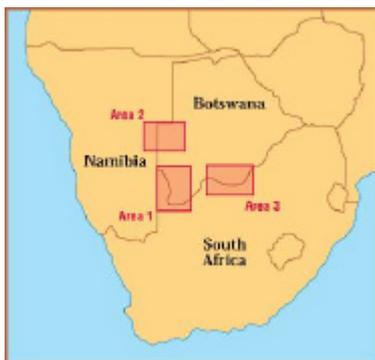


# Managing the Risk of Drought in Southern African Drylands

## Key points

- Drought is endemic and should be considered a norm rather than an unexpected event
- Understanding people's responses to risk is essential if the full impact of policies on rural livelihoods and their sustainability is to be achieved
- Dryland people are resourceful and can adapt flexibly to policy and environmental changes to secure livelihoods



## Research areas:

- 1 Arid southwest:
  - a) Mier, South Africa
  - b) SW Kgalagadi, Botswana
2. Semiarid northwest:
  - a) Ghanzi Dist, Botswana
  - b) Omaheke, Namibia
3. Dry sub-humid southeast:
  - a) NW Province South Africa
  - b) Barolongs, Botswana

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## PANRUSA Briefing Notes

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Managing risk, in whatever form (social, environmental, economic, political) requires flexibility and the capability to cope with variability and uncertainty. This briefing explores the key facilitating and inhibiting factors governing livelihoods across the dry sub-humid south east and the flexible adaptations people make to cope with environmental and policy change.

### Environmental change – coping with drought

In the dry sub-humid southeast farmers manage environmental/climatic risk in a number of ways. Too much or too little rainfall can have equally disastrous effects on crop production for farmers across the region. To deal with this farmers in both the Barolongs and the Molopo area adopt different farming practices specifically to manage this risk.

For example farmers often wait for the first rains before ploughing, but this can have both positive and negative consequences: e.g. planting late misses the best of any early rains, which can perhaps sustain plants through slack rainfall periods in the middle of the growing season; or, planting too early can mean crops die during the slack rainfall periods. For those who have donkey plough teams the lack of rains has a severe affect on their cultivation practices. With poor rains soils remain too hard to plough with donkeys and thus farmers cannot prepare land prior to full rains which usually has significant benefits for moisture retention and overall cropping strategies.

Many farmers spoke of light and dark soils: the former sandy sediments having a susceptibility to wind erosion, and the latter more clayey soils retaining water better during wet periods but drying out quickly and therefore problematic in droughts. Farmers utilise this variability to their advantage by having fields in several different areas. This means farmers can take advantage of different soil types as well as local spatialised rainfall variations across the farming block. During years when rains are late or are predicted to be slack (El Nino) farmers are more likely to plough and plant the sandy fields rather than the ones with clayey soil.

However, other factors often determined when farmers ploughed e.g. arrival of loans for diesel and seeds or access to labour. It is particularly difficult to disentangle the environment and policy stories in this region. While droughts and floods are environmentally driven conditions, farmers' abilities to respond are often constrained or inhibited by a range of conditions, largely unrelated to the environment, and principally concerned with policy, and policy interpretation at the local level.

## Policy change - Coping with Intervention

Following the change in focus of the Agricultural policy in Botswana (BN10E), the small-scale farmers in the Barolongs faced further problems when the National Development Bank (NDB) recalled agricultural loans taken out in the 1980s to buy farm machinery. These loans had mainly been used to mechanise small-scale production in Botswana at a time when Barolong agriculture was being strongly promoted. However, with the change in economic climate in the mid 1990s, NDB recalled their loans in 1995 and where necessary confiscated tractors and other farm machinery from farmers defaulting on their loans. Payments on many loans had ceased following drought in 1992 and again in 1994. Most farmers had not kept up their donkey or oxen plough teams and thus most farmers were unable to plough after the confiscation of their tractors. This had severe effects upon their agricultural livelihoods and has possibly led to greater reliance on state support systems and remittance payments from nearby towns and cities. In Hebron, in the Barolongs, some have attempted to return to farming after the crises of the early to mid 1990s by hiring tractors or through share cropping agreements. However there are few opportunities for young people in the settlements, and there are many reports of women moving away to seek domestic jobs in Lobatse and Gaborone. There is also an interesting case of two young men attempting to break into farming. Their strong family links supporting their efforts are essential, as is their determination to succeed. One young man (*de facto* head of household) has made good contacts with the regional extension office in Good Hope and has secured grants for donkeys, ploughs, water tanks and fencing through the ALDEP (Arable Land Development Programme). He has little cash input and is paying off his contribution in labour. Other small-scale farmers in the region are also benefiting from this scheme.



**ALDEP funded this underground rain water storage tank. The farmer uses this water for his donkeys when ploughing. This has greatly increased his farming efficiency allowing him greater flexibility with the timing of ploughing.**

In Madingwane there are many farmers who have not ploughed for several years principally because of lack of rains. Many of these farmers have also been severely affected by the NDB confiscation of tractors. Drought schemes providing ploughing (or labour for some) have been the only means through which many people have been able to plough at all over the last six to eight years. In South Africa, credit is a major problem. Some farmers take out loans from the government Land Bank (Pretoria) to repair tractors, and buy diesel, seeds and fertiliser. However, if crops fail (usually due to drought) farmers have no means of repaying these loans. Some keep livestock to support their farming, using these as 'banks' or as 'insurance' if they cannot repay the loans from crop production. Others fall into the trap of being unable to purchase farm inputs and thus unable to earn money to repay the loans.

## Outcomes

- **Farmers' abilities to mitigate risks (e.g. droughts and floods) can be inhibited by a range of conditions, which may be unrelated to the environment, and more concerned with policy, and policy interpretation at the local level**
- **Failure of crops is largely put down to climatic factors, either too much or too little rainfall. However, other major factors, such as capital investments, are also significant constraints on arable farming**

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