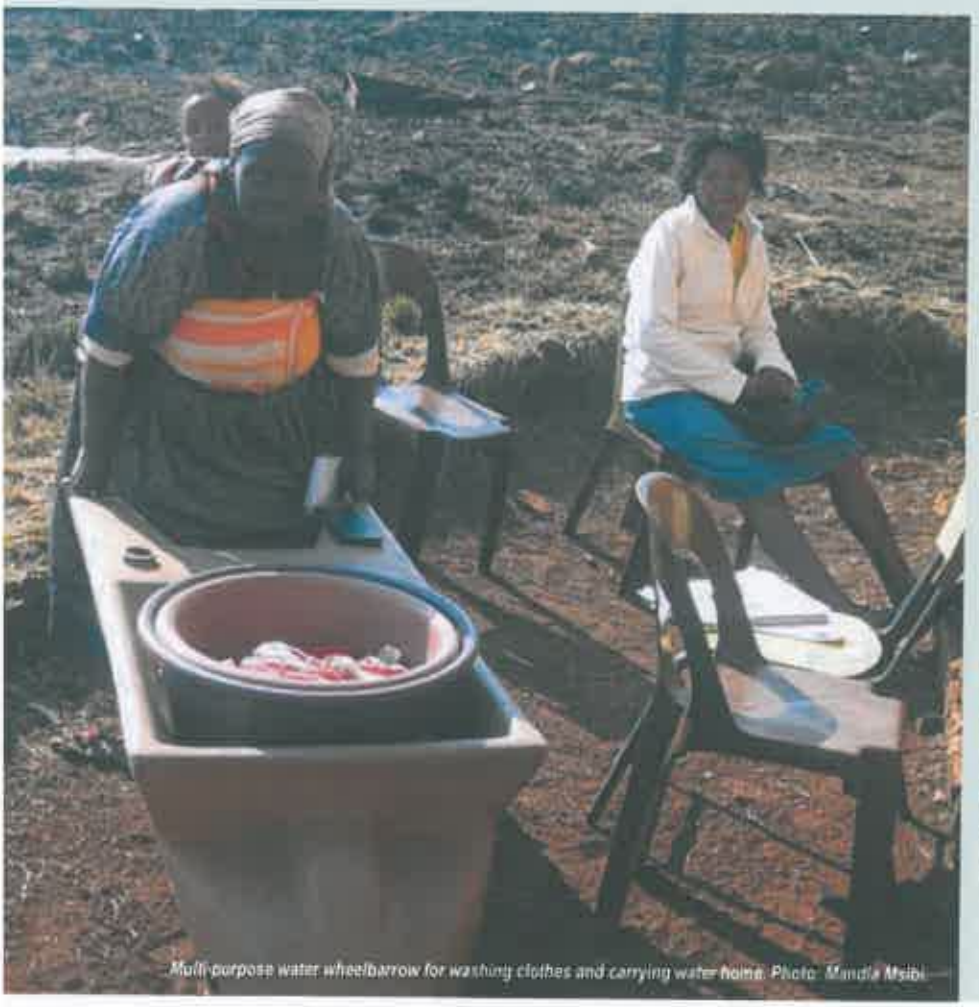
TECHNOLOGY
helps put food on the table

The Department of Rural Development and Land Reform introduced the Comprehensive Rural Development Programme (CRDP) in August 2009, with the aim of bringing about co-ordinated and integrated agrarian transformation to benefit rural communities. In a study to identify technologies available for rural development and initiatives that involve technology, it was found that the implementation of the programme leaves much to be desired. *Tim Hart* reports.

Between July and October 2010, a multidisciplinary team of researchers, led by the HSRC, conducted a scoping study to identify technologies available for rural development and to develop baseline information on technology-oriented initiatives in eight pilot sites across eight provinces: KwaZulu-Natal, Northern Cape, Western Cape, North West Province, Limpopo, Mpumalanga, Eastern Cape and the Free State.



Multi-purpose water wheelbarrow for washing clothes and carrying water home. Photo: Mandla Msibi

This study provides relevant information about the initial implementation of the programme.

Technology for rural development

For the purposes of this study technology was defined as any tool or technique, product or process, physical equipment or method of doing or making by which human capability is extended. Thus 'technology' includes process technologies, which lead to higher productivity or improved quality of a product; product technologies, which create new products and transaction technologies, which facilitate co-ordination, information sharing and exchange among market participants.

As such, a new technology can relate to innovations in respect of product, process, services, support technology, or institutional strategy. Both 'hard' and 'soft' technologies and innovations are recognised.

Profile of technologies included in the study

Many of the 113 identified technologies were common across the pilot sites (e.g. home gardens, mechanised agriculture, brick making, and ventilation in pit latrines). Of the 64 projects that received government and non-government support and made use of 'modern' technologies, 25 were either initiated by the CRDP process, or were existing activities supported by the government as part of the CRDP. The latter were usually pre-existing provincial government or municipal projects that were receiving further funding and support. The remaining 39 projects were initiated prior to the onset of the CRDP.

The 27 local initiatives were privately managed enterprises using 'modern' technologies and included mechanised agriculture, hammer-mills, and chemicals to produce detergent. In many instances the 22 technologies identified as indigenous knowledge or local practices referred to animal traction and transportation,

indigenous livestock rearing, and craft and clothing manufacturing, which made use of 'traditional' equipment or clothing styles.

We found technologies across agriculture, mining and minerals, manufacturing, ICT, renewable energy (e.g. biogas, solar panels, wind mills), natural materials to generate income using technology, and services (housing, sanitation and transportation).

Key research findings

Types of technologies

Many technologies were introduced before the launch of the CRDP and some of these are now supported in terms of the CRDP, while others were not. Technologies used in agricultural production tend to predominate at every site, while different types of agricultural technologies and practices were often found in different sites. Very few sites had mining activities, but where these did exist, technologies were similar across sites and largely consisted of simple hand-held tools.

Commercial enterprises

Key lessons and principles regarding commercial enterprises can be drawn from self-initiated enterprises (technology initiatives) undertaken without any government or donor support. Many of these appeared to be economically sustainable, often because they were operated by an owner who employs others as required. Some could do with support, however such support should be done carefully so as not to create expectations of long-term support and ultimately dependency on government for the sustainability of the enterprise. The support should also be provided in such a way that ownership/decision making remains firmly in the hands of the participants and is not transferred to government officials.

Effective monitoring and evaluation

Effective monitoring and evaluation (M&E) has also been identified as a key requirement for the implementation of sustainable development interventions. The M&E process needs to go beyond financial expenditure and number of people benefiting. M&E must consider the long-term sustainability of the initiatives and the impacts that they have on people's livelihoods. Greater participation of all stakeholders, including the beneficiaries, will support this process and will thus fulfil one crucial purpose of the eight pilot sites, which is the development of lessons and best practice to ensure the effective implementation of the programme at the other proposed sites.

> ...decision making should remain in the hands of the participants and not be transferred to government officials

Water cooler as an example of the 'evaporative cooling system'. Photo: Tim Hart

Consult, consult, consult

Community consultation is crucial to success, but this is limited and little attention is paid to diversity and heterogeneity among community members. Rather, the prevailing process is to implement technologies decided upon from outside the community with the hope that local people will buy into these ideas. Local initiatives on the whole seem to be largely unacknowledged. Steps should be taken to ensure that any technologies used are the most suitable for local social, environment and economic circumstances.

Financial viability of projects

There is a need to revisit the financial viability and models used in many of the commercially oriented projects, regardless of whether or not these are large- or small-scale endeavours. At present most new and existing projects do not appear to be achieving their desired financial expectations.

These range from sustainability of the project (many of which are dependent on government for infinite support), large numbers of participants associated with projects on relatively small areas of land, or of limited scale and finite markets.

Recommendations to improve effectiveness of technological initiatives

Based on the findings of the audit a number of elements appear to impact on the effectiveness of the use of technology at the CRDP pilot sites.

Need to use effective social facilitation processes

Social conditions at a particular place can fluctuate dramatically over time and these changes and their implications for development cannot be understood through once-off assessment exercises using a standardised questionnaire. The significance of ongoing social facilitation and communication cannot be emphasised enough.

Commercially oriented projects should consider existing conditions and challenges

There is often an over-emphasis on the commercialisation of every project, while scant attention is paid to prevailing social and political circumstances, existing resources and income, as well as abilities determined by education, the effective integration into externally managed 'projects', and the roles and responsibilities of project participants now and in the future.

Build institutional, technical and non-technical capacity of project beneficiaries

When considering the up-scaling of technology projects, careful planning, development interventions, and more funding should first be carefully considered. All these aspects require thorough analyses. Importantly, addressing issues at community level only will be sufficient or effective, particularly in the case of commercially oriented interventions. Such interventions need to take into account the broader economic opportunities and the reality of effectively integrating the community-based enterprises within the broader economy where this is necessary. This means addressing structural barriers to integration and not merely the provision of project financing, associated technology and skills.

Encourage and support entrepreneurs

Many CRDP interventions bear the hallmark of 'income-generating, poverty-reduction projects', which in principle are meant to function like enterprises but which often do not. A critical distinction is that poverty-reduction projects tend to be group-based, whereas spontaneous enterprises tend to be led by a single individual or household, or in some cases small partnerships of individuals who are well acquainted with one another.

The preference of government and often NGOs for supporting groups is largely based on the idea that this is the only way of reaching large numbers of people. Support to group initiatives may be more successful where these initiatives are driven by an individual who is employing people and creating local jobs.

Alternative project models

Consider alternative project models better suited to a particular enterprise than the traditional group-based approach. Seek

Maize hippo mill – privately-run enterprise with no government support. Photo: Mandla Mdibi

Most new and existing projects do not appear to be achieving their desired financial expectations

out and support partnerships with private partners who can provide technical expertise and a reliable market.

One area where there is still a great deal to learn is that of partnerships. Many of these partnerships have not fared well. Interpretations vary as to the reasons for this, but part of the problem stems from the fact that, at the end of the day, the 'community partner' consisting of beneficiaries is still often a sizeable group, which is heterogeneous in terms of both aspirations and abilities. A potent antidote to the problems associated with group-based income-generating projects is to not focus excessively on income generation in the first place. While it is understandable that government would wish to focus on establishing projects aimed at income generation, improving services or access to information can often benefit far larger numbers of people at more modest cost.

Monitoring and evaluation system

Establish a monitoring and evaluation system that allows for challenges to be identified and addressed so as to ensure that projects have the desired impact.

Monitoring and evaluation of technology projects and interventions seems to be frighteningly lacking in most instances as very few and limited records are available. The prevalent concern seems to be the financial accounting of the government job creation and budget expenditure with scant regard to other aspects of the interventions. As a result it is unclear how lessons can be learned from the pilot sites that will ensure improved roll-out to other proposed sites.

Market requirements and standards are especially important in planning and implementation.

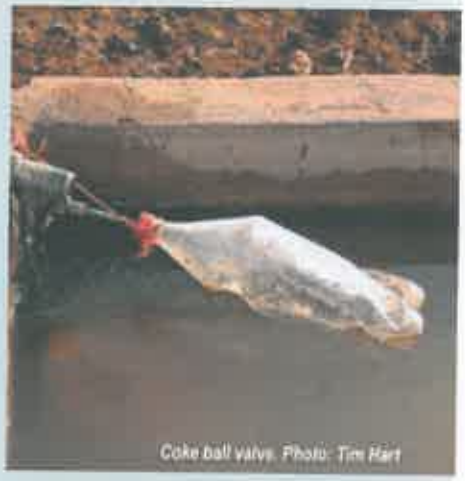
In conclusion

Many of the pre-CRDP interventions appear to have either collapsed completely, are struggling to survive, or remain fairly dependent on government financing for functioning. Few successful and interdependent economic interventions have resulted from previous programmes, and almost no growth is evident – on the contrary, in terms of active participants, most have shrunk. For some, the operating costs using existing technology and infrastructure are high, making their financial sustainability within fluctuating markets a concern. Market requirements and standards are especially important in such planning and implementation. Revisiting business models, ideas and support of these are important for strengthening the current CRDP process.

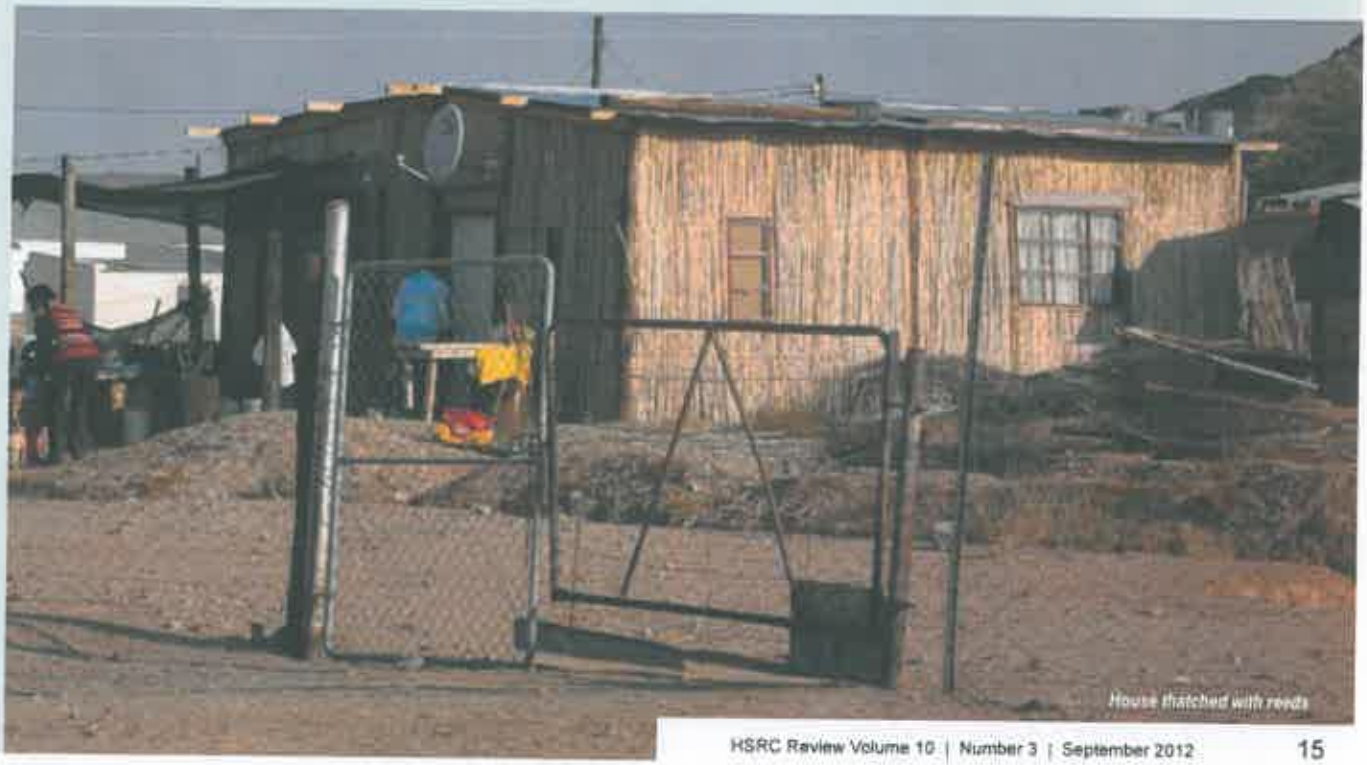
The authors acknowledge the financial support of the Chief Directorate: Technology, Research and Development (CD:TRD) of the national office of the Department of Rural Development and Land Reform.

Audit results on technological initiatives for rural development: evidence from eight comprehensive rural development programme pilot sites, by authors Mr Tim Hart, senior research manager, Economic Performance and Development, HSRC; Dr Michael Aliber, senior research consultant, Brigid Letty, senior researcher, Institute of Natural Resources (INR), Mandla Msibi, research consultant, Mompati Baphethi, research consultant, and Ziboncle Nxele, researcher, INR.

Direct further enquiries to thart@hsrc.ac.za.



Coke ball valve. Photo: Tim Hart

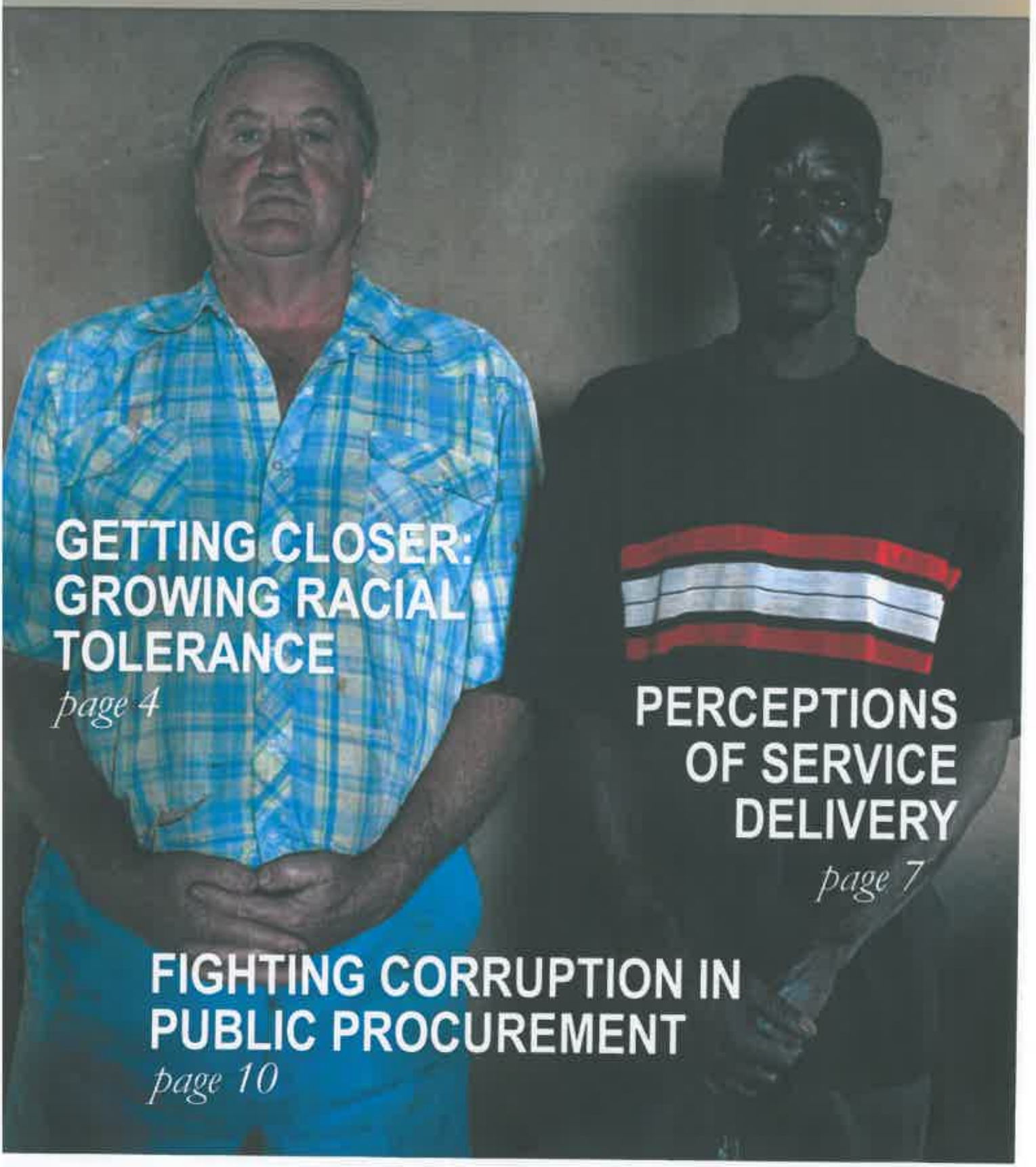


House thatched with reeds

HSRC
Human Sciences
Research Council

review

VOLUME 10 NUMBER THREE SEPTEMBER 2012



GETTING CLOSER: GROWING RACIAL TOLERANCE

page 4

PERCEPTIONS OF SERVICE DELIVERY

page 7

FIGHTING CORRUPTION IN PUBLIC PROCUREMENT

page 10