INTRODUCTION
Livestock production is the most important agricultural activity in most of the countries in Southern Africa. The breeding strategy to be followed in Southern Africa in general depends primarily on the environment and level of management. The producers vary from sophisticated commercial (who rely on high technology) to communal subsistence producers (who rely on indigenous knowledge and appropriate technology).

Two major groups of farmers thus co-exist in Southern Africa, i.e. the commercial and resource poor farmers. There is however, growth in the resource poor sector, whose emergence seems to be both politically and market driven (Scholtz and Matjuda, 2001). In South Africa this development in previously disadvantaged communities was triggered by the 1st democratic elections in 1994.

Furthermore, the South African beef market has changed radically over the last two decades. In the past resource poor farmers could sell their cattle as oxen or old cows for reasonable prices, but the advent of a large feedlot sector in South Africa has meant that the commercial market now requires animals that are marketed earlier, are efficient converters of high quality feed and possess superior carcase attributes. Markets that are currently available to resource poor or emerging farmers include local butchers or meat required for cultural festivities.

It is estimated that there are approximately 13 million head of cattle in South Africa with 60% controlled by commercial (white) farmers and 40% under control of emerging (black) farmers. Yet, their market share is only 5%.

The establishment of sustainable systems of food production to meet the needs of an expanding world population will be one of the great challenges of the century. This challenge will be particularly acute for livestock production systems. This will require both identification of immediate tactical management activities to improve production and productivity (output per unit of input), as well as establishment of long-term strategic programmes for comparative evaluation and continued genetic improvement of livestock (FAO, 1998).

A report on Resource Poor Agriculture (RPA) commissioned by the Agricultural Research Council (ARC) of South Africa listed genetic improvement of livestock among the top projects areas, and performance testing (animal recording) by the ARC as being among the top 10 projects addressing the needs of RPA (Scholtz, 1998).

Attempts have been made in South Africa, Botswana, Zimbabwe (Moyo and Mpofu, 1996) and possibly other Southern African countries to set up recording and improvement schemes to address the situation as outlined above. This paper will deal with the South African case study.
limiting resource. Once the model was being implemented it was realized that trying to implement recording and improvement without developing the owners of the animals was a futile exercise. It is perceived as doing your own thing with their animals. They became impatient, as they do not see any immediate reward. The nett effect is that you are simply ignored and ultimately rejected. In this instance you basically start farming for the farmers and when you fail you start believing that the farmers have failed. What an exit strategy!
The first aim should therefore be the empowering and capacity building of the farmers, thereby facilitating the formation of working groups (old fashioned word is association) bargaining groups (the old fashioned co-operatives) and farmers union. This should be followed by or result in on-farm field days, group animal recordings, processing, joint interpretations, joint formulation of breeding objectives and utilization of selected animals. This dovetails into the farmer-marketing linkage strategy and implies a holistic approach.
The ARC has technicians equipped with vehicles, portable scales, laptops (both working from a car battery), record keeping booklets and mobile phones. They move from farmer to farmer, and dipping tank to dipping tank within their designed area doing the facilitation and the recording. They are backed by a strong group of specialist and scientists who visit their areas to assist them from time to time and to deliver talks and demonstrations on field days, etc.
A second initiative was the acquisition of superior indigenous cattle genetic material for utilisation to rural resource poor cattle farmers. The purpose of their project was to buy indigenous Nguni bulls of superior genetic merit that can be distributed to selected rural communities to improve the quality of their cattle.

RESULTS AND DISCUSSION

Only limited results are available at this stage, but they are encouraging. Table 1 summarises the numbers and level of participation achieved since the inception of the model in 1996.

**Table 1. Summary of participation (number of farmers)**

<table>
<thead>
<tr>
<th>Province</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern</td>
<td>267</td>
<td>105</td>
<td>68</td>
<td>2</td>
<td>--</td>
</tr>
<tr>
<td>North West</td>
<td>120</td>
<td>95</td>
<td>41</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Total</td>
<td>387</td>
<td>200</td>
<td>109</td>
<td>2</td>
<td>--</td>
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</tbody>
</table>

1. Animal identification
2. On-farm record keeping
3. Regular weighing and recording
4. Absorbed in the National Beef Cattle Recording and Improvement Scheme
Table 2. Comparison of cattle weights between the commercial (C) and emerging (E) sector of participants in animal recording during 2000 for some breeds

<table>
<thead>
<tr>
<th>Breed</th>
<th>Weaning weight</th>
<th>Yearling weight</th>
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<tbody>
<tr>
<td></td>
<td>C kg (n)</td>
<td>E kg (n)</td>
</tr>
<tr>
<td>Afrikaner</td>
<td>184 (2415)</td>
<td>162 (11) ± 9.6</td>
</tr>
<tr>
<td>Bonsmara</td>
<td>215 (26267)</td>
<td>206 (311) ± 3.7</td>
</tr>
<tr>
<td>Nguni</td>
<td>154 (946)</td>
<td>166 (35) ± 5.8</td>
</tr>
<tr>
<td>Simmentaler</td>
<td>242 (3611)</td>
<td>235 (96) ± 8.7</td>
</tr>
</tbody>
</table>

Compared to the commercial sector the breed averages of the emerging sector for both traits were much lower at the initial stage of the project (not in the table) (except for weaning weight in case of the Nguni). There is an indication that as the selection of matings are based on the knowledge gained from the project, the gap between the means of the commercial and emerging sectors are narrowing.

The distribution of superior genetic material was conceived by the ARC through the application of Estimated Breeding Values resulting from livestock improvement schemes in the commercial sector, and related know-how to resource poor rural communities. Many of the cattle farmers/owners in these communities are currently buying their bulls at slaughter-stock auctions (bulls considered by commercial farmers not to have any value as breeding animals), which have contributed towards a serious degradation in the genetic resource base. This initiative was conceived as a rapid intervention to reverse this trend.

No results are available at this stage, but early indications are that pregnancy rates were higher, calves sired by these bulls were more vigorous and that they are heavier.

The following is necessary to ensure the long-term success of animal recording in the emerging sector:

- Emerging farmers must be convinced that performance recording is financially beneficial.
- The role that indigenous breeds can play in the development of the livestock sector should not be underestimated.
- Socio-economic analyses of the different communities is essential before any scheme can be initiated.
- Schemes suitable for Africa should be initiated and implemented by experienced African animal scientists.
- Short-term aid programmes from foreign countries aimed at creating jobs for their own people, or to salve their conscience should be avoided as they are often not applicable or sustainable, thus creating mistrust in many genuine efforts.
- The data should verified, recorded, processed and stored by Government or an independent body authorized by Government to do so. The long-term storage and availability of such data should be safeguarded.
CONCLUSION
The ARC believes many resource poor farmers have a latent potential, which must be nurtured and developed. The nett result is that consumers, farmers, rural communities, the government and the national will all benefit, but most important, food security (not food self efficiency) will be achieved.
The commitment of Government to initiate and maintain recording schemes is a prerequisite for success. Animal recording schemes must be regarded as a national priority. The importance of animal recording programmes to national food security and rural development dictates that base-line funding for such schemes should be part of the Government’s contribution to livestock research and development.

REFERENCES