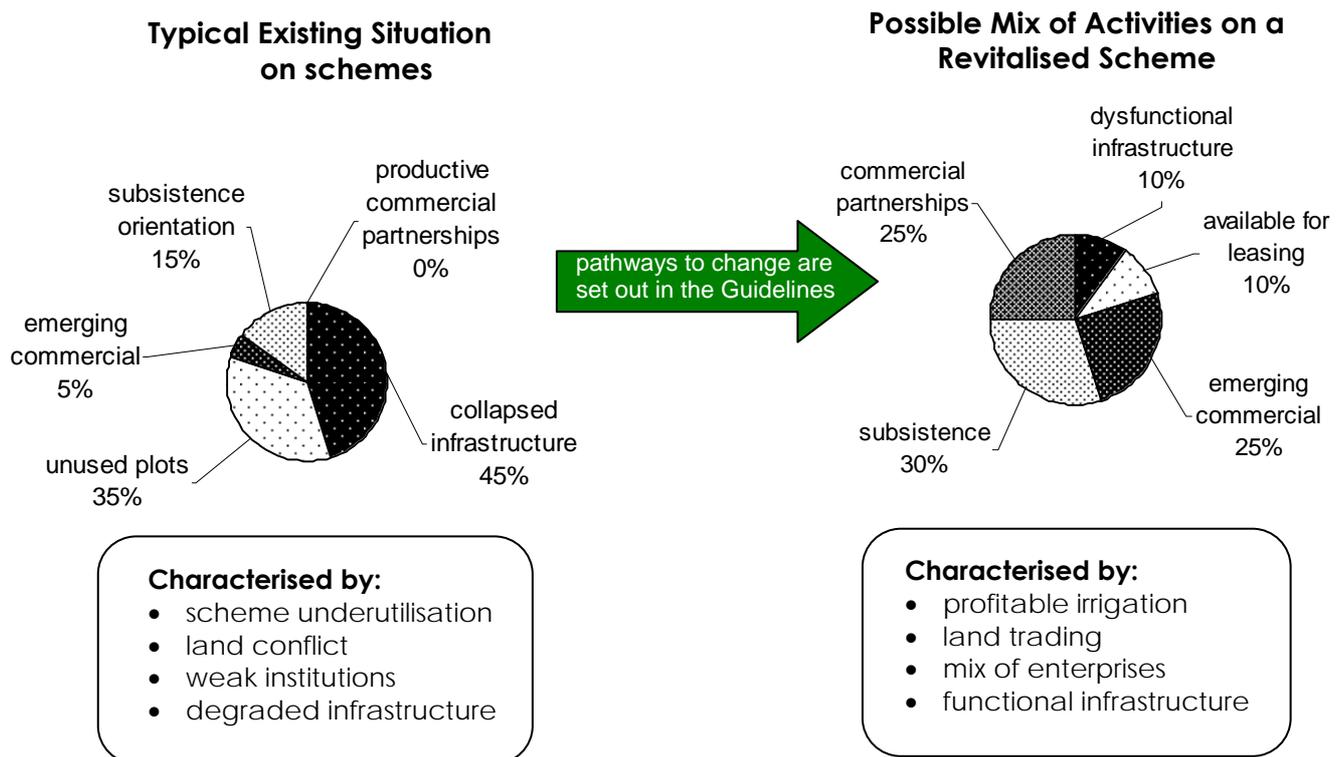


1 INTRODUCTION

1.1 The Guidebook Objective and Audience

The Guidelines for the revitalisation of smallholder irrigation schemes were developed from a three year Water Research Commission Project based on South African and wider regional experiences. There are approximately 320 irrigation schemes covering some 50,000 ha in the former homelands of South Africa and these are either collapsed or utilised well below their potential. The Irrigation Revitalisation Guidelines have been developed to help planners and implementing agents to address this situation.

People tasked with revitalising collapsed schemes want to know where to start, what to do and how to do it. The fact is nobody really knows, but there are some ideas out there and some of them seem to work. If you are one of the people planning interventions and spending time on the schemes; perhaps a senior departmental official, a municipal agricultural development officer, scheme leadership or an unsuspecting civil engineer who thought you could just go in and do the technical stuff, then the guidelines should equip you to make constructive change.



Schematic: Pathways from existing to improved situation

The Volumes

There are two volumes to the Guidelines:

- **The Rough Guide (Volume 1)** is a quick reference guide for the more action-oriented and is written to allow easy access to the main principles, approaches and methodologies to support and guide implementing teams. Revitalisation activities cover new ground for every case and only one thing is guaranteed - the ride will be rough and you'll have to improvise as you go.
- **Concepts and Cases (Volume 2)** contains the theoretical rationale for the guidelines based on a set of arguments developed through academic review, action research and case study investigation. This includes a review and comparison of South African and international revitalisation approaches as well as case studies on commercial partnerships and other support strategies.

The Rough Guide is not written as an academic document to grace the shelves of learned offices; it hopes to reach the people engaging in the hot and dusty fields who are trying to get it right. If you read nothing else – read and remember the principles in Volume 1. The rest is nothing without them.

Likely Guideline Users

The guidebook audience is expected to include people from diverse educational levels, varying skills and interest in revitalisation. These include:

- **Department of Agriculture, Land Affairs and DWAF officials**
- **District Municipal officials and politicians** tasked with strategic input to setting of objectives, steering development approaches and influencing funding decisions.
- **Irrigation scheme leadership** and participant plottolders and farmers who are engaging with external agencies and government in revitalisation initiatives that are taking place on their land and in their communities.
- **Consultants** – often civil-engineering consultants who often find themselves leading multi-disciplinary professional teams engaging in revitalisation because of the large percentage of costs related to the engineering components.

1.2 Process of Developing the Guidelines

1.2.1 Focus Areas and Content

Five main areas of work over the 3 year period were addressed by the research team:

- **Compilation of a National Database** of smallholder irrigation schemes, mainly located in the former homelands, but also more recently schemes instituted as part of the land reform programme. Collaboration with the National Department of Agriculture has resulted in this being posted and can be downloaded from the AGIS website (www.agis.agric.za).
- **Field research and detailed documentation** of current and recently completed revitalisation programmes in South Africa. These included the WaterCare Programme in Limpopo, the subsequent Revitalisation of Smallholder Irrigation Schemes Programme (RESIS), a number of Eastern Cape initiatives funded by the Department of Water Affairs and Forestry (DWAFF) and the Eastern Cape Department of Agriculture (ECDA). This was by direct field research on irrigation schemes and through substantial consultation with departments and consultancies active in those programmes.
- **Action research in participative irrigation planning** leading to the development of a clear, stepwise and time efficient methodology called the ICON (Iterative-Consultative) Approach. This lays out a clear set of principles, tools, field programmes and materials that feasibility planning teams and beneficiaries can use in formulating revitalisation plans. The critical aspect of knowledge integration of sectoral specialists (sociology, agricultural, engineering, economics etc.), with the often ignored but centrally important knowledge of scheme land-holders across the socio-economic, educational, language and cultural divides is addressed through using the ICON approach.
- **Comparative analysis of South African and international approaches** to revitalisation in order to provide perspective on the process and outcomes of the South African experiences. Recent and current programmes in Kenya, Ethiopia, Tanzania as well as broader international reviews were covered leading to a qualitative scoring system and the derivation of success and failure factors.
- Finally, **field research into five case studies of farmer support approaches** in four provinces was undertaken. This was to better understand the processes and timelines involved and the implications for scheme land-holders / beneficiaries. This included the concept of JV's and commercial partnerships which are increasingly relied on to underpin revitalisation strategies. While partnerships do present an opportunity they also come with critical issues around the real financial benefit to farmers, which is often minimal, as well as issues around empowerment and training where farmers are little more than labourers on their own fields. The research aimed to understand the dynamics of partnerships in this context and to expand the common understanding to include relationships with academic institutions and NGO's.

1.2.2 Consultative Workshops

The project findings were presented at two national workshops in March 2004 and March 2005 to gain feedback on ideas as they evolved. People attending comprised a wide range of departmental officials (DWAF and Agriculture) as well as researchers and scheme land-holders / farmers. A series of mini-workshops were also held with researchers and practitioners leading to finalising the content of these guidelines.

1.3 Jargon defined

A summary of useful concepts and definitions is presented in Volume 1, Chapter 1. Some of the key concepts and terms are expanded here.

1.3.1 Rehabilitation and Revitalisation

In South Africa, research seems to justify further investment in existing schemes rather than in the construction of new schemes. On this issue, Backeberg (1994) argues for broad-based strategies, driven by market, land and management thinking, and states that "...priority must be given to improved utilisation of existing schemes".

The distinction in the terms "Rehabilitation" and "Revitalisation" is directly linked to the investment into existing schemes, and the terms differentiate between an engineering centred approach and a people/systems/market centred approach.

"Rehabilitation" is the more **engineering-centred reconstruction** of dilapidated infrastructure and is focussed primarily on securing the water supply repairing the irrigation distribution system. Rehabilitation interventions tend to have minimal engagement with the organisational dynamics of water apportionment, the agricultural production system, farmer learning processes, financing and market. The guidelines present a strong case based on local and international experiences that these elements cannot be left out of initiatives as they are pivotal to successful scheme operation.

"Revitalisation" of irrigation schemes on the other hand is a global trend that is rooted in a holistic development philosophy that is argued to result in more successful outcomes than simply repairing infrastructure. The concept of revitalisation is broad in its development focus and carries with it the expectation of re-building socially uplifting, **profitable agri-business** on existing schemes and in the communities surrounding schemes. Human capital development both individually and organisationally, empowerment, access to information, marketing and business strategy development are emphasised alongside repair and re-design of existing infrastructure.

1.3.2 A Continuum of Commercial and Subsistence Farmers

A simplistic division between commercial and subsistence farming does not capture the complex mixed systems that are prevalent in communal areas in both rainfed and irrigated contexts. Crop production is usually semi-subsistence with some sale or trade of surplus, mixed with animal production and environmental resource use. All of these contribute to lower risk livelihoods and supplement urban based income streams (remittances, grants, pensions).

Andrew et al. (2003), writing in the context of rainfed agriculture and the land reform programme, contends that characterising South African agriculture with the dualistic stereotypes of commercial farming (on freehold land) and subsistence agriculture (on communal land) is misleading, inappropriate and has two main failings:

- There are many cases where small-scale producers are currently involved in production for the market (along with self provisioning),
- The contribution of subsistence production is usually valued in monetary terms and often excludes significant components such as environmental resource use, trading, animal traction, local transport, medicinal plant use and shelter among others.

It is suggested that a continuum of farming styles would be more appropriate “to accommodate the wide variety of productive uses of land and natural resources amongst residents of communal areas.” The somewhat simplistic use of “commercial” and “subsistence” farmers through the study is avoided as far as possible. Where used, the terminology is adopted in full acknowledgement that a continuum of farming styles is in reality present on schemes.

Reference to commercial and commercially oriented farmers is adopted in the guidelines used in relation to those farming ventures focussed primarily on production for cash sale. Similarly, those farmers engaging in more diverse livelihoods of which farming is a small part and geared towards food production for own consumption (contributing typically 15% to 20%, Lahiff, 1997) are referred to as farmers with a subsistence orientation.

1.3.3 Who is who - Plottolders and Farmers

The reality on many schemes is that many of those who have rights to plots, primary through PTO's (Permission to occupy) or in some cases quitrent or long-term lease are not engaged in farming activities. Estimates are tentative but could be as low as 25% of total scheme area. The general fact remains that a minority of plottolders are interested or able to farm in the current climate on schemes.

These people may leave their plots dormant or in some cases lease them out for production, although this is not widespread and is seemingly less so in Limpopo and Mpumalanga while it is found more commonly in KZN and the Eastern Cape. In general, leasing in formal or informal arrangements is associated with a risk of losing access to the irrigation plot and is seen more in the form of share-cropping arrangements rather than conventional leasing arrangements.

In any case, **plot-holders** are defined as those people who have legal right to use the land either through entrenched traditional rights (PTO's) and on occasion quitrent or title.

Farmers are, for the purpose of this document considered to be those people who are actively engaged in the farming enterprise through investment or direct labour and make the decisions related to crop production and marketing. Farmer's may therefore either be active on their own land, or on land where someone else has the right to occupy.

This distinction between farmers and plottolders is important for a number of reasons not least in the discussion on participatory irrigation planning, institutional development, farmer training, land consolidation initiatives and commercial partnerships. It is clearly important to define and engage with the correct grouping and there is often confusion as a result of not distinguishing between the two. A second factor to be considered is the role of gender in relation to field-farming activities.

The **majority of farmers (as defined above) are women** who are central to on-farm decision-making, water allocation, maintenance and related collective activities in irrigation. In the former homelands, woman are responsible for some 65% of farming activity (i.e. are the farmers) (StatsSA, 2000 in Lahiff, 2004) with provincial variations, and it is likely that the situation on irrigation schemes is no different. Yet landholdings in the form of PTO's are generally allocated to men and there is thus an important power dynamic between plottolders and farmers that relates to gender.

It is clear that an explicit strategy must be adopted in both analysis and implementation on schemes in recognition of these categories and the power dynamics between gender, farmers and plottolders.

1.3.4 From Irrigation to Agricultural Water Use

Research work emanating from Africa and reported in international fora like the Stockholm Water Week and World Water Forums in the last five years shows a growing understanding that 'water' and 'agriculture' are not limited to 'irrigation'. 'Agricultural Water Use' has become a broadened field of focus, forging new multi-disciplinary partnerships who are working together to create new thinking and tools that can be applied to agricultural initiatives.

Agricultural water use embraces all forms of human initiative that increase the amount of water available to plants than would be the case under rainfed conditions. Methodologies include age-old indigenous rainwater harvesting systems in a wide range of basins, trenches, swales, shallow dams to stone, grass and green mulches, as well as conventional irrigation in all of its forms. The possibilities for engaging with moisture conservation methods, rainwater harvesting and related cropping methods are some of the innovations that a planning team can use when engaging with existing smallholder irrigation schemes. These relate to both on-scheme situations as well as parallel initiatives that may take place in villages surrounding existing schemes.

1.3.5 Multiple Water Use Systems

The phrase 'Multiple Use Systems' is becoming a household word and means 'the use of multiple water sources for multiple purposes'. It has always been difficult for policy and science to deal neatly with the multiple, integrated and dynamic strategies that farmers and households employ in their daily lives, some domestic, other commercial and/or agricultural. The concept of multiple water use embraces a planning approach where water use is not singled out exclusively for use of one sector (i.e. domestic water or irrigation water) and encourages designers and planners to consider peoples broader water needs. The concept extends to multiple water supplies and in that sense has parallels to broadening agricultural water use interventions where multiple 'sources' can be used to increase production and

returns. In any case, both terms call for a broadening of traditionally narrow areas of engagement.

1.3.6 The 'Smallholder'

The term 'smallholder' is widely used on the assumption that there is a common understanding of what this means.

Lahiff and Cousins (2004) suggest that the colloquial understanding of the term can be described as follows:

"There is no standard definition of a smallholder, but the term is generally used in the South African context for producers who are black and otherwise distinct from the dominant (and white dominated) large-scale commercial sector. No clear distinctions can be drawn between categories such as smallholder, small-scale, subsistence, communal or emergent farmers although the latter generally implies a higher degree of commercialisation and relatively large scale of operation...Most smallholder agriculture is informal ...and tends to constitute a minority share of the household livelihoods." (Lahiff et al., 2004).

While this perspective provides useful context, a more specific use of the term is used in this guideline.

The term 'smallholder' recognises a characteristic of small farm size and a partially developed link to the larger economic system. Smallholders are affected by prices, subsidies, markets etc. but the input and output markets are not fully formed and remain localised to some extent. This distinguishes smallholders from commercial enterprises both large scale and family farms, which have access to fully formed external markets (after Ellis, 1998).