LAND, PROPERTY RIGHTS AND THE NEW CONSTITUTITON

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Chapter 10

SOUTH AFRICAN LAND POLICY: THE LEGACY OF HISTORY AND CURRENT OPTIONS*

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SUMMARY: The highly dualistic farm structure of South Africa and the low productivity of native African farmers have been the result of systematic distortions in land allocation, output markets, the provision of infrastructure, agricultural credit and services. The dualistic structure did not emerge, because of genuine economies of scale in the large commercial sector.

Other countries in Latin America and Africa, that once supported a dualistic farm structure through similar distortions, have either implemented large-scale land reforms or have experienced decades of peasant revolts and civil war. The paper compares these international experiences to South Africa and outlines judicial and market-assisted approaches to South African land reform.

Introduction

South Africa has recently repealed the most blatant components of legal structures supporting apartheid, its official policy of racial segregation. Several of the racially motivated land laws, such as the *Native Lands Act*, were abolished in the early 1990s. The current debate about new constitutional arrangements will involve discussion about the future land policy in South Africa, which has one of the most unequal land distributions in the world.

One of the most important questions is whether the current land distribution provides a good basis for future growth of output and employment in the agricultural sector and for a gradual elimination of the inequalities in access to land, or whether land reform and resettlement are necessary to achieve these goals.

These issues depend critically on the nature of economies of scale in agriculture - the first topic to be reviewed in this paper. Historically, economies of scale were rare - limited to a narrow range of plantation crops - and the literature contains no single example of economies of scale arising for farm sizes exceeding what one family with a medium tractor could comfortably manage.

Based on this finding, the authors examine two central questions. First, how and why dualistic farm size structures emerged over history, in which a highly mechanised commercial farm sector is juxtaposed with a subsistence-oriented smallholder sector; and how they have been sustained in a number of developing countries, including South Africa.

Second, if large farms are not efficient, why do owners continue to find it profitable to accumulate large landholdings? An answer to this second question is central to the issue of whether a more equitable distribution of land can be accomplished through market transactions alone, without some type of land reform.

Theoretical considerations suggest that, even if markets are not distorted, mortgage-based acquisition of land by the poor is impossible and that land reform therefore is the most promising way to achieve a rapid transition to a more efficient and equitable distribution of landholding.

This proposition leads the authors to examine the countries.

Much of the literature on the diseconomies of scale comes from regions where agricultural mechanisation is incomplete and where technical change has been slow. But even in the developed world, no study suggests the economies of scale exist in farms beyond a size that a family with one 50- to 80-horsepower tractor can comfortably manage. It can thus be taken for granted that agriculture is characterised by constant, or even slightly decreasing, returns to scale.

In contrast to production itself, related activities, such as input supply, marketing and credit provision, might be characterised by the existence of significant economies of scale. These economies arise from the cost of acquiring information about market opportunities and the creditworthiness of the borrower, the cost of the mortgage instruments for credit, and so on. With constant transaction costs, it is more profitable for banks and marketing firms to transact in larger quantities and large loans, than in many small ones and for this reason, among others, a formal credit for very small farmers often does not even exist.

It has long been recognised that these economies of scale can be partly circumvented by well-designed marketing and credit co-operatives[5], and by careful group-lending approaches. Moreover, the costs of assembling products from many sellers, or of providing inputs to many small farms, can be reduced by eliminating barriers to entry for small informal traders and by contract farming

(b) The emergence of large farms under low population density

Under low population density, individual peasants or workers have the opportunity of leaving large farms to establish family farms in the bush. With unmechanised technology, no economies of scale and a non-negative supervision cost, they would be able to produce output at a lower cost than large farms based on wage-labour. This is supported by the fact that, in the absence of outside intervention, operational holdings all over the world, and under a wide variety of land ownership systems, have been cultivated by family farmers (Grigg, 1992).

Large farms under these conditions would therefore not be profitable and their continued economic success would require either restrictions on competition by family farms or special support to large farms.

The literature on tenancy (Otsuka and Hayami, 1988; Otsuka et al., 1992) has long emphasised that for a landlord to attract tenants or workers, he or she must offer a contract that gives potential tenants at least the same utility they would obtain as workers elsewhere in the economy. This measure, called the reservation utility level, is generally equivalent to what a family could earn from its own independent farm[6]. Landlords can, however, in collaboration with the State, devise ways to depress the profits or the reservation utility of independent farmers or to limit the choices open to them and thereby obtain tenants or workers at lower cost. In a large number of countries large-scale farms were, in fact, established under conditions of low population density in precisely this way.

Five mechanisms were used:

(i) Reduction of availability of land for peasant cultivation by granting or auctioning rights to *unoccupied* lands to members of the ruling class and confining free peasant cultivation to infertile or remote areas with poor or no infrastructure or market access. Farm profits and utility were reduced by the higher labour requirements for producing a unit of output on poor land by increased transport and marketing margins and by increased prices for consumer goods imported to the region.

(ii) Differential taxation of the free peasant population through tribute requirements or by hut, head or poll taxes that had to be paid in cash, kind or labour services; but waiving these taxes for workers or tenants in manorial estates[7]. Many of these tax systems survived until after the Second World War[8].

(iii) Further restriction of market access by co-operative or monopoly success and failure of a variety of land reform programmes, as well as the costs accruing to countries with dualistic farm size structures, when land reform has not been implemented or it has been implemented only after protracted conflict.

Following this general review based on world-wide evidence, the paper then investigates the specific history of South African agriculture and examine the congruence with or divergence from international experience. The prospects and institutional requirements for land reform are also considered. The authors conclude with a strong plea in favour of a rapid and large-scale land reform programme and sketch out the mechanisms by which such a task could be accomplished, using judicial and market-assisted processes for the transfer and resettlement of land.

II The International Experience

Policies to establish and sustain large-scale agricultural production in the face of competition by smallholders, which resulted in the formation of a highly dualistic agricultural sector, have not been limited to South Africa. In this section, the authors discuss the theoretical issues involved, portray the historical development of landlord estates and haciendas, examine the process of reform, and illustrate the different paths of reform in each of these systems, as well as the implications of not undertaking such reform.

(a) Economies of scale in production and marketing

Economies of scale in agriculture arise from the indivisibilities of inputs, such as tractors and management. The indivisibility of such inputs leads to an initial segment of declining average costs in the production function until the lumpy input is fully utilised. Draft animals, threshers, tractors, and combines, can be fully utilised (i.e., reach their lowest cost of operation) only on farms of a certain minimum size.

Management skills are another example of an indivisible input. The better the manager, the larger the optimal farm size. Rental markets for machine services and management can, in principle, circumvent the lumpiness of some, but not all, of these inputs[1].

For example, in Europe, since the 19th century, threshers that were too large for individual farms have been rented out. The rental markets for combines in the United States is efficient, involving large-scale movement of the machines from south to north. Similarly, rental markets for specialist services, or publicly financed extension, possibly organised by farmers themselves, can greatly reduce the threshold for such economies of scale.

Economies of scale arising from indivisibility of inputs, are offset by agency costs (Jensen and Meckling, 1976), which result from the need to manage wage-labour and to enforce effort on large-scale operations. The lack of incentives of wage-workers to work hard and the ensuing need to supervise labour, or to offer incentive contracts, has received considerable attention in industrial organisation literature (Stiglitz, 1987) and is recognised to have profound implications for the organisation of production, particularly concerning the optimal size of a farm (Calvo and Wellisz, 1978). The potential losses from the imperfect information are particularly large in agricultural production, due to spatial dispersion of the production process and the need to constantly adjust to micro-variations of the natural environment. It has, therefore, long been recognised that supervisory capacity is an important determinant of the mode of operation of large tracts of land (Eswaren and Kotwal, 1985).

Some of the main reasons for the superiority of family operations over large-scale wage operations are that

* family members are residual claimants to profits and thus have higher incentives to provide effort than hired labour does,
* they share in the risk and
* can be employed without incurring hiring or search costs[2].

This lack of economies of scale in agriculture, and the resulting competitive superiority of farms operated predominantly with family labour[3], is confirmed by the large body of literature[4] on the *negative farm-size productivity relationship*, which draws on the experience from both developing and developed marketing schemes that bought only from the farm of the rulers. For example, rights to extraction of labour and tribute, together with a monopoly on inputs and outputs, were combined under the *prazo* system in Mozambique. Similarly, in Kenya, the production of coffee by native African smallholders was prohibited outright until the 1950s; and European monopolies on sales of tobacco in Zimbabwe and Malawi were directly transferred to the large farm sector after independence. In Malawi, they survived until the beginning of the 1990s.

(iv) Once huge farms had been established by the rulers, coercive interventions in the labour market were sometimes used, together with the above distortions, to help retain workers or tenants on manorial estates. Pass and vagrancy laws, debt peonage and agrestic slavery were common examples of such coercive interventions.

(v) If such coercive interventions were no longer legal, the profits of peasant farms were often reduced by confining agricultural public goods and services (roads, extension, credit) to the farms of the rulers[9], or by subsidising these farms directly.

Binswanger et al. (1993) provide 23 cases illustrating the long tradition and widespread use of these distortions to establish large farming operations under conditions of low population density.

The earliest recorded incidence is in the Arthasastra in the 4th century BC, but their use has been remarkably consistent over time and across continents. Pure tribute extraction was the method favoured, as long as the ruling class did not engage in production. When the rulers wanted to establish economically viable production, they always intervened in more than one market, and often adopted a combination of restrictions on land use with tax requirements.

Groups with widely different cultural, religious and ethnic backgrounds (the Ottomans, the Hausa and Fulani in Africa, the Fujiwara in Japan, and every European colonial power) imposed these same systems on peasants or conquered people when faced with similar material conditions. The emergence of these distortions, therefore, appears to have been determined primarily by material conditions of production rather than by culture.

(c) The potential and the cost of land reform

After World War II, uprisings by peasants in the context of independence struggles, external influences and the low productivity of large-scale agriculture led to the implementation of land reform measures in many countries that had dualistic landholding structures. Redistributive land reform can increase equity, and also efficiency, as argued above, if there are no economies of scale nor an inverse relationship between farm size and productivity levels.

The land market cannot be expected to lead to an efficiency-enhancing redistribution of land, because poor family farmers, who do not have much equity, cannot acquire land, even if they have access to mortgage credit[10]. This is the case, because the price of land includes a collateral or risk premium over and above the capitalised value of agricultural profits, on account of the preferential access that land ownership provides to credit markets via its collateral value. Once a poor farmer is provided with credit to buy the land, therefore, he can no longer pay for the mortgage out of farm profits without recourse to wage income.

Distortions such as differential subsidies for large farms, income tax exemptions for agriculture and use of land as a speculative asset in the presence of macroeconomic instability, all aggravate the problem by creating additional income streams that further benefit only large landowners. These income streams are also capitalised into the value of land and drive the land price above the capitalised value of farm profits, i.e. the productive value of the land[11].

Two major consequences emerge: first, a free land market alone will not be able to transfer land to smaller and poorer farmers, unless they are provided with grant financing, in addition to or instead of mortgage financing. Such a grant element is required to provide the equity that the poor do not have.

Second, elimination of all differential subsidies is a pre-condition for the long-term success of any redistribution of land. Beneficiaries of land reform, who lack equity, cannot sustain viable farms nor an improved standard of living (compared to their pre-reform situation) while repaying a land mortgage that covers the full value of their land[12].

While credit to beneficiaries can play a supplementary role, and the requirement to provide some equity in the form of a down-payment can be a useful screening device, a grant element is needed to provide equity if a land reform programme is really to redistribute land to the poor.

Land reform without an explicit grant element will, therefore, either come to a grinding halt, because of the extraordinary financial requirements, or it will require the *de facto* expropriation from large landowners, who are compensated with bonds - an approach that is politically feasible only under extraordinary circumstances.

In the first case, government funds earmarked for land purchases will soon become exhausted, possibly because of default by beneficiaries on loan repayments, and the programme will stop. Many ambitious land reform plans have ended, because of the fiscal requirements associated with full compensation, as has been the case in Venezuela (where despite oil revenues, the area redistributed to beneficiaries remained very small), the Philippines and Brazil.

In the second case, the bonds used to compensate landowners might have built-in features that erode their real value over time. So, although landowners receive the nominal value of their bonds, time erodes the real market value of the bonds received and the government offers no compensation for this loss. Most landowners naturally oppose such thinly disguised confiscation and only in special circumstances (Korea, Japan, Taiwan, Cuba), or under violence (Vietnam), is such a step politically feasible.

A third case, that would avoid these predicaments, requires another form of financing of land purchases.

Foreign grants, internal tax revenues or a combination of grants and taxes, have been applied successfully in Kenya, in order to provide the grant element required for the poor to purchase land and to transfer a significant amount of land to the poor, while compensating landowners at market values.

A pre-condition for sustainable land reform is the elimination of all implicit and explicit distortions favouring large farms[13]. If governments introduce land reform into a distorted environment, that differentially favours large ownership holdings, the capitalisation of such subsidies and tax breaks into higher values for large farmers, would lead to the recipients of redistributed land - the small farmers - selling out to larger farmers, thereby defeating the purpose of land reform.

The crucial importance of the macro-economic and political environment, the impact of land reform policies on non-reformed sectors and the possibility of land reform resulting in higher output, are illustrated by the case of Chile[14]. Here expropriation and redistribution of almost 20 per cent of the total agricultural area, between 1964 and 1970, was accompanied by considerable output increases, presumably due to high investment.

By contrast, the break-up of reform collectives into family farms failed - in the presence of extremely unfavourable government policies - to increase output significantly, and this type of reform became fully effective only after some of the debts incurred to pay for the land had been forgiven and structural impediments to the small farmers' success had been eliminated. In general, once distortions are removed, the grant element required to bring about land reform becomes much more modest.

(d) Different paths to land reform and their implications

Until recently, most large landowners operated their holdings either as *haciendas* or as landlord estates. In a *hacienda*, the owner operates his home farm with labour provided by tenants, squatters or traditional holders of usufructuary rights. The latter produce for their subsistence and sometimes for the market on the plots allocated to them, using the time remaining after they provide labour for the owner's home farm. In a landlord estate, the owner rents out all of his land and does not engage in own account farming. There is a basic difference between land reform as it applies to landlord estates and to haciendas.

Reform in landlord estates, which has been widespread in Asia, essentially addresses the equity concerns of society by transferring the entitlement to land rent without much change to the operational farm structure. Potential efficiency gains are associated with improved investment incentives and with increased security of tenure, as explained below.

In Latin America and parts of Africa, where the farm structure has been based on *haciendas*, the threat of land reform legislation, together with the availability of subsidised credit, has led to widespread tenant evictions, thus reducing the resident work-forse (Castillo and Lehman, 1983; deJanvry and Sadoulet, 1989).

The large owner-operated commercial farms, that have emerged as a result of these policies, have been difficult to subdivide since redistribution of that land requires major changes in the organisation of production (such as resettlement) and because, in many cases, neither the infrastructure nor the investments in physical capital provide an appropriate basis for the initiation of smallholder cultivation.

Unlike tenants on landlord estates, the potential beneficiaries of redistribution of land from commercial farms, i.e. the resident labour force or the external proletariat, have little or no independent farming experience. Therefore, even if the issue of financing is resolved, the availability of appropriate technology, credit and the competitiveness of input and output markets, become crucial to the success of such reform.

(i) Reform of landlord estates in market economies

Rapid transition from a landlord estate to a family farm in a market economy has led to stable systems of production relations. Under tenancy on landlord estates, operational units were already being managed by the potential beneficiaries prior to reform. The situation did not require changes in the organisation of production, since it transferred ownership from large landlords to tenants, who already farmed the land and had access to the skills and implements necessary to cultivate their fields.

Major policy decisions concerning the ceiling on landholdings, the amount and type of compensation for expropriated land and the criteria for selecting beneficiaries and determining their financial obligations, however, have had considerable impact on the final results of such reforms.

At the end of World War II, many landlord estates in Iran, East Punjab, Eastern India, China, Taiwan, Korea, Japan, Bolivia and Ethiopia were transferred to tenants and in all of these countries the new systems have proven successful. The reforms have led to increases in output and productivity and to systems of land ownership that are highly stable, so that there are virtually no landlord estates left which could be subjected to land reform.

In line with theoretical expectations, productivity gains from this type of reform have been associated with improved investment incentives for former tenants and with increased security of tenure. In general, such gains will be modest if tenants have to compensate landowners at near-market prices, if security of tenure was already high in the previous system, or if cash-rent contracts prevailed[15].

Empirical evidence[16] shows that reform of landlord estates has led to considerable increases in productivity and that costs to the government of complementary investments (infrastructure, housing, draft animals and training in management skills) supporting the newly formed farms were minimal, because the agrarian production system was already in place or could be established at low cost by the beneficiaries themselves.

(ii) Reform of *hacienda* systems in market economies

By contrast with Asia and India, reform of the *hacienda* systems, prevalent in most of Latin America, in Algeria, and in southern and eastern Africa, has been a lengthy and difficult process and has usually led to the emergence of large owner-operated *Junker* estates[17].

These estates are large farms, based on cultivation by the owners themselves, with the help of wage-labour[18]. If, as argued above, wage-labour based operations are less efficient than tenant farming, then increases in owner cultivation at the cost of tenanted land would be associated with losses in efficiency.

This relationship has two important implications. First, rational landowners would not establish *Junker*

estates, unless induced to do so by exogenous constraints, such as the threat of land reform or legal restrictions on tenancy. For example, *hacienda* owners have often tried to reduce their exposure to expropriation through land reform by evicting tenants, the main potential beneficiaries of expropriation (Castillo and Lehman, 1983). Restrictions on tenancy, although often intended to protect tenants' rights, have had the same effect.
Second, the lack of competitiveness of *Junker* estates, compared with the smallholder sector, has made them economically unviable. As soon as they were established, the owners of such estates began to lobby either for protection or for subsidies to modernise through rapid and large scale mechanisation. By substituting subsidised capital for labour, *Junker* estates were thereby transformed into mechanised large-scale commercial farms that were no longer dependent on large amounts of labour[19].

It was the threat of land reform that led to the establishment of *Junker* estates in Prussia[20] in the early 19th century, in Ecuador in the 1950s (deJanvry, 1981), in Colombia from 1961 (Zamosc, 1989), and in Chile in the 1930s (Loveman, 1976).

The emergence of *Junker* estates and large mechanised farms was aided by direct prohibitions on tenancy, construed to be exploitative:

* by ill-conceived attempts to increase tenants' welfare by imposing ceilings on rental rates and crop abates,

* by granting high tenure security to tenants after a few years, which caused owners to issue only short-term leases and shift tenants from plot to plot and

* by labour laws.

Whatever the motivation for these legal provisions, all of them induced owners of haciendas (and less frequently of landlord estates) to either shift to land uses with low labour requirements, such as ranching, or to resume self-cultivation and mechanise, in order to circumvent the labour supervision constraint.

The emergence of *Junker* estates, as a specific response to pending land reform and to restrictions on tenancy, supports the view that these estates are inherently inefficient. Once established, they must find ways to reduce their labour costs or increase their revenues in order to compete successfully with family farms. After losing their rights to either rent or labour services from tenants, landowners often seek rents from the expanding urban and industrial sectors, a change described in detail by deJanvry (1981).

One method of securing rent has been to ban foreign competitors from entering domestic agricultural markets, which forces consumers to indirectly subsidise *Junker* estates or commercial farms. Outstanding examples of this method are:

* the formation of the German Zollverein at the end of 19th century (Gerschenkron, 1965),

* the imposition of tariffs on beef imports in Chile in 1897, which were maintained even in the face of consumer riots in 1905 (Kay, 1992) and

* selective price support to products from large-scale farms in Kenya, Zimbabwe, and South Africa (Deininger and Binswanger, 1993).

The other instrument for securing rents has been subsidisation of mechanisation, which has led to the transition to mechanised commercial farms in almost all existing *Junker* estate systems[21].

The huge sums involved[22] have been provided via direct subsidies for machines as in Kenya or through cheap credit, as in South Africa, Zimbabwe and virtually all of South America.

Mechanisation, which eliminates the need to rely on hired labour, has resulted in widespread labour/tenant evictions, even in countries where labour remains very cheap and mechanisation is hardly optimal from a social point of view.

(e) Reforms in socialist economies: collectivisation and State farms

Landlord estate systems in the former Soviet Union, Vietnam and China were initially converted into family farms, much the same way as in reforms of the landlord estate systems in market economies. Collectives were created in 1929 in Russia, from 1957 in China, and from 1958 in North Vietnam by conglomeration of redistributed farmlands into single management units. In collective farms, land is owned and operated jointly, under a single management.

By contrast, in systems of communal ownership, families operate their own plots, but their land can still be subject to periodical reassignment. Over time, the organisational differences between collectives and State farms tend to disappear.

Where *Junker* estates or large commercial farms have been subject to reform (as in East Germany, Chile, Nicaragua, Peru, Mozambique and Algeria), land reform has resulted in the direct formation of State farms.

Collective farms established in socialist economies, like their capitalist counterparts, have developed into large, mechanised State farms that are subject to severe inefficiencies. As indicated by recent attempts to de-collectivise in a number of socialist countries (China, Vietnam, Peru, Algeria), the transformation of large farms into collectives, rather than family farms, does not increase efficiency.

Aside from the ideological underpinnings of collective or State farms, the potential benefits of this type of organisation were assumed to be associated with economies of scale:

* equitable distribution according to need rather than according to work,
* the ability to provide insurance and
* the provision of public goods such as health care, education and defence.

Most of these benefits, however, have proved to be either elusive or not contingent on the maintenance of collective production.

If economies of scale were present, rational action by self-interested farmers would result in the formation and maintenance of collective forms of production[23] without extra-economic incentives or coercion.

* Payment according to need rather than on the basis of work would reduce overall production (Israelson, 1980) and not be Pareto-efficient[24].
* The potential of collectives to substitute for insurance markets is extremely limited[25], due to the covariance of risks in agriculture, and in most societies, cheaper mechanisms than collective production are available to ensure against both covariate and noncovariate risks.
* Economies of scale in production-related activities, such as input supply, marketing and credit can be utilised through co-operative approaches without collective production.

There are three fundamental disadvantages associated with collective production in agriculture:

(i) Even if effort were perfectly observable, co-operative production is likely to be inefficient, because remuneration for each individual depends on the productive performance of the collective as a whole. The problem is aggravated by the fact that monitoring in agricultural production is particularly difficult.

Therefore, even if the need for work-based remuneration in collectives is realised, the implementation of such schemes may be costly or impossible. This is illustrated by the cases of China and Cuba where, after production had declined significantly under need-based remuneration schemes, sophisticated work-point schemes were developed. These schemes proved to be too cumbersome to implement and were soon replaced by wage schemes with lower informational requirements (MacEwan, 1981, Ghai el at., 1988).

A further complication is that, in collective agriculture, individual plots may be available to cultivate for subsistence or for sale on parallel (or officially recognised) markets. If, because of depressed official prices, for example, the marginal product of work on collective lands is low, it would be rational to concentrate effort on the private plot. To counter this tendency, governments were forced to impose - with varying degrees of success - mandatory work requirements or delivery quotas for collective production.

(ii) Successful collectives tend to degenerate into capitalist enterprises or wage-labour operated State farms by successively substituting cheaper wage-labourers for more expensive members (Ben Ner, 1984). McGregor (1977) provides theoretical justification for, and empirical examples of, the tendency of co-operative enterprises to reduce membership in order to increase current consumption by members[26].

It is not surprising, therefore, that in many cases collective farms, which might have been quite successful initially, degenerated over time and voted to redistribute land into family-sized farms, once they were given the chance to do so[27].

In collectives, decisions to invest, save and distribute profits are made jointly and if there is no secondary market for equity, it is rational for members to under-invest (Bonin, 1985), leading to disappearance of the capital stock over time. These difficulties have prompted even countries that have adopted collective forms of production to abandon all or parts of the collective model, in favour of more pragmatic, but not necessarily more efficient solutions[28], often in the form of State farms.

If large mechanised collectives or State farms are to be transformed into family farms, the number of beneficiaries has to be increased above the workers currently residing on the farms and competitive input and output markets, as well as facilities for smallholder credit, have to be re-established[29].

(iii) The social cost of incomplete or long-delayed reform

Maintenance of a highly dualistic agricultural structure, based on relatively inefficient *haciendas* or commercial farms, involves not only static losses of allocative efficiency[30], but also dynamic losses associated with the reduced profitability of smallholder cultivation and the ensuing lack of incentives to invest in physical and human capital in the smallholder sector. Furthermore, the literature tells us that rents associated with distortions are often dissipated in competition for these rents and these rent-seeking costs have to be added to the static and dynamic efficiency losses.

In many cases, duality in farm losses has also been associated with protracted and violent struggles that have significantly reduced the performance of the agricultural sector or the economy as a whole. The losses from such conflicts are even more elusive to economic measurement, but their magnitude can be gauged from the length and the intensity of such struggles.

Moore (1966), Wolff (1968), Migdal (1974), Skocpol (1982) and Scott (1976) emphasise the important role of peasant unrest in many current and past incidents of violence.

While peasants have rarely been protagonists of radical class struggle or initiated revolutionary movements (but in some cases have turned fascist to protect their land claims), the importance of peasant discontent is indicated by the fact that remote areas of limited agricultural potential - sometimes designated as communal areas, reserves or homelands, in which free peasants have found refuge - have provided active and passive support for guerrilla fighters in many social conflicts.

In Brazil, where failure to reform has not resulted in massive peasant uprisings and civil war, the social costs of continued massive distortions in favour of large farms (Binswanger, 1991) can be great. Between 1950 and 1980, while agricultural output in Brazil grew at a remarkable 4.5 per cent a year, land area expanded at 1.5 per cent a year, but agricultural employment grew at only 0.7 per cent a year. During this period the large-scale farms evicted most of their internal tenants and workers, many of whom became insecure seasonal workers without farming skills, or migrated to urban slums.

An alternative growth path could have provided rural employment and self-employment opportunities to a substantial number of these people, and could have gainfully absorbed a substantial share of the rapidly growing urban population.

In Mozambique, measures to extract peasants' labour have included forced cultivation and vagrancy laws (both instituted in 1930), and forced labour (instituted in 1949). As a result, from the beginning of the guerrilla struggle in 1961/62 until independence in 1975, Frelimo guerrillas were able to recruit and obtain support from peasants in inaccessible rural areas, who received credit and some marketing services in return for their support (Isaacman, 1983).

These areas (about 25 per cent of the total land area of the country) became the 'liberated zones' in 1968.

Attempts at land reform after independence created highly mechanised collective farms, but did not address the problems of the freehold sector. Violence continues to this day.

In Zimbabwe, large-scale eviction of about 85,000 black African families from European land between 1945 and 1951 (Mosley, 1983) led to a general strike among blacks in 1948 (Ranger, 1985), then to guerrilla attacks by ZANU (Zimbabwe African National Union) in 1964 (Scarritt, 1991) and then to substantial acceleration of guerrilla warfare from 1971 until independence in 1980.

The guerrilla uprising adopted the strategy of a people's war by taking up the peasants' many grievances over unequal distribution of land and State interference with production. Guerrilla fighters used the Tribal Trust Areas as bases for frequent attacks on European farms - which, as a result, were abandoned in great numbers towards the end of the war (Scarritt, 1991).

Policy distortions in favour of large farms, some of which were acquired by black Africans, remain in place, however, in spite of evidence that these farms are less efficient than smallholdings (Masters, 1990). A substantial settlement programme has provided farms to blacks, but many of the farms may be too large, given the limited capitalisation of the farm families. Land reform continues to be a major political issue.

In Guatemala, communal lands were *de facto* expropriated in 1879 by legislation that gave all proprietors three months to register land titles, after which the land was considered idle or abandoned. The legislation resulted in widespread allocation of land to large coffee-growers, some of which was redistributed in the land reform effort of 1951-1954.

Following a military coup in 1954, virtually all the land that had been redistributed was reinstated to the old owners and farms expropriated from foreigners were allocated to nationals in average chunks of more than 3000 hectares (Brockett, 1984).

Since then, resistance to the land system has become more radical and suppression has become harsher. Co-operative movements in the 1960s were suppressed, leading in 1972 to the formation of the Guerrilla Army of the poor (EGP), which had its main base in Indian highlands.

This was followed by a wave of government-supported assassinations in 1976, the formation of the Committee for Peasant Union (CUC) in 1978 and government massacres of protesting peasants, the most spectacular of which took place in 1980 (Davies, 1983). Almost 40 years after the first attempt at land reform, peasants were still demonstrating for reform in 1988.

In El Salvador, smallholder land was appropriated in a similar way by an 1856 decree that declared all communal land, that was planted with less than a least two-thirds planted with coffee, to be under-utilised and therefore the property of the State. Communal land tenure was then abolished in 1888 and sporadic revolts led the government to establish such measures as a *security tax* on exports to finance rural police forces (McClintock, 1985). Rural unions were banned in 1907, and a National Guard was created in 1912.

Areas where land pressure was particularly severe were the main centres of the revolt of 1932, in which between 10,000 and 20,000 peasants were killed (Mason, 1986). From 1932 until 1979 the situation was characterised by continuing and escalating violence. Throughout the period, guerrillas promised rural credit and reform of the land, marketing and wage systems and thereby considerably increased their support in rural areas.

Renewed eviction of tenants ensued during the 1960s, in the *haciendas* of the cotton-growing lowlands and between 1961 and 1970, house plots available to *colonos* decreased by 77 percent, while the number of *colonos* fell from 55,000 to 17,000 (McClintock, 1985). In 1979, a coup by reform-minded officers led to land reform as in attempt to pre-empt a critical shift in popular support to the FMLN-FDR guerrilla forces. Large-scale eviction of tenants and narrow eligibility rules sharply limited the number of beneficiaries, however, and more than a decade of civil war ensued. The peace accord of 1992 mandates still more land reform.

Experience in Colombia also indicates that incomplete land reform measures are unlikely to create social stability. During the 1920s, conflicts over land between *colonos* and large-scale farmers at the frontier were only of a local character, but more co-ordinated tenant actions in the late 1920s led to consideration of different kinds of reform legislation in the 1930s.

However, Law 200 of 1936 vested rights to once-public lands with large landlords, rather than providing plots for tenants[31], and thereby formed the basis for immediate and future tenant evictions (LeGrand, 1986). A long period of *violencia* then ensued (1940-65), during which guerrillas recruited and received support from peasant groups.

The effect of land reform legislation in 1961 and 1968 was limited to *ex post* regularisation of previous land invasions, and had no effect on improving the distribution of operational holdings. In fact, the number of beneficiaries were significantly lower than the number of tenants who had previously been evicted and the size of the holdings they received was smaller than what they had lost (Zamosc, 1989).

Ideological commitments to collective farms as reform enterprises further reduced the success and economic welfare of reform beneficiaries. Peasant invasions of large farms intensified in the early 1970s, leading to a declared State of Emergency after 1974. Regional peasant mobilisations, strikes and blockades flared up again in 1984, indicating that the conflict had not yet been resolved.

In Peru, the effective exclusion of most highland Indians from the benefits of the agrarian reform of 1973, together with an acute crisis in subsistence agriculture, led the indigenous communities to provide substantial support to Shining Path, especially after the 1980 drought.

As a result of Shining Path activity, more than half of the administrative areas in the country have become virtually inaccessible to government forces (McClintock, 1984) and public investment in these regions has become unfeasible, inducing large-scale migration to the cities. Partly because Shining Path remains active, and partly due to poor economic management during the 1980s, Peru is now suffering capital flight as well as a sharp economy-wide decline.

Other countries with similar prolonged conflicts over land distribution include Chile, Nicaragua and Angola. The only country that had a highly dualistic farm size structure at the end of World War II and has escaped protracted violent struggle has been Kenya, for reasons explained below,

III The South African Experience

This section describes the emergence of the present situation in South Africa. A discussion on land reforms in Kenya and Zimbabwe follows, to demonstrate that land reform in such a dualistic structure is feasible and to illuminate the key elements of a successful reform strategy.

(a) Suppression of African Agriculture

Governments influenced by European settlers restricted black African land rights very early and created reserves that were too small to support independent African agriculture. For example, 0.76 million out of 69 million hectares in Transvaal, and 0.84 million out of 5 million hectares in Natal. As a consequence, tenant farming (with tenants called squatters) was the main mode of production accessible to black Africans.

In 1882, 55 per cent of the native population in Natal lived as tenants, 35 per cent on privately owned land and 20 per cent on Crown land (Bundy, 1985). Absentee landlords and large companies normally imposed cash rents, but the system of *farming on the halves* was common with resident landlords, in which the African sharecropper, owning oxen and plough, ceded half of the output to the landlord for the right to cultivate the land.

Tenancy was even more pronounced in 1904 in Transvaal, where of 900,000 black Africans, 14 per cent farmed their own land, 20 per cent lived on Crown land, and almost 50 per cent lived on European-owned land, leaving 13 per cent in the reserves and less than 5 per cent in wage employment (Bundy, 1985).

Given these large numbers, early attempts to use legal action to reduce the numbers of *idle squatters*- in 1866, 1871, 1873, 1881 and 1883 - were not enforceable. However, a strong interest by the mining sector in reducing wage levels and the desire to obviate food imports, led to new laws in the 1890s (Bundy, 1985).

By 1892, all tenants residing on white farms had to be registered. In 1895, the maximum allowable number of tenants per farm was restricted to five, to spread the available supply of labour more evenly, and native commissions were set up to enforce this law. In 1899, a license fee for each tenant, payable by the landlord but usually passed on to the tenant, was also introduced[32].

By the 1890s, European farmers in South Africa were suffering from serious competition from African farmers, who could supply food items at lower prices. The productivity advantages of the African family farms over the large European farms are suggested by a wide range of anecdotal evidence from that period, including petitions by European farmers to restrict African competition to ensure their own survival.

These advantages are also suggested by the fact that the smaller African farmers not only made a profit and provided revenue for local traders[33], but also won prizes in agricultural shows. Despite efforts to restrict land purchases by black Africans in the late 19th century, however, (especially in Transvaal) such purchases were reported for the Cape (in the 1960s), for Natal (more than 100,000 acres by 1890), and for Transvaal (in the 1860s).

The *Glen Grey Act* of 1894 restricted farm ownership in the reserves to one parcel of no more than slightly above three hectares. It also levied a labour tax on all men living in the reserves who did not own land and banned the sale, rental or subdivision of land by introducing a perverted form of communal tenure (see below).

Then the *Native Lands Act*, passed in 1913 and confirmed in 1936, limited the area where black Africans could establish new farming operations to the reserves (totalling 7.9 per cent of the country's area). The *Natives Land Act* also confirmed the *Glen Grey Act* provisions concerning communal tenure, i.e. maximum holding sizes and restrictions on land transactions. The Act also barred blacks from buying land from whites and prohibited them from share-cropping and cash rentals.

The main intention of the law - which was almost exclusively the basis of the country's future policy of apartheid (Wilson, 1971) - was to transform tenants into wage-workers for the mines. The law was called *a law made for the mining houses* (Davenport, 1987). The law was also intended to "curb black farming practices at a time when white farming was beginning to pick up ... to check black share-cropping...and to prevent the purchase of land by syndicates of blacks who ... were beginning to move ahead fast" (Davenport, 1987).

The immediate effect of the law was to force African families, who were formerly independent farmers on share-cropped land, to accept wage-labour and give up their equipment. The longer-term effect was to end African farming above the subsistence level and to degrade the reserves to *dormitories* (Hendricks, 1990) for a cheap African labour force.

This effect can be illustrated by comparing black African production and consumption data for 1875 and 1925 in Victoria East, a typical Ciskei village in the reserves. Between 1875 and 1925, the population dependent on agriculture in this village more than doubled, but sales per family in 1925 were only a quarter of what they had been in 1875.

Integration into the market for non-agricultural goods also decreased substantially and by 1925, when agricultural income no longer covered food costs, most cash was spent on food and groceries and earnings from wage-labour had to be used to cover the deficit.

By 1925, even an exceptionally good harvest could provide only about half of the population's nutritional requirements. The village, in fact, had become a structural food deficit area, with funds for investment, as well as human capital, in serious shortage[34].

In the reserves the situation was generally the same. As early as 1918[35], agricultural production in the reserves amounted to only 45 per cent of the population's food subsistence requirements. Rapid out-migration enabled people in the reserves to hold the percentage of subsistence requirements, met out of their own agricultural production, almost constantly, until 1955. However then, when the State's relocation policy became fully effective, the population density increased considerably, and the food requirements, that could be met from reserve production, declined to about 20 per cent (Simkins, 1981).

A further distortion against black African farming was the excessively restrictive *traditional* communal tenure system, imposed by successive land laws, the first and most important of which was the *Glen Grey Act* of 1894.

Traditional communal tenure arrangements vary widely across the world, but they all have common characteristics and evolutionary tendencies. In hunting and gathering societies, communal arrangements emerge as territorial rights to hunt and gather.

When agriculture develops, families belonging to the tribal group, but not outsiders, enjoy the right to cultivate within the tribal area. As agriculture intensifies, following population growth and better market access, individual families in the tribe assert and are granted rights to specific plots of land. These rights increase progressively, from the right to farm on fallow land, to heritability, the right to temporarily transfer land, the right to keep crop residues and engage in stubble grazing, to, finally, the right to sell one's land to other members of the community (Boserup, 1965).

Many communities also have a process for allocating land to newly formed or returning families. This process is often managed by an elected or hereditary chief, and only rarely involves taking land away from already established families. Even at high population densities, the process generally enhances equity and provides an insurance mechanism (Migot-Adholla et at., 1992).

What unifies all communal tenure regimes is the restriction on sales to outsiders, which are either totally banned or are subject to community approval (Binswanger et al., 1993). When that restriction is lifted, the community joins the system of private property rights in regard to the plots it has allocated to individual members.

Many colonial powers have interfered with the flexibility and adaptability of communal tenure systems and with the democratic institutions that prevailed in some of them, by rigidly codifying the systems and by awarding hereditary rights to chiefs to manage land relations in the community and to allocate land to community members (Noronha, 1985).

Chiefs were chosen based on their willingness to co-operate with the colonial powers. While chiefs often did not interfere with local adaptation of the systems and allowed practices inconsistent with the law, the laws codifying traditional tenure often restricted the rights of community members to rent out or to sell land, even to other community members.

The capacity to enforce such restrictions was particularly strong in South Africa[36] and such constraints, together with migration and the continuing lack of profitability of agricultural investment, may have contributed to the under-utilisation of land in the homelands.

South Africa illustrates the devastating effects of continued and forceful depression of the profitability of small-scale agriculture. Numerous measures made the accumulation of physical or human capital in black smallholder agriculture unprofitable and led to the virtual disappearance of independent black farmers soon after passage of the *Native Lands Act* in 1913, which, as explained above, limited black farmers' access to land outside the reserves and defined the communal land right system in the peasant areas in excessively restrictive and counter-productive ways.

Having lost their right to purchase land outside the reserves, black farmers were removed from their farms - called *black spots*- in the more fertile and accessible white farming areas. In subsequent periods, intervention shifted to the labour and product markets, which supported European agriculture through artificially depressed wages of black workers, direct transfers, credit, marketing monopolies and output subsidies.

Such policies remained in place long after they had been discredited elsewhere, with support to peasant farming in the homelands being confined to a rigid and paternalistic model of the small full-time farmer. These policies were complemented by stringent pass laws and by the *Land Subdivision Act* of 1970 (Budlender and Latsky, 1991). In contrast to other countries, the enforcement capacity of the South African State has been unrivalled.

(b) Differential support to European agriculture

While black agriculture suffered discrimination, European farmers were consistently subsidised. The area farmed by Europeans increased from 35,700 hectares to 226,800 hectares between 1890 and 1909

(Bundy, 1985), largely because of the assistance of the *Agricultural Development Acts* of 1904 and 1907, which stipulated that the Sate would provide cheap credit and marketing assistance to European farmers.

Following almost total elimination of African agriculture by the *Native Lands Act* (1913), additional measures were passed to decrease European farmers' labour costs. *Masters and Servants Laws* (1911 and 1936) restricted the occupational mobility of Africans by preventing them from changing occupation without their employer's written consent.

Blacks were also excluded from skilled jobs by the *Mines and Workers Act* (1911 and 1926), which implemented a floating job bar shielding white workers from African competition by legislating that no white must be subordinate to an African.
Agriculture was the only sector exempted from that rule; white farmers could continue to substitute cheap black labour for expensive white labour.

As a result of the exclusion of Africans from skilled jobs in every sector except agriculture, the class of farm workers was, and still is, dominated by blacks. In 1964, 98.5 per cent of the agricultural labour force in South Africa was non-white (Houghton, 1973). Non-whites still predominate among the 1.2 million farm labourers, working on some 70,000 white farms in 1985 (Christodoulou and Vink, 1990).

Starting in 1922, pass laws (influx controls) controlled the flow of Africans into white, and urban areas, and controlled the allocation of labour resources among sectors (Lipton, 1985). The right to employ prison labour was rediscovered in the late 1940s and convicts were reportedly valued at R1,000 a piece, raising the value of farms using such labour by two to three pounds per hectare (Wilson, 1971).

There is evidence that the use of convict labour led to stricter enforcement of the pass laws. After 1948, a worker found without a pass was no longer deported to his or her Bantustan, but was forced to volunteer for farm labour (Wilson 1971). In 1949, 40,000 petty offenders were, in this manner, sent to work on white farms.

The clearest indicator of the effectiveness of interventions in the labour market is the movement of wages and a 100-year time series (from 1866 to 1967) of wages for farm labourers in South Africa (Wilson, 1971) indicates a decrease of wages and a gradual elimination of non-monetary benefits.

Although wages in 1930 were nominally identical to wages in 1905, a worker's family in 1905 received food, clothes, medical care and an acre of land for own cultivation, in addition to monetary compensation. More recently, wages paid by farmers have been extremely low, not only in absolute terms, but also in comparison with other sectors.

The ratio of average wages for blacks in agriculture and industry in 1975/76 was about one to three; and in agriculture in 1975/76, white workers received almost ten times the wage of black Africans (Lipton, 1985).

In addition to legislative support, European agriculture was also supported by direct subsidies. With mechanisation subsidised through credits and tax breaks after World War II, the number of tractors purchased increased almost sixfold between 1946 and 1960 (Wilson, 1971).

Government subsidies and supports, including generous tax provisions, however, did not prevent large-scale farms from accumulating debts by 1988 totalling R 13.6 billion (Christodoulou and Vink, 1990) - a figure that exceeded agriculture's contribution to GDP in the same year (R9.7 billion).

Accelerated growth of the debt burden - from 10 per cent a year in the 1970s to 17 per cent a year between 1980 and 1988 - indicates that much of the recent increase might be from rescheduling the debt to meet interest payments and that even with continuing high subsidisation, many farms might be too indebted to be economically viable.

European agriculture was also assisted by marketing boards. By 1960, 17 had been established, with broad monopoly powers to purchase and dispose of produce (Houghton, 1973). Government transfers to the agricultural sector through marketing assistance alone, amounted to about R15 million in 1931 and R31 million a year, on average, between 1948 and 1966.

About the same amount is estimated (Houghton, 1973) to have been transferred to the agricultural sector from consumers. In 1967, the amount spent by marketing boards to subsidise about 100,000 white farmers was almost double the amount spent to educate more than 10 million blacks (Wilson, 1971).

(c) The potential for land reform

Given the extraordinary discrimination against black South African farmers, it is not surprising that agriculture in the areas allocated to them is generally poorly developed. Even in the few homeland areas with high quality land, the returns an African farmer can expect to derive from his or her labour and from investing in land improvements, machines or farming skills, is only a small fraction of the returns that would accrue from the same effort or investment on similar quality land in the white farming sector.

It is not, therefore, surprising that few blacks have been motivated to put their talents and money into agriculture. But this was, of course, what the system was designed to achieve. The current low productivity of black South African agriculture cannot therefore be used to predict the potential of smallholder farming.

To observe that potential one has to go to the few countries, such as Kenya, in which discrimination against agriculture in general and against small holders in particular, has been modest in the post-colonial period.

Since Africa as a whole has had the most severe discrimination against smallholder agriculture by world-wide standards (Lipton and Lipton, 1993), such examples where smallholder farming could achieve its full potential are very few. The depressed profitability of smallholder farming has also limited the success of the few interventions in favour of the sector, thus past experience cannot be a guide to what development programs could achieve, if they were carried out in undistorted environments.

In both Kenya and Zimbabwe, large-scale eviction of tenants after World War II led to violent eruptions of peasant protest (Mosley, 1983; Ranger, 1985). Commissions to investigate the land question in these countries, as well as in South Africa, in the 1950s concluded that any lasting solution must at least

(i) eliminate constraints limiting access of African farmers to output markets and to land outside reserves;

(ii) provide secure title to smallholders to allow them access to credit;

(iii) open up job opportunities outside the reserves to enable African farmers to establish economically viable holding sizes, in and outside the reserves.

In Kenya, where European producers never achieved the degree of control over agriculture that they did in South Africa, simply eliminating restrictions on access to output markets, in response to Swynnerton Plan of 1954, evoked considerable response from smallholders.

The reaction belied arguments that smallholders would not be responsive to price incentives, or that they lack the ability to acquire the skills and to establish the infrastructure needed to make smallholder farming a success. In terms of output, it is estimated that resettling blacks on former white farms in the course of the million acre scheme[37], led to production increases of between 15 and 90 percent.

These examples confirm that smallholders are able to respond to economic opportunities. At the same time, maize production remained constant, which alleviated widespread fears that production of food staples would drop if smallholders were allowed to diversify (Ruthenberg, 1966).

Between 1955 and 1968, total coffee production increased more than threefold, with the percentage of coffee produced by black smallholders climbing from less than 10 per cent to more than 50 per cent of the total. Further, the total output of pyrethrum quadrupled and the smallholders' share rose from about 10 per cent to almost 90 percent.

Productivity comparisons between small and large farmers, although not very numerous, convey the same general picture. Comparisons of settlement farms and large farms in agro- ecologically similar locations indicate higher partial productivities of labour, capital and recurrent inputs on small settlements farms (Nottige and Goldsack, 1971).

In 1974, the Integrated Rural Survey (Kenya Ministry of Agriculture, 1978) showed that holdings of less than 0.5 hectares in the resettled area, marketed more than six times the volume of produce than did farms in the five to eight hectare class, in terms of value per hectare marketed.

Economic evaluation of four settlements established under the million acre scheme, indicates that all, except one, had positive net present values, even if family labour was valued at market wages. At accounting prices, all of the settlements had positive net present values. Further, *high density schemes* - with smaller farm sizes - were found to be superior to the *low-density schemes* which, with larger farm sizes, were supposed to form the basis for commercial *yeoman* farmers (Scott et al., 1976).

In contrast to Kenya, the performance of settlements in Zimbabwe was far less successful[38], the main determinants for this unsatisfactory performance can be identified by comparing settlement programmes in both countries (i.e. Kenya, 1964-70, Zimbabwe 1980-90):

(i) Financing and organisation of land purchases

Since government agencies in both countries had to purchase the land, select settlers and provide the necessary infrastructure, implementation required intensive use of skilled administrators. The fact that, in Zimbabwe, land was given away for free, rather than for payment by the beneficiaries - as was the case in Kenya - made this task much more complicated, where resettlement was a long and bureaucratically cumbersome procedure (Munslow, 1985).

The need to finance land purchases, without recovering expenses from farmers, strained government resources and also hindered the proclaimed goal of greater fairness[39]. The selection of settlers became highly politicised, so neither the most needy, nor the most able, benefited from the programme.

(ii) Limits on subdivision

Limits on subdivision were a serious constraint in both countries. In Kenya, these prevented an extension of smallholder settlement to the remaining large farms, which in the meantime had been acquired by politically influential blacks (Leys, 1974).

In Zimbabwe, such limitations affected even government-directed resettlement programmes[40] and made purchases of small tracts of land by individual farmers virtually impossible.

(iii) Land rights

Although theoretically equitable, granting settlers usufructuary rights, rather than ownership or long-term transferable leases, hindered their economic success in three ways:

* the restricted rights reduced incentives for long-term improvements in land,
* the absence of ownership rights prevented the emergence of a rental market and precluded specialisation and dynamic adjustment to life-cycle phenomena or differentials in settlers' abilities and
* without land titles, settlers could not obtain commercial credit and the credit they were able to get from the Sate was limited to the minimum required by foreign donors. Farmers used the donor-funded credit for short-term consumption and the repayment rate was poor.

(iv) Non-agricultural activities.

The explicit prohibition of off-farm employment in Zimbabwe, motivated as it was by the ideal of the full-time farmer, severely limited farmers' ability to accumulate working capital and to adjust to temporary shocks, such as drought.

In Kenya, off-farm employment has repeatedly proved crucial to farmers' ability to repay loans and to fund agricultural investment in order, for example, to establish cash crops.

(v) Farm sizes

Both in terms of area and number of settlers, the programme in Kenya was smaller than in Zimbabwe. While settlers in both countries lacked knowledge and capital, the large farm sizes in Zimbabwe (on average 64.4 hectares as compared to 12.6 hectares in Kenya), together with the low level of government services, the lack of access to credit markets and the prohibition of rental and off-farm employment made it particularly difficult for reform beneficiaries in that country to establish viable farming operations and make productive use of their land[41].

(vi) Provision of technology and services

In Kenya, extension and technical services were key elements of the settlement strategy[42]. The huge financial requirements associated with land purchases in Zimbabwe made it difficult to fund adequate technical services.

(vii) Output markets

Kenya and Zimbabwe have made little progress in dismantling Sate monopoly marketing systems that were established specifically to discriminate against smallholder agriculture.

In Zimbabwe, the difficulties arising from State monopolies on outputs are compounded by similar monopolies on inputs. These monopolies confer structural advantages to the large farm sectors, distort prices and also drain government funds.

In 1986 alone, annual losses of the marketing parastatals amounted to Z$820 million, or more than twenty per cent of total government spending. Parastatals for marketing and input supply have failed to achieve the goals set for them. For example, only fifty per cent of settlement farmers use fertilisers and the lack of inputs appropriate for smallholder cultivation is widely quoted as one of the reasons for the failure of smallholder agriculture to develop under resettlement.

(viii) Bureaucratic control

Many reform processes, in particular in Zimbabwe, have been hampered by an excessively administrative and paternalistic approach, in which a land reform agency selects and purchases farms, selects beneficiaries, designs the farming schemes and redistributes the farm to beneficiaries.

These land reform agencies are often expected to provide infrastructure, production support, marketing services and social services, which creates confused objectives and operating guidelines.

As a consequence, land reform takes a long time[43], as it did in Mexico, where 60 years were required to distribute half the national farm land. A high degree of decentralisation, as in Malaysia and Kenya and the use of market-assisted mechanism, as in Kenya and Guatemala, can greatly reduce these problems[44].

(d) Implications for resettlement and land reform

While experience in Kenya and Zimbabwe indicates that land reform is possible under conditions resembling those in South Africa, it also illustrates the importance of institutional arrangements that can help the reforms to succeed. The types of institutional arrangements are summarised below.

(i) Resettlement and its organisation

Land reform involving mechanised commercial farming systems requires that such farms be subdivided and resettled, if land is distributed exclusively to the residential labour force.

This because the efficiency of family farms is associated with the use of family labour and too few families reside on highly mechanised farms to work these farms efficiently. Especially if the beneficiaries are poor, as they are likely to be, they do not have the access to the credit market and credit subsidies that would allow them to use either mechanisation or hired workers.

(ii) Size of settlement units

The desire to establish viable farming units has often led authorities to provide parcels that were too large in comparison to settlers' capital and skill endowments. Together with other restrictions, this practice has resulted in continued under-utilisation of land, negative effects on equity and failure to reap the potential benefits from resettlement[45].

Allotment of smaller parcels would enable more people to benefit from resettlement. In contrast to the highly administrative and paternalistic approaches used by land reform agencies in the past, market-based approaches, combined with lump sum transfers to the poor, to allow them to purchase land, would lead to higher flexibility and thus increase efficiency as well as equity.

(iii) Elimination of subsidies and legal restrictions

Tax preferences for agriculture, differential subsidies for large farms and macro-economic instability, leading to the use of land as a speculative asset, are capitalised in the land value and prevent the emergence of a competitive land market.

These tax preferences, therefore, have to be dismantled prior to land reform.

If tax preferences and other differential farm subsidies are not eliminated, market prices of land are likely to be higher than the capitalised value of agricultural profits, making the use of market-based approaches to effect redistribution of land, unfeasible. The groups (classes) of farmers favoured by such subsidies would be able to pay the higher prices for land.

Therefore, if such distortions are not dismantled, market processes might lead to reconcentration of landholdings, even after a redistributive reform. Similarly, existing legal restrictions on subdividing large estates, on land sales and rentals will have to be abandoned if land reform is to lead to the emergence of a productive smallholder agriculture.

(iv) Beneficiary selection

Selecting settlers based on their commitment to farming, as evidenced by their willingness to pay part of the cost of land, is most likely to result in a resettlement programme that increases efficiency as well as equity. Provisions for beneficiaries to purchase (with credit) relatively small plots of land and to add more land (through rental or purchase) if they become successful, are likely to be conducive to this goal. Unsuccessful settlers, likewise, should be allowed to rent out or sell their land and take on off-farm employment.

(v) Technology and extension

Establishment of profitable agricultural enterprises is contingent on the availability of appropriate technology and extension. While farmers' participation in the design of institutions to provide such services is essential, government transfers will be necessary at least in the initial phase.

(vi) Input and output markets

The small farmer option is only viable if there are competitive input and output markets that can serve them. Otherwise, the land and entrepreneurial rents from agriculture will be captured by monopolistic input suppliers and output marketers.

Similarly, if sufficient credit to overcome temporary shocks is unavailable, periods of bad weather might lead to distress sales by new landowners who do not possess other assets. The creation of competitive input and output marketing system and of a viable financial system for small farmers has to be addressed, prior to, or at the same time as, the break-up of large farms into family farms.

IV. Outline of a Plan for Action

Based on international experience South Africa seems to have two options:

1. rapid and massive redistribution of land to black and coloured groups, which would involve substantial resettlement from the homelands onto land now in the commercial sector; or

2. decades of peasant insurrection, possibly civil war, combined with capital flight and economic decline.

At this time peasant unrest is still unorganised and confined to intra-racial conflicts and sporadic attempts at land invasion. If the hopes raised by repeal of most of the racially motivated land laws and restrictions on mobility are not confirmed by rapid restitution of land in the former *black spots* and by additional assignment of land from the commercial sector, land invasions are likely to increase.

regime, which took about two years to accomplish their task.

The same system could be used to deal with rights to housing, plots and grazing of current and former long-term workers, squatters and labour tenants, again with clear rules, length of stay and cut-off dates. It would be unwise to subject these rights to effective use requirements, since such requirements elsewhere have caused extraordinary delays and severely undermined the intent of the programmes.

The general claim for restitution, arising from past land policies and from the systematic destruction of smallholder farming, cannot be handled by judicial means alone. However, it could be handled by a market-assisted land reform, as in Kenya, where the poor were given grants to help them buy land from the commercial sector.

The government would not buy or expropriate any land, but land would be transferred from willing sellers to groups of eligible beneficiaries. The beneficiaries would receive a partial grant to buy land, perhaps in the form of a land purchase voucher. They would combine this grant with their own equity and a loan from the Land Development Bank.

The beneficiary groups would be free to choose between communal tenure (in a great variety of forms) or private ownership. By having the freedom to choose their farms, internal management schemes and subdivisions, they can select locations and farming systems most appropriate to the capital and skill endowments of their members.

The farming systems can range from suburban residential communities with small kitchen and market gardens to part-time, full-time or commercial farming. Beneficiaries would be assisted with additional transfers or vouchers for feasibility studies, land subdivision and recording, subsistence for the first year and agricultural extension for subsequent years.

The land vouchers would be targeted to the poor, who would be selected through some form of means testing. Without a means test, the scheme would likely benefit the middle class, bureaucrats and tribal chiefs.

Financing for the programme would have to come from external and internal sources, some of which might include an external donor consortium, the uncollectible debt claims of the commercial farm sector or an income or value added tax levied on the past beneficiaries of apartheid.

Injecting purchasing power into the land market could cause the price of land to rise, which would make the programme excessively expensive. The potential rise in land prices could be held in check by establishing a level playing field for all farm sizes; i.e., by eliminating all distortions that favour the commercial sector in the tax code, in the credit system and the marketing system, as well as in access to services and technology.

Leveling the playing field would prevent land prices from rising too much above the productive value of the land and would prevent distortions from forcing a reaggregation. In addition, loans from the Land Bank for land purchases should be limited to the productive value of land, an approach that is already largely in place.

Achieving agreement at the constitutional stage requires that current tensions over land policy and the mutual distrust of the negotiating parties be rapidly diffused. One way to accomplish this might be to implement the following short-run measures:

(i) abolish the land subdivision act;

(ii) recognise that labour tenants and workers, who have resided on farms for a long time, have a claim to some land and housing on a retroactive basis (i.e., whether or not they were recently evicted);

(iii) establish a moratorium on distribution of government (trust) land; and

(iv) establish a moratorium on land invasions.

Substantive and rapid market-assisted land reform and resettlement is the greatest if not the only hope for peaceful development in South Africa. It is also the greatest hope for the rapid growth of productive employment and self-employment opportunities.

The international community has a great interest in helping South Africa to finance such a programme for economic and humanitarian reasons and the short-term measures suggested here would contribute to mobilising international support.

NOTES

1. Binswanger and Rosenzweig (1986) explain that due to moral hazard problems, rental markets for draft animals are unlikely to be feasible. Furthermore, rental markets are more difficult to organise for time-bound operations.

2. With simple unmechanised technology, large landholders' supervisory capacity would soon become binding and lead them to rent out their land to independent family farmers on a cash-rental or share-rental basis (Binswanger and Rosenzweig, 1986).

3. Exceptions are plantation crops like bananas and sugarcane where, due to perishability of the raw produce, economies of scale, associated with the capital-intensive processing/marketing stage, can be captured by integrating the operation of the plant with those of the farms, which is operated by wage-labour.

   An alternative way to capture these economies of scale is contract farming, as practised with smallholders in many areas of the world, including in the sugar industries of Natal. For a more detailed discussion of this topic see Binswanger and Elgin (1988).

4. See Barraclough and Collarte (1973) for six Latin American countries; Berry and Cline (1979) for studies incorporating Brazil, Colombia, the Philippines, Malaysia and India; Kutcher and Scandizzo (1981) for the Northeast of Brazil; Cornia (1985) for 15 countries in Africa, Asia and Latin America; Sen (1981) for the Indian Punjab and West Bengal; Bhalla and Roy (1988) for the whole of India desegregated into 78 agroclimactic zones. A more comprehensive review of the literature on this subject is provided by Binswanger et al. (1993).

5. Indeed, the use of service co-operatives instead of production collectives in the Soviet Union was proposed by Chayanov (1991) as early as the 1920s.

6. The reservation wage, that must be offered by the landlord to attract workers or tenants, must allow them to achieve a level of expected utility, including the risk attributes of the associated income stream, which is equal to or greater than the expected utility in family farming.

7. In Alto, Peru, Indians could evade both tribute and the dreaded labour service in the silver mines (the *mita*) by moving to European *haciendas* as *yanaconas*, and giving up their tribal identity. The only other way for them to escape was to move to highly inaccessible areas and confine their lives to subsistence cultivation without the benefit of trade with the outside world.

8. Tribute systems were used widely in Western Europe during the feudal period, as well as in conjunction with forced supply systems in East India, Java, Sumatra and Guatemala. They survived until the middle and late 19th century in Eastern Europe and Japan. In Kenya, Mozambique and other parts of Africa the systems survived until after World War II.

9. In Zimbabwe, African maize cultivation - which was the main source of domestic food supply during the initial mining boom - was actively supported by the so-called Master Farmer Programme to educate African farmers in the late 1920s, when Europeans found it more profitable to grow tobacco and cotton.

   Collapse of the markets for those crops and decreased maize prices during the great depression, led to the adoption of monopoly marketing, a dual price system and to the abandonment of the Master Farmer Programme. The responsible officials had to declare publicly that they never intended to "teach the Natives to grow maize in competition with European producers" (Phimister, 1988).

Following the revived interest of Europeans in tobacco during World War II and their neglect of maize cultivation, the Master Farmer Programme was reinitiated, indicating a renewed dependence on African supplies of maize.

10. For a more detailed discussion of this issue, see Binswanger and Elgin (1988) or Binswanger and Rosenzweig (I986). This counter-intuitive result arises, because covariance of agricultural incomes across farms makes the establishment of rural credit and insurance markets very difficult and land ownership provides one way to self-insure or improve access to the imperfect credit market.

11. See Just and Miranowski (1988) for an empirical discussion of these factors in the US; and see Brandao and Rezende, (1992) for Brazil. In South Africa, land values have persistently exceeded the productive value of the land.

12. Organizations such as the Penny Foundation in Guatemala and similar organisations in Ecuador have been able to buy land from owners and distribute it to small farmers with little apparent help from the government (Foster, 1992).

These cases usually involve some grant element or subsidy of the services and credit provided to the smallholders or they can be based on the purchase of land below market price on account of liabilities of the former owner or of the workers, which are forgiven as part of the deal.

13. In Brazil, disproportional support for large farms at the frontier leads to the emergence of an agricultural structure dominated by large farms (Binswanger, 1987). It is argued that "what happens in the settled agricultural areas of the country is probably more important in curbing resource destruction than what is does physically in the nature preserve itself" (Thiesenhusen, 1990), and that removal of differential subsidies is the first step towards a settlement pattern that is more compatible with ecological principles.

The significance of institutional factors for the negative ecological consequences of frontier settlement, rather than technological or economic constraints, is also emphasised by Southgate (1990).

14. It has been argued (Jarvis, 1989) that - at least in the short run - the macro-economic environment in Chile was much more important than any single step undertaken under land reform. This assertion is supported by the rates of growth for agricultural output during the four main periods of concern:

(a) A high rate of growth of agricultural output (3.5 percent) prevailed during the 1964-1970 period, despite disruptions caused by the expropriation and redistribution to collectives (*asentamientos*) of 18 per cent of the country's total farmland.

Jarvis argues convincingly and in line with evidence from other countries (deJanvry and Sadoulet, 1989) that this growth was due to (subsidised) investment by large landowners who hoped to avoid expropriation, as well as to considerable government investment in the reform sector.

(b) Expropriation of an additional 25 per cent of the farmland during the Allende years (1970 to 1973) led to a decline of 18 per cent in agricultural value added. Micro-economic data for 1972 and 1973 (Brown, 1989) suggest that institutional factors (decreased incentives) associated with the land reform were of minor importance as compared to such policy variables as price controls, inflation, and civil disturbances.

This is confirmed by a 27 per cent increase of agricultural production in 1974, which - with almost no changes in the institutional environment yet implemented - must have been due to higher agricultural prices, elimination of input shortages, increased availability of credit and increased political stability.

(c) Annual growth of agricultural output averaged only 1.3 per cent between 1975 and 1983, less than during the pre-1964 and the 1964-74 periods. While about one third of the area in the reform sector was restored to former owners by the post-Allende government, there were no provisions to assist the ex-*asentados*, who had to start operation on their individualised parcels with no capital, a huge debt on land and responsibility for their share in the debt of the former asentamiento.
Lack of capital (30 per cent of ex-*asentados* did not have any machinery, and 44 per cent had to harvest all their crops by hand) led to serious undercultivation in the decollectivised small farm sector. Together with decreased internal demand (due to a worsening income distribution), unfavourable price policies and lack of technical assistance to the small farm sector, this lack of capital finally forced between 40 and 50 per cent of the remaining beneficiaries of land reform to sell out by 1986 (Jarvis, 1989).

(d) Agricultural production during the 1984-86 period increased at six per cent a year, a rate of growth that had been surpassed only during the first four years of land reform. The growth can be attributed to the partial forgiveness of debts, incurred for purchases of land, increased government assistance to small farmers and a more favourable policy environment characterised by devaluation and increased internal prices.

15. Alternatively, the disincentive effects associated with share tenancy could be low; an interpretation suggested by Otsuka et al. (1988).

16. Land reforms in Japan and Taiwan were associated with higher investment, rapid adoption of already available technological innovations and higher use of family labour (Callison, 1983).

In Taiwan between 1953 and 1960, annual incomes of inputs and outputs, by 11 per cent and 23 percent, respectively, resulted in increased factor productivity of 12 per cent per annum (Koo, 1968, quoted in King, 1977).

In Japan, labour and land productivity increased by five per cent and four per cent per annum, respectively between 1954 and 1968 (King, 1977). Land reform in Korea had a positive impact on agricultural growth, which increased at a rate of slightly below four per cent a year (Dorner and Thiesenhusen, 1990).

17. *Junkers* were members of the landed nobility in Prussia. As described in Note 20, they were prompted by the threat of land reform to resume self-cultivation. The authors follow deJanvry (1981) and others in using the term generically.

18. This labour force is often organised in a hierarchy of workers, foremen, supervisors, permanent workers with house and garden plots and external workers, hired on a seasonal or daily basis, in order to reduce the supervision cost disadvantage associated with the use of hired labour.

19. A high degree of mechanisation reduces the potential for reform of large commercial farms, primarily because there are not enough families living on such farms with the skills that would be necessary to work their own plots, if the farms were subdivided.

Furthermore, if capital is directly (e.g. through cheap credit) or indirectly (e.g. through overvalued exchange rates) subsidised, such highly mechanised farms often appear to be very efficient as long as these subsidies are not explicitly accounted for.

20. In Prussia, land reforms beginning under Frederick the Great transformed the rights of hereditary tenants on crown land (in 1750) and on the manorial *Junker* estates (in 1806) to freehold property rights.

These reforms required tenants to give up between one third and one half of the land they possessed as hereditary usufruct to the *Junkers* as compensation for the latters' loss of labour and plough services. This step led to considerable increase in *Junkers'* home farms.

The initial reform was confined to hereditary tenants, but did not include tenants or holders of non-hereditary usufruct rights. Fearing further land reform, however, the *Junkers* evicted a large number of the remaining tenants and reverted to self-cultivation with hired labour. *Junkers* relied on wage-labour from evicted tenants, from the increasing number of freeholders, and from migrant labour from the more labour-abundant Poland.

The threat of workers acquiring usufructuary rights, that might eventually be converted into ownership rights, led to an ordinance in 1892 that prohibited Polish workers from staying on the farm during the winter months, thus effectively converting them into an external proletariat.

21. de Janvry and Sadoulet (1989) argue that the threat of land reform and expropriation, and the large landowners' ability to lobby effectively (in coalition with the urban sector) for subsidies and one-sided provision of public goods, led these landowners to mechanise and make the transition from traditionally oriented *haciendas* to large mechanised commercial farms in Colombia (1961-68), Ecuador (1936-57), Peru (1964-69), Venezuela (1959-70), and Chile (after 1972).

In Ecuador, two separate stages can be distinguished. Widespread eviction of tenants and emergence of large scale entrepreneurs, i.e. the formation of *Junker* estates, until 1957, was followed by a period of increased emphasis on the family-farm sector, together with widespread mechanisation (1958-73).

As a consequence, redistributive land reform would have been associated with at least a temporary loss of output and would have required provision of similar public goods to the small farm sector, making such an option very costly and in many cases politically undesirable.

22. Abercombie (1972) shows that, in addition to exemption from import tariffs, and other measures, such as bulk imports and controlled prices to reduce cost of machinery, real interest rates on mechanisation loans in most of Latin America during the 1950s and early 1960s were actually negative; and that farmers in Chile, Argentina, Brazil and Venezuela paid back only 50 to 90 per cent of the amount received as equipment loans.

Subsidies and selective price supports to products from large farms were also employed in Kenya and South Africa after World War II.

23. Putterman and diGiorgio (1985) show that in theory interactive voting on (a) the amount of land to be farmed collectively and (b) the amount of product to be distributed according to work performance will lead to a Pareto optimal choice (see note 24) of these two parameters.

While economies of scale would result in an interior solution, their absence would lead to the emergence of fully individual farming.

24. An allocation of goods and/or factors of production is Pareto-efficient, if it is not possible to make anybody better off without making somebody else worse off. If it is possible to redistribute goods or factors so that at least one person is better off and

nobody else is made worse off, an allocation is Pareto inefficient.

An operational distribution of landholdings in which inefficient producers cultivate large parts of the land is Pareto inefficient, if there are more efficient producers who would be willing and able to cultivate the land. The higher proceeds from their production could, at least in theory, be used to compensate large landowners by paying them land rents that are equal to the production they have to forgo.

In the particular case of need-based remuneration systems mentioned in the text, the inefficiency arises from the fact that workers' wages are independent from the amount of effort they supply. In such a situation total production can be increased (and thus everybody made at least no worse off) by paying workers partly according to their efforts.

25. Carter (1987) has shown that in the absence of other possibilities to ensure against noncovariate risks rational risk-averse individuals would choose some degree of co-operation in order to enjoy the associated insurance benefits, even if there were no economies of scale. While theoretically valid empirical evidence (Walker and Ryan, 1990) indicates that covariate risks are of much higher importance and that social ties can provide a less costly means of ensuring against non-covariate risks.

26. McGregor (1977) notes that such problems can be overcome by paying rents to all factors, including the capital and the land contributed by members - which would, of course, imply some form of individual ownership. In most empirical cases members of co-operative ventures, established as a result of land reform, neither receive rights to land nor are allowed to withdraw part of their land from co-operative cultivation.

27. Quantitative evidence for the decline of the collective sector throughout Latin America is given by Ortega (1990). The absence of economies of scale in coastal rice and cotton farms, as well as in farms in the highlands of Peru, led reform beneficiaries to *de facto* subdivide reformed collectives by concentrating effort on their private plots.

The ensuing need for increased use of wage-labour - which had to be paid minimum wage - further decreased the collective farms' expected profits and led to the gradual expansion of private plots and to pressure for legal possibilities to subdivide and obtain individual land titles (Kay, 1983).

In Zimbabwe, the attempt to establish collectives was soon abandoned in favour of a smallholder-oriented strategy (Weiner, 1985).

In Ethiopia, competition for labour between individually owned and collective plots is reported by Pickett (1988).
In the Dominican Republic, private parcels (of about three hectares) from the land reform in 1961 were collectivised in 1972 without success and in 1985 the reality of farmers producing on individual plots was acknowledged and co-operatives (*asentamientos asociativos*) based on individual production, but collective marketing, credit and input purchases were officially recognised (Meyer, 1991).

In Panama, land reform co-operatives are highly indebted, use labour at much less than the profit maximising level and are characterised by very low land productivity (Thiesenhusen, 1987).

In Honduras, co-operatives decreased their membership over time by about one fifth, which enabled the remaining members to attain incomes much higher than those outside the reform sector and created tensions between co-operative members and workers employed by them (Barham and Childress, 1992).

In Algeria, production co-operatives were characterised by low productivity, membership desertion, resistance to admission of new members (Pfeiffer, 1985), and high mechanisation, together with considerable under-employment of the workforce who received an average income of only about two thirds of the legal minimum wage (Trautman, 1985).

The same pattern of declining output and transformation into a *collective Junker estate* has been observed in Mozambique, where collectives have used government-subsidised credit to mechanise and proletarise the peasant workforce associated with the former *haciendas* (Wuyts, 1985).

28. In Nicaragua, collective organisation of production on State farms was a political success, but an economic failure with only four out of 102 of the collectives making a profit (Colburn, 1990).

Collectives in Cuba, after initial dismal performance, increased work incentives by adopting a more effort-based system of remuneration and by forming more decentralised production brigades. Despite better access to credit and other subsidies, than the voluntary small-farmer co-operatives, the Cuban collectives still provided their members an income that was an average of 23 per cent lower than in the small co-operatives.

The small co-operatives, however, faced serious problems of membership desertion once the possibility of private marketing in a *small farmers* market became available in 1980. (The threat of desertion was so serious that after a number of temporary suspensions, this private farmers' market was permanently abolished in 1986 (Ghai, et al., 1988).

In Ethiopia and Mozambique, collectively operated State farms received the lion's share of public sector investment (Ghose, 1985; Wuyts, 1982), but these farms were characterised by sharply declining yields and mounting deficits (Griffin and Hay, 1985).

29. For a more detailed discussion of decollectivisation issues, see Binswanger et al., (1993).

30. Quantitative estimates of the size of this efficiency loss are scarce. Loveman (1976) provides a rough estimate for Chile, indicating that during the 1949-1964 period more than US$100 million could have been produced on the more than 40 per cent of land that was left uncultivated (or under natural pasture) by large landlords. This estimate, of course, includes the resource cost of producing such output.

31. Under this act, squatters who had farmed land for five years *in good faith*, i.e. without knowing that it was private property, could acquire titles to the land. However, landlords who were able provide titles to their land could, after paying compensation for improvements, legally evict squatters. Maximum sizes of land grants, which had been part of the proposed 1933 legislation, were not imposed.

32. Given the minuscule size of the reserves and the rate of population growth, African farmers had few alternatives to tenancy. Their demand for tenancy can thus be considered to be inelastic, making it easy for landlords to pass on the additional costs.

33. In one instance in 1885, traders vociferously opposed the eviction of 6,000 black Africans to provide space for some 400 European settlers.

34. The impoverishment is illustrated by the fact that more than 90 per cent of total expenditures were on bare necessities and investment in any form of agricultural improvement was impossible. Building materials, metal, wire, machinery, tools, chemicals and fertiliser together amounted to only two per cent of all spending (Bundy, 1985).

Fifty-four per cent of the male population were absent and the remainder were too old, too young or too sick to farm the land.

35. 1918 was the first year in which an Agricultural Census for the Union was undertaken. That census provides the data to substantiate this assertion.

36. Constraints on the transferability of land associated with communal tithes are still considered to be one of the main obstacles to achieving higher productivity in the homelands (Lyne and Nieuwoudt, 1991).

37. The million acre scheme is the main component of the resettlement programme executed in Kenya during the 1960s. It involved the purchase of about a million acres from white farms by the State and the sale (at ground two-third of market value, the difference being covered by a British grant) of this land to individual farmers in small parcels.

38. See the data provided in Deininger and Binswanger (1993).

39. The need to compensate owners was part of the *willing buyer-willing seller* agreement that was made part of the Zimbabwean Constitution. Land purchases by individuals or groups of blacks were not precluded by this agreement, but the prohibition on subdividing large estates made it impossible for smallholders to purchase such farms.

40. Until recently, the Government could buy only complete farms.

41. An extreme example of this situation is that in some collective settlements, set up in high-potential regions to maintain economies of scale, farms larger than 1,000 had access to only one tractor (Weiner, 1988).

42. Settlements were often ridiculed because of the comparatively lavish provision of those services, compared to other regions.

43. In South America, it typically takes land reform agencies about five years to purchase a farm and an incredible 20 years to turn over land title to a beneficiary. Bribes, which are often used to speed up this process, reduce the scope of the land reform to benefit the poor.

44. For a more detailed review of the experience with resettlement, see Kinsey and Binswanger (1993).

45. Leo (1978) shows that, for the case of Kenya, settler success was not related to the size of the initial landholding.