1

Source: National census, 1973.

Table 6. Occupational distribution of male household heads by zone (%) (male heads in hamlet survey: 13,751; male heads in household survey: 2,525)

Primary job	Zone							
	Core		Central		Peripheral		Coast	
	Hamlet	House-hold	Hamlet	House-hold	Hamlet	House-hold	Hamlet	House-hold
Agriculture	22.7	22.7	40.2	46.2	43.8	45.0	71.1	69.5
Own farm	*10.5*	*8.3*	*18.5*	*21.9*	*14.3*	*12.6*	*29.9*	*18.4*
Local wage	*10.4*	*10.1*	*14.1*	*18.8*	*14.5*	*15.5*	*16.7*	*29.3*
Plantation	*1.8*	*4.3*	*7.6*	*5.5*	*15.0*	*16.9*	*24.5*	*21.8*
Commerce	28.5	26.9	25.9	20.1	20.2	19.2	16.7	18.1
Craft	6.7	1.8	4.8	5.6	11.0	16.7	7.2	4.6
Artisanry	34.0	43.7	18.4	15.1	15.5	9.0	4.7	7.0
Owner	*25.0*	*43.7*	*15.1*	*15.1*	*14.3*	*9.0*	*4.1*	*7.0*
Wage labour	*9.0*	...	*3.3*	...	*1.2*	...	*0.6*	...
Other [1]	8.1	5.0	10.7	13.0	9.5	10.1	0.3	0.8

[1] See text.

Totonicapán, respectively. It shows that agriculture is the major occupation for most employed males (71.5 per cent) in western Guatemala, whereas it occupies only 57 per cent of them in Guatemala as a whole. The census figures show that of the ten departments in western Guatemala only Totonicapán has less than the national average in agriculture. The occupational survey (table 6) also shows Totonicapán (the core zone) as having a lower percentage of its employed males engaged in agriculture than any other zone or department in western Guatemala. But it further shows that the percentage of rural males employed primarily in agriculture *regionwide* is very low, exceeding 50 per cent only in the small coastal strip of

smallholder farming. We believe the reason why the national data pick up non-farm specialisation in Totonicapán but not elsewhere is that Totonicapán producers, unlike those elsewhere, do not consider themselves *campesinos*. People in other zones of the region also obtain income from many sources but consider themselves to be mainly (if inadequately and insecurely) farmers.

Table 6 contrasts the hamlet survey and household questionnaire results with the corresponding figures in the occupational census of 1973. (The tables refer only to males because the national census defined female employment inconsistently.) That the household and hamlet data generally agree is not surprising, but both diverge considerably from those reported by the national census. Less than one-quarter of male heads of household in the core (and even fewer non-heads) give farming as their primary occupation. Between 40 and 45 per cent of male heads in the central and peripheral zones engage primarily in agriculture, although three times as many peripheral as central-zone males report plantation work as their primary occupation. Coastal smallholders are the most farm-dependent, 70 per cent claiming to work primarily in agriculture. The percentage of local wage work undertaken is similar everywhere, but seasonal plantation wage work varies considerably by zone, being highest in the periphery – the smallholder zone farthest from the plantations.

A fairly large and stable percentage (20 to 30 per cent) of rural household heads engage primarily in commerce. The number of males engaged in handicraft production is relatively low everywhere, being highest in the periphery (but see female occupations in table 4). Artisanal production is the occupation other than farming that varies most by zone. It is the predominant occupation in the core, engaging more than one-third of all male heads of households; it is substantial in the central zone and periphery (more than 10 per cent), but accounts for only a tiny fraction of occupations on the coast. The males in "other" occupations are mainly engaged in construction, which varies considerably with the season and general economic conditions. The survey was made immediately after the 1976 earthquake, when many who would ordinarily have been working on the plantations were employed in construction. The numbers were especially high in the central zone and periphery where the number of rural males seeking plantation work is usually higher than reported here.

Table 6 gives no indication of the diversity of production covered by the term "artisanal", but table 7 provides details of what it comprises in the core zone, based on a survey of all rural heads of households in Totonicapán municipality, the most specialised of the region. The average-age figures are interesting primarily as an indication of occupational diversification *within* households. A typical Totonicapán household – which is large – might have an elderly head (aged 65) mainly overseeing the farming operations; his son (aged 45) running the business with the help of his wife and children whose own occupation would mainly be buying raw materials and selling the

Table 7. Occupational distribution (%) and average age of male household heads in rural Totonicapán, 1977 survey (N = 7,125)

Primary job	Distribution		Average age	
Agriculture	24.4		43	
Self-employed		10.4		57
Wage labour		14.0		32
Artisanal production	41.8		37	
Self-employed [1]		27.4		44
Wage labour		14.4		25
Simple crafts	4.8		44	
Construction	5.0		28	
Commerce	23.8		43	
Other [2]	0.4		35	

[1] Weavers, carpenters, tailors, potters, leather workers, etc. [2] Most males in this category were professionals, such as teachers and lawyers.

finished product; several unmarried, but adult, sons and daughters (aged 15-25) working for wages (or as apprentices) either in the household or with neighbours; younger children helping with productive tasks when not in school; several permanent wage labourers or apprentices (aged 15-25) who might or might not live with the family; and some seasonal farm workers (aged 30-35) who might or might not camp out near the family when working in the fields.

Table 8 presents the occupational information obtained from households in a slightly different form: by the *time allocated* by each worker (whether head or not) to particular occupations. Most individuals interviewed (who were asked to estimate days spent in each occupation over the past year) reported more than a single occupation. The table shows that farm work takes up more male labour time everywhere than we would guess from the information on primary occupations, while commerce takes up less. Other work categories take up more or less the expected proportion of time. It is not surprising to find a narrower range by zone in the time allocated to farm work than was found for farm work as a primary occupation (table 6), given that almost all rural males, in all zones, do some farm work. This datum does, however, indicate that local farm work is an anchoring point for most smallholders of the region. Commerce may take up less time than one might have expected because traders are more likely to put a substantial amount of time into their farm operations than are artisans who more often hire farm labour.

The table also shows that women's participation in most occupations is even more variable from zone to zone than men's. Women are more likely to do farm work if they live in the peripheral or coastal zones, more likely to

Table 8. Occupational distribution of total time worked by all employed people by zone and sex (%) (male worker sample: 5,132; female worker sample: 4,422)

Occupation	Zone							
	Core		Central		Peripheral		Coast	
	M	F	M	F	M	F	M	F
Agriculture	31.0	2.9	46.1	9.1	49.1	26.0	82.1	22.7
Own farm	*23.0*	*2.5*	*36.0*	*5.6*	*28.2*	*15.8*	*38.0*	*13.8*
Local wage	*6.5*	*0.3*	*8.7*	*0.3*	*9.8*	*2.3*	*16.2*	*2.0*
Plantation	*1.5*	*0.1*	*1.4*	*3.2*	*11.1*	*7.9*	*27.9*	*6.9*
Commerce	19.5	16.1	15.3	29.9	10.0	17.5	7.8	21.5
Craft	4.3	11.3	3.0	11.7	5.6	13.9	9.1	53.4
Artisanry	37.2	55.1	20.0	35.9	21.2	21.6	0.4	1.8
Home	*19.0*	*25.4*	*10.0*	*11.6*	*11.5*	*10.8*	*0.4*	...
Wage	*18.2*	*29.7*	*10.0*	*24.3*	*9.7*	*10.8*	...	*1.8*
Other [1]	8.0	14.6	15.6	13.4	14.1	21.0	0.6	0.6

[1] Most males in this category were engaged in construction. For females, see text.

trade if they live in the central zone (because women mostly trade in urban centres as opposed to rural markets), more likely to have a handicraft sideline if they live in the coastal zone, and more likely to be part of an artisanal firm if they live in the core. The "other" category for women is primarily service work, such as cooking, domestic work outside the home, and shop and animal tending. (The proportion of women who reported only "housework" as their occupation is not included in these figures since it did not vary significantly by zone and therefore was not a very useful reflection of their productive activities.)

Rural income variation

No family in western Guatemala lives entirely from its own farm production. All must earn a minimum of $300-$400 per year in cash to meet *basic* subsistence requirements, and most require considerably more cash income to maintain productive activities. Among the many things that must be purchased are clothing, fertilisers, domestic utensils, housing materials and farm tools. Most goods purchased in the region are produced in the region, though some imported goods also reach rural households (mainly fertilisers, tools and radios). Specialised producers, such as the weavers of Totonicapán, depend upon additional kinds of imported goods – high-quality thread, aniline dyes, sewing machines and so forth – and, of course, the entire distribution system depends upon imported motor vehicles and

Table 9. Annual household cash income (in quetzales)[1] by occupation and zone (households: 2,544)

Source of cash income	Zone							
	Core		Central		Peripheral		Coast	
Agriculture	385		323		378		1 562	
Own farm		313		195		167		1 098
Local wage		51		67		68		197
Plantation		21		61		143		267
Commerce	332		237		160		89	
Craft	111		97		95		195	
Artisanry	1 674		1 165		1 168		209	
Home		1 315		895		931		195
Wage		359		270		237		14
Other	533		546		363		81	
Total per household	3 035		2 368		2 164		2 136	
Total per capita	518		426		388		354	
Total per labourer	816		625		580		578	

[1] Because the income figures were collected over a two-year period of strong inflation, the author has corrected these and other cash figures with an inflation multiplier, so that all figures represent 1976. (1US$ = 1 quetzal.)

gasoline. The fact remains that the extent to which the cash economy is an endogenous one, based on a local division of labour, is quite remarkable in the present day and age.

The cash requirements of families in the different zones of the region are roughly similar for basic subsistence, if not for capital. And the overall cash incomes of households in the different zones vary less than one might expect, given the considerable differences in production possibilities. Table 9 provides summary information on incomes earned by the average household in each zone by type of productive activity. People in the core zone earn the highest overall cash incomes, those on the coast the lowest, on a household, per capita, and per household labourer basis. The biggest difference is between the core and all other zones. Households within each zone earn quite different incomes, of course, but even here the variation is not as great as one might expect. The lowest total cash income reported for an intact household was $225 for a family of four in the periphery. The highest (excluding the few households where a member had a professional job) was $12,950. No attempt has been made to calculate the subsistence (farm) income that should be added to this, but its cash value would rarely exceed $350.

It should be pointed out that the household sample is not entirely representative of western Guatemala's rural population. The households

Table 10. Percentage distribution of time allocated and income earned by occupation of all employed people by zone (households: 2,544; workers: 9,554)

Occupation	Zone							
	Core		Central		Periphery		Coast	
	Time	Income	Time	Income	Time	Income	Time	Income
Agriculture	22.4	12.7	35.9	13.6	42.7	17.4	67.9	73.1
Own farm	*16.8*	*10.3*	*25.9*	*8.2*	*25.1*	*7.7*	*32.2*	*51.4*
Local wage	*4.6*	*1.7*	*6.0*	*2.8*	*7.5*	*3.1*	*12.8*	*9.2*
Plantation	*1.0*	*0.7*	*4.0*	*2.6*	*10.1*	*6.6*	*22.9*	*12.5*
Commerce	18.5	10.9	17.4	10.0	12.3	7.4	8.3	4.2
Craft	6.4	3.7	5.7	4.1	8.3	4.4	19.7	9.1
Artisanry	42.7	55.1	25.0	49.2	21.3	53.9	0.7	9.7
Home	*21.0*	*43.3*	*10.5*	*37.8*	*11.3*	*43.0*	*0.3*	*9.1*
Wage	*21.7*	*11.8*	*14.5*	*11.4*	*10.0*	*10.9*	*0.4*	*0.6*
Other [1]	10.0	17.6	16.0	23.1	15.4	16.8	3.4	4.0

[1] Most males in this category were engaged in construction, most females in services.

interviewed were mostly intact (having at least two adult members of both sexes). And the sample does not include households with major productive members seriously ill for an extended period of time. There are many very poor people in the region; even the numerous households with average cash incomes close to $1,500 are quite poor because of the heavy cash requirements for subsistence and the maintenance of productive activities.

It should also be noted that the plantation economy sustains the regional division of labour much more than one would assume from these figures (which show the average household in most zones earning very little from plantation work). Many people who would normally earn income from plantation labour were earning income from construction activities during the period surveyed. And the relatively large population of the coast depends on productive activities in the highlands for subsistence goods almost as much as do highland households themselves. Finally, the internal division of labour which generates the overall "need" for cash incomes was historically generated by the income earned from export-oriented agriculture. None the less, the smallholder economy appears to have gained increasing independence from the plantation economy and is to some extent self-sustaining.

Table 10 shows the percentage of time spent in different occupational activities by all workers, male and female, and the percentage of income earned in those activities by zone. It reveals, in a very general way, the variation in return to effort expended. With few exceptions, income earned in relation to effort expended is *low* in commerce, handicraft production and

wage labour in all branches. (Income earned in handicrafts is high relative to time expended only in the core zone where even handicraft production is more capitalised than elsewhere.) Incomes are *high* relative to time expended throughout the region in the rural artisanry and "other" (mainly construction) categories. The ratios of earnings to time expended in rural artisanry suggest that, although such possibilities are less available in zones other than the core, they yield a high return.

The ratio of time to earnings in agriculture is also revealing. Peripheral and central-zone households put considerable time into agriculture for a very low return, although – since the output is edible – the risk is less than in other activities. Core-zone farmers earn only a little less than the time they put into farming warrants. But coastal peasants earn more from farming for the time they put in than from any other activity except rural artisanry (which, however, is very little practised in this zone). This information helps explain the major disparity between the coast and other zones in respect of farming activity.

If we consider the labour *intensity* required in these different branches, as opposed to days devoted to each activity, it appears that the core-zone household generally obtains a return equivalent to effort expended in whatever activity is chosen. (The intensity of effort required in rural artisanry is much higher than that of any other occupation except plantation labour; the effort expended on both farming and commerce is relatively low.) These households certainly allocate their time more "rationally" than the workers of the other zones. But what we really see in this table is the greater openness of productive activities to rural workers in the core and the operation of competitive markets there. People in the periphery are not unwilling to put more time into rural artisanry; they simply lack the necessary capital, knowledge, skill and market access.

Coastal peasants have better opportunities in this respect and thus appear to be wasting good earning potential offered by rural artisanry. But working in artisanry is more risky than farming. Each additional artisanal worker tends to depress incomes for all because of the narrowness of the market for the particular goods produced in western Guatemala, which meet only a local, "ethnic" demand (tourists purchase only a very small proportion). So it would, after all, seem to be rational to stick to farming as long as the returns are relatively high. The main reason why rural producers put so little of their productive effort into farming as opposed to other activities is that their farming resources are so limited.

The argument that market conditions and risk play a major role in the choice of production strategies among rural smallholders is not a new one, but it is rarely supported by direct evidence. The present tragic circumstances in western Guatemala do provide some such evidence, as we shall now see.

Risk and zonal interdependence

An occupational survey of a rural hamlet in Totonicapán was commissioned in 1984. The hamlet of Chipol (a pseudonym) is near the town of Totonicapán and is noted for its high-quality weavers. What the survey shows is how vulnerable this occupational specialisation is to changes in economic conditions in the region.

The background was the 1980-83 counter-insurgency measures launched by the Government, which according to Krueger and Enge (1985) resulted in the destruction of more than 400 Indian villages, the deaths of more than 50,000 Indians, the destruction of the means of livelihood of more than 500,000 others, and the removal (through death, flight or migration) of more than 1,000,000 western Guatemalan Indians. As of late 1983, the regional economy was devastated: plantation production was halved, and food production more than halved, from 1980 levels; prices had doubled, wages had halved; and many people were unemployed (Smith, 1988).

The core zone of western Guatemala was mostly untouched by the violence, but because it is the most dependent upon conditions elsewhere, its economy suffered severely. The Chipol occupational survey was designed to capture the immediate effects on rural employment of two years of extremely bad economic conditions.

Table 11 provides an occupational profile of all working men in Chipol in 1980 and 1984. The 1980 data are based on retrospective interviews carried out in 1984; there is thus a bias in the 1980 "base" information as we may have been unable to take account of some individuals or families living in Chipol in 1980 who were no longer there in 1984. The survey found that 7.3 per cent of males had left between 1980 and 1984 to seek work elsewhere. When these, and others drafted for military service, are added to the officially reported "unemployed", we see a loss of local employment of more than 15 per cent.

Since the Chipol survey was a rapid non-scientific one, it is hard to determine the rate of underemployment, but there is no doubt of its existence. Apart from the fact that virtually all those interviewed complained of it, the figures show a jump in the number engaged in local agriculture, even though the amount of land cultivated had not increased. There was a still larger jump in the number of men seeking work as plantation labourers, though by 1984 demand for plantation labour was very low. Even more significant is the large increase of men employed in petty commerce, when everyone in the community was complaining about the slackness of business, and there had been an enormous drop in the volume of commerce. As noted earlier, the return to commerce for the effort expended is low, and people in rural Guatemala go into petty trade only when no other income-generating activities are available.

The most significant change in the Chipol occupational profile was the drop in artisanal activity. All artisans complained that demand for their products was lower than for many years. Many were hanging on for lack of

Table 11. Occupational change by males aged 14-89 in Chipol, Totonicapán (N = 301)

Occupation	% distribution			
	1980		1984	
Agriculture	16.6		22.0	
Self-employed		4.0		4.7
Wage		11.3		12.0
Plantation		1.3		5.3
Artisanry	52.7		33.3	
Self-employed		34.7		20.0
Apprentice		6.7		2.0
Wage		11.3		11.3
Simple crafts	3.3		4.7	
Construction	5.3		5.3	
Self-employed		3.3		–
Wage		2.0		5.3
Commerce	14.0		18.6	
Self-employed		11.3		11.3
Wage		2.7		7.3
Other (non-local employment)	8.0		16.6	
Teachers		6.0		2.0
Military		–		4.0
Urban factory		2.0		3.3
Unemployed		–		7.3
Wage labour	29.3		46.5	
Agricultural		11.3		12.0
Non-agricultural		18.0		34.5

Source: 1984 survey.

viable alternatives, even though they were making less than half their income from this kind of work. No new apprentices had been taken on in any trade; all the apprentices in 1984 had been apprentices in 1980: some had been working as such for more than five years – a rare occurrence in the late 1970s. Furthermore, no wage workers had become self-employed between 1980 and 1984, and nearly half the artisanal firms of 1980 had gone out of business by 1984. Many of the remainder were, in the words of their owners, "eating their capital" – waiting and hoping for better times.

One of the more dramatic findings was the change in local wages and prices. The overall pattern is one of wages dropping precipitously, in some cases to half the earlier level, and of steep price rises. Wages fell most dramatically for artisanal workers, especially weavers, but they also fell for agricultural labourers. Housebuilding, a booming industry in Totonicapán in the late 1970s, had fallen off significantly. The few people able to find jobs in construction were paid one-third the wage they earned in 1980.

Though prices had certainly risen sharply, except for firewood, they were not at the historic highs that followed the 1976 earthquake. One may surmise that profit margins were cut on all marketed items in 1984. Guatemala's market in staple foods and in items of Indian consumption is extremely competitive and many of the unemployed and underemployed were becoming petty traders. Even the protected market positions held by large urban merchants were being undermined by competition. Thus the reported price rises probably indicate the extreme shortages of basic goods rather than any pattern of hoarding or gouging.

The consequence of the price and wage scissors in Totonicapán was a major restructuring of the local economy. Perhaps the most significant data in table 11 are those relating to the percentage of wage workers: in 1980, 29 per cent of the men in Chipol were wage workers as compared with nearly 50 per cent in 1984. This change is all the more striking given the transformation in conditions of wage work. In the 1970s many of the wage workers in Totonicapán were young men working for an artisan with a view to acquiring the skill and capital needed to set up their own business – which most did upon marriage. Under these conditions Totonicapán did not have a proletariat; it had an artisanal economy in which people changed positions within artisanal firms as they matured and learned the ropes (Smith, 1984a, b). The wage workers in 1984, by contrast, were older men working in enterprises from which there was little hope of escape: farm work, construction, urban shops (note the large increase of wage workers in commerce) and urban factories.

In sum, the 1984 data from a part of western Guatemala relatively little affected by the violence illustrate the degree to which an interdependent rural economy had evolved, based on a complex division of labour involving the city and countryside, the plantations and smallholders. They also show how risky dependence on non-farm production can be for smallholders operating close to subsistence margins. On these grounds, it would appear that the reason many people in western Guatemala work outside agriculture is the low returns to agriculture at present levels of population and capitalisation.

Conclusions

The rural economy of western Guatemala is at once highly specialised and highly diversified. Fewer than 20 per cent of smallholders derive most of their income from, or devote most of their time to, agriculture of any sort, whether as owner operators, wage labourers or plantation workers. Most get the greater part of their income from and spend most of their time in the production or distribution of non-farm commodities, and in so doing manage to satisfy most of their needs, importing little from urban areas or the industrialised world. But instead of producing what it needs for itself, each household specialises in the production of goods for sale to other similar households.

One could argue that, in some respects, rural Guatemala displays an "urban" division of labour – an appealing paradox in that western Guatemala is so little urbanised. If, as the national census does, all municipal centres were counted as urban, whether or not they have urban services, one could conclude that about one-third of the population of the region is urban. But if one counts only centres with an urban population exceeding 10,000 – a more reasonable criterion – western Guatemala is less than 10 per cent urban. Yet it has an urbanised economy. How did this come about? A full explanation would not be easy to provide, but one reason is the ethnic division in Guatemala which has kept Mayan Indians on the farms and out of the cities (Smith, 1985). In the rural areas Indians have a better chance of retaining their culture and achieving economic autonomy. As long as they have *some* land, they will remain on the farm and produce what food they can in their "spare" time.

That most rural households produce a considerable amount of their own food (in a good year) and yet spend much of their time working outside agriculture should not lead us to assume that they are prosperous or have a great deal of spare time. The statistics indicate that certain labour inputs could improve returns to farming fivefold. Core-zone farmers obtain nearly the same return from one-fifth the amount of land as peripheral-zone farmers because, over a period and with considerable toil, they have improved their farms. The smallholders of the periphery are less productive because they do not have the time to invest in their farms. All their "spare" time must be spent seeking income from non-farm activities, simply to achieve basic subsistence.

At the same time, information gathered on a hamlet in the core area for 1984 reveals the vulnerability of households that obtain most of their income from non-farm production. Most rural households manage to survive through bad as well as good years only by combining a variety of income sources. Economic diversification, especially when it occurs within the household (as it does in rural Guatemala), is a sign that the returns to most forms of labour are poor and risky.

Market conditions, which vary considerably throughout the region, give greater opportunities for diversification in some zones than in others. Yet the perfectly competitive markets of the core do not result in much higher standards of living than in other zones, the reason being that the overall effect of market competition in a petty commodity economy is to compress profit margins. Thus people in the core work many more hours with much more invested capital to achieve a standard of living that is only slightly higher than that enjoyed elsewhere. We should not therefore be surprised at the unwillingness of most smallholders to invest heavily in capital. Once investment has driven out all lower-productivity producers, it becomes a requirement of production. Yet as more people invest, the returns to investment fall to minimum levels, adding to the risks inherent in non-food production. In fact it is easier for a rural artisan to fail than it is for a

handicraft producer. What seems to occur in the core zone, where capital investment is high relative to its return, is that producers compete through product differentiation: for example, more different styles of cloth for women's skirts have been produced in the last generation than in the past several hundred years. This may be a sign of creativity, but it is also a sign of inadequate resources. The last thing these weavers need is power-driven looms. What they really need is a more open economy and hence broader markets.

Most published accounts of rural smallholders in Latin America would lead us to believe that the degree of non-farm specialisation in western Guatemala is highly unusual. Many observers note that peasants have to supplement work on their own farms with wage work for other farmers (usually plantation owners); and there is considerable discussion of how much the Latin American peasant has been proletarianised (de Janvry, 1981). But few of these accounts have noted or even speculated about the existence of non-farm employment.

National census statistics from Latin America rarely reflect the prevalence of non-farm activity and do not enable us to judge whether or not Guatemala is an unusual case. However, census statistics for Guatemala (except for the department of Totonicapán) also give no indication of the extent of non-farm specialisation. And the same applies to the reports of many researchers. Most assume, even when doing research on the *economy*, that rural smallholders who have some farmland and do some farming are farmers. Indeed, one team of economists reached the conclusion on the basis of farm production statistics that per capita incomes in Totonicapán were lower than in any other department in Guatemala (Fletcher et al., 1970). The fact is that Totonicapán incomes thus estimated would be below survival level.

Guatemala's rural households do farm: almost all of them own *some* land (which may be as little as one-tenth of an acre) and grow some corn and beans. But they do much more than that. Most adult men and women have at least two occupations in addition to farming, and most households depend on the income-generating activities of all members above the age of 12 or so. In other words, most households have many sources of income, of which the farm is only one and, frequently, the least important. Until more, and more thorough, field studies of occupation and productive activities have been made we will not know whether Guatemala is a special case, nor will we really know how the rural people of Latin America, and indeed the Third World as a whole, are managing to survive.

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Changing mechanisms of persistence

Reconfigurations of petty production in a Malaysian rice region

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I. Introduction

Despite predictions of their imminent disappearance, small-scale forms of agricultural production working primarily with non-wage labour often show remarkable tenacity. Conflicting theories of petty production now occupy a large segment of the literature. For example, some view the persistence of petty production as a sign of dependent development or "deformed capitalism" (e.g. Vergopolous, 1978). Others invoke the superior efficiency of smallholdings operated primarily with family labour, particularly in the case of wet rice production (e.g. Bray, 1983, 1986). In this article I suggest that we abandon the search for a single deterministic theory of petty production, and focus instead on *(a)* the institutional arrangements governing labour deployment and access to resources within and among households, and *(b)* how these mechanisms both reflect and alter macro-economic and political forces.

Evidence to illustrate this approach comes from Muda, the main rice-producing region of Malaysia. This area, already transformed by a large irrigation scheme, is now the most heavily mechanised region of rice production in South and South-East Asia. Although land concentration and landlessness appear to be increasing, tiny holdings that are officially defined as "sub-viable" – i.e. incapable of providing an adequate living from agriculture – appear to have proved remarkably resilient.

The appearance of stability and persistence conveyed by farm size data is actually quite misleading. In fact, there have been major changes in the organisation of petty production, and in the relations of men and women who belong to these households to one another, and to other groups and classes.

Although these changes have coincided with the main phases of technological change in agriculture, they did not follow automatically from the characteristics of the technology. Nor are they simply a consequence of

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commoditisation and the development of markets as some authors (e.g. Friedmann, 1980) suggest. Instead, technological change and commoditisation should be understood in terms of the structure of intra- and inter-household relations, and how these are connected with one another and with larger politico-economic developments.

This article seeks to show how changing macro-economic and political forces have set the conditions of production in the Muda region, and how different forms of production in turn generate pressure and change in the larger system.

II. Shifting forms of petty production in the Muda region

The Muda region, situated in the north-western corner of peninsular Malaysia, covers four districts in Kedah State as well as the tiny State of Perlis. Rice production, by far the most important economic activity, is concentrated mainly in the rich alluvial soils of the Muda plain, an area of wet rice monoculture. Apart from some rubber cultivation, the remainder of the region consists of forests and infertile land left uncultivated. Although it constitutes less than 25 per cent of cultivated rice land in Malaysia, the Muda region accounts for more than 50 per cent of national rice production.

Muda has been an important region of commercial rice production since the late eighteenth century, but poor drainage and other ecological constraints made rice production highly precarious. These technical conditions changed dramatically in 1970 when a US$270 million irrigation scheme came into operation, financed by the World Bank and the Malaysian Government. By 1974, when it was fully operational, the scheme covered an area of 98,000 hectares containing approximately 51,000 farm households. Improved irrigation and water control permitted double cropping and the application of Green Revolution seed-fertiliser technology, which together produced huge increases in labour demand. Another technological upheaval came in the late 1970s with the use of combine harvesters. Mechanical rice harvesting and threshing are now almost universal. Mechanisation and the direct seeding techniques that are beginning to take hold in the region have led to big reductions in agricultural labour requirements.

Each of these three phases is associated with important changes in the social organisation of production and in the conditions of existence of petty producers, as we shall now see.

The pre-irrigation period: Deteriorating conditions of petty production

Until the late 1960s, most petty producers in the Muda region were enmeshed in a web of indebtedness. A 1954 FAO report (cited by Wong, 1983) estimated that about 80 per cent of households were in debt and other

Table 1. Size distribution of operated paddy farms in the Muda Irrigation Scheme area, 1955 and 1975

Size class (ha)	% of farms		% of area	
	1955	1975	1955	1975
0.01-0.57	13.6	20.7	2.2	4.2
0.58-1.15	18.8	25.9	7.9	12.8
1.16-1.72	20.3	19.5	14.0	16.7
1.73-2.30	15.0	11.1	14.5	13.4
2.31-2.87	14.4	8.3	18.4	13.0
2.88 and above	17.9	14.5	43.0	39.9
Total	100.0	100.0	100.0	100.0
Total farms	46 547	61 164	..	..
Total area (ha)	..	..	95 950	99 002

Source: Lim, 1989, table 2. Based on Gibbons et al., 1981.

sources suggest similar orders of magnitude. For example, in a 1964-65 study, Kuchiba and Tsubouchi (1967) calculated that a cultivated area of 10 relongs (2.9 hectares) was necessary for a household to make provision for emergencies and invest productively from agricultural income. In a village study they found that virtually all households cultivating fewer than 7 relongs (2 hectares) contracted debts for daily necessities, that many in the 8-10 relong range were also in debt and that, altogether, only about 20 per cent of the village's peasants could support themselves entirely out of income earned from agriculture (p. 485). According to a census of agricultural holdings in what was to become the Muda Irrigation Scheme area, the proportion of households cultivating fewer than 10 relongs in 1955 was about 80 per cent (table 1).

The indebtedness of the Malay peasantry is typically associated with the *padi kunca* system whereby the debtor received an advance either in cash or in kind and agreed to pay the creditor (who was generally a retailer) so many *kunca* of paddy at harvest time at a price below the prevailing market price. Lim (1977), cited by Afifuddin (1978, p. 141), notes that the price discount often corresponded to an annual interest rate of around 100 per cent. The 1954 FAO report estimated that peasants frequently lost as much as half the value of their crop through *padi kunca* arrangements. The *padi kunca* system was used primarily by Chinese retailers in the countryside who in turn were financed by large rice-milling concerns to which they channelled the rice payments. Another means by which the rice mills used peasant indebtedness to ensure cheap rice supplies was to enter into direct credit arrangements with the peasantry through *padi ratus*, whereby the indebted household pledged its future crop as security.

Although these systems of indebtedness helped to perpetuate poverty, they did not result in the milling/moneylending/merchandising concerns taking direct possession of land. A 1976 survey of landholdings by Gibbons et al. (1981) put total Chinese-owned land in the Muda region at 12,144 relongs as against 195,782 relongs for Malays. Within the Malay community, however, there were strong tendencies towards concentration of ownership by absentee landlords.

Wilson's (1958) survey of land tenure in 1955-56 found that only 44 per cent of land was owner-cultivated, the remainder being held under some form of rental or lease arrangement. On the basis of responses derived from a retrospective recall method, Wilson maintained that there had been a significant decline in owner-operation on established land since 1949-50.

Not only was tenancy increasing, but the terms seemed to have become harsher. Wilson and others (e.g. Kuchiba and Tsubouchi, 1967; Horii, 1972) noted a shift from paddy rents paid after the harvest to cash rents paid before the harvest. Although in principle cash rents payable in advance should be lower than the cash value of paddy rent paid at harvest by the amount of interest payable on short-term loans, in practice there was no such reduction. The shift to payment before the harvest also meant less flexibility. Post-harvest payments made allowance for rent reductions in the event of crop failure, whereas advance payments made bargaining in the event of crop failure impossible (Scott, 1985).

The growing harshness of tenancy contracts signalled increasing land acquisition by people outside the village. Tenancy arrangements based on kinship tend to be more lenient than non-kin contracts, and outsiders tend to impose harsher terms than local landlords. Studies conducted in the post-irrigation period reveal that extensive land acquisition by outsiders had indeed taken place prior to the late 1960s.

These patterns of indebtedness and land dispossession reflected certain key features of the "ethnic division of labour" (Lim, 1984) or the "making of race" (Hirschman, 1986) in colonial Malaya. In essence, the British sought to preserve (if not create) a "traditional" Malay rice peasantry through a number of measures that included prohibitions on land acquisition by non-Malays in designated Malay reservations. The availability of indentured labour from India and China for work on plantations and mines meant that colonial enterprises did not, by and large, require the mobilisation of Malay labour. In addition, the preservation of the Malay peasantry was very much in the interests of the Malay sultans and territorial chiefs whose co-operation was an important element of British colonial strategy in Malaya.

The Malay Reservations Enactments limited the property rights of non-Malays in regions like Muda. Investment by Chinese in Muda was concentrated in rice processing, and Chinese entrepreneurs maintained Penang as their operational base. Accordingly, a large proportion of the surplus generated in the Muda region was channelled to Penang and other areas such as the tin-mining regions to the south where Chinese investment

was permitted, and the region became an agricultural hinterland of Penang. The region's economy has remained relatively undiversified (Hart, 1989a).

The acquisition of land by Malay bureaucrats was a tradition established in the nineteenth century when the ruling élite sought to maintain legitimacy by recruiting a layer of the peasantry into government service. In pre-colonial days, Malay bureaucrats sometimes received direct grants of land and rights to corvée labour, and many used their control over land registration arrangements to acquire more land. One method was to lend peasants the cost of hefty land registration fees on onerous terms, with the land as security for the loan *(jual janji)*. A class of landed bureaucrats was entrenched during the colonial period as the British recruited large numbers of Malays into the bureaucracy. Following the establishment by the British of Indirect Rule in Kedah and Perlis in 1909, bureaucrats financed *jual janji* through membership in savings co-operatives and, after the Second World War, government-sponsored credit societies (Afifuddin, 1978).

Instead of the "sturdy and thrifty peasantry" invoked by colonial discourse, many Malay peasants found themselves in very precarious circumstances at the time of independence in 1957. Out-migration seems to have been one response to these conditions. Census data show that the population of the Muda region rose by an annual average of only 1.54 per cent between 1957 and 1970, while the national increase in the same period was 3.1 per cent. This migration is particularly significant in view of the generally low rates of rural-urban migration during this period suggested by the census data, and low levels of non-agricultural employment generation in the larger economy.

A considerable proportion of the migration in this period is likely to have been intra-rural (Wong, 1979). Government-sponsored land resettlement schemes provided some migrants with comparatively high living standards, but the number of people who gained access to these opportunities was small. Plantations, illegal squatting, and work with the military were probably more important and less lucrative mechanisms of labour absorption (Wong, 1979).

Poor people who remained in the region tried to compensate for inadequate resources through a combination of relatively intensive cultivation and off-farm work (Barnard, 1970; Horii, 1972; Wong, 1983; Scott, 1985). Off-farm income sources were scarce, however, reflecting the low level of diversification of the regional economy. For example, Horii (1972) describes the intense competition for local side jobs that provided a regular source of income. According to Scott (1985) and Wong (1983), both men and women seeking to supplement farm income had to migrate temporarily in the off-season of rice production, usually to rubber plantations.

Table 2. Tenurial patterns in the Muda Irrigation Scheme area, 1955 and 1975

Type of tenure	1955		1975	
	% households	% area	% households	% area
Owner-operators	37.6	30.9	56.1	45.3
Tenants	42.1	40.0	24.5	22.7
Owner-tenants	20.3	29.1	19.4	32.0

Source: Gibbons et al., 1981, table 78.

Irrigation and "repeasantisation"

The construction of the Muda Irrigation Scheme in 1970 brought about a dramatic increase in land productivity. Within a few years the scheme was providing virtually all cultivators in the catchment area with off-season irrigation water, thus allowing a shift from single to double cropping of rice. The concomitant introduction of high-yielding rice varieties with a shorter growing period facilitated this change, and was also strongly land-augmenting in its own right (Goldman and Squire, 1982).

Both survey data and village studies point to the stabilisation of a group of small-scale owner-operators during the early 1970s. In 1975 researchers from the Centre for Policy Research at Universiti Sains Malaysia conducted a census of cultivators in the Muda Irrigation Scheme, and compared the results with a 1955 survey (table 1). The increase in households cultivating 1.15 hectares or less is clearly evident. In conditions of double cropping, holdings of 1.15 hectares (4 relongs) or less are defined by the Muda Agricultural Development Authority (MADA) as too small to provide an adequate living from farming. Although the average amount of land cultivated by these "sub-viable" households fell, the decline was small (about 8 per cent), particularly in relation to the rise in land productivity. Average farm size in the largest size group fell more rapidly (about 10 per cent).

Owner-operation also replaced tenancy as the most prevalent tenurial form (table 2). Furthermore, this increase was concentrated entirely within the smallest farm-size categories (fewer than 1.15 hectares) (Gibbons et al., 1981). The proportion of owner-operators in the medium and large farm-size groups actually fell along with their share of land, while that of small-scale farmers increased from 48 per cent in 1955 to nearly 68 per cent in 1975. Pure tenancy declined markedly in all farm-size groups, but especially in the largest.

Actions by outside landowners appear to be partly responsible for these changing patterns of land distribution and control. Scott (1985) found that the decline in tenancy was a consequence not of village landowners withdrawing land from tenants, but rather of outside landlords or their children resuming cultivation. Other studies document land sales by outside

Table 3. Income sources by farm size (off season [1]), 1981

Farm size (relongs [2])	Distribution of net income by source (%)					Net total income (M$)
	Paddy	Cash subsidy	Other agri-culture	Others	Total	
Less than 3	43.4	17.9	0.9	37.8	100	1 269
3-5.9	53.4	31.9	3.0	11.9	100	1 746
6-8.9	60.2	37.3	1.0	1.6	100	2 731
9-11.9	64.2	38.8	–1.7	–1.3	100	2 734
12 and above	60.3	41.9	–2.9	0.7	100	5 292
All sizes	54.5	32.0	0.9	12.6	100	1 982

[1] The data refer to the off-season only, which accounts for approximately 50 per cent of annual net income. [2] 1 relong = 0.288 ha.

Source: Wong Hin Soon, 1983, tables 29 and 33.

landowners with rising land prices (e.g. Wong, 1983; Muhammad Ikmal, 1985). Inheritance rules are such that significant fragmentation could take place within a generation, a process reinforced, as discussed later, by the sharp increases in labour requirements that accompanied increasing land productivity.

Along with the forces tending to reduce tenancy, small owner-operators were better able to resist the loss of control over land via indebtedness that had been so pervasive in the earlier period. The notorious *jual janji* pawning arrangement (under which land was pledged as debt collateral) has virtually disappeared, as have the other arrangements which trapped petty producers in perpetual cycles of indebtedness (Wong, 1983; Scott, 1985).

This reduction of indebtedness alongside the increasing commercialisation of inputs associated with Green Revolution technology runs counter to findings elsewhere in Asia (e.g. Harriss, 1982). More generally, the stabilisation of a class of small owner-operators in the face of growing involvement in markets is contrary to the widely held view that commercialisation engendered by seed-fertiliser technology exacerbates the vulnerability of petty producers. Why is it that the experience of petty producers in the Muda area diverged so sharply from these expectations?

In part, the answer lies in huge government subsidies for rice production, combined with a set of local conditions that ensured petty producers' access to at least a portion of state-subsidised resources. That petty producers gained access to these resources is a reflection of both the size of the subsidies and the role of MADA in defining and controlling the conditions of production. Rice subsidies include irrigation water for which MADA charges only a nominal fee, a guaranteed minimum price together with direct price support through a cash subsidy (table 3) and, since the late

1970s, free fertiliser. The cost of assistance to the rice sector is enormous, and it is considerably more expensive to produce rice domestically than it would be to import it (Tan, 1987).

Although the need to ensure rice self-sufficiency constitutes the ostensible rationale for the heavy subsidisation of rice production, the primary reason is political. Rice subsidies are an important means by which the Government attempts to deal with the political threat to the ruling party (the United Malay Nationalist Organisation (UMNO)) posed by the orthodox Islamic opposition (the Partai Islam (PAS)), which is strongest in the northern rice-growing regions.

Political tensions that were escalating during the 1960s erupted in race riots in 1969, following an election in which the ruling party suffered major losses to the PAS and other opposition parties. The outcome of this crisis was the New Economic Policy (NEP) instituted in 1970 through which the State has sought both to nurture the development of a Malay bourgeoisie and to eradicate poverty primarily among rural Malays "within a framework that did not disturb the interest of the propertied classes" (Shamsul, 1986, p. 191). The NEP signified a markedly more interventionist role for the State, greatly facilitated by revenues generated from the oil boom. The measures introduced under the NEP have been extremely wide-ranging – including a proliferation of public enterprises, massive new recruitment of Malays into bureaucratic employment, racial quotas for employment and tertiary education, the establishment of trust funds for Malays, and huge increases in spending on education and other social services targeted at Malays. Although the main thrust of the NEP has been the creation of a Malay-dominated urban industrial economy, maintaining the rural base – and containing the threat posed by the PAS – has persisted as a central concern.

Social and economic restructuring under the NEP thus coincided with the construction of the Muda Irrigation Scheme, and is essential to understanding the reorganisation of production that accompanied technological change in agriculture. Although petty producers gained access to some subsidised resources, a disproportionate share of these resources, e.g. the cash subsidy (table 3), has been channelled to the large farmers and landlords who form the main base of UMNO support in the countryside. In addition to preferential access to cheap credit through Farmers' Associations, these groups receive a variety of discretionary grants and are often in a position to manipulate state-run institutions at the local level to their advantage (Scott, 1985; Shamsul, 1986).

A second set of factors that stabilised the position of petty producers was increasing access to agricultural wage labour associated with the labour intensification brought about by double cropping. Cross-sectional data in the FAO/IBRD report indicate that double cropping and rising farm income were associated with a decline in the proportion of income from off-farm sources. Scott (1985) observes that "many villagers for the first time were afforded the luxury of remaining home the entire year". At the same time,

Table 4. The market for paddy labour by household type

Labour demand	Farm household type			
	A	B	C	D
Specification of household type				
Area operated (ha)	<1.3	<1.3	>1.3	>1.3
Adults per household	<2.5	>2.5	<2.5	>2.5
Labour days per farm				
Hired-out family labour	51	55	26	27
Hired-in labour	57	55	173	184
Net market demand for paddy labour	6	0	147	157

Source: Goldman and Squire, 1982, table 6.

the FAO/IBRD report noted an increase in the importance of agricultural wage labour within the region relative to other sources of off-farm income.

On a per crop basis, labour demand in rice production actually declined. Comparing data from surveys in 1969 (Doering, 1973) and 1973 (FAO/IBRD, 1975), Goldman and Squire (1982) calculate that, despite two plantings and a 35 per cent increase in yield per crop, annual paddy labour use rose from 41.6 days per acre in 1969 to only 76.6 days per acre (or 38.3 days per acre per crop) in 1973. The overall decline in labour use per crop encompasses an even more rapid decline in labour needed for activities based on land area – notably land preparation and transplanting – along with an almost compensating increase in labour used for harvesting and threshing. Using the same data, Goldman and Squire also estimate that the proportion of family labour use in rice production rose from 44 per cent in 1969 to 53 per cent in 1973.

In absolute terms, however, there was a substantial increase in the demand for labour on an annual basis. This aggregate tightening in the labour market was reinforced by two factors tending to reduce labour supply. First, from 1970 on there was an official prohibition on inflows of seasonal migrant labour from southern Thailand as part of an effort to prevent people who were considered to be politically "subversive" from entering Malaysia. Second, changes in cropping patterns in Kelantan also reduced seasonal inflows of migrants. Limitations on these traditional sources of seasonal labour supply coincided with increasingly seasonal labour demand patterns brought about by irrigation and the use of modern rice varieties. The hiring in of labour even by small peasant households with relatively large numbers of adults (table 4) is probably in part a reflection of the greater seasonality of labour demand.

All indications are that real wages rose dramatically. Goldman and Squire estimate that nominal planting wages rose two-and-a-half times and harvesting wages doubled between 1970 and 1976, compared with a 40 per cent increase in the price index (excluding rice).

These patterns have been widely interpreted as evidence of competitive labour markets. In fact, the 1970s were a period of intensifying struggles over the mobilisation and control of labour, although mechanisms of labour recruitment and control were sharply different for men and women (Hart, 1989b). As a rule men were hired and paid as individuals, and labour disputes did not generally lead to collective action by workers. In contrast, poor women were increasingly organising themselves into labour gangs that confronted and challenged the interests of large landowners. The capacity of poor women to organise collectively was a key element in what officials termed the "incessant labour problem".

Mechanisation and the reorganisation of production

The highly labour-intensive pattern of rice production that marked the first phase of technological innovation in Muda changed dramatically in the late 1970s with the spreading use of combine harvesters that reap and thresh the grain automatically. Transplanting, the other highly labour-intensive activity, has also been the target of efforts by MADA to reduce labour requirements, and important advances have been made in improving techniques of direct seeding. Labour-saving technologies spread very rapidly. By the early 1980s, virtually the whole of the Muda region was being harvested by combines. The proportion of land that was seeded directly rose from 20 per cent in 1982 to 65 per cent in the first season of 1986, although it fell to 50 per cent in the second season of the year (MADA, 1987, p. 127).

Although MADA actively promoted mechanisation, combine harvesters are privately owned and operated by wealthy syndicates that rent out machine services. Even the smallest cutivators purchase such services, which they finance with the cash coupon component of the rice price subsidy. Accordingly, even though many combines have been financed through the private banking system (Mustafa, 1986), a significant component of the rice subsidy is being channelled to machine owners.

Combines were not the first form of mechanisation in Muda. Tractors were in use even before the construction of the irrigation scheme, and their use became very widespread afterwards. Mechanised land preparation associated with tractor use was not on balance labour-displacing because it allowed for double cropping. Combine harvesters, however, result in massive displacement of harvesting and threshing labour. Combines have created some new forms of employment: in addition to brokers and machine operators, these new jobs entail bagging the paddy after it has been mechanically threshed in the field, and transporting the bags to the road where they are picked up and taken to the mills. However, these new jobs are taken up almost entirely by younger men, whereas the displaced labour consists mostly of older women.

On balance, labour displacement has been massive. The only labour-intensive task that persists to some extent is transplanting, which requires

about 153 hours of labour per hectare compared with roughly 34 hours for direct seeding (MADA, 1987, p. 28). This latter figure includes additional land preparation, water control, and herbicide and fertiliser application necessary to maintain yields with direct seeding. According to official figures, broadcast sowing and combine harvesting together reduce average labour requirements by about 80 per cent (i.e. from 615 to 129 work-hours per hectare per crop). At the latter figure, an average size farm (1.4 hectares) can be cultivated in 22.5 eight-hour work-days for each of the two seasons per year, including the time of hired machine operators. Apart from transplanting, the work involved in rice cultivation is now very limited, and is mainly managerial in nature.

Mechanisation has sharply reduced (if not eliminated) the managerial diseconomies to which technologically based analyses ascribe the persistence of petty production. This, together with the heavy input and price subsidies that were intensified in the late 1970s, would seem to have created powerful incentives for land concentration. At the same time, one would expect petty producers who depend on agricultural wage labour income to be faced not only with labour displacement but also with diminished access to land through the rental market.

Muhammad Ikmal (1985) has shown that there is a small but significant category of very large landowners in the Muda region who operate at the supra-village level, and who indeed have sought to expand their scale of operation since the late 1970s. Another indication that concentration of usufruct rights may be under way is a rapid increase in long-term rental contracts known as *pajak* in which the rent is paid in a lump sum at the start. Previously, *pajak* rates tended to be below annual or seasonal rental rates. Increasingly, however, wealthy Malay and Chinese combine-owning syndicates eager to rent large tracts of land are willing to pay premium rates for as long as seven or eight years into the future.

Unfortunately, there are no survey data for the Muda region as a whole on how the distribution of landholdings has changed in the post-mechanisation period. However, in 1987 I traced changes in landholdings, labour and income patterns in one Muda village that I will call Sungai Gajah. I chose this village because comparably detailed benchmark data existed from a census conducted in 1976-77.[1] With the help of two very able research assistants from the community, I was able to follow the work history of each individual, patterns of movement into and out of the village, and changes in landholding patterns over the ten-year period in which mechanisation had taken hold. Although these data are obviously not statistically representative of the region as a whole, they yield several insights into dynamic processes in general, and petty production in particular.

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[1] This research was carried out under the auspices of the Centre for Policy Research at Universiti Sains Malaysia with a fellowship from Rockefeller Foundation's Program on Changing Gender Roles. The village had been studied in 1976-77 by Modh. Shadli and in 1979-80 by Wong (1983).

Table 5. Distribution of rice land ownership and operation in Sungai Gajah, 1977-87

Size of farm (relongs [1])	1977				1987			
	Households		Land		Households		Land	
	No.	%	Area	%	No.	%	Area	%
Owned								
0	39	29.8	..	..	49	34.0	..	..
0.1-3.99	47	35.9	96.0	21.2	57	39.6	105.5	25.6
4-9.99	31	23.7	188.50	41.6	26	18.1	163.5	39.7
10+	14	10.6	168.75	37.2	12	8.3	143.0	34.7
All sizes	131	100.0	453.25	100.0	144	100.0	412.0	100.0
Operated (excluding non-cultivators)								
0.1-3.99	54	45.0	114.75	17.2	54	47.8	106.25	18.4
4-9.99	45	37.5	274.00	41.2	42	37.1	248.50	43.2
10+	21	17.5	276.75	41.6	17	15.1	221.50	38.4
All sizes	120	100.0	665.50	100.0	113	100.0	576.25	100.0

[1] 1 relong = 0.288 ha.

Between 1977 and 1987 the population of the village increased from 616 to 647. Out-migration (162 people) and in-migration (107) together account for more demographic change than deaths (37) and births (123). The number of residential units rose from 132 to 144 along with a slight decline in average size. Survey data on landholdings typically equate the "household" with the residential unit, and this is the definition that I use to present the data on changing patterns of landholdings (table 5).

These data show that land concentration and increasing landlessness do not necessarily imply the disappearance of small-scale units. Concentration is an inference that could be drawn from the 13 per cent decline in the amount of land cultivated by village residents. Although it was impossible to trace every land transaction, there were cases of absentee landowners withdrawing land previously cultivated by village tenants, and hiring managers to supervise cultivation. The number of households that did not cultivate any land rose from 11 to 31, of whom 35 per cent had rented out land on long-term contracts to large landholders living outside the village. Despite a significant tightening of the rental market, the distribution of cultivated holdings among farm size groups was astonishingly stable (table 5). In absolute terms, the number of households cultivating "sub-viable" holdings (fewer than 1.1 hectares or 4 relongs) remained identical.

The apparent tenacity of tiny holdings in the face of mechanisation was accompanied by sharp increases in non-agricultural income earned by married men. In 1977 six men from small-landholding or landless households were primarily engaged in non-agricultural jobs. By 1987 the number had risen to 36. Excluding households comprising elderly individuals and couples, 60 per cent of landless and small-landholding households contained men primarily involved in non-agriculture, and an additional 25 per cent contained men who were actively seeking non-agricultural jobs.

The most obvious interpretation is that petty producers are using (or seeking) non-agricultural income to resist dispossession. In fact, when one examines both the organisation of these non-agricultural occupations and the "intra-household" mechanisms by which the diversification of income sources is taking place, two very different patterns emerge.

The first pattern entails a "feminisation" of agriculture operating in conjunction with men's shifting into low-wage non-agricultural jobs. This pattern prevails in poor households, where women have taken over most of the agricultural work on their own tiny farms, in addition to working as agricultural wage labourers in the transplanting jobs that remain. For this group the "household" is not the salient unit of production. Instead, poor women organise themselves into the work groups or labour gangs mentioned earlier, for work both on their own farms and as wage labourers (Hart, 1989b). At the time of my survey, the husbands of these women were employed in different forms of wage labour in the region (mainly as lorry drivers, and workers on construction sites, in stone quarries and rice mills), or were scraping together odd jobs. In the early 1980s many of these men had gone off to work as construction labourers in Kuala Lumpur and Singapore. By 1987, however, such jobs had dried up and many of the low-wage jobs in the region were insecure and sporadic.

The second group of households that operate very small landholdings constitutes, in effect, a new middle class. The non-agricultural earnings of middle-class men are at least triple those of the poor, and in some cases considerably more. These more lucrative occupations include trade and transport enterprises requiring capital and contacts, government jobs, and brokerage and contracting services. Most women belonging to these households describe themselves as housewives, and do not engage in agricultural work. For these households, the agricultural enterprise is simply a sideline. Men take responsibility for hiring machine and other services, but their attention to agriculture hardly goes beyond occasional trips to the fields in the late afternoon.

Two sets of factors have been particularly influential in shaping the emergence of this new category of rural inhabitants, all of whom are the children of large landowners. First is the shift in inter-generational resource transfers that has accompanied the shift from labour- to capital-intensive technology. In the past, ageing parents would hand over the operation (though seldom the ownership) of land to their children. Kinship tenancies

and other forms of inter-generational land transfer were an important method by which wealthier parents sought to control the labour of their adult children. Labour-displacing technologies have made it considerably easier for larger village landowners to retain control over land as they grow older. In addition, the tightening of the land rental market has meant that long-term cash leases are now a very attractive proposition for landowners.

Children of large landowners thus have far more limited access to their parents' land than was the case ten years ago. The typically diminutive pieces of land cultivated by middle-class households reflect the capacity of wealthy parents to delay land transfers. Not surprisingly, the majority of large landowners in the village are in the upper-age brackets.

Although kinship ties are not yet a significant source of access to land, the sons and sons-in-law of large landowners are well placed to take advantage of new opportunities. The second set of factors that has contributed to the emergence of the new middle class is the massive increase in government spending that coincided with mechanisation. Following an intensification of political conflict in the 1978 election, rural development spending in the State of Kedah where the Muda scheme is located rose by 168 per cent compared with 16 per cent in Malaysia as a whole (Gibbons, 1985, p. 42).

There was also a major restructuring in the mechanisms of access to these resources that placed the sons and sons-in-law of large UMNO landowners in a particularly favourable position (Hart, 1989c). Of the 21 men that belong to this category of small landholders, just under half had left the village by 1977 but returned with their families in the early 1980s to take advantage of new government jobs and resources.

These men, together with their wives and children, constitute only about 15 per cent of the village population. They are, however, in an extremely influential position: they hold virtually all the seats on the village government, and are increasingly assuming the role of brokers of state resources. In addition, several of them have close ties with powerful machine-owning syndicates outside the village for whom they act as brokers. At the same time, these brokers are both willing and able to place considerable pressure on the State for both agricultural and non-agricultural subsidies (Hart, 1989c).

The central importance of government services in non-agricultural employment and income growth is evident also at the regional level (Wong and Anwar, 1987). Despite increased government spending in the early 1980s, the region's economy lagged behind the national economy in terms of growth and structural change (ibid.). It appears that the massive outflows of capital from the region that were documented by the FAO/IBRD report in the early 1970s have continued (Hart, 1989a). At the time of my study in 1987, the Malaysian economy was emerging from a severe slump brought about in part by the collapse of commodity prices on international markets. These patterns are essential to understanding the paucity of non-agricultural

jobs available to poor men in Sungai Gajah who were, in many instances, dependent on the new class of brokers for access to non-farm income.

We cannot, of course, generalise directly from the Sungai Gajah case; similar studies in other parts of the region may well reveal different sets of arrangements. The key point of this type of intensive longitudinal study is to reveal the connections between local-level institutional mechanisms and larger economic and political forces (Hart et al., 1989). For all its possible peculiarities, the Sungai Gajah case shows how the restructuring of employment and accumulation brought about by mechanisation coincided *(a)* with political struggles that produced significant changes in both the level of state resources and the conditions of access to them, and *(b)* with fluctuating conditions in the regional, national and international economy. The diverging patterns of retention of tiny landholdings in Sungai Gajah have been shaped in important ways by these larger political and economic forces, and can only be understood in relation to them.

III. Conclusions

This study has shown how the apparent stability of very small-scale landholdings can be accompanied by dramatic changes in the organisation of agricultural production, and in patterns of off-farm earnings. Within and among what are ostensibly "petty producing" households, the relationships of men and women to one another and to other groups and classes have become increasingly differentiated.

No general theory or characterisation of petty production could possibly come to grips with these multiple and changing mechanisms of access to and control over resources and labour. Rather, we need an analytical framework within which to relate these mechanisms to larger processes of structural change.

Reconfigurations of labour processes and access to resources in Muda coincided with technological change in agriculture, but they did not follow automatically either from the technology or from the related patterns of commercialisation. Each of the major phases of technological change has been accompanied by larger politico-economic developments that have redefined the conditions of access to resources and patterns of labour deployment. In this article I have pointed to some of the ways in which intra- and inter-household mechanisms have been conditioned by macro-economic and political forces as well as by technology, and how these changes in sex, kinship and class relations in turn generate pressure and change in the larger system.

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