# LAND REFORM IN THE ARID CENTRAL KAROO: A BASELINE ASSESSMENT OF FARM-LEVEL ECONOMIC VIABILITY AND IMPLICATIONS FOR EXTENSION DELIVERY

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## ABSTRACT

*A detailed study was undertaken on land reform farms acquired over the past ten years in the* Central Karoo region of the Western Cape. On-farm personal interviews with the managing members/decision makers of 15 farms were conducted in 2008 in order to establish a baseline measurement of the infrastructural, production and economic viability at farm level. This paper focuses on the economic viability. Data was analysed according to standard agricultural economics methodology: individual enterprises were analysed at the gross margin level and the full farm at net farm income level in order to assess farm efficiency and return on investment.

Baseline evidence suggests lower than expected returns. Only two thirds of the farms were able to generate a positive gross margin in 2007/2008. Only two of the farms showed a positive net farm income, whilst the remainder had negative returns on capital. Amongst the main findings reported in the paper is the fact that farms in general are too small to provide a sustainable income, given the resource potential and number of owners/beneficiaries per farm. Stock losses due to problem animals, together with low reproduction and drought related mortalities negatively influenced the capacity to generate sufficient returns. In addition, farming knowledge, skills and experience are at low levels. This is further complicated by institutional arrangements in the form of farms being run as community land trusts resulting in high numbers of beneficiaries per trust. Establishing a set of baseline data can assist in future monitoring and evaluation of land reform project successes/failures. Baseline evidence suggests that agricultural extension services and institutions involved in land reform policies need to assist emerging farmers with an integrated and co-ordinated agricultural extension programme driven by a multi-disciplinary team of trained and knowledgeable specialists in the fields of animal production, agricultural economics, veld/natural resources and people management.

## 1. INTRODUCTION

Since the democratization of South Africa, land reform has been one of the most important issues shaping the agricultural landscape. However, after 15 years of democracy the impact of the government's land reform policies are increasingly being questioned across the political and social spectrum (Kirsten and Machete, 2005; Anseeuw and Mathebula, 2008; Lahiff, 2008; Marais, 2008). Apart from highlighting the slow pace of land redistribution, much emphasis is placed on questioning the ability of land reform policies to improve agricultural productivity and the livelihoods of beneficiaries. Available statistics on land reform achievements mostly report on the quantity of hectares redistributed from white to black owners, but little empirical data is available about the impact in terms of livelihood effects and agricultural productivity (Turner, 2001; Hall, 2007; Lahiff, 2008). Even though the sustainable livelihoods framework is widely used internationally for planning and evaluation purposes, Hall (2007) states that impact evaluation is often hampered by the absence of baseline data and longitudinal studies. In the context of agricultural extension Düvel (2007) confirms the importance of monitoring and evaluation against baseline information as a requirement for a more professional and scientific approach to extension delivery. He continues to state the importance of economic efficiency criteria as some of the most important and meaningful baseline indicators to be used in monitoring and evaluation.

This paper reports findings of a baseline assessment of 15 farms in the Central Karoo where farmers have recently been established through the Settlement Land and Acquisition Grant Scheme (SLAG) and the Land Redistribution for Agricultural Development (LRAD) programmes of the Department of Land Affairs. The first farm for land redistribution in the Central Karoo was acquired in 1999, with a further seven farms over the period 2002 to 2005. Another four farms were acquired since 2007. Three of the farms are Agrarian farms which have been in possession of the families for more than a generation. These farms are included in the study since they benefit from land reform related government assistance (e.g. CASP funding) and form part of extension programmes from a developmental perspective. The purpose of the assessment was mainly to evaluate the farms for infrastructural, production and economic viability in order to provide baseline data for extension program planning, monitoring and evaluation. This paper only reports baseline data related to the economic viability of the different farms. To provide background it starts with a description of the social characteristics of the managing members/decision makers of farms, followed by a description of farm characteristics and the production potential of the land. The economic viability of farms is reported next, firstly per livestock enterprise and then for the total farm operation. Although data from baseline studies is meant to serve as a benchmark for future measurements and is usually not subjected to rigorous analysis, the paper concludes with a summary of the baseline data and some implications for extension delivery.

## 2. METHODOLOGY

A questionnaire was administered to each farm and data was collected by way of on-farm personal interviews with the group of managing members/decision makers of each farm. The person in the management committee that provided leadership and management in terms of farm operations (the “agricultural manager”) was targeted as the main source of information. All LRAD and SLAG farms (n=12) and Agrarian farms (n=3) were surveyed. Data was analysed according to standard agricultural economics methodology. The different individual enterprises on each farm were analysed at the gross margin (GM) level. Gross margin is the value of the output of an enterprise less variable costs directly attributable to generating the value (Barnard and Nix, 1982). An aggregate total farm analysis was done for each farm at the level of net farm income (NFI) and farm profit (FP). Net farm income is the total gross margin of the farm less overhead costs and represents the total returns to all assets employed in the production process. Farm profit is net farm income less the cost of foreign production factors and represents the returns to equity investment (Standard Bank, 2005).

The financial position of farms were analysed in terms of solvency measures, farm efficiency measures and return on investment. Analyses were conducted for each farm separately for the 2007/2008 year to serve as baseline for future monitoring and evaluation. Results were distributed to the relevant farms and also discussed with each farm’s management group separately. This paper reports performance outcomes in terms of averages for the group of 15 farms collectively, with an indication of minimum and maximum performance of individual farms where applicable to show variation within the group. The baseline year is 2008.

## 3. RESULTS AND DISCUSSION

### 3.1 Social Characteristics of the Managing Members/Decision Makers

The majority of farms are organised in community property trusts with an average of 23 beneficiaries per trust group (min = 2; max = 69), with 42% being female and 6% youths. Each trust has a management committee to oversee management and administration. The age, education, gender profile and prior farming experience of the agricultural managers/decision makers are presented in Table 1. The age of agricultural managers ranges from 40 years to 75 years, with an average of 54 years. About 73% is older than 50 years. Academic qualifications range from zero schooling, to one individual with a B.Com degree. More than 40% have a scholastic level below Grade 10. Most of the agricultural managers are males (87%). In terms of all adult trust beneficiaries, the gender profile is more balanced with females totalling 44%.

A breakdown of farming experience of agricultural managers prior to participation in the land reform process reveals that only one farmer had farm ownership experience. This farm is however one of the Agrarian farms who have been in the family for more than one generation. The majority of the agricultural managers derived their farming experience from either being labourers on commercial farms (53%) or from engagement in part-time farming on municipal commonage land (20%). Only in the case of one farm was there a period of prior experience in a farm management/supervisory capacity. In the case of three farms agricultural managers had no prior farming experience.

**Table 1: Social characteristics of agricultural managers.**

| Characteristic | Frequency | Percentage |
|---|---|---|
| **Age** | | |
| 30 – 39 | 0 | 0 |
| 40 – 49 | 4 | 27 |
| 50 – 59 | 6 | 40 |
| 60 + | 5 | 33 |
| **Education** | | |
| Primary (Gr. 0 – 6) | 2 | 13 |
| Intermediate (Gr. 7 – 9) | 4 | 27 |
| Further (Gr.10 – 12) | 8 | 53 |
| Higher | 1 | 7 |
| **Gender of farm managers** | | |
| Male | 13 | 87 |
| Female | 2 | 13 |
| **Gender of all adult beneficiaries** | | |
| Male | 184 | 56 |
| Female | 146 | 44 |
| **Farming experience** | | |
| **Labourer** | | |
| < 5 years | 2 | 13 |
| 6 – 10 yrs | 1 | 7 |
| 10 + | 5 | 33 |
| **Supervisor/manager** | | |
| < 5 years | 0 | 0 |
| 6 – 10 yrs | 1 | 7 |
| 10 + | 0 | 0 |
| **Part time farming on commonage** | | |
| < 5 years | 0 | 0 |
| 6 – 10 yrs | 2 | 13 |
| 10 + | 1 | 7 |
| **Farm owner** | | |
| < 5 years | 0 | 0 |
| 6 – 10 yrs | 0 | 0 |
| 10 + | 1 | 7 |
| **No experience** | 3 | 20 |

Less than one third of agricultural managers live on the farm – the majority holds other full-time employment in town and visits their farms on average once a week.

An assessment of financial management knowledge and practices of managing members revealed the following: 73% of farms indicate that they maintain financial records. However, respondents were not able to produce records or readily furnish information of financial performance from records. Most income and cost records are in the form of receipts or invoices handed over to accountants or lawyers for accounting purposes. Only 53% of farms report that profits are calculated annually, which is mostly done by accountants and/or lawyers (80%). In terms of general financial decision making, 33% of farmers report confidence in their own capacity to make such decisions, but banks (27%), accountants (20%) and fellow farmers (20%) are playing an important role as information sources. Of all the farms surveyed, 60% were in a position to sufficiently explain the concept “profit”. More than 90% could not explain vaguely what cash flow statements, income statements and balance sheets were.

The most pressing problems cited by most agricultural managers relates to the following: a lack of finances (operating capital) or low income potential of land (73%); too many beneficiaries in the trust and a lack of co-operation or complete non-involvement in trust matters (53%); the incidence of drought and insufficient water resources (47%); problem animals such as jackal and caracal (33%); infrastructure needs (transport, fences) (33%) and the service delivery capacity of Government (33%). Apart from the above, all farms reported that, in the event of a trust member wishing to opt out of the trust, the farm would not have sufficient funds to pay out such members.

### 3.2 Farm Characteristics

Farms are situated on average 51 km from the nearest town or market. Farm size ranges from 846 ha to 6033 ha, with the average size 2684 ha. Table 2 shows that 9 farms (60%) comprise 3000 ha or less, which in general terms seems to be relatively small compared to the typical commercial farm (>5000 ha) in the region (Grobler, 2009). The average farm size per beneficiary is 115 ha, but differs for the different size categories, with smaller farms showing fewer hectares available per beneficiary.

The carrying capacity of the veld ranges from 24 ha/LSU to 42 ha/LSU, with an average carrying capacity of 33.4 ha/LSU. The carrying capacity for smaller farms tends to be lower than those of bigger farms (which could be a result of overutilization over many years in pursuit of a liveable income), and coupled with a smaller number of hectares per beneficiary (or a larger group size) on smaller farms, the potential stocking rate per beneficiary is also lower (and the potential for deriving a decent income). Table 2 shows that on smaller size farms only 11 small stock units (SSU's) can be kept per beneficiary, whereas for larger farms the stocking rate improves to between 22 – 25 SSU's per beneficiary.

**Table 2: Farm size, farm potential and holding per beneficiary.**

| Farm size category | Frequency | Average size | Veld carrying capacity (ha/LSU) | Average size per beneficiary (ha) | Maximum number of SSU's per beneficiary |
|---|---|---|---|---|---|
| <1000 ha | 2 | 885 | 39 | 71 | 11 |
| 1001 – 2000 ha | 3 | 1614 | 38 | 90 | 14 |
| 2001 – 3000 ha | 4 | 2505 | 30 | 124 | 25 |
| 3001 – 4000 ha | 4 | 3260 | 31 | 128 | 25 |
| 4000 + ha | 2 | 5297 | 33 | 120 | 22 |
| Average | - | 2684 | 33.4 | 115 | 21 |

The stocking rate of farms is 46.92 ha/LSU on average, suggesting underutilisation of the capacity. The underutilisation is mainly due to the fact that more than 30% of the farms have being transferred to the new owners only 2 years prior to the study. These farms were still in a phase of building up stock numbers. Despite this, four of the farms (27%) were found to grossly overstock their veld.

A total of 5809 SSU equivalents of sheep and goats are carried on the 15 farms. The main enterprises are Dorper sheep (72%), Merinos (12.5%), Afrino/crossbreed (8.7%) and Angora goats (6.6%). Dorper sheep are farmed by 80% of the farms, Afrino/crossbreeds by 27% of the farms, Angoras by 27 % and Merinos by 6.7% (1 farm).

On the 15 farms, a total of 17 labourers are employed full-time and three part-time, indicating a fairly low capacity for employment creation. On 27% of the farms, family labour is the sole source of labour. This seemingly limited job creation potential of land reform projects was reported earlier by Agri-Africa (2005) in a study of land reform projects in the Western Cape.

### 3.3 Capital Investment

The capital investment per main asset class category is depicted in Table 3. All assets were valued at current market value. The current baseline market value of developed farmland was taken at R1000/ha. Fixed improvements were valued at current replacement value minus accumulated depreciation (buildings depreciated over 50 years for 25 years; stock watering over 20 years for 10 years; fencing over 30 years for 15 years). The average capital investment per farm is R 3.05 million, which is equivalent to R 1 137/ha. Of this investment 88% consist of fixed capital, confirming one of the structural characteristics of agriculture, namely that most of the capital investment needed to start farming is tied up in the form of sunken capital. The proportion of average directly-productive capital investment (land and livestock) amounts to 79%. Usually, the higher this figure, the more favourable it is. In farms where carrying capacity or stocking rates are low, or poor quality/low value animals are kept, the directly-productive capital will tend to be relatively low. Similarly, when a proportionately higher capital investment in non-directly productive capital such as fixed improvements and machinery is found will the directly productive capital be lower.

**Table 3: Total Capital investment and total debt per farm.**

| Item | Average | % | Min | Max | R/ha | R/SSU | R/ trust member |
|---|---|---|---|---|---|---|---|
| Land | 2 164 024 | 70 | 306 319 | 5 131 060 | 8066 | 5 588 | 92 744 |
| Fixed improvements | 5 47 410 | 18 | 167 384 | 974 818 | 204 | 1 414 | 23 460 |
| Machinery | 77 464 | 3 | 2000 | 415 400 | 29 | 200 | 3 320 |
| Livestock | 263 592 | 9 | 57 250 | 735 550 | 98 | 681 | 11 297 |
| Total capital investment | 3 052 489 | 100 | 932 100 | 6 854 950 | 1 137 | 7 882 | 130 821 |
| Total farm debt | 237 000 | 5 | 0 | 570 000 | 85 | 586 | 9 729 |
| Cost of debt (interest) | 17 923 | 11.84 | 0 | 72 000 | 7 | 46 | 768 |
| Annual instalment | 22 047 | - | 0 | 79 500 | 8 | 57 | 945 |

The average total capital investment per trust member amounts to R 130 821. Substantial infrastructure investments have been made by the government through post-settlement support via CASP funding. (The extent of these investments was not quantified in this study).

The debt registered against capital investment range between R43 000 and R570 000 for those farms with debt, with the average amounting to R 237 000 per farm. Five farms, of which three Agrarian farms and two others who have applied for loans, have currently no debt registered. The average cost of debt (interest) amounts to R17 923 per farm (R 7/ha or R 46/SSU) at an estimated interest rate of 11.84%. The full annual instalment (interest plus capital redemption) per farm currently amounts to R 22 047.

A total of 40 267 ha with a total capital investment value of more than R 45 million were transferred to 350 beneficiaries over a period of less than 10 years. This is equivalent to a capital investment of R 130 821 per beneficiary of which R 124 049 represents equity. On a macro level, the metrics of land reform programmes in the Central Karoo seem impressive. However, a more appropriate baseline measurement is needed on the micro level: what is the capacity to generate a return on these investments – a return sufficient for paying debts, sustaining a livelihood and further growing the income generating capacity of the business? An assessment of the economic viability of farms is presented next.

### 3.4 Economic Viability of Farms

#### *3.4.1 Returns from Livestock Enterprises*

The economic viability of the main enterprises is given in Table 4. Since all farms reported exceptionally dry conditions for the two seasons prior to the baseline study, results need to be

interpreted in that context. Some farms received drought assistance from the government in the form of feed for livestock. For that reason two sets of profitability figures are reported: profitability excluding drought feeding cost and profitability including drought feeding cost.

3.4.1.1 Dorper Sheep

The average gross value of production (GVP) per small stock unit amounts to R 54.86, with direct costs R 76.24 and a resultant gross margin of -R 21.38/SSU. Included in the direct cost is drought feeding to the amount of R 65.62. Assuming drought feeding can be excluded from the calculation when more normal conditions would prevail, direct costs amount to R 10.96/SSU, resulting in a positive gross margin of R44.23/SSU. It is important to note that gross value of production does not represent cash income only, but rather the total value that is produced within a production year. Gross value of production includes trading income (sales plus consumption minus purchases of livestock) and capital income (increase/decrease in the capital investment value of livestock). A negative trading income can mean that fewer animals were sold than were purchased (which is typically caused by holding back marketable livestock in a stock build-up phase). In addition, high mortalities, excessive losses and sustained low reproduction rates are also causes of low sales. A low or negative capital income is similarly affected by high mortalities, excessive losses, low reproduction rates or when livestock numbers are reduced e.g. in a drought phase.

**Table 4: Economic viability of livestock enterprises (average per group of farms and maximum performance within group).**

| | Dorper sheep | | Afrino /crosses | | Merino sheep | | Angora goats | |
|---|---|---|---|---|---|---|---|---|
| **Item** | **Av.** | **Max.** | **Av.** | **Max.** | **Av.** | **Max.** | **Av.** | **Max.** |
| Gross value of production | | | | | | | | |
| Product income | 0.00 | 0.00 | 1.66 | 8.58 | 106.57 | 106.57 | 200.59 | 393.00 |
| Trading income | -20.00 | 146.16 | -54.81 | 801.83 | 28.34 | 28.34 | -104.95 | 949.31 |
| Capital income | 74.86 | 428.94 | 159.40 | 1149.19 | -49.96 | -49.96 | -137.01 | 1457.94 |
| Total GVP | 54.86 | 224.79 | 106.24 | 230.50 | 84.95 | 84.95 | -41.37 | 941.57 |
| Direct costs | | | | | | | | |
| Inoculation | 0.72 | 5.83 | 0.26 | 1.21 | 6.09 | 6.09 | 0.79 | 1.22 |
| Dose | 4.82 | 12.71 | 3.45 | 5.45 | 5.13 | 5.13 | 4.94 | 6.57 |
| Dip | 3.21 | 9.81 | 2.82 | 8.61 | 7.60 | 7.60 | 11.75 | 31.24 |
| Vet | 0.19 | 4.91 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Wound treatment | 1.18 | 7.85 | 1.80 | 6.76 | 1.30 | 1.30 | 0.00 | 0.00 |
| Market commission | 0.00 | 0.00 | 0.00 | 0.00 | 4.26 | 4.26 | 4.64 | 7.88 |
| Transport | 0.35 | 0.71 | 4.25 | 47.62 | 1.52 | 1.52 | 3.85 | 6.06 |
| Levies | 0.16 | 0.36 | 0.00 | 0.00 | 1.86 | 1.86 | 0.00 | 0.00 |
| Feed cost (non-drought) | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Shearing cost | 0.00 | 0.00 | 0.32 | 1.65 | 1.67 | 1.67 | 1.83 | 9.73 |
| Packaging material | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Seasonal labour | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total direct cost | 10.63 | 23.61 | 12.89 | 47.62 | 29.43 | 29.43 | 27.80 | 45.33 |
| Gross margin (excl. drought feed) | 44.23 | 215.49 | 93.35 | 208.47 | 55.52 | 55.52 | -69.17 | 904.15 |
| Drought feed | 65.62 | | 167.15 | | 0.00 | | 49.39 | |
| Gross margin (incl. drought feed) | -21.38 | 215.49 | -73.80 | 124.70 | 55.52 | 55.52 | -118.56 | 672.84 |
| Number of SSU | 326 | 1059 | 117 | 291 | 677 | 677 | 89.23 | 252 |
| Number of farms | 12 | | 4 | | 1 | | 4 | |

It seems that the major area for improvement in Dorper sheep enterprises is to increase the gross value of production rather than to save on costs. The trading income is negative (-R 20/SSU), indicating that animal sales are lower than purchases. Most of the herds are in a build-up phase, hence the effect on purchases. This can also be seen from the positive capital income (increase in herd value) of R 74.86/SSU. Although reliable records are not available, the main reasons given for low sales include low reproduction and losses due to problem animals and drought related mortalities. A low lamb marketing percentage (number of lambs sold per number of ewes mated) ranging between 9.5% and 56.7% is indicative of the above.

3.4.1.2 Afrino and Afrino Crossbred Sheep

The average GVP/SSU for Afrino and Afrino crossbreds amounts to R 106.24, with direct costs R 180.04 and a resultant gross margin of -R 73.80/SSU. Included in the direct cost is drought feeding to the amount of R 167.15/SSU. Assuming drought feeding can be excluded from the calculation when more normal conditions would prevail, the gross margin would be R 93.35/SSU. It seems however that the major area for improvement is to increase the income (GVP). The product income (wool sales) amounts to R 1.66/SSU on average. This low figure is misleading since three of the four farmers have only recently acquired sheep and have not had a wool clip yet. The trading income is negative (-R 54.81/SSU), indicating that animal sales are lower than purchases. As with Dorpers, most of the herds are in a build-up phase, hence the effect on trading income. This can also be seen from the positive capital income (increase in herd value) of R 159.40.86/SSU. As with Dorper sheep, the main reasons given for low livestock sales include low reproduction and losses due to problem animals and drought related mortalities.

3.4.1.3 Merino Sheep

A total of 677 SSU Merino sheep were farmed by one of the farms in a type of share-agreement with a commercial farmer acting as a mentor. The breeding herd was the property of the commercial farmer, but half the lamb crop and wool clip were to be retained by the trust annually in order to derive an income and simultaneously build up an own herd. The average GVP/SSU is R 84.95, with direct costs R 29.43 and a resultant gross margin of R 55.52/SSU. The product income (wool sales) amounts to R 106.57/SSU on average. The trading income is R 28.34/SSU, indicating a positive, but low sales figure. Contrary to the other farms, this farm is fully stocked and should therefore reflect a stable capital income. This is however not the case as capital income is negative at -R 49.96/SSU, indicating a decrease in herd value. As with other farms, the main reasons given include low reproduction and losses due to problem animals and drought related mortalities.

3.4.1.4 Angora Goats

A total of 357 SSU Angora goats were farmed by 4 of the farms. The average GVP/SSU amounts to -R 41.37, with direct costs R 77.19 and a resultant gross margin of -R 118.56/SSU. Included in the direct cost is drought feeding to the amount of R 49.39/SSU. Assuming drought feeding can be excluded from the calculation when more normal conditions would prevail, the gross margin would be -R 69.17/SSU. As for the other enterprises the major area for improvement is also to increase the income (GVP). The product income (mohair sales) amounts to R 200.59/SSU on average. The trading income is however negative (-R 104.95/SSU), indicating that sales are lower than purchases. As with Dorpers and Afrinos, some of the herds are in a build-up phase, hence the effect on the trading income. Two of the farmers however indicated their intention of phasing out Angora goats in favour of mutton sheep. As with the other three enterprises, the main reasons given for low livestock sales include low reproduction and losses due to problem animals and drought.

Except for Angora goats, all the enterprises show economic viability when drought feeding costs are not taken into account, however much lower than what is possible when compared to existing commercial farmers (Geyer, 2008). What is more important however is to realise that the reported group average performance figures obscure individual farms that are able to generate substantially higher results, evident from the maximum performance as depicted in Table 4.

3.4.1.5 Total Farm Returns

The average profitability of farms is depicted in Table 5. The total gross value of production for all enterprises range between –R48 981 and R88 214 per farm, with 10 of the farms generating a positive gross value of production. The average gross value of production of R23 099 per farm relates to a “gross income” of about R 990 earned per beneficiary per year. It is important to note that this is not disposable income as is often being assumed, since production costs still need to be taken into account. With 115 hectares available per beneficiary at a carrying capacity of 33.4 ha/LSU, the average of 21 SSU that can be kept per beneficiary hardly supplies a living income.

This fairly low gross value of production is due to a combination of factors already mentioned in the discussion on enterprise viability. The average direct costs (excluding drought feed), amount to R 5 795 per year, with gross margin amounting to R 17 305. Six of the farms generated a negative gross margin. The gross margin should be sufficiently large to cover overhead costs, which in this case clearly is a problem.

**Table 5: Total farm returns and financial ratios.**

| Item | Average | Min | Max | R/ha | R/SSU | Per trust member |
|---|---|---|---|---|---|---|
| Gross Value of Production (GVP) | 23 099 | 48 981 | 88 214 | 8.60 | 59.65 | 989.98 |
| Direct costs (excl. drought feed) | 5 795 | 630 | 20 671 | 2.16 | 14.96 | 248.34 |
| Gross Margin | 17 305 | 50 981 | 84 564 | 6.45 | 44.68 | 741.64 |
| Specified overhead cost: | | | | | | |
| Depreciation: fencing | 19 692 | 6 576 | 31 309 | 7.34 | 50.85 | 843.94 |
| Depreciation: stock watering | 10 576 | 1 618 | 35 272 | 3.94 | 27.31 | 453.24 |
| Depreciation: buildings/kraals | 5 671 | 2 024 | 12 424 | 2.11 | 14.64 | 243.85 |
| Depreciation: machines/equipment | 11 620 | 300 | 62 310 | 4.33 | 30.00 | 497.98 |
| Permanent labour | 14 040 | 0 | 38 400 | 5.23 | 36.25 | 601.71 |
| Fuel | 3 718 | 1 456 | 7 280 | 1.38 | 9.60 | 159.33 |
| Total specified overhead cost | 65 316 | 25 014 | 131 131 | 24.33 | 168.66 | 2 799.26 |
| Net Farm Income (excl. drought feed) | - 48 011 | -128 828 | 13 143 | -17.88 | -123.97 | -2 057.63 |
| Net Farm Income (incl. drought feed) | -71 675 | -191 828 | 2 078 | -26.70 | -185.08 | -3 071.80 |
| Foreign factor cost (FFC): | | | | | | |
| Interest | 17 923 | 0 | 72 000 | 6.68 | 46.28 | 768.14 |
| Rent | 1 255 | 0 | 12 000 | 0.47 | 3.24 | 50.80 |
| Farm Profit (excl. drought feed) | -67 106 | -191 227 | 3 143 | -25.00 | -173.28 | -2 875.99 |
| Farm Profit (incl. drought feed) | -90 770 | -248 347 | 2 078 | -33.81 | -234.39 | -3 890.16 |
| **Financial ratios:** | | | | | | |
| Net capital ratio (assets:debt) | 12.88 | | | | | |
| Debt ratio (debt: assets) | 5.18 | | | | | |
| Cost ratio | 3.91 | | | | | |
| Debt-servicing ratio (instalments:NFI) | 0.95 | | | | | |
| Asset turnover ratio (GVP:assets) | 0.01 | | | | | |
| Return on investment (NFI:assets) | -1.57% | | | | | |

Overhead costs amount to R 65 316 per year. Overheads are usually difficult to calculate without accurate records. For the purposes of this analysis, overhead costs consist of labour costs, estimated fuel costs and estimated depreciation on capital invested in fencing, stock

watering, buildings/kraals and vehicles/machinery/equipment. Subtracting overhead costs (excluding interest costs) from the gross margin yields the net farm income, which measures the profitability of the total farm.

The net farm income per farm ranges from –R 128 828 to R 13 143, with the average amounting to –R 48 011. The net farm income of a business should be large enough to pay interest costs. It is evident that the average net farm income is not sufficient to pay the interest of R 17 923. Quite a number of farmers indicated an inability to pay annual debt and some have defaulted on payments, presumably due to the drought situation. Only two farms managed to generate a positive NFI in 2007/2008. The one farm is an Agrarian farm with no debt and the other farm sold off all its livestock in 2007/2008 in order to repay loans. Apart from the one farm that sold off all its livestock, none of the land reform farms managed to generate a positive NFI in 2007/2008. The situation is aggravated when drought feeding costs are taken into account: the average gross margin per farm then decreases to –R 6 359, the net farm income to –R 71 651 and farm profit (loss) to –R 90 770.

The Central Karoo farms are in a healthy solvency position. The net capital ratio is 12.88:1, which indicates that for each R 1 of debt there is a corresponding asset value of R12.88. The average debt ratio is 5.36%, which is fairly low in comparison to established commercial farms. The maximum debt ratio amounts to 21.37%, which can be regarded as well in line with the general rule of thumb of less than 50% (Standard Bank, 2005). Despite this, the debt servicing ratio is 0.95:1 indicating that for each R 1 of annual gross value of production (turnover), there is a commitment of R 0.95 in terms of instalments that need to be paid. The total cost ratio is 3.91:1 indicating that for each R 1 of gross value of production generated by the average farm, the cost amounts to R3.91.

The asset turnover ratio provides the reason for the unsatisfactory economic performance – the ratio of 0.01: 1 indicates that for each R1 of capital invested in the farm R 0.01 (one cent) of production value is generated annually, which is clearly not sustainable in the long run. A low asset turnover can be caused either by a low gross value of production or by an abnormally high investment in unproductive capital. In this case it seems to be an income problem – generating too little gross value of production per unit of investment. In more general terms it indicates low factor productivity, ultimately influencing profitability. This confirms the situation of the negative net farm income discussed earlier and is obviously a matter of concern. The real problem currently seems to be the capacity of the average farm to generate sufficient income with the assets at its disposal. This is evident from the return on investment which amounts to –1.57% annually. A continuation of this trend in future will lead to an erosion of the capital invested in farm operations and a real chance of beneficiaries losing their investment.

## 4. SUMMARY OF BASELINE DATA AND IMPLICATIONS FOR EXTENSION DELIVERY

The study has highlighted a number of important areas that revolve around some of the overall successes of the land reform initiative in the Central Karoo, the profile of the agricultural managers, the characteristics and production potential of farms and the economic viability of farm operations. Potential implications for extension delivery are considered below for each of these areas respectively.

### 4.1 Overall Success of Land Reform Initiatives

On a macro level, land reform programmes in the Central Karoo seem to have contributed to the economic empowerment of people. Progress has been made in land reform in terms of ownership transfer. From a sustainable livelihoods perspective, an increase in natural capital (land and water), physical capital (infrastructure and assets) and financial capital (money and loans) of trust groups were observed. The greater part of the capital investment consist of directly productive capital, allowing the opportunity to generate economic returns. Post-settlement support in terms of infrastructure development by the government through CASP funding has played an important part in the capital investment and asset base of farms.

*Implications for extension delivery:* to ensure that the momentum is maintained, aspects such as the following should be considered:

- continued involvement in the implementation and developmental phases of existing land reform farms
- early involvement of extension officers in the planning phases of new land reform projects
- structuring post-settlement support in terms of infrastructure development (CASP funding) according to the farm potential and development trajectory of farms to prevent continued dependency on state funding

### 4.2 Profile of Agricultural Managers

Agricultural managers are mostly middle-aged to elderly people with education levels across the full spectrum, but 40% at intermediate level and lower. Prior experience of farming is limited and mostly at labourer level. There is a definite shortage in terms of financial management knowledge, skills and practices. Most of the agricultural managers live off-farm and hold other jobs, making management of agricultural operations more challenging.

*Implications for extension delivery:* extension support to such a diverse group needs careful planning of extension programmes – aspects to be taken into account includes the following:

- the “absent landlords” will be difficult to reach on the farm, demanding careful programme planning and time-scheduling of extension interventions
- modes of communication to clients across the education spectrum need to be adapted accordingly
- clients with different levels of agricultural knowledge and experience demand that more farm- and context-specific technical and scientific support be given
- support needs to be given to assist farmers to bridge the gap between being a “labourer” to being a “manager”

### 4.3 Characteristics and Production Potential of Farms

Farms are held in the form of community land trusts with fairly large numbers of beneficiaries who do not reside on the farm. Management committees cited large group numbers and a lack of co-operation or complete non-involvement in trust matters as being problematic. Too many beneficiaries per trust make it difficult to manage power relations and conflicts within the trust, and to reach consensus on farming matters.

Farms in general seem to be too small to provide a sustainable livelihood, given the number of trust beneficiaries and the resource potential of the land. Smaller farms tend to have lower carrying capacities which limit the income potential of smaller farms even further and results in lower than expected returns per beneficiary. Large group sizes effectively re-create communal farming on a limited size landholding with a real chance of environmental and resource degradation.

*Implications for extension delivery:* aspects such as the following should be considered:

- extension officers need to be pro-active in the planning phase of projects to ensure consideration is given to the number of beneficiaries allowed to own a portion of land by matching the carrying capacity (and income potential) of land with livelihood requirements
- extension interventions on the development of social skills relating to group dynamics, conflict resolution, project appraisal etc. should be offered in addition to technical support
- extension planning needs to take into account the challenges associated with support to large groups of beneficiaries per farm – firstly because beneficiaries are not residing on farms, they may not be present during attempted extension interventions, and secondly the conflict and lack of consensus prevailing in trusts may influence the effectiveness of the extension message

### 4.4 Economic Viability of Farm Operations

Farms in general portray a sound solvency position and debt burdens are low. The average farm however experiences difficulty in generating sufficient profits from operations. Gross value of production from enterprises is low, seemingly due to a combination of factors such as low

reproduction, stock losses through problem animals and drought related mortalities. This is aggravated in certain instances by the lack of farming knowledge and experience. Direct costs of production are fairly low, while overhead costs seem high. The latter is partly due to fixed costs associated with capital investment in infrastructure. A low asset turnover suggests low factor productivity which influences the debt servicing capacity and ultimately results in a negative return on investment.

*Implications for extension delivery:* aspects such as the following should be considered:

- In early planning phases, farms need to be assessed in terms of its income generating capacity and that is to be taken into account in terms of the level of financing granted, as well as the number of people it needs to sustain
- Extension programmes need to upscale on farm economics and viability assessments of farm operations
- Management information systems need to be established and maintained to record physical and financial information in order to assist both farmers and extension officers with agricultural economics extension
- A focus on improvement of general business management knowledge and skills of farmers, including aspects such as entrepreneurial development, budgeting, record-keeping, financial management and marketing knowledge and skills

### 4.5 General

Since farms are all on different development trajectories, it necessitates context-specific extension interventions per individual farm. Extension programmes need to integrate technical, economic and social aspects in order to facilitate holistic development. Baseline data can play an important role in this context. An integrated and co-ordinated agricultural extension programme, driven by a team of trained and knowledgeable specialists in the fields of animal production, agricultural economics, veld/natural resources and people management, could render the much-needed momentum towards development of new farmers.

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