



Evidence-based Employment Scenarios

Agricultural Employment Scenarios

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AGRICULTURAL EMPLOYMENT SCENARIOS

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Executive summary

Introduction

Agriculture is often held up as a sector in which much employment can be created, not least because it is allegedly characterised by a relatively low cost-per-job. However, long-term trends in South Africa suggest that – at least in terms of employment on commercial farms – agriculture as a source of employment is in decline. One question therefore is whether this trend can be halted, or better, reversed. Another question is whether there are alternative ways in which agriculture can be harnessed for the national good, with the two obvious candidates being redistributive land reform on the one hand and agricultural development within the former homelands on the other. However, to date, the former is proceeding slowly and performing poorly, and the latter is scarcely happening at all.

Despite this apparently bleak picture, the potential contribution of agriculture in pursuit of national objectives of job creation and poverty reduction is and will remain an urgent issue. There are various reasons for this, not the least being that, on the face of it, one should think that agriculture is naturally suited to assist in poverty reduction where it is most concentrated – in rural areas. Secondly, there is a near consensus in the international literature that agriculture is a vital sector in promoting economic development generally and assisting poverty reduction specifically.

This paper seeks to re-examine the potential of agriculture to contribute to job creation and poverty reduction in South Africa. It does so mainly through simple spreadsheet-based ‘scenario analysis’ that seeks to illustrate what is conceivable, complemented by commentary as to what is feasible and likely. It is a re-examination in the sense that there have been various earlier attempts to do much the same, but on a more piecemeal basis. The difference between this and earlier efforts is mainly one of time – this exercise has the advantage of looking back over 10 years of post-*apartheid* agricultural and land policy, which has somewhat informed our understanding of current trends of what is possible and the constraints we face. The current exercise is also, however, different in terms of operating at an aggregate level rather than in terms of a concrete, well-founded empirical case study. This is an advantage as well as a weakness. The advantage is that the question of agriculture’s contribution to jobs, livelihoods and poverty reduction is very much a national one, and can best be appreciated by considering it in this fashion. The weakness is that the present exercise remains quite crude, for example, by not assessing market demand conditions, not seeking to quantify second-order effects, not placing a clear cost on the different possible policies, not capturing important local differences and not taking care to examine resource constraints critically. It is, however, a start which the authors intend to refine in coming months.

Current realities and trends

The report begins by considering current realities in respect of three areas in which or through which agriculture can contribute to employment and livelihoods – commercial agriculture, agriculture in former homelands and redistributive land reform. In terms of commercial agriculture, between 1985 and 2002, the number of employees in commercial agriculture declined by 29%, a loss of 380,000 jobs. There is

broad agreement that there is a secular absolute decline in commercial farm employment, affecting both regular and casual/seasonal workers, but particularly the former. While there is no single cause of this trend, it is well established and looks set to continue. It is not that commercial farmers are spending less on employment; indeed, they are spending more, but this spending is concentrated on ever fewer workers who are presumably more highly skilled, together with sundry casual workers who account for a small portion of the agricultural wage bill. The end result is that fewer and fewer rural black households have farm employment as a source of income, and particularly as a *steady* source of income. Thus commercial agriculture is gradually falling away as one of the mainstays of the rural economy, with seemingly little apart from social grants replacing it.

Turning to agriculture in the former homelands, according to the Labour Force Survey, over the period 2000 to 2006, the number of blacks practising agriculture at some scale has increased from 3.5-million to 4.5-million, more or less keeping pace with rural population growth. (See section 2 for an explanation of how these figures were derived and why they differ from other measures of subsistence agriculture taken from the Labour Force Survey.) Although we cannot establish how much of this agriculture occurs in former homeland areas, it is reasonable to suppose that most of it takes place in these areas. At the same time there is a steady increase in the number of blacks practising agriculture. Even so, one is struck by the paradox that although so many individuals and households engage in agriculture in former homelands, it does not seem to offer a route out of poverty. It would seem that the number of people whom we might describe as emerging commercial farmers (those who farm as a main source of income) is few and remaining so. And yet, according to some estimates, there are three million hectares of under-utilised, high-potential arable land in the former homelands, whereas there is only a total of 12-million hectares of arable land in commercial farming areas, never mind high value. What accounts for the under-utilisation of this land is complex and contested; however, it does suggest a significant opportunity that should be seized. Indeed, there are claims on technical grounds of massive possible increases in agricultural (self-)employment in former homeland areas, provided comprehensive interventions and appropriate budgets.

Turning finally to redistributive land reform (within which we include the land redistribution and the land restitution components of the national land reform programme), there is general agreement that it is not creating livelihoods at anywhere near the rate that the delivery figures might suggest. There are various reasons for this, including the fact that many beneficiaries reflected in the official figures allow their names to be used in applications by friends or family members who seek to increase the amount of grant assistance provided by government, as well as the reality that numerous land reform projects are laying idle. The net impact of land reform on labour absorption is unknown, both in terms of direct (farm-level) and indirect effects. In terms of direct effects, in many cases the decline in production is such that the profits from farming accruing to beneficiaries is well below the farm wage bill paid on that farm prior to transfer. However non-monetary benefits are evident, and the number of people having a livelihood stake in a given farm may be greater.

International trends in agricultural employment

There are two contrasting stylised trends in agricultural employment worldwide. On the one hand, among developed countries with low population growth, agricultural employment has been in decline relatively and absolutely for the last half century, as fewer farms rely increasingly on labour saving machinery due to the rising cost of labour relative to capital, coupled with ever high supervision costs as consolidation proceeds. On the other hand, for less-developed countries with high population growth, self-employment in agriculture is ever growing, on increasingly marginal plots, for lack of alternative economic opportunities.

While there is a grain of truth in these gross generalisations, they mask a great deal of real-life heterogeneity. Drawing on the international literature, the report proposes a simple typology which distinguishes agrarian structures dominated by family farmers from those having a greater share of large farms and thus more pronounced inequality in land ownership. Then within each of these, the extent to which the current policy orientation supports or penalises family farms is examined. The main purpose of offering this tentative typology populated by examples is in part to illustrate the diversity of situations and trajectories, but also to drive home that the policy choice of whether and how to support agriculture has enormous implications for rural poverty, but not through any simple mechanism.

The significance of this discussion for the case of South Africa is not straightforward. In a sense, the pattern of job shedding in the large-scale commercial part of South African agriculture fits the stereotype of developed countries with land-extensive economies. It is, however, peculiar in the sense that the trend towards capital intensity is not so clearly an adaptation to the rising cost of farm labour relative to capital. Rather, as in some other countries, there was an era when government policy drove down the cost of capital as a deliberate means of ‘weaning’ South African agriculture from a dependence on labour. Although these policies have largely been eliminated, in their place has emerged a higher ‘perceived’ cost of labour, a recently introduced minimum wage for farm workers, and arguably, a higher reservation wage emanating from an unlikely source – social grants. This is ‘perceived’ in relation to historical costs perhaps, and yet wages are so low on average in agriculture that the majority of workers would find their families living on less than US\$1 a day.

South Africa obviously also bears a strong affinity to those countries with highly unequal land distribution that have neglected, if not damaged, the small-scale farming sector, with the same consequences for rural poverty as is typical of this group. One question is whether it can refashion itself as the third type of country, that is, one in which the small-scale farming sector benefits from effective support despite a strongly dualistic structure. Possibly yes, but arguably this is not what South African policy is currently seeking to do. Rather, this policy is seeking to do something for which we do not have any recent international examples, namely large-scale redistributive land reform that emphasises the integration of black farmers into the mainstream commercial agricultural sector. The absence of such examples could merely reflect the incompleteness of our typology, but it could also suggest the difficulty of the road that South Africa is seeking to travel.

Agrarian reform scenarios

The paper proceeds to elaborate a number of stylised scenarios depicting different ways in which South Africa’s agrarian structure could conceivably change. The purpose of the exercise is not to determine what is likely, nor *ex ante* to exclude that which might seem implausible. In the first instance the purpose is to conduct simple experiments that allow us to see ‘how much difference it makes’ if the agricultural sector is structured one way rather than another.

The scenarios evolved out of a collective process, beginning with a workshop which was held in May 2007 to discuss and examine alternative agricultural employment scenarios. Following the workshop, participants were invited to submit scenarios in writing, where scenarios were understood broadly to mean a ‘possible agrarian structure’. A total of 12 scenarios were submitted, among which there was a fair amount of convergence. However, in order to compare and summarise, it became clear that the simplest approach was to consider the elements of the scenarios rather than the scenarios themselves. In this respect the major distinction was that between ‘former white rural South Africa’ and the former homelands. The table below summarises the different distinct scenarios that were considered in respect of each of these.

Former white rural RSA scenarios	Former homeland scenarios
1. Continuation of current trends + failed redistributive land reform	I. Continued stagnation of former homeland agriculture
2. Intensification of commercial agriculture through state-led incentives and investments	II. Re-peasantisation
3. Successful large-scale redistributive land reform + maintenance of productive core of white commercial farms	III. Internal commercialisation and consolidation
4. De-racialisation of commercial agriculture	IV. Commercialisation by way of selling out/off
5. Public estate farming	
6. Large-scale non-productive populist redistributive land reform	

The task is then to generate order-of-magnitude estimates regarding the ‘employment outcomes’ of the scenarios sketched above, and to discuss their policy implications and feasibility. The manner in which the estimates were produced relies mainly on assumptions regarding land – for example, how much (what share) of land is brought into production or changes from one production regime to another – coupled with coefficients regarding numbers of farmers, or employees of different categories, per hectare. To the extent possible, these coefficients were determined per province, on the basis of which the scenario implications were calculated for each province and then aggregated back to national level. Five distinct categories of ‘employment outcomes’ were considered so as to avoid treating qualitatively different types of land-based livelihoods as though they are equivalent.

The main findings from the exercise are summarised as follows, according to these five employment outcome categories:

- *Formal agricultural employment* – Several of the scenarios considered offer substantial increases in formal agricultural employment. Broadly, these can be divided between those that would do so through encouraging greater labour absorption within the commercial farming sector of former white rural South Africa, and those that would do so through fostering the development of a commercial farming sector in the former homelands. For the former, we argue that the increase would most likely be a temporary shift to a higher level of employment (say by 20%) from which the sector’s characteristic pattern of job shedding would thereafter continue. Meanwhile, there is reason to suppose that a boost to farm employment brought about by the emergence of large-scale farming in the former homelands would be more enduring. The downside of the latter, however, is that it could conceivably occur at the expense of the smallholder sector. Redistributive land reform in former homelands promises to reduce employment, but the simulation suggests that the extent to which this is so depends critically on the extent to which under-utilised land exists, and the success with which that land is targeted. The worst-case scenario is the ‘large-scale non-productive land reform’ scenario, which, if it took place as imagined here, would have a significantly negative impact on agricultural employment, and presumably more widely as well.
- *Large-scale black farmers* – A number of scenarios would result in significant increases in the number of large-scale commercial black farmers. While the number of large-scale black farmers that would be created is very small relative to most of the other employment categories, it is large relative to the number of such farmers that currently exists, and relative even to the current number of white commercial farmers. One observation from the scenario analysis is that significant numbers of black commercial farmers could be fostered even through a redistribution programme that did not particularly focus on this category of land reform beneficiary. Another observation is that, as with formal agricultural employment, a potent way of providing for black commercial farmer development could be through reorganising production in the former homelands.
- *Small-holder black farmers* – Given the modest amount of land required to accommodate an additional smallholder, a number of the scenarios suggest the potential to dramatically increase the total number of smallholders. This includes those scenarios that aim at a ‘balanced’ land reform that caters for different types of beneficiaries. The constraint is clearly not the ‘land budget’ as such. On the one hand, part of the constraint is the absence of government policy that favours redistribution to smallholders. On the other hand, and at least as important, there is a need to find a way to make smallholding a more attractive economic proposition than it currently seems to be.
- *Semi-subsistence producers* – Semi-subsistence producers are by far the most populous category, and one might suppose therefore that there is little need to increase this category further. Although not emphasised in this report, this is not the case, owing to the widespread importance people attach to having small amounts of land from which to supplement their diets, together with the fact that many people lack such land. Thus the scenarios that offer sizeable

increases in the number of semi-subsistence producers should be accorded some weight. These include particularly the redistributive land reform options which allow even just a modest share of land to be devoted to this purpose.

- *Smallholder employment* – For the most part, the scenarios were constructed in such a way that the number of smallholder employees increases or decreases in proportion to the change in the number of smallholders themselves. We know relatively little about smallholder employees as a group, and their inclusion in this analysis is by way of ensuring that one does not discount their potential significance. Having said that, we are fairly certain that being an employee on a smallholding is an inferior economic opportunity relative to most of the other categories, with the possible exception of semi-subsistence producers. These jobs are poorly remunerated and most often casual and/or seasonal. This is another way of saying that their increase or decrease should not be a major consideration in assessing the relative attractiveness of the different scenarios.

Conclusion

The purpose of this report was to explore possible future agrarian structures in South Africa from the perspective of employment and livelihoods. The analysis sought to take into account future developments that could emerge in both former rural white South Africa and the former homelands by means of various types of interventions, including but not limited to redistributive land reform. The ambitions of the exercise were nonetheless humble and modest; we did not seek, for example, to estimate the impact of different scenarios on the incidence of poverty, gross domestic product (GDP), rural-to-urban migration or on food prices, which is not to say that agrarian restructuring would not have implications for these. Rather, this was a first step towards a more inclusive consideration of agrarian restructuring, from which we have hopefully taken away a better sense of what the important issues are.

A few tentative conclusions along these lines emerge. First, notwithstanding our very imperfect knowledge of the situation in former homelands, it is clear that any effort to use agriculture as a means of creating and improving livelihoods should by all means include former homelands as a central part of this effort. Secondly, within the admittedly modest goal of redistributing 30% of white-owned commercial farmland to blacks, there is ample opportunity to cater to different categories of beneficiaries, and no particular rationale for focusing on only one kind of beneficiary. Thirdly, to the extent that redistributive land reform could well have negative consequences for employment levels on commercial farms, this impact should be attenuated. One means for seeking to do so is to target commercial farmland that is under-utilised carefully.

1. Introduction

Agriculture is often held up as a sector in which much employment can be created, not least because it is allegedly characterized by a relatively low cost-per-job. However, long-term trends in South Africa suggest that, at least in terms of employment on commercial farms, agriculture as a source of employment is in decline. One question therefore is whether this trend can be halted, or better, reversed. Another question is whether there are alternative ways in which agriculture can be harnessed for the national good, with the two obvious candidates being redistributive land reform on the one hand and agricultural development within the former homelands on the other. However, to date, the former is proceeding slowly and performing poorly, and the latter is scarcely happening at all.

Despite this apparently bleak picture, the potential contribution of agriculture in pursuit of national objectives of job creation and poverty reduction is and will remain an urgent issue. There are various reasons for this, not the least being that, on the face of it, one should think that agriculture is naturally suited to assist in poverty reduction where it is most concentrated – in rural areas. Secondly, there is a near consensus in the international literature that agriculture is a vital sector in promoting economic development generally and assisting poverty reduction specifically.

This paper seeks to re-examine the potential of agriculture to contribute to job creation and poverty reduction in South Africa. It does so mainly through simple spreadsheet-based ‘scenario analysis’ that seeks to illustrate what is conceivable, complemented by commentary as to what is feasible and likely. It is a re-examination in the sense that there have been various earlier attempts to do much the same, but on a more piecemeal basis. A significant contribution along these lines, for example, is the two-volume set entitled *Land, Labour and Livelihoods in Rural South Africa* (Lipton, de Klerk & Lipton, 1996; and Lipton, Ellis & Lipton, 1996), which contains numerous case studies illustrating the potential impacts of different policies, particularly related to redistributive land reform.¹ The difference between this and earlier efforts is mainly one of time – this exercise has the advantage of looking back over 10 years of post-*apartheid* agricultural and land policy, which has somewhat informed our understanding of current trends, of what is possible, and what are the constraints we face. The current exercise is also, however, different in terms of operating at an aggregate level rather than in terms of a concrete, well-founded empirical case study. This is an advantage as well as a weakness. The advantage is that the question of agriculture’s contribution to jobs, livelihoods and poverty reduction is very much a national one, and can best be appreciated by considering it in this fashion. The weakness is that the present exercise remains quite crude, for example by not seeking to quantify second-order effects, by not placing a clear cost on the different possible policies, by not capturing important local differences and by not

¹ Interestingly, the production of these volumes culminated in a spirited debate whereby the editors accused some of the contributors of being excessively sceptical about “the capability of South African agriculture to generate increased livelihoods” (Lipton et al., 1996: viii), largely owing to different ideas as to suitable models for agricultural land use.

taking care to examine resource constraints critically. It is, however, a start which the authors intend to refine in coming months.

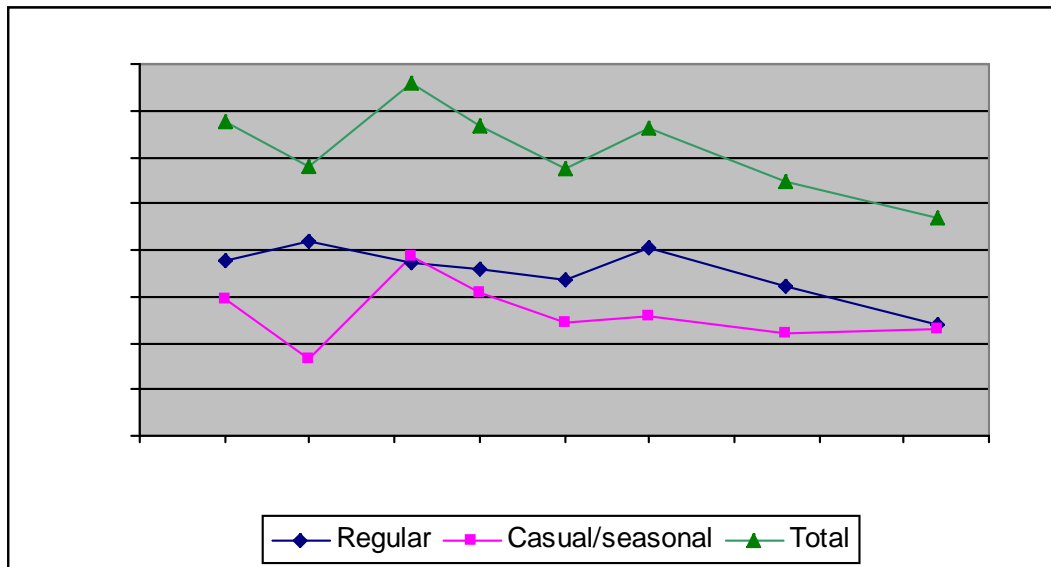
The paper is organised as follows: Section 2 summarises current trends in each of the three ‘vehicles’ under consideration – commercial agriculture in ‘former white rural South Africa’, agriculture in former homelands and redistributive land reform. Section 3 provides a brief overview of the international literature regarding the contribution of agriculture to employment creation and poverty reduction. The core of the paper is Section 4, which presents alternative possible future agricultural employment scenarios and their implications. Section 5 concludes.

2. Current realities and trends

2.1 Employment on commercial farms

There is broad agreement that there is a secular absolute decline in employment on commercial farms. Figure 1 captures these trends since 1960 and shows that from around 1970, there is a fairly consistent decline in farm jobs, notwithstanding some volatility. The relatively rapid decline in regular versus casual/season farm jobs since the mid-1980s implies a gradual process of casualisation of the agricultural labour force.

Figure 1 – Farm worker jobs on commercial farms, 1960-2002



Source: Statistics South Africa (Stats SA), various

The table below presents a rough snapshot of the four most significant sources of employment in former white rural South Africa as of September 2002. The figures are approximations in the sense that the Labour Force Survey (LFS) upon which the estimates are based does not allow one to distinguish between different types of rural areas. Moreover, there is some question as to the manner in which employment in mining is captured as rural versus urban, but for now we employ the designations that were available in the LFS at that time. In any event, the table establishes the dominant contribution of agricultural employment as a source of jobs, though it ranks second to mining in terms of the income from those jobs.

Table 1 – Approximate employment and wage shares in white rural South Africa, 2002

	Employment share	Earnings share
Agriculture	37%	24%
Mining	11%	31%
Educators, nurses, etc.	8%	16%
Domestic	21%	7%

Source: Estimated from the LFS, September 2002

Given the downward trend up to 2002 (as in Figure 1), one can surmise that agriculture's dominance was therefore even greater than what is evident from the 2002 LFS data. The implication is that the process of job shedding has had enormous implications for employment and livelihoods in former white rural South Africa, but also that it appears set to continue declining. Having said this, it is important to point out that over this same period, the actual farm wage bill was increasing, as shown in the table below.

Table 2 – Selected figures on commercial farms, 1971 to 2002

Year	Commercial farms	Employment	Average employees / farm	Average remuneration / employee (R/worker/year)	Wage bill (R-million)	Average wage bill / farm	Average expend on fixed imps and machinery / farm
1971	90,422	1,516,013	17	2,884	4,371	48,345	68,978
1985	65,880	1,323,694	20	4,330	5,732	87,000	93,386
1993	57,980	1,093,265	19	4,806	5,254	90,625	71,695
2002	45,818	940,820	21	6,607	6,216	135,658	142,857

Source: Stat SA, various

Note: All Rand figures in constant 2002 Rand.

The precise picture is a bit blurry, given that for purposes of the table, regular workers are lumped together with casual/seasonal/contract workers. However, the overall pattern is clear enough. The relatively sharp real increase between 1993 and 2002 in the average remuneration per employee does not, as one might suspect, reflect the introduction of the sectoral determination (minimum wage) in agriculture, since in effect that did not take place until the following year. It most likely rather reflects the growing premium farmers were prepared to pay their smaller, skilled core of regular workers. At the same time, one can see that capital expenditure per farm increased at roughly the same rate as the average wage bill per farm. However, bearing in mind that the former is essentially a capital expenditure and the latter an operational cost, the pattern reveals the steady process of farm capitalisation, all the more necessary because of the dramatic decline in commercial farming units over this period, which resulted in a rapid increase in average farm size.

All of this points to the fact that South Africa has followed the same path as other land-extensive agricultural economies around the world. It is not particularly an adjustment to greater export orientation (the export share of agriculture was higher in the 1970s), nor overwhelmingly of labour 're-regulation' (the trend is evident from earlier on, though it may well have been aggravated by this process). If anything, there appears to be a strong correlation between the downsizing of the agricultural labour force and farm consolidation. In the Free State, for example, the correlation coefficient between the decline per district between 1993 and 2002 in the number of farm jobs versus the number of farming units is 0.53. The farm consolidation trend in South Africa is pronounced: as shown in the table above, in 2002 there were half as many farming units as in 1971.

Given the fact that even while agricultural employment has declined, the aggregate wage bill for agriculture has increased in real terms, what are the implications for black rural households living in former white rural South Africa? The implications are presumably that there is growing inequality among them (though not particularly stark in the greater scheme of things, given that skilled agricultural workers are certainly not getting rich at present), but more importantly, that fewer and fewer households have farm employment as a source of income, and particularly as a *steady* source of income.

In principle there is scope for intensification of agriculture in certain areas, for example, Mpumalanga and KwaZulu-Natal, which would likely result in an increase in labour demand. However, this assumes success in gaining better access to export markets (Vink et al., 1999; Carstens et al., no date). In the present de-regulated state of agricultural commodity markets, government appears to have little influence in encouraging specific patterns of agricultural investment. In any event, between 1993 and 2002, regular farm employment declined especially precipitously in KwaZulu-Natal and Mpumalanga, while non-regular employment declined there as well, though less dramatically.

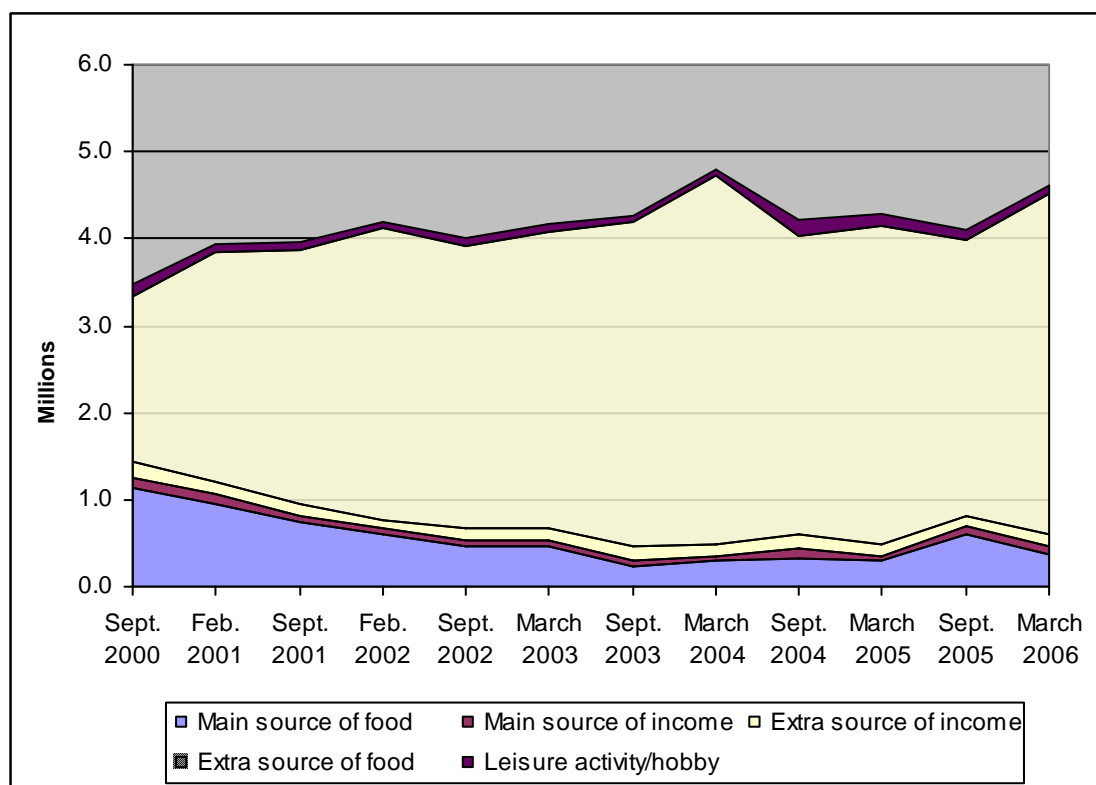
While the multiplier effects of agricultural investment and growth are often lauded, there is less attention to the negative spill-overs associated with the downsizing of the agricultural labour force, and the evictions that are sometimes the means of this downsizing. These spill-overs include the mushrooming of informal settlements around towns and cities, whose residents local government is often ill-prepared to support, as well as disintegration of social networks (Atkinson, 2007; Nkuzi and Social Surveys, 2006).

2.2 Self-employment and employment in former homelands

According to the LFS, over the period 2000 to 2006, the number of blacks practicing agriculture at some scale has increasing from 3.5-million to 4.5-million, more or less keeping pace with rural population growth (see Figure 2). Although we cannot establish how much of this is in former homeland areas (like most of Stats SA's data sets, there is no field that helps to discriminate between former homeland and other areas), it is reasonable to suppose that most of it is. At the same time there is a steady increase in the number of blacks practising agriculture; however, there is a conspicuous move away from producing as a main source of food in favour of producing for an extra source of food. We do not know the precise reason, but very likely it is the ever greater penetration of social grants, which makes people less

absolutely dependent on agriculture. This interpretation is supported by an analysis of the LFS to the effect that households that engage in agriculture as a main source of food are on average poorer than those households who practice agriculture for some other reason. In addition, when they shift from agriculture as a main source of food to some other reason (that is, by examining the situation of the same households through successive panels of the data), that shift is typically associated with an increase in income, though we are not necessarily able to identify the source (Aliber, 2005).

Figure 2 – Number of blacks practising agriculture, by ‘main reason’, 2000-2006



Source: Stats SA, LFS, various

Whether or not this is a correct interpretation, one is struck by the paradox that so many individuals and households engage in agriculture, and yet it does not seem to offer a route out of poverty. It would seem that the number of people whom we might describe as emerging commercial farmers (those who farm as a main source of income) are few and remaining so. And yet, according to some estimates (Department of Minerals and Energy, 2006), there are three million hectares of under-utilised, high-potential arable land in the former homelands, whereas there is only a total of 12-million hectares of arable land in commercial farming areas, never mind high value.

What accounts for the under-utilisation of this land is complex and contested (a topic to which we return in Section 4); however it does suggest a significant opportunity that should be seized. Indeed, there are claims on technical grounds of massive possible increases in agricultural (self-)employment in former homeland areas, provided comprehensive interventions and sizeable budgets (Walters et al., 1998). There is also a suggestion that agriculture's superior forward and backward linkages are such that the indirect benefits from such interventions would be significant (Carstens et al., *ibid*). However, there is little evidence of massive interventions of any kind in former homeland areas. Moreover, the Communal Land Rights Act, which according to the government's Programme of Action is meant to "improve the possibilities for better economic utilisation of communal land" (South African Government, 2007), has not begun to be implemented (except for a handful of pilots, and if so very recently). Thus one cannot yet speak of its economic effects, if any.

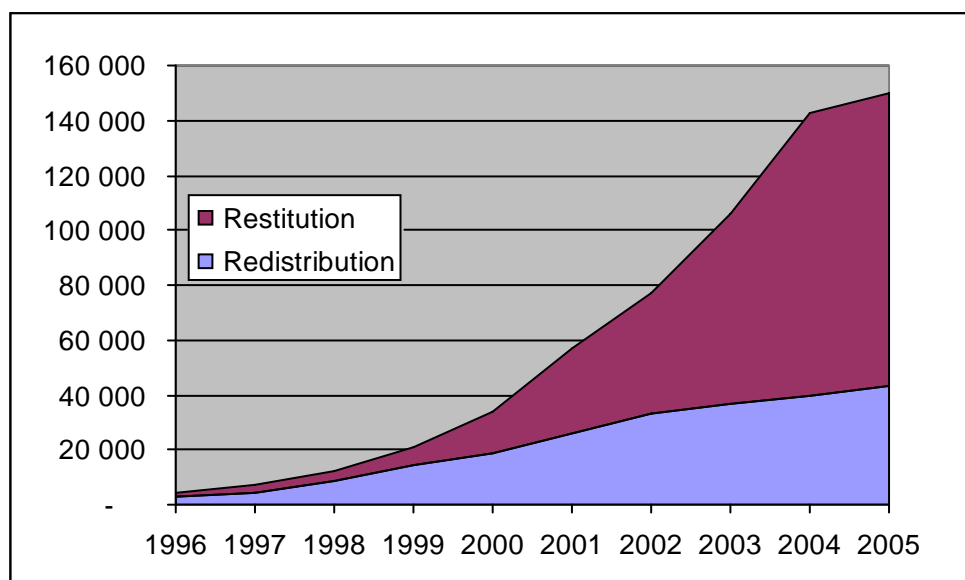
2.3 Self-employment and employment via land reform

There are claims that land reform can contribute significantly to increased labour absorption in agriculture. This is thought to be possible due to an expected inverse relationship between farm size and productivity, such that smaller farms are more labour absorbing per unit of land.² The ultimate relationship between labour intensity and farm size depends on the availability and uptake of efficiency-enhancing labour-using technologies, both in the smallholder sector and among commercial farms (Vink et al., 1999). However, the relevance of the inverse farmsize-productivity relationship has been contested. Sender and Johnston (2004), for example, suggest that the empirical evidence in favour of such a relationship is mixed and sometimes exaggerated. In one of the few studies that has sought to compare labour intensity of redistributed land in South Africa, Aliber et al. (2006) found that, for the particular example of Elliot District, Eastern Cape, there was a modest net increase in the number of land-based livelihoods associated with the redistributed land, but that much of it was relatively poorly remunerated.

The scale of redistributive land reform to date is modest but also difficult to quantify, given data problems and questions around the interpretation of data (see Figure 3). There is general agreement that redistributive land reform (both redistribution and restitution) is not creating livelihoods (even in gross terms) at anywhere near the rate that the delivery figures might suggest, in large part because for an unknown but non-trivial share of projects the land remains idle, if not entirely then at least in terms of its arable land.

² This in fact is the logic of the statements regarding land reform in the 1994 *Policy Framework* document of the Reconstruction and Development Programme (RDP), which asserted, *inter alia*, that land reform would serve as "the central and driving force of a programme of rural development" through which would be generated large-scale employment, improved rural incomes and reduced over-crowding (ANC 1994: s2.4.2).

Figure 3 – Cumulative number of land reform beneficiaries, 1996-2005



The net impact of land reform on labour absorption is unknown, both in terms of direct (farm-level) and indirect effects. In terms of direct effects, in many cases the decline in production is such that the profits from farming accruing to beneficiaries is well below the farm wage bill paid on that farm prior to transfer. However, non-monetary benefits are evident, and the number of people having a livelihood stake in a given farm may be greater.

Beyond the strict economic impacts, one argument is that the introduction of land reform legislation (especially ESTA³) has accelerated the downsizing of the agricultural labour force (Sunde and Kleinbooi, 1999), with the suggestion that even the mere rhetoric around land reform is having the same effect (Simbi et al., 2000).

2.4 Summary

Table 3 below attempts to summarise the current levels and recent shift in various categories of agricultural employment and self-employment, as well as notes data sources and issues related to measurement. Later in this report we will use a slightly different set of categories, in particular to distinguish different types of land reform beneficiaries, but to the extent possible this serves as the benchmark from which we operate. The inclusion in the table of a figure for agro-progressing is to give a sense of the relative importance of this form of agriculture-related employment. However, it is

³ The Extension of Security of Tenure Act of 1997.

given scant attention in the rest of the paper, an omission we hope to correct in moving from this to the next version of the study.

The use of the LFS as a basis for determining the number of blacks practising agriculture raises a possible point of confusion. The LFS picks up information on agriculture at different stages, not least question 4.3 of the questionnaire where agriculture for own account is one option among others regarding the person's 'main work' in the previous seven days. Together with those who in the previous seven days worked for someone else for pay in the agricultural sector, the responses to this question are commonly used in reporting the extent of employment and self-employment in agriculture, for example, in Stats SA's own LFS-based statistical releases. Later in the LFS questionnaire is a question that effectively asks whether the person has engaged in agriculture for own account, at any scale, in the previous 12 months. Not surprisingly, the data emanating from this other question reveal engagement in agriculture that is much higher, and more steady from one survey to the next, than that which comes from the seven-day reference period question. The problem with question 4.3 as a basis for determining the number of people engaged in agriculture is twofold. First, because of the brevity of the reference period, aggravated by the fact that the survey is administered near the beginning of the main planting season and again near the conclusion of the main harvesting season, it is badly affected by seasonality. Beyond that is likely to particularly miss those whose agricultural activities are sporadic. Secondly, question 4.3 asks specifically about the individual's *main* economic activity in the previous seven days, very likely meaning that many people who did engage in some agricultural activity in the previous week will not mention it because they regard some other economic activity as more significant. Thus to be absolutely clear, in contrast to the manner in which Stats SA typically reports agricultural employment from the LFS, the estimate of 3.5-million to 4.5-million blacks engaged in agriculture at some level (as shown in Figure 2 above) comes from the 12-month reference period question from the same survey, which we regard as more meaningful and reliable as a measure of self-employment.

Table 3 – Summary of current forms of employment in agriculture

Type	Approximate number (year)	Recent changes (period)	Sources and notes
Commercial farm employees	480,000 - regular (2002)	- 170,000 (1993 to 2002)	Agric censuses. There is a slight issue of non-comparability between the 1993 and 2002 census in that the latter included commercial farms in former homelands while the former did not. However, employment on these newly included farms appears to be minimal.
	460,000 - casual/seasonal (2002)	+ 14,000 (1993-2002)	Agric censuses. Casual worker numbers fairly volatile, so should interpret with care.
	780 000 - est. total (2005)	- 300,000 (1993-2005)	Trend since 2002 estimated using % change according to LFS between 2002 and 2005, though note that LFS and agric census not easily comparable.
Communal areas	200,000 - 'smallholders' and medium-scale commercial farmers (2005)	+/- 0 (2000-2006)	LFS. Trend is uncertain owing to changing sampling frame of LFS, but probably little or no change.
	4-million to 4.5-million - 'semi-subsistence' (2006)	+ 200,000 to 1-million (2000 -2006)	LFS. Trend is uncertain owing to changing sampling frame of LFS, but probably is large. Note that we do not know for certain what share of these individuals are actually within the former homelands, but presume that most are. Note also that the 4-million individuals belong to approximately 2-million households.
Land reform	44,000 - redistribution (2005)	+ 44,000 (1995 to 2005)	DLA data. Highly questionable both in quantity and quality.
	110,000 - restitution (2005)	+ 110,000 (1995-2005)	DLA data. Highly questionable both in quantity and quality.
Agro-processing	380,000 (2005)	- 150,000? (1990-2005)	NALEDI 2006, with data from LFS. The authors caution about the reliability of the pre-2005 data. The 380,000 include formal (approx 80%) and informal (approx 20%); the decline since 1990 is based on NALEDI's calculations from TIPS EasyData which appear to exclude informal sector.

3. International trends in agricultural employment

There are two contrasting stylised trends in agricultural employment worldwide. On the one hand, among developed countries with low population growth, agricultural employment has been in decline relatively and absolutely for the last half century, as fewer farms rely increasingly on labour saving machinery due to the rising cost of labour relative to capital, coupled with ever high supervision costs as consolidation proceeds. On the other hand, for less-developed countries with high population growth, self-employment in agriculture is ever growing, on increasingly marginal plots, for lack of alternative economic opportunities.

While there is a grain of truth in these gross generalisations, they mask a great deal of real-life heterogeneity, for example, a wealthy country like Japan that has made a conscious choice to protect small-scale family farms; Latin American countries which, on the whole, have witnessed a decline in agricultural employment since the mid-1980s despite generally robust population growth and stagnant macroeconomic performance; and South Asia, in which, although agricultural employment is rising quickly and comprises two-thirds of rural employment, almost half of this agricultural employment takes the form of wage employment rather than self-employment. The determinants of trends in employment and self-employment are thus complex, bearing as they do on the interplay between changing resource constraints, technological change, policy shifts at national level, and of course policy shifts in respect of international trade relationships.

Part of the policy shifts are themselves the result of changes in perspective as to the role of agriculture in national development, and the role of agricultural employment as part of an agricultural sector strategy. To offer another gross generalisation, one of the dominant messages of development thinking since the 1980s has been the need to correct for what had emerged in the mid-20th century as typical industrialisation-focused development strategies that taxed or penalised agriculture. As the costs and limitations of these urban-biased strategies were increasingly recognised, the corrective measure identified was ‘balanced growth’ in which agriculture and investments to promote agriculture were key. However, whether and how the call for more attention to agriculture has been heeded has in many instances been conditioned by a country’s political configuration and/or perception of what investment in agriculture actually means. Thus the idea that agricultural policy should focus on supporting large agricultural estates could be a reflection of the belief that this is the best way of ensuring that agriculture makes a positive contribution to the national economy – or it could merely be a means by which large landowners ensure that their interests are protected. Either way, these choices have critical implications for agriculture employment, for example, among wage earners, both in terms of their numbers and their employment conditions. Another issue of perception is whether agriculture is a pillar of economic development, a means of social protection or a refuge for the unemployable. Policy debates tend to bounce back and forth between the position that agriculture serves the valuable function of providing for those who

lack alternatives and the concern that it conceals under-employment that should rather be harnessed to enhance economic growth.

The forthcoming *World Development Report* for 2008 addresses the role of agriculture in development and focuses especially on various strategies through which agricultural smallholders can be supported, both for their own sake and so that as a group they can contribute more to the process of national economic development. The *Report* also helpfully offers a number of generalisations pertaining to trends in agricultural wage employment in less developed and middle-income countries, from which we note the following: i) wage earners comprise a growing share of those active in agriculture over time and as per capita income rises; ii) demand for agricultural employment is positively affected where agricultural resources are increasingly devoted to high-value commodities, which in turn is a common feature of economic development; iii) seasonality of agricultural wage employment is increasing, presumably eroding some of the benefits to be derived through the increase in labour demand; iv) given generally poor remuneration, wage employment in agriculture offers limited opportunities to escape poverty; however v) to the extent the rural economy diversifies to include more nonfarm enterprise, rural dwellers have opportunities to earn higher incomes, depending, however, on their human capital.

The table that follows attempts to convey a sense of the diversity in agrarian reform structures in conjunction with current orientations of agricultural policy. The proposed typology is admittedly coarse: we distinguish on the one hand between agrarian structures dominated by family farmers and those having a greater share of large farms and thus more pronounced inequality in land ownership. Within each of these we also distinguish according to current policy orientation, in particular the degree of support to family farms / smallholders. The table seeks to highlight the typical policies associated with these different types (bearing in mind that they are not static), then the overall effect of the policy orientation, particularly in terms of rural poverty, and finally a selection of country case studies which seek to illustrate some of the points made. Unfortunately, the brevity of the presentation generally precludes showing the country-level evidence as to the link between policies and outcomes. There is also some ambiguity in how the country cases are categorised. For example, China is identified as an example of a country whose agricultural sector is dominated by family farms in a supportive environment. But to the extent that rural incomes have risen, is this because the government has made such a strong investment in support of agriculture, or rather because it removed the constraints that it formerly imposed? By contrast, Tanzania is categorised as having an agricultural sector comprising mainly family farms, but in which the main fault of the government (at least currently) is neglect.

The main purpose of offering this tentative typology populated by examples is in part to illustrate the diversity of situations and trajectories, but also to drive home that the policy choice of whether and how to support agriculture has enormous implications for rural poverty, but not through any simple mechanism.

The significance of this discussion for the case of South Africa is not straightforward. As suggested above, in a sense the pattern of job shedding in the large-scale

commercial part of South African agriculture fits the stereotype of developed countries with land-extensive economies, except that it is peculiar because the trend towards capital intensity is not so clearly an adaptation to the rising cost of farm labour relative to capital. Rather, as in some other countries, there was an era when government policy drove down the cost of capital as a deliberate means of ‘weaning’ South African agriculture from a dependence on labour (for example, through negative real interest rates on medium-term loans, favourable tax depreciation policies for agricultural equipment, etc.). Although these policies have largely been eliminated, in their place have emerged a higher ‘perceived’ cost of labour (for example, via legislation conferring tenure rights on farm dwellers, as well as growing fears of farm violence), a recently introduced minimum wage for farm workers, and arguably, a higher reservation wage emanating from an unlikely source – social grants.⁴ This is ‘perceived’ in relation to historical costs perhaps, and yet wages are so low on average in agriculture that the majority of workers would find their families living on less than US\$1 a day.

South Africa also obviously bears a strong affinity to those countries with highly unequal land distribution that have neglected, if not damaged, the small-scale farming sector, with the same consequences for rural poverty as is typical of this group. One question is whether it can refashion itself as the third type of country, that is, one in which the small-scale farming sector benefits from effective support despite a strongly dualistic structure. Possibly yes, but arguably this is not what South African policy is currently seeking to do. Rather, this policy is seeking to do something for which we do not have any recent international examples, namely large-scale redistributive land reform that emphasises the integration of black farmers into the mainstream commercial agricultural sector. The absence of such examples could merely reflect the incompleteness of the table,⁵ but it could also suggest the difficulty of the road that South Africa is seeking to travel.

⁴ We cannot offer proof of this last statement; rather, it is based on inconclusive anecdotal evidence.

⁵ If one returned to an earlier era, one might wish to include Taiwan and Japan, which had effective land redistribution programmes. The hesitancy in doing so has to do, in part, with the very different historical contexts that enabled these programmes to proceed, but at least as much with the different agricultural context – these were mainly land-to-the-tiller reforms, which present far less difficulty and little discontinuity in production systems.

Table 4 – Agricultural policies, effects and case studies

Typical policies	Example countries	Overall effect of policies	Effects relative to agricultural employment (case studies)
1. Family farms predominant, version I - broadly supported			
<ol style="list-style-type: none"> 1. Reduction of agricultural taxation (esp. in 1970s) and promotion of smallholders. 2. Favourable macroeconomic policies coupled with investment in rural infrastructure and social services, provided research and extension services, supported viable smallholder credit systems 	<p>Indonesia, Malaysia, Thailand, Taiwan, Korea, China</p>	<p>Rapid growth of agricultural output and reduction of rural households living in poverty.</p>	<ol style="list-style-type: none"> 1. China (Jales et al., 2006) <ul style="list-style-type: none"> • Started from greater state control of production, consumption and trade. Still some level of state intervention but consecutive reforms led to more market orientation of the sector. • Agriculture an important source of employment but reducing (8% reduction from 1990 to 2002). However, rural surplus labour still evident and of national concern. 2. Indonesia (Suryana and Erwidodo, 1996) <ul style="list-style-type: none"> • Share of agriculture in GDP declined from 41.9% in 1969 to 17.2% in 1995, but agric sector grew by 3.45% per year. • However, decline in agricultural employment slower than share in GDP, but absolute number of agricultural workers continuously increasing. • Agriculture is important for employment, albeit with low labour productivity, therefore a need to promote labour-intensive agricultural technologies. • Success attributed to: <ul style="list-style-type: none"> ○ Investment in economic and social infrastructure; ○ Emphasis on improving agricultural productivity; and ○ Structural reform in trade and investment. 3. Malaysia (Wong 2007) <ul style="list-style-type: none"> • 9th Malaysian Plan (2006) accorded agriculture very different treatment, starting with the revitalising of the sector as one of the key aims of the Plan. • Emphasis of the Plan is on the development of ‘new agriculture’, which includes development of large-scale commercial farming, application of modern technology, production of high quality and value-added products, etc. • Agriculture an important source of employment. • In 2005, agric and agro-industry employed 2.39-million (21.9% of total workforce). The new Plan expects employment in the sector to increase modestly. The expected increase in agro-industries is expected to more than offset the continuing decline in agricultural workforce.

Typical policies	Example countries	Overall effect of policies	Effects relative to agricultural employment (case studies)
2. Family farms predominant, version II – not supported/taxed			
<ol style="list-style-type: none"> 1. Discrimination against agriculture (overvalued exchange rates, industrial protection and export taxation). 2. Little support to agriculture, except to relatively inefficient but politically powerful large producers/estates. 	<p>Argentina, Ghana, Nigeria Tanzania, Uganda, Zambia, other African countries</p>	<p>Agricultural output has not kept up with population growth and rural poverty increased sharply.</p>	<p>1. Tanzania (Nyoni, 2007; NDA, 2006)</p> <ul style="list-style-type: none"> • Agric sector continues to be dominant economic sector – contributes 43% of GDP and employs 80% of the total workforce (of whom 90% small-holders and 10% medium- to large-scale commercial farmers). • Agriculture main source of food supply and raw material for industrial goods and services. • Major constraint to the sector is falling labour and land productivity due to application of poor technology, dependence on irregular weather and overall lack of attention and investment. • Failure to develop irrigation potential in particular. <p>2. Ghana (Heintz, 2005)</p> <ul style="list-style-type: none"> • Agriculture provides a critical source of income, however, the majority of jobs are low-income agricultural and informal activities. • In 2000, 4.5-million people employed in agriculture, which represented 54% of all employment in the country. The figure includes 2.1-million women, including unpaid family labour on small household farms. • Stagnant productivity due to lack of attention and despite copious irrigation potential.
3. Highly unequal land distribution, version I – partial attempt to assist small-scale farmers			
<ol style="list-style-type: none"> 1. Imposition of heavy taxes on agricultural sector through unsupportive regulatory environment, dominance of parastatals, exchange rate restrictions and import barriers. 2. Implementation of large public investment programmes in rural areas and partial land reform programs (as partial compensation for the unfavourable policy environment). 	<p>India, Kenya, Mexico, Philippines</p>	<p>Modest increases in agricultural output and modest reductions in rural poverty.</p>	<p>Mexico</p> <ul style="list-style-type: none"> • Mexico’s agrarian reform (distribution of land to farmers) programme began in 1917, extended further in the 1930s, delivery of land to peasants continued into the 1960s and 1970s at varying rates. • Only 12% of Mexico’s land area is arable, of which less than 3% is irrigated, which, coupled with a general lack of economic opportunity in rural areas, have made it difficult to raise the productivity and living standards of Mexico’s subsistence farmers. • Agriculture accounted for 4% of GDP in 2005, yet agricultural employment accounted for over 16% of total employment. However, the number of Mexican farmers is steadily decreasing as they seek greater economic opportunities from off-

Typical policies	Example countries	Overall effect of policies	Effects relative to agricultural employment (case studies)
			<p>farm employment.</p> <ul style="list-style-type: none"> • In an effort to raise rural productivity and living standards, the Mexican Constitution was amended in 1992 to allow for the transfer of communal land to the farmers cultivating it. They then can rent or sell the land, opening the way for larger farms and economies of scale. • Mexico subsidises agricultural production through various support programmes. <p>2. Kenya (Karanja, 2003)</p> <ul style="list-style-type: none"> • Agricultural sector contributes about 55% of GDP, provides 80% of employment, contributes 60% of exports and generates 45% of government revenue. • National development plans continue to recognise the need for a well-developed agricultural sector, however, history of neglect and exploitation at hands of state-run commodity boards. • The development policy continues to lay emphasis on food self-sufficiency, food security, employment creation, income generation, increased foreign exchange earnings, rural-urban balance and attainment of overall economic growth as the main development objectives. • Agricultural production is predominantly rain-fed, even though a large land area (over 80%) of the country has low moisture content. • Rapid population growth and lack of nonfarm economic opportunities have led to continued subdivision of inherited land and soil exhaustion, exacerbated by only partial success in addressing land inequalities inherited from colonial era and subsequent land consolidation.
<p>4. Highly unequal land distribution, version II – neglect of small-scale farmers</p>			

Typical policies	Example countries	Overall effect of policies	Effects relative to agricultural employment (case studies)
<ol style="list-style-type: none"> 1. Policy mix taxed agriculture directly and indirectly through industrial protection and overvalued exchange rates. 2. To compensate, rural elites were favoured in the allocation of property rights, public investments, services, credit and subsidies. 3. Government at times made poorly designed redistribution programmes, which often led to the eviction of tenant farmers. 	<p>Brazil, Colombia, Guatemala, South Africa</p>	<ul style="list-style-type: none"> • Agricultural output grew until the 1980s, rural employment did not grow (by subsidising credit, large farmers purchased machines which displaced labour). • Led to structural problems as manifested by widespread rural poverty and unemployment. 	<ol style="list-style-type: none"> 1. Brazil (Jales et al., 2006) <ul style="list-style-type: none"> • Moved away from state intervention to more liberalisation, now among most liberalised in Latin America. • Agriculture an important source of employment but reducing (8% reduction between 1990 and 2002 due to: <ul style="list-style-type: none"> ○ Development and diversification of other sectors; ○ Urbanisation; and ○ Increased use of technology. 2. Colombia (www.Bilaterals.org 2004) <ul style="list-style-type: none"> • Of a population of roughly 42-million people, 27% - more than 12-million - live in rural areas. • According to the National Household Survey of September 2000, of the 16-million people employed, 3.7-million (23%) worked in the agricultural sector, making agriculture the second-largest employer after the service sector (which employs 27%). • Agriculture accounts for almost double the employment generated by the manufacturing sector (about 13%). In productive terms, agriculture generates 14% of GDP, a percentage equal to the industrial sector. • After ranching, coffee, fruit trees, plantains, rice, corn, flowers, potatoes, bananas, sugar cane, yucca and African palm are the most significant crops, both in relation to total contribution to agricultural production and to employment. • Despite its economic importance as a source of national income, the rural sector is home to the greatest levels of poverty. In the rural areas, 83% of the population lives in poverty and 43% in conditions of extreme poverty. • Rural poverty is rooted in unequal distribution of land, whereby 0.4% of rural landowners control 61% of arable land, while 57% control 1.7%. The latter category includes 4.5-million campesinos who live on less than 6,000 pesos a day (little more than US\$2) and whose parcels are too small to produce an income sufficient for their basic survival.

4. Agrarian structure scenarios

4.1 Introduction

This section presents stylised scenarios depicting different ways in which South Africa's agrarian structure could conceivably change, while drawing out the implications for employment and self-employment in the agricultural sector. The purpose of the exercise is not to determine what is likely, nor *ex ante* to exclude that which might seem implausible. In the first instance the purpose is to conduct simple experiments that allow us to see 'how much difference it makes' if the agricultural sector is structured one way rather than another.

The scenarios evolved out of a collective process, beginning with a workshop which was held in May 2007 to discuss and examine alternative agricultural employment scenarios. The workshop itself was inconclusive (owing in large measure to disagreement as to whether or not scenarios could or should be policy driven). However, following the workshop participants were invited to submit scenarios in writing, where scenarios were understood broadly to mean a 'possible agrarian structure'. Six people submitted a total of 12 scenarios for consideration. There was a fair amount of convergence among some of the proposed scenarios, and in particular among some of their elements, for in reality many of the proposed scenarios combined different elements of agrarian restructuring or non-restructuring. However, different contributors combined the elements in different ways, and some appeared to have contrasting views as to the desirability of what ostensibly are the same or similar developments.

In order to compare and summarise, it became clear that the simplest approach was to consider the elements of the scenarios rather than the scenarios themselves. In this respect, the major distinction was that between 'former white rural South Africa' and the former homelands. Table 5 below summarises the different distinct scenarios that were considered in respect of each of these, following which they are described in more detail. This is not to deny that there may be logical affinities between certain of the 'former white rural RSA scenarios' and some of the 'former homeland scenarios', but that these affinities are not paramount and in any event are more easily considered after-the-fact. The scenarios are not listed in any particular sequence, save for the fact that for each variety the first scenario listed is effectively the *status quo* option.

Table 5 – Overview of possible agricultural scenarios

Former white rural RSA scenarios	Former homeland scenarios
1. Continuation of current trends + failed redistributive land reform	I. Continued stagnation of former homeland agriculture
2. Intensification of commercial agriculture through state-led incentives and investments	II. Re-peasantisation
3. Successful large-scale redistributive land reform + maintenance of productive core of white commercial farms	III. Internal commercialisation and consolidation
4. De-racialisation of commercial agriculture	IV. Commercialisation by way of selling out/off
5. Public estate farming	
6. Large-scale non-productive populist redistributive land reform	

4.2 Employment scenarios based on different agrarian structures

This section presents order-of-magnitude estimates regarding the ‘employment outcomes’ of the scenarios sketched above, and discusses their policy implications and feasibility. We stress that these estimates are order-of-magnitude for a variety of reasons, not least the many (and sometimes debatable) assumptions on which they are based. ‘Employment outcomes’ are disaggregated into five categories, in order to avoid treating qualitatively different types of land-based livelihoods as though they are equivalent⁶:

- *Formal agricultural employment* – Wage employees in primary commercial agriculture, including both regular and seasonal/casual. No distinction is drawn here between employment in different agricultural sub-sectors or different skill levels, nor between employment on white-owned or black-owned large-scale commercial farms. However, in respect of the latter, scenario 4.2 considers the possibility that employment intensity on black-owned commercial farms might decline.
- *Large-scale black farmers* – Emerging black farmers of a scale consistent with a plan recently tabled by the Ministry of Agriculture and Land Affairs, which works out to much larger than current redistribution projects, but only about one-quarter as large as the average white commercial farm. In terms of the current number of such farmers, this is very difficult to know, thus we depended in part on the 2002 Agricultural Census (which included for the first

⁶ Even among those who are employed rather than self-employed, there is typically a difference between the wages and working conditions in the formal sector versus those experienced by employees of small-holders, which arrangements are more typically informal.

time commercial farmers in the former homelands) and a portion of redistribution beneficiaries.

- *Small-holder black farmers* – Small-scale producers who consistently market a surplus but who do not necessarily regard agriculture as a full-time activity, nor necessarily as the only source of income. Establishing the average size of such farmers is guesswork, given that the definition itself is so imprecise.
- *Semi-subsistence producers* – All other blacks involved in agriculture, mainly for own-consumption purposes, but not precluding occasional sales. The current number of such producers is taken from the LFS, in particular the question asking whether the person had practised agriculture in the previous 12 months, and in particular those who indicated that they had practised agriculture for the sake of deriving their main or an extra source of food.
- *Smallholder employment* – Those employed by smallholders, generally on a casual or seasonal basis, remunerated either in cash or in kind.

There are two omissions from this list – white farm owners and those employed in agro-processing. White farm owners are not included on the grounds that they are not a target group for employment (though implicitly white farm workers are included, by virtue of the fact that they are counted among the formal agricultural employees). Agro-processing jobs are for the most part excluded in that our scenarios generally provide us little guidance as to how agro-processing jobs may change.

The manner in which the estimates were produced relies mainly on assumptions regarding land – for example, how much (what share) of land is brought into production or changes from one production regime to another – coupled with coefficients regarding numbers of farmers, or employees of different categories, per hectare. To the extent possible, these coefficients were determined per province, on the basis of which the scenario implications were calculated for each province and then aggregated back to national level. The assumptions as to the current state of land under-utilisation have no empirical foundation; rather they are offered in the spirit of indicating the implications *if* so much under-utilised land existed and were put to alternative uses. For the most part, scenarios involving redistributive land reform assume government's longstanding 30% target (that is, as a share of 'white-owned commercial farmland'), and that this applies equally to all nine provinces. It thus abstracts from the fact that in some provinces, it appears that land restitution alone could result in more than 30% of commercial farmland changing hands.⁷

The calculations are 'timeless' in the sense that they indicate the implications of scenarios as though those scenarios could be effected immediately, in the current

⁷ For example, the estimate is that about two-thirds of Limpopo's commercial agricultural area is under claim. However, more and more land that is transferred via land reform, and by land restitution in particular, is either leased back to white commercial farmers, or is farmed through joint ventures with 'strategic partners', in which case it would appear that, at least in the short term, the employment effects are non-existent.

economic context. We do not venture estimates as to how long a desired scenario might take to achieve, or what the path to that state might look like. The 2020 baseline scenario figures are shown for the sake of illustrating our best guess as to what the future might look like if current trends were to continue to that year, but comparisons in respect of the other scenarios are drawn relative to the 2005 baseline scenario figures.

For scenario 2.2, which assumes that infrastructure investments and/or incentives are such that 20% of the commercial farmland currently under field crops is placed under horticulture, our land/labour coefficients per sub-sector are estimated from the 2002 agricultural census. This is done by means of calculating relative employment intensities in agricultural districts categorised as dominant in that sub-sector, where dominance is taken to mean that more than 50% of the district's gross income is attributable to that sub-sector. This is therefore an imperfect disaggregation of the agricultural labour force, but probably not inappropriate.

By and large, resource constraints other than land are not taken into account, for example, water, agricultural skills, implementation capacity, etc. As for these other resource implications, as well as the policy and social implications more broadly, these are touched on in the discussion. Similarly, secondary impacts are not reflected in the estimates, but are touched on qualitatively, where possible.

Base scenario 1 & Base scenario I:

'continuation of current trends + failed redistributive land reform' and 'continued stagnation of former homeland agriculture'

This is the *status quo* scenario in respect of both 'former white rural RSA' and 'the former homelands', in the sense that in the former there is expected to be further consolidation of commercial farms and labour shedding and a continued failure to redistribute/restore significant amounts of land into the medium term. In the latter it is envisaged that agricultural land continues to be grossly under-utilised, if not becoming more so.

A variation (or accentuation) of the 'former white rural RSA' component is that ever more commercial grazing land is converted to game farming (with what appears to be negative consequences for labour absorption, although it is not clear whether we are adequately factoring in job creation through rural tourism), and to non-agricultural use ('life-style' land use). In terms of the failure of land reform, three main storey-lines are offered: i) the non-resolution of land claims continues to act as a disincentive to commercial farmers to invest in intensification opportunities where greater labour absorption might otherwise be possible; ii) to the extent that restitution and even redistribution are effected, this is increasingly through strategic partnerships and share-equity models (not least because of the growing awareness of non-performing 'ordinary' land reform projects), which do little to change the nature of production, or create viable black-owned and black-run commercial farms; and iii) because land reform beneficiaries fail to compete with their established commercial farmer counterparts, they succumb to the temptation to either lease or sell back their land to the latter.

In addition to assuming that small-holder and commercial production in former homelands is stagnant, the former homeland component supposes that the current trend will continue, whereby the number of people engaged in small-scale gardening keeps pace with rural population growth, such that the net effect is neutral in terms household-level food security.

The figures for 2020 are estimated naively, that is, by taking the average annual percentage change observed from the recent past and applying it to the 2005 figures. Apart from not seeking to take into account other possible (non-scenario) impacts on these trends, it must be acknowledged that the span of time on the basis of which the annual percentage change is calculated, is arbitrary. For large-scale black commercial farmers, the increase between 2005 and 2020 is expected to take place due to land reform, but only a subset of current land redistribution beneficiaries are counted as such.⁸ Black smallholders, on the other hand, are a sub-category of blacks practising agriculture in the former homelands. Given our understanding of the term ‘smallholder’, it is unclear whether land reform is contributing to their increased numbers at all.⁹ The last two points together raise the thorny question of how to treat most other land reform beneficiaries – those who are not large-scale black farmers benefiting from redistribution. In this base scenario, we just assume that they are minimal in number owing to a poorly performing land reform programme, while in other scenarios, we imagine a somewhat differently construed land reform that conforms more to our understanding of what can be accomplished through agriculture.

Table 6 – Base scenario estimates for 2005 and 2020

	2005	2020	% change
Formal agric employees	780,881	619,908	-21%
Large-scale black farmers	1,000	4,000	300%
Black smallholders	200,000	250,000	25%
Semi-subsistence farmers	4,000,000	5,000,000	25%
Smallholder employees	100,000	125,000	25%
Agro-processing employees	380,000	270,000	-16%

⁸ In particular, those who benefit from the Land Redistribution for Agricultural Development programme, and in particular those which are effectively family farm beneficiaries as opposed to beneficiaries of group projects.

⁹ In addition, the reorganization of some of the irrigation schemes may well have the effect of reducing the number of smallholders in the near future.

Former white rural RSA Scenarios

Scenario 2:

'Intensification of commercial agriculture through state-led incentives and investments'

The essence of this scenario is that the state undertakes strategic interventions with a view to promoting fuller land use and/or sub-sectors that will result in increased labour absorption. The former presumes that a certain share of commercial farmland is under-utilised and could be put to more economic use. The latter requires the state to be able to correctly identify opportunities where there is scope – technically and economically – to encourage more intensive, labour-using agricultural activities, whether through modifying the trade regime, creating demand for new products, investing in more irrigation or other infrastructure, etc. The obvious example of such an intervention would be the bio-fuels proposals presently under discussion, which could be targeted at both established commercial farmers and emerging farmers (and indeed within former homelands). For purposes of generating estimates, we suppose two simple variables. In 2.1, we assume that 20% of commercial farmland is unutilised, and that it is typical/average, and therefore the labour/land ratios that apply to the fully-utilised portion are applied to it as well. In 2.2, we assume that 20% of the commercial farmland presently under fieldcrops is shifted into horticulture, which is characterised by higher labour/land ratio.

Table 7 – Indicative results for scenario 2

	2.1 Commercial farmers making full utilisation of available land		2.2 20% of fieldcrop land put into horticulture	
	Number	% change relative to baseline	Number	% change relative to baseline
Formal agric employees	976,101	25%	926,226	19%
Large-scale black farmers	1,000	0%	1,000	0%
Black smallholders	200,000	0%	200,000	0%
Semi-subsistence farmers	4,000,000	0%	4 000,000	0%
Smallholder employees	100,000	0%	100,000	0%

As indicated above, there is no clear empirical basis for the 20% assumption in respect of unutilised farmland, and even less for the assumption that it could be used in the same fashion as the other 80%. The contention that there exists underutilised commercial farmland is almost certainly true, but at present we know this mainly from case study evidence and indirect evidence, neither of which assists in determining the extent of non-utilisation, and even more difficult to measure, under-utilisation. Some of the case study evidence suggests that land is abandoned when the current owner retires from farming or earns a living by other means (for example, Wegerif, 2006), or the land is held for non-agricultural 'lifestyle' purposes (for example, Hall 2005).

One piece of indirect evidence comes from the Department of Land Affairs' recent report on farmland price trends (DLA, 2006), which notes that the price per hectare of land acquired for land redistribution is consistently 10% to 20% below the market

norm for that province. While this could in principle be due to inferior quality, it is likely that for the most part this is in terms of the poor state of the farm infrastructure, which in turn is because much of this land has not been actively used for a few or several years prior to being sold. Although imperfect, what the case study and indirect evidence do suggest is that, as least in terms of non-utilisation (as opposed to under-utilisation), the predominant pattern is that most of it is found on farms which are entirely unutilised and less so on farms that are partially utilised. If so, it indicates a problem with version 2.1 of this scenario, which would be more straightforward if, for example, it were a question of compelling active farmers to make more complete use of their land, and to employ more labour in doing so.

However, the fact is that there is much we do not know about land non-utilisation and under-utilisation. This also limits our ability to envisage appropriate policy measures to effect 2.1. If, for example, it is the case that most non-utilised and under-utilised farmland is held by active farmers, then perhaps a wage subsidy or other incentives (for example, a new lucrative opportunity such as biofuels) would be suitable tools. If, however, such land is mostly held by non-farming owners, then perhaps a land tax would be more appropriate, though more likely as a means of encouraging owners to sell than to resume farming themselves. However, it is unlikely that a land tax will be introduced while municipalities are in the process of introducing property rates. In any event, most of this land will likely be purchased by other commercial farmers, who, if recent trends are anything to go by, will employ minimal additional labour, if any, in order to farm it.

Similarly for 2.2, there is no firm basis to supposing the 20% figure. The 20% figure is probably not achievable at any cost. It would imply a shift of almost two million hectares of fieldcrops into horticulture, whereas according to the 2002 Agricultural Census, only half a million hectares of fieldcrops were irrigated in that year. This means that at least three-quarters of this shift would be possible only by means of a massive investment in irrigation. By contrast, between 1994 and 2003, the number of hectares under irrigation increased by only 230,000 hectares.

Thus, although a 19% to 25% increase in employment on commercial farms looks attractive – which would translate into an approximate increase of overall formal sector employment of 1% to 2% – it is unlikely to materialise, or at any rate not in the manner imagined here. If it did, it is probable that it would constitute a temporary boost in employment, because the overall declining trend in farm employment would likely continue. This is not to discount the value of a temporary employment boost, but it should be recognised that the underlying structure of the commercial farming sector would not be dramatically altered, nor would its trajectory.

Scenario 3:

‘Successful large-scale redistributive land reform + maintenance of competitive core of white commercial farms’

This scenario envisages a successful redistributive land reform while preserving the core of competitive white-owned commercial farms. Three variations are posted for the sake of this exercise. In 3.1, we imagine that 30% of the commercial farmland is redistributed to semi-commercial small-holders only. In 3.2, we suppose a more balanced approach to redistributive land reform, which for our purposes is taken to mean (arbitrarily) that 20% of the transferred land benefits large-scale black farmers, 60% semi-commercial smallholders and 20% semi-subsistence farmers. Finally, 3.3 is the same as 3.2, but we suppose that, of the 30% of land transferred, 20% is unutilised (as in 2.1 above). Thus, two-thirds of the land transferred is not at the expense of current arrangements and employment. (The assumption for now is that the nature of employment and its intensity are the same on large-scale farms whether owned by whites or blacks, but that these change when the land is transferred to small-holder or subsistence producers.)

Table 8 – Indicative results for scenario 3

	3.1 All transfers to smallholders		3.2 ‘Balanced’ land reform		3.3 ‘Balanced’ land reform targeting unutilised land	
	Number	% change rel to baseline	Number	% change rel to baseline	Number	% change rel to baseline
Formal agric employees	488,050	-38%	546,616	-30%	702,793	-10%
Large-scale black farmers	1,000	0%	11,996	1100%	11,996	1,100%
Black smallholders	952,666	376%	651,600	226%	651,600	226%
Semi-subsistence farmers	4,000,000	0%	5,077,275	27%	5,077,275	27%
Smallholder employees	476,333	376%	325,800	226%	325,800	226%

One important observation is that, in terms of formal agricultural employment, the impact of land reform is much more benign if such a stock of unutilised land actually exists and if it is successful targeted. A second observation is that a balanced land reform package offers significant increases in all three categories of land reform beneficiaries. Indeed, the percentage increase in black commercial farmers is especially large. Obviously this reflects the low base from which the scenario starts, but it is also suggestive of the fact that appreciable numbers of large-scale black farmers can be assisted even if, hectare-wise, they are not the main focus of redistributive land reform.

In terms of policy, redistributive land reform is the main tool envisaged in this scenario, and it already exists. To some extent current policy resembles these scenarios, but there are also important differences. One *apparent* similarity is that, as suggested above, land reform tends to acquire under-utilised land, which suggests that, at least at its current scale, it has something in common with 3.3. (The fact that this is not a deliberate feature of policy is, however, significant, or at least would be if

and when the pace of delivery accelerates appreciably.) Also, the current land reform programme does embrace a range of beneficiary types, distinguished, *inter alia*, by the amount of land they acquire.

Among the differences, one obvious point is that the current scale falls well short of the 30% target upon which this scenario is based. In fact, it is less than one-tenth of this amount. And lastly, although the current land reform programme does engage a variety of beneficiary types, they do not closely match the categories mentioned here, in part because they are difficult to characterise. It continues to be the case that most land reform beneficiaries are members of beneficiary groups that seek to farm as groups. The fact that these schemes generally fail is generally agreed; however, there is no concerted move in favour of sub-division (that is, through which smallholders and semi-subsistence producers could be created). Rather, the current trend appears to be to seek to assist such groups through mentors and strategic partners. The outcome of this approach is difficult to predict, but on the whole does not appear promising. In any event, at present land reform does not contribute meaningfully to the creation of opportunities for smallholders and semi-subsistence producers as we understand them here.

A ‘successful’ land reform as pictured in this scenario thus supposes two things that are currently absent – a more rapid pace of delivery and a more rational set of models for beneficiaries.¹⁰ We will not delve here into the policy issues associated with accelerating delivery, except to note that the topic is the subject of widely differing views and it is unlikely that there is anything on the horizon that will remedy the current lacklustre pace of delivery. On the contrary, there is a real possibility that recourse to more aggressive expropriation policies will both fail to dramatically accelerate delivery and succeed in further alienating commercial farmers who, at the margin, will react by accelerating the process of labour shedding and expulsion of farm dwellers.

¹⁰ Arguably, this reflects the authors’ personal perspective on what constitutes a ‘rational set of models’.

Scenario 4: 'De-racialisation of commercial agriculture'

This is the model seemingly advocated by those who strongly espouse a land reform programme that is geared to promote black commercial farmers. It is one possible interpretation of the *Strategic Plan for South African Agriculture* document (though not the only), which effectively seeks to enhance the competitiveness of South Africa's commercial agricultural sector while enabling emerging farmers to integrate into it. More expressly, it is the apparent intention of a new proposal from the Ministry of Agriculture and Land Affairs, which calls for the redistribution of five million hectares of white-owned agricultural land to 10,000 black farmers by 2009. (This works out to 6% of commercial farmland with an average land parcel per beneficiary of 500 hectares.) While low by commercial farmers standards, it is several times the average per-beneficiary land allocation through the current redistribution programme. Scenario 4 effectively builds on this idea, where rather than targeting 6% of the land, one transfers 30%. In fact, if one were to transfer 6% of commercial farmland every two years up to 2014 (the current official target date for the 30% target), it would amount to more or less the same thing.

In a sense, this is a component of the previous scenario, and to an extent its implications were already captured there. The point of this scenario is to imagine, however, that a focus on creating larger black commercial farmers could become the exclusive focus, if not of land reform generally (presumably it cannot be applied to restitution), then certainly of land redistribution.

What is distinct about the scenario is that it does not envisage any significant alteration to the structure of the agricultural sector, and thus resembles scenario 1 above. However, it does presume successful redistributive land reform by various means, and acknowledges the support measures that would be necessary to achieve it. One variation on this scenario is that it is achieved accidentally, in the sense that it is one possible future of scenario 3, especially 3.1. This would happen if, for example, attrition in the newly enlarged smallholder sector proceeded by means of consolidation of black-owned farms (especially likely if some kind of pro-active land acquisition becomes a significant vehicle for effecting redistribution) to the point where medium and large-scale black commercial farmers emerge to resemble white commercial farms.

Two versions of the scenario are entertained. In 4.1, the only change is the ownership pattern: although there would be more black commercial farmers than the white farmers they displace owing to smaller average farm size, the new operational units are still large-scale farms and one presumes that they would apply approximately the same labour intensity as the sector in general. In variation 4.2, we entertain the possibility that, due to financial constraints, employment intensity on black-owned large-scale commercial farms would rather be half that of sector norms. The rationale for considering this variation is the observation that, according to case study evidence of commercially oriented redistribution projects (and excluding those that are either structured as share equity schemes or are overt failures), such a drop in regular employment is not uncommon. Having said that, there is little or no case study evidence of redistribution projects that closely fit the beneficiary profile envisaged here.

Table 9 – Indicative results for scenario 4

	4.1 Maintaining employment norms of commercial agriculture		4.2 Failing to maintain employment norms of commercial agriculture	
	Number	% change relative to baseline	Number	% change relative to baseline
Formal agric employees	780,881	0%	634,465	-19%
Large-scale black farmers	55,982	5,498%	55,982	5,498%
Black smallholders	200,000	0%	200,000	0%
Semi-subsistence farmers	4,000,000	0%	4,000,000	0%
Smallholder employees	100,000	0%	100,000	0%

The results are arguably a bit banal in the sense that, by design, the impacts are limited to large-scale black farmers and to some extent formal agricultural employment. The percentage increase in the number of large-scale black farmers is of course heroic on account of the low base from which it is calculated. What is interesting is that the number itself is more than the number of commercial operational units, which itself exceeds by an unknown margin the actual number of white farmers.¹¹ As for the potential loss of jobs contemplated in 4.2, it may well be exaggerated. Perhaps more to the point, about a third of the lost jobs are compensated for in the self-employment enjoyed by the black farmer. Taking this together with the fact that another quarter to a third of these jobs would probably have disappeared anyway as per the base scenario, then it would seem that such a worst-case scenario is not really so bad. On the other hand, as an exclusive focus of redistributive land reform, as underlined by comparison to scenario 3, it is not especially attractive.

¹¹ According to the 2002 Agricultural Census, in that year there were 45,818 ‘farming units’ (down from 57,980 in 1993): “A farming unit consists of one or more separate farms, holdings or portions of land whether contiguous or not, provided they are situated in the same province and are operated as a single unit” (Stats SA, 2005: 52). Nothing precludes more than one unit being owned by the same farmer (or for that matter company), thus in principle we expect there to be even fewer actual commercial farmers.

Scenario 5: ‘Public estate farming’

This scenario envisages the creation of state-run or parastatal-run agricultural estates for the primary purpose of creating employment. It thus resembles some of the schemes created in the former homelands in previous decades, but the idea here is that they would be more numerous, better managed and introduced particularly in ‘former white rural RSA’, particularly cropping areas. (In fact, it could be introduced in former homelands as well, but the advantage of placing it in former RSA is that it could take advantage of existing supportive infrastructure.) This option would require a significant deviation from the current economic policy of the country regarding the role of the state in production. Whereas the scenario could have significant implications for employment in the farming sector, it would require substantial public investment initially and most likely persistent subsidisation thereafter. However, it could also be conceptualised as a temporary measure pending the improvement of labour absorption prospects elsewhere in the economy. This could be conceptualised in the same sense that the public works is, and could be treated as a transitional stage ending in redistribution to project employees who thereafter become farmers.¹²

This scenario is captured below by imagining that 30% of commercial farmland would be absorbed in these public estates. Although implausibly large, using the 30% assists comparison to the redistributive land reform scenarios. Two variations are entertained: in the first, 5.1, it is assumed that labour absorption per unit of land would be 25% greater than the current norm for commercial agriculture. One interpretation of this is that it would be what the state is willing to pay for job creation, even at the expense of efficiency, though it could be rationalised by also conceiving this scenario as a form of capacity-building. The second variation of this scenario, 5.2, assumes the deliberate adoption of labour-using technologies, for example, giving priority to animal rather than mechanical traction, resulting in a doubling of the labour/land ratio for affected properties.

Table 10 – Indicative results for scenario 5

	5.1 30% of land transferred and 25% greater labour absorption		5.2 30% of land transferred and 100% greater labour absorption	
	Number	% change relative to baseline	Number	% change relative to baseline
Formal agric employees	854,088	9%	1,073,711	38%
Large-scale black farmers	1,000	0%	1,000	0%
Black smallholders	200,000	0%	200,000	0%
Semi-subsistence farmers	4,000,000	0%	4,000,000	0%
Smallholder employees	100,000	0%	100,000	0%

¹² Some of the less grievous parastatal-run agricultural projects in the former Transkei and Ciskei served as vehicles for establishing black commercial farmers, sometimes on land that was initially farmed collectively.

Although the economics of such an approach have not been worked out, at the very least what one can say on the basis of comparing 5.1 and 5.2 is that there is hardly any point to such an investment if one does not engineer a means of significantly increasing the labour intensity of the production system. The scenario does not necessarily assume that these projects can break even, but neither should it be assumed that they will not just because they differ from production systems that characterise the commercial farming sector.¹³ This biggest problem with the scenario, however, is that which is common to many other attempts to reduce poverty through project-based enterprises – in order to function effectively, they require effective management, which is already in short supply (see, for example, HSRC, 2007).

¹³ Most of the kindred projects in the former homelands certainly did not break even, not least because they hired workers far beyond what made economic sense at wages that were well above market rates.

Scenario 6:

‘Large-scale non-productive populist redistributive land reform’

This scenario envisages a large-scale redistribution of land but for mainly populist political objectives and without adequate planning or support. The result is a significant decline in aggregate production, though it is conceivable that household-level food security would improve for many people if the marginalised are among the main beneficiaries. The assumptions underlying the land reform are effectively the same as those of 3.2 above, but rather than a 30% transfer of land, 60% is transferred. Moreover, it is assumed that large-scale black commercial farms only absorb one half as many workers as the commercial farms they replace, and the intensity of employment on smallholdings is 40% as great relative to other scenarios.

Table 11 – Indicative results for scenario 6

	Number	% change relative to baseline
Formal agric employees	253,786	-68%
Large-scale black farmers	22,993	2,199%
Black smallholders	1,103,200	452%
Semi-subsistence farmers	6,154,549	54%
Smallholder employees	280,640	181%

The obvious negative impact is the decimation of formal agricultural employment – more than two-thirds in total. However, there are a very large number of various types of land reform beneficiaries, although the figures understate the negative implications in that the decline in land-related benefits derived by beneficiaries is not captured. Moreover, more so than most of the other scenarios affecting the structure of the commercial agricultural sector, this one implies significant repercussions for the economy as a whole, both through the actual disruption of production and the less tangible implications for business confidence in the balance of the agricultural sector and elsewhere. The fact that there would be two million more people deriving some kind of subsistence benefit from small plots should not, however, be discounted, especially since this is the predominant wish of those who demand land (HSRC, 2006). On the other hand, to the extent that land for home consumption is largely used to offset the grocery bill, it is likely that it will fall well short of doing so in a context of wide-scale disruption of commercial production and the likely food price increases this implies.

Former Homeland Scenarios

Scenario II: 'Re-peasantisation'

This scenario envisages the resuscitation of agriculture in former homelands, particularly but not exclusively among semi-commercial smallholders. There are numerous variations, relating in particular to different ideas as to the types of interventions that would make this possible. One variation is that key investments, such as transport infrastructure, dissemination of water harvesting technology and improved, women-friendly tenure improvements, will make farming in former homelands more economically attractive and thus draw in more people to produce on a larger scale. A second variation is that the state must ensure that smallholders in former homelands can tap into lucrative new markets, whether these are 'engineered' through a new biofuels programme or emerge through addressing inequities in international trade arrangements. A third, more elaborate, variation seeks to increase participation in semi-commercial agriculture by means of improving the availability of and access to local produce markets which cater primarily to local demand, but also allowing better access to external markets for high-value products (see Van Averbeke, forthcoming).

A particular difficulty with elaborating this and the two following scenarios is that, although it is commonly accepted that agricultural land in former homeland areas is under-utilised, our knowledge is weak regarding both the extent of this under-utilisation and the reasons for it. Even what one means by 'under-utilisation' is confusing, given that it is also patently obvious that former homeland areas are characterised by high rates of resource degradation such as soil erosion. To clarify this point, what is generally meant by under-utilisation in the context of the former homelands is that arable land is typically not used for crop production to the extent it could be (World Bank, 1994: 129), which can co-exist with resource degradation because the latter is largely caused by over-grazing. Having said that, even in terms of livestock production in former homelands (and even while there may be overgrazing), livestock as an economic activity under-achieves, not least because off-take rates are too low.¹⁴

As for why use of arable land falls short of potential, various explanations have been offered over the years, including tenure constraints, absence of effective livestock controls (whether these are physical or social), absence of marketing opportunities and poor or worsening terms of trade. Added to this is the loss of knowledge regarding animal traction, the withdrawal of direct support services that were formerly offered by homeland agriculture departments (for example, subsidised tractor services), time poverty (especially among women), high soil acidity, decline of availability of child labour and, allegedly, lack of interest in agriculture among the

¹⁴ Debates about the economics of livestock rearing practices in communal areas are complex and fierce, and hinge on such issues as the appropriateness of applying ranch-style norms for stocking and off-take rates, and whether or not 'tragedy of the commons' is an apt description of the situation of communal areas.

youth. In a sample of 300 households residing in former homeland areas of Limpopo, Free State and Eastern Cape, half of those households that did have access to arable land indicated that they did not use it fully in the previous season, with the overwhelming reason given being lack of money with which to purchase inputs. Very few respondents, however, cited lack of time, lack of labour or poor land quality (HSRC, 2006). Even though this may be a fair reflection of how households perceive their constraints, at a community level it does raise the issue of tenure. The issue is not tenure insecurity as an impediment to investment so much as the absence of markets that mediate between those with land but who lack the means (or interest) to use it, and those with less land than they can use. In the mid-1990s, Thomson attempted to stimulate a rental market for agricultural land in part of rural KwaZulu, with impressive success (Thomson, 1996).

We are not aware of any comprehensive data on the extent of under-utilisation of arable land in former homelands. Case study evidence points to rates of non-utilisation of arable land in the order of 70% to 80% in parts of the Free State and the Eastern Cape (Monde, 2004; Baipheti, 2007), as “stagnant or in the process of collapse” in central Limpopo (Mthethwa, 2005: 7), and as variably low and high in different parts of northern former KwaZulu (Mbhele and Aliber, 2005). Given the absence of such data, we make a simple, probably conservative assumption that 50% of the arable land in former homeland areas is unutilised. A weakness of our approach is that we do not seek to adjust for the fact that bringing more of this arable land into production could have negative consequences for the area available to livestock. In our defence, however, the logic could well work the other way, in that traditional crop residues were used to enhance the nutrition of livestock in a manner that more than compensated for the lack of access of livestock to those areas during the growing season.

In this particular scenario, we test the proposition that four-fifths of the unutilised arable land is brought into production, and of this 10% goes to large-scale commercial production, 60% to smallholder production and 10% to semi-subsistence production. Employment on large-scale farms is assumed to follow labour intensity norms associated with commercial farming elsewhere.

Table 12 – Indicative results for scenario II

	Number	% change relative to baseline
Formal agric employees	792,789	2%
Large-scale black farmers	2,988	199%
Black smallholders	358,849	79%
Semi-subsistence farmers	4,247,503	6%
Smallholder employees	179,425	79%

The main revelation from the table is that making better use of available agricultural land within former homelands can be a potent way of increasing the number of large-scale black commercial farmers and of smallholders, but even so, there remains a big difference between 50% (or even 80%) of land in former homelands and 30% of farmland in former white rural RSA. On the other hand, a virtue of this scenario in contrast to most of the redistributive land reform scenarios is that it does not have the negative consequence of reducing farm jobs on commercial farms.

As for the feasibility of this scenario, that remains murky, partly owing to the breadth of views regarding what accounts for land under-utilisation in the first place, as well as what the potential is for agricultural development in the former homelands. Analysts such as McIntosh and Vaughan (1996) cast doubt on the feasibility of the “smallholder development path” generally, outside of a few special cases (for example, out-grower schemes offering secure markets). The farmer support programmes financed by the Development Bank of Southern Africa (DBSA) from the mid-1980s were arguably the most ambitious attempt to stimulate agricultural producers in former homelands, but its results were ambiguous, with some claiming that, as a model, its costs were excessive relative to its achievements, not least because it sought to build on a very small base of those who aspired to pursue agriculture as a career (Sender, 1995: 254). On the other hand, other observers extol the virtues of small-scale farmers, both as being more productive and adaptable than their large-scale farmer counterparts (Moyo, 2004). Moreover, the success of Thomson’s land rental market pilot, which evidently was largely sustained several years after he ceased to be actively engaged in the target area (see Crookes and Lyne, 2003), is positive evidence of the potential of some of the areas, even in the absence of expensive support packages and investment programmes.

Arguably one of the strongest reasons for pursuing this scenario (which is not to say exclusively) is that it avoids what has emerged as one of the key problems afflicting redistributive land reform – the issue of relocation. Redistributive land reform projects presume either that beneficiaries will relocate to their new land or that they will commute to it. Both options are problematic, the former because it often places the beneficiary outside of her community, away from her social support network, and perhaps counter-intuitively, often with poorer access to amenities such as schools and clinics. Beneficiaries who seek to commute to their projects do so precisely to avoid these problems, but thereby incur commuting costs which are often not sustainable.

Scenario III: ‘Internal commercialisation and consolidation’

Depending on the manner in which the Communal Land Rights Act (CLRA) is applied, it is conceivable that land is commodified in former homeland areas, but in such a manner that it remains in black ownership and use. The basic idea is that as agriculture is increasingly recognised as a viable economic opportunity, the process of land consolidation will proceed in more or less the same manner it has occurred in white areas. The result will be that a cadre of larger and more competitive commercial black farmers emerges than presently exists, and who increasingly resemble their white counterparts in former white rural RSA. In a sense then this could be regarded as a medium- or long-term variation of scenario II, but in theory it could be triggered as much by the increased marketability of land as by the emergence of market opportunities for smallholders. To some extent, this is what Crookes and Lyne observed when they returned to Thomson’s land rental market pilot site, whereby over time, fewer people are leasing land, but are leasing an increasing amount of it, resulting in a “core of emerging farmers” (Crookes and Lyne, 2003: 591). However, although one would tend to agree with Crookes and Lyne that rental markets are a preferred way for this to happen relative to market sales (because the lessor household is afforded a stream of income, which is generally better than a once-off lump sum), the evolution of the latter is also a possibility.

For purposes of modelling this scenario, we do not attempt to distinguish the two, but simply suppose a large shift of both idle and non-idle land in favour of large-scale black farmers. Specifically, we assume that four-fifths of the land that is currently unutilised is somehow appropriated by large-scale farmers, together with 20% of the land that is currently used by smallholders, and 10% of the land that is used by semi-subsistence producers. These assumptions are merely illustrative – there is no empirical basis for supposing that this is how such a scenario would evolve. There is, however, some logic in assuming that idle land would be absorbed through the process in greater measure than that used by smaller-scale producers, but that such a process would also likely be at the ‘expense’ of land used by the latter.

Table 13 – Indicative results for scenario III

	Number	% change relative to baseline
Formal agric employees	947,605	21%
Large-scale black farmers	28,833	2,783%
Black smallholders	94,100	-53%
Semi-subsistence farmers	3,504,993	-12%
Smallholder employees	47,050	-53%

The impact is quite mixed, with a robust increase in employment on commercial farms (whether it would really be ‘formal’ is open to question), an increase in the number of black commercial farmers that rivals what is theoretically possible according to some of the redistributive scenarios above, but a sharp decline in the number of black smallholders. Those who favour the ‘smallholder development path’ will therefore not favour this scenario, though if it is achieved more by means of consolidation through leases than through sales, at least it could result in sustained equity gains.

Arguably a further variation that could have been considered would be where there is no loss of land used by semi-subsistence producers, which is conceivable given that most of this land consists of homestead gardens which in any event would be impractical to consolidate. Had this variation been entertained, it would have served to reduce somewhat the increase in employment and in the number of large-scale commercial farmers, but not greatly. Rather than the possibility of subtracting from the stock of land currently used by semi-subsistence producers, perhaps the more pertinent question is whether robust agricultural development would be at the expense of land for additional garden plots as the rural homeland population continues to increase. At present, however, that is a rather academic consideration. At this stage we would regard ourselves as fortunate to have to worry about such a problem.

Scenario IV: ‘Commercialisation by way of selling out/off’

Again depending on the manner in which CLRA is applied, there is a possibility of land privatisation in former homeland areas, opening up the possibility that land in these areas ‘traditionally’ occupied and used by blacks will become purchasable or leasable by anyone, as with any other land. This might take the ‘benign’ form of deals that are negotiated for the sake of widespread economic benefit (for example, large eco-tourism ventures), but would likely have the effect of further marginalising smallholders and creating starker economic polarisation within affected former homeland areas. The biofuels programme is cited as another possible way in which this could happen, notwithstanding the fact that in scenario II it is identified as a possible means of stimulating agriculture in former homelands, including among smallholders.

This scenario is modelled in exactly the same manner as the previous one, except for the fact that it is assumed that 75% of the former homeland land going into large-scale commercial farming ends up in the hands of whites rather than blacks. Thus the only difference in terms of the resulting figures is that this scenario envisages the creation of far fewer large-scale black farmers.

Table 14 – Indicative results for scenario IV

	Number	% change relative to baseline
Formal agric employees	947,605	21%
Large-scale black farmers	7,958	696%
Black smallholders	94,100	-53%
Semi-subsistence farmers	3,504,993	-12%
Smallholder employees	47,050	-53%

Notwithstanding the apparent implausibility of this scenario, given that it would reverse rather than advance the effort to improve the country’s land ownership dispensation, it is perhaps more possible than one might assume. In the first place, the outcome of CLRA is at such an early stage, and the vehicle so amorphous, that it precludes rather little. Secondly, white farmers, or more likely white-dominated agribusinesses, are more likely than emerging black farmers within the former homelands to have the capital to expand. Very likely, doing so within former homelands would be relatively inexpensive, especially by means of leasing. And thirdly, current trends in redistributive land reform somewhat blur the racial issue by seeking to unite land reform beneficiaries with white-dominated agribusiness who serve as strategic partners and who hold equity in the farming enterprise if not actually the land. It is therefore not a great stretch to imagine that this approach could extend into former homeland areas on the strength of its ‘developmental’ value.

4.3 Summary

Comparing the scenarios to one another must be approached with care, given the underlying arbitrariness of some of the assumptions. Moreover, the scenarios examine only numbers of affected parties, and only suggest rather than count other impacts such as incomes. And finally, comparison is complicated by virtue of the fact that we

have been careful to distinguish between different types of affected parties in the first place. Given a choice then between x additional farm jobs and y fewer smallholder opportunities, versus y fewer farm jobs and x additional smallholder opportunities, how does one just which is preferable?¹⁵

Having said that, we do venture some general observations, organised according to our five types of ‘employment outcomes’:

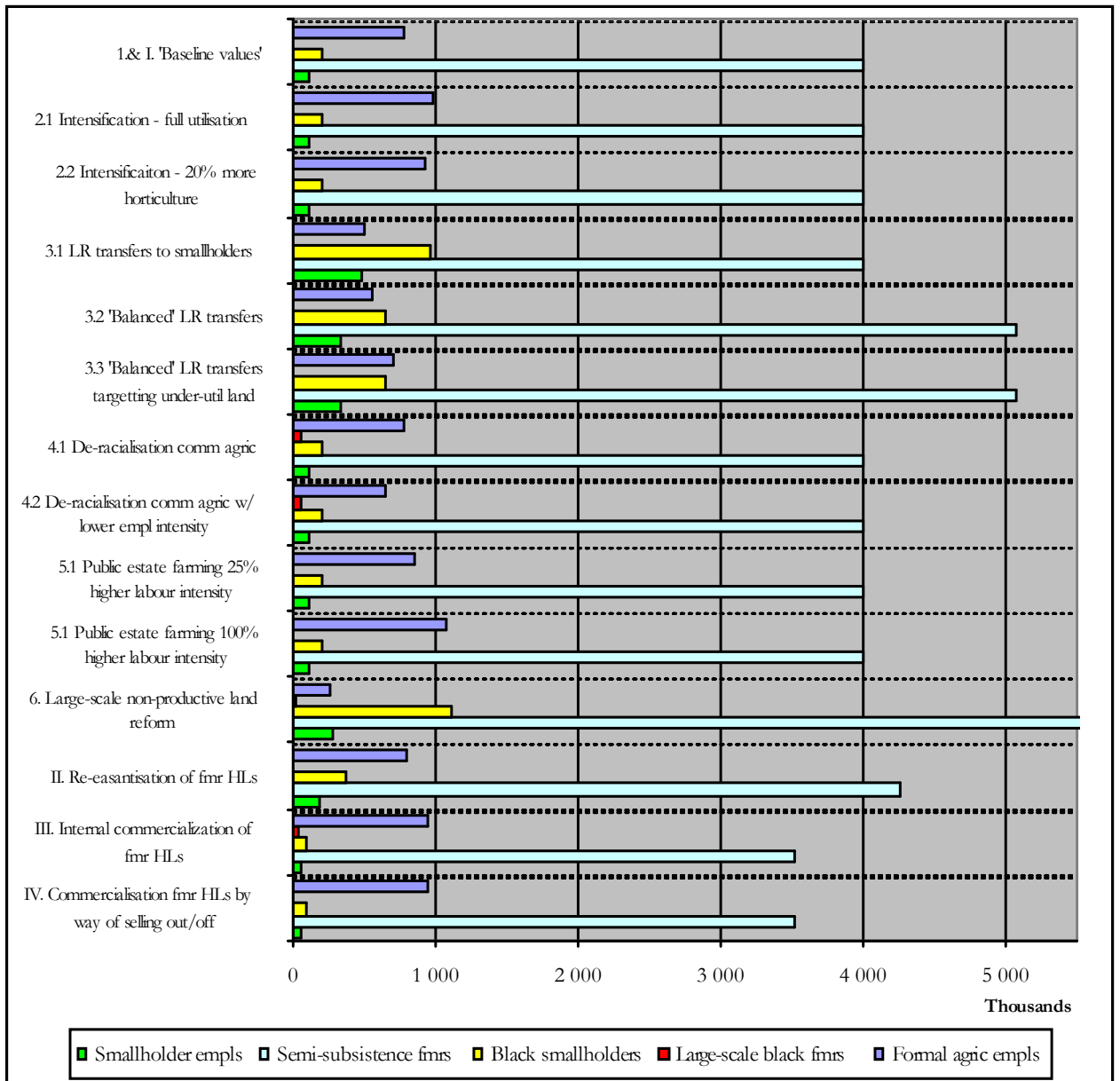
- *Formal agricultural employment* – Various scenarios offer substantial increases in formal agricultural employment. However, one can broadly distinguish between those for which the increase would most likely be a temporary shift to a higher level from which the sector’s characteristic pattern of employment decline would thereafter continue (those involving intensification of employment within the current commercial farming sector), and those for which the shift to a higher level would possibly be more enduring (those involving commercialisation of agriculture in the former homelands). The downside of the latter, however, is that it could conceivably occur at the expense of the smallholder sector, though this presumes that the emergence of large-scale commercial farmers takes place on a very ample scale. Redistributive land reform in former homelands promises to reduce employment, but the simulation suggest that the extent to which this is so depends critically on the extent to which under-utilised land exists, and the success with which that land is targeted. The worst-case scenario is the ‘large-scale non-productive land reform’ scenario, which, if it took place as imagined here, would have a significantly negative impact on agricultural employment, but possibly as or more notable, debilitating spill-over impacts on the rural economic generally.
- *Large-scale black farmers* – A number of scenarios would result in significant increases in the number of large-scale commercial black farmers. While in absolute terms their number does not register clearly in the figure above, relative to the number of such farmers that currently exist, and relative even to the current number of white commercial farmers, these increases would effect a major departure from the *status quo*. One result of the scenario analysis is that significant numbers of black commercial farmers could be fostered even though a redistribution programme that did not particularly focus on this category of land reform beneficiary. Another observation is that, as with formal agricultural employment, a potent way of providing for black commercial

¹⁵ Even so, it is worth pointing out that some observers do claim to know how to compare the relative importance of different options. Sender (2000) for example makes a strong case that land reform is for many poor and vulnerable rural South African women a completely inappropriate vehicle for upliftment, and attention should rather focus for example on promoting their welfare within the ambit of improved working conditions and labour relations on commercial farms where many of them presently are.

farmer development could in addition or instead be through reorganising production in the former homelands.

- *Small-holder black farmers* – Given the modest amount of land required to accommodate an additional smallholder, a number of the scenarios suggest the potential to dramatically increase the total number of smallholders, including those that aim at a ‘balanced’ land reform that caters for different types of beneficiaries. The constraint is clearly not the ‘land budget’ as such. On the one hand, part of the constraint is the absence of government policy that favours redistribution to smallholders (currently, redistribution focuses more on a scale of project that falls mid-way between a smallholding and large-scale, or on group projects that are difficult to reconcile with our categories). On the other hand, and at least as important, there is a need to find a way to make smallholding an attractive economic proposition, which the current state of agriculture in the former homelands shows it generally is not.
- *Semi-subsistence producers* – Semi-subsistence producers are by far the largest category, and one might suppose therefore that there is little need to increase this category further. Although not emphasised in this report, this is expressly not the case, owing to the widespread importance people attach to having small amounts of land from which to supplement their diets, together with the fact that many people lack such land. Thus the scenarios that offer sizeable increases in the number of semi-subsistence producers should be accorded some weight, and these include particularly the redistributive land reform options which allow even just a modest share of land to be devoted to this purpose. In fact, the scenario that offers the greatest increase to this category is the one involving ‘large-scale non-productive land reform’, but only because that scenario supposes much more land is actually acquired for redistribution. Any yet, one should not trivialise this possibility: the notable thing about semi-subsistence producers is that they exist and increase in number (where land availability allows) without the benefit of external support. So even if in this scenario everything else that goes under the label of land reform is a failure, the land going to semi-subsistence producers would likely render the expected modest benefits. This should give further pause to anyone who would consider omitting semi-subsistence producers from a seriously planned redistributive land reform effort, lest they contribute to building a constituency for precisely the kind of land reform they do not want.
- *Smallholder employment* – We know relatively little about smallholder employees as a group (the assumption as to the ratio of smallholder employees to smallholders was based on very limited case study evidence), and their inclusion in this analysis is more by way of a bookmark to ensure that one does not discount their potential significance. Of one thing we are fairly certain, namely that being an employee on a smallholding is an inferior economic opportunity relative to most of the other categories, with the possible exception of semi-subsistence producers. (Presumably many of these would in fact be the same people.) These jobs are poorly remunerated and highly casual and/or seasonal. This is another way of saying that their increase or decrease should not be a major consideration in assessing the relative attractiveness of the different scenarios.

Figure 4 – Overview of scenario results



5. Conclusion

The purpose of this report was to explore possible future agrarian structures in South Africa from the particular perspective of employment and livelihoods. The analysis sought to take into account future developments that could emerge both in former rural white South Africa and the former homelands, by means of various types of interventions, including but not limited to redistributive land reform. The ambitions of the exercise were nonetheless humble and modest. We did not seek, for example, to estimate the impact of different scenarios on the incidence of poverty, GDP, rural-to-urban migration or on food prices, which is not to say that agrarian restructuring would not have implications for these. Rather, this was a first step towards a more inclusive consideration of agrarian restructuring, from which we have hopefully taken away a better sense of what the important issues are.

A few tentative conclusions along these lines emerge. First, notwithstanding our very imperfect knowledge of the situation in former homelands, it is clear that any effort to use agriculture as a means of creating and improving livelihoods should by all means include former homelands as a central part of this effort. Presently there are signs that this is not happening. For example, for the Department of Agriculture's Comprehensive Agriculture Support Programme, 70% of the budget is earmarked for land redistribution beneficiaries, and the rest for former homeland areas, notwithstanding the fact that agriculturalists in the latter outnumber land reform beneficiaries by a factor of 20 or 30 to 1.

Secondly, within the admittedly modest goal of redistributing 30% of white-owned commercial farmland to blacks, there is ample opportunity to cater for different categories of beneficiaries, and no particular rationale for focusing on only one kind of beneficiary. Currently, land redistribution almost completely fails to assist in the delivery of plots suitable for semi-subsistence production, and for the most part omits to cater for semi-commercial smallholders as well. Indeed, there are signs that the trends is even more emphatically in favour of large-scale commercial black farmers, even though there is no reason to treat these beneficiary types as mutually exclusive.

And thirdly, to the extent that redistributive land reform could well have negative consequences for employment levels on commercial farms, this impact should be attenuated. One means for seeking to do so is to carefully target commercial farmland that is under-utilised. This may be happening *de facto* already, but the implication is that one should be careful about focusing land reform more on going concerns (in the belief that this will promote the likelihood of 'success' among beneficiaries), where the net effect on livelihoods could well be zero or negative.

References

To come