



RHODES UNIVERSITY
Where leaders learn



Engaged Research

trans-disciplinary

partnerships

understand

network

meaningful change

community-expertise

seek solutions

build-relationships

transformational

connect

collaborative-knowledge-production

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FOREWORD

Dr Peter Clayton, Rhodes University's Deputy Vice-Chancellor of Research & Development, discusses engaged research

FOREWORD



Shaping the interaction between research and society

“As a research-led University situated in South African society, Rhodes regards research and the production of knowledge as integral to its community engagement mandate and vice versa. It is one of the principle ways in which we advance our understanding of the natural and social world, using our knowledge to benefit society, and enhancing our knowledge through our work with real world issues,” says Dr Clayton.

“What we’ve seen in South Africa and other parts of the world in more recent times is a far more explicit research engagement with the challenges of our society and the world. Co-discovery and knowledge co-creation, researchers developing knowledge together with societal stakeholders and practitioners, is not just a fad; it is a reframing of the role of universities in society.”

This, Clayton explains, gives different emphases to academic research and the form it takes, in line with South Africa’s national strategic imperatives. “If we look at the funding agencies, for example, they are not just looking at growing the number of PhDs in our universities, but at growing the number of PhDs who can make a positive impact on our society.”

impact
reciprocity
social learning
multi-disciplinary
co-creating knowledge
mutually beneficial

Based on this approach, research, frequently, cannot be meaningfully undertaken without community engagement. Rhodes Prof Tally Palmer's water research projects, discussed in this publication and aimed at addressing South Africa's escalating fresh water supply crisis, are a strong example of this. "Every community in South Africa – from large industries in the cities to subsistence rural farmers – are completely reliant on the country's fresh water supply and the management of it. Population growth and the impacts of climate change are accelerating the need for strategic research in this space," says Clayton.

Clayton defines community as any part of society. "When we talk about community the emphasis is often on the impoverished sector, and rightly so, because this is where the greatest need lies. However, the intended impact of engaged research is to empower all people in their respective environments to work towards developing a sustainable lifestyle."

Clayton offers the example of the two Mathematics Education and Numeracy Chairs at Rhodes, which conduct research with learners in both privileged and underprivileged schools. "This generates research which can benchmark techniques that work across the socio-economic spectrum."

A common truth is that an institution is as effective as its leader, and Rhodes University is fortunate to have Vice-Chancellor Dr Saleem Badat who advocates research that advances the frontiers of knowledge that can change society for the better.

The *Sandisa Imbewu* seed-funding programme for new academic research initiatives, which he spearheaded in 2010 and for which the first nine projects were selected in 2011, with an additional four projects in 2012, is an example of this. “It reflects Rhodes’ strategy to multiply its postgraduate and research outputs towards enhancing its standing as a *Scholarly University*. In all these programmes the emphasis is on engaged research.”

A key factor of engaged research is that it is “a mutually respectful and beneficial relationship between the University’s students and researchers, and community stakeholders. The crude data-gathering approach sometimes evident in the past is obsolete today.”

It draws its relevance from the society in which we live, where the society, of which we are all members, becomes part of the laboratory for doing research.

Clayton cites the example of the new initiative in Forensic Science and Expert Evidence that Rhodes is leading, seed-funded by *Sandisa Imbewu*.

The South African National Prosecuting Authority is faced with well-publicised backlogs in the processing of evidence. In response to the recognised need for training in forensics, Rhodes’ initiative is developing a one-year, multidisciplinary Masters degree in Forensic Science and Expert Evidence. It will result in a new, cross-faculty research niche in Forensic Evidence at the University with a focus on developing Science and Law postgraduates.

“The existing strengths of our academic staff members combined with local facilities and resources in the Grahamstown community make Rhodes the natural home for this,” Clayton explains. The proximity of Fort England Hospital, the only maximum-security observational facility for male forensic psychiatric patients in South Africa, has, over the years, led to considerable engaged research and local expertise in forensic psychology and psychiatry. The regional mortuary, which is based in Grahamstown, provides another important partnership for collaborative research on specific aspects of forensic science. The initiative is being led by the Rhodes Department of Zoology & Entomology’s Prof Martin Villet - a leading African forensic entomologist – in partnership with other outstanding researchers across a range of disciplines in the Science and Law faculties.

The longer-term goal of this initiative is the formation of a Centre of Excellence in Forensics and Expert Evidence and the establishment of an accredited, ISO-certified Forensic Science Services Laboratory. This would become a research centre and platform for the development of PhD research in forensics and ultimately offer commercial forensic services to the benefit of society.

Another example he offers is the Siyakhula Living Lab (SLL) where deep rural communities in the Eastern Cape and Rhodes researchers are co-creating knowledge in ICT for development. One of the project leaders Prof Alfredo Terzoli, whose work is featured in this publication, co-presented a paper at a conference with Cynthia Gxarisa, a teacher from one of the schools with which the SLL partners in a deep rural area of the Eastern Cape. “This is an excellent example of true co-creation of knowledge,” says Clayton.

While certain disciplines lend themselves more naturally to engaged research, Clayton emphasises Rhodes’ approach is that it is the responsibility of every discipline and every researcher to consider the impact and benefit to society of what they do. “At Rhodes we pride ourselves on producing not only exceptional graduates, but also well-rounded, responsible, caring citizens.”

The opportunities for engaged research are enormous for a university like Rhodes, which is situated in a rural setting in one of the poorest provinces in South Africa. “One of the strengths of Rhodes is that because it is a small university, it creates the space for the kind of collegiality where researchers can readily engage across disciplines and in partnership with communities.”

Rhodes Business School postgraduate researchers, for example, can partner with their Environmental Science, Politics and Sociology peers and with communities across the socio-economic spectrum in Grahamstown to produce meaningful engaged research in sustainable business development.

“In this space,” says Clayton, “boundaries between disciplines start to blur in the most positive way, led by our Vice-Chancellor, who, as an active scholar from the Social Sciences, is highly responsive to transdisciplinarity as a springboard to addressing the needs of the province and the broader macro issues of South Africa.”



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INTRODUCTION

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INTRODUCTION

Community engagement and engaged research – the way forward for new knowledge production

Research, teaching and learning are often cited as the core functions of a university; they represent the way a university can competently create and disseminate knowledge. But if universities, and those who work within them, wish to be more than competent within their fields; if they wish to strive for excellence, then more dynamic approaches to traditional research, teaching and learning practices needs to emerge. One such approach is being described as Engaged Research, a responsive and respectful way for research to be conducted - in partnership with communities and their contexts.

Such engagement is no longer regarded as a 'nice to have' in the way 'charity' is often regarded. Community engaged research, in mutually beneficial ways can serve as a basis for rethinking, theorising and acting towards transformation. Such approaches aim to contribute to building a cohesive and vibrant society, a strong economy and a healthy environment.

To achieve this we need to look beyond the old model of community-based research where the methodology was to go out and collect 'data', often in a detached and a dehumanising manner. This reflected the antiquated 'us' and 'them' approach.

“By comparison, engaged researchers today, as illustrated by the six Rhodes projects selected for this publication, are rethinking what community knowledge and partnering with communities in producing what new knowledge means,” says Di Hornby, Director of Community Engagement. “They are rethinking how to work with communities and what communities can offer, and, in the process, recognising strengths and expertise in communities, and seeing these as valuable contributions to the research partnership.”

This is an asset-based approach that no longer adopts a narrow focus on community voices and contributions. It is an approach that recognises that all communities have valuable assets, resources and strengths to offer.

“These resources and strengths powerfully come to fore when the research partnership is approached sensitively, inclusively and holistically,” adds Hornby. To this end, engaged researchers across faculties may choose a trans-disciplinary approach that draws on the diverse strengths of different disciplines, as one of several approaches to Engaged Research.

“A key goal for the community engagement office is that the research partnership must be transformational, where all participating members understand they are members of the research community and that their input and active participation is important, not only for the benefit of the research project, but also for knowledge production, the betterment of communities, and, more broadly, the betterment of society.”

If it is a water management project, for example, all the participants - from the academics to large industry and agricultural users, to provincial and local government, to community and individual home users - are partners in the production of knowledge that aims to transform societies.

In this context, engaged research, helps us to grapple with contemporary transformational challenges that confront us a country, as communities, as higher education institutions and as scholars.

It is a challenging and interesting space that in an academic environment addresses these fundamental questions:

- What is the role that universities and scholars should play in resolving the macro and micro challenges?
- How do we make higher education institutions more relevant to shaping and remaking our society?
- How do we ensure that we produce not only top academic achievers but also socially responsible citizens who serve as agents of change?

The six research projects from six different disciplines featured in this publication illustrate how engaged research can help deal with these challenges, and help transform

communities and societies while producing new knowledge.

The projects were selected on the basis of their commitment to engaged research and their establishment of successful knowledge co-creation partnerships with a range of communities. The work involved is widely acknowledged and acclaimed, and certainly demonstrates the way forward for academic research, and transformation, not only at the university but also in South Africa.

The six research projects are led by:

Alex Sutherland – Drama Department

Prof Charlie Shackleton, Prof Sheona Shackleton and Dr Georgina Cundill –

Prof Alfredo Terzoli – Department of Computer Science

Department of Environmental Science

Rod Amner – School of Journalism & Media Studies

Prof Heila Lotz – Environmental Learning Research Centre

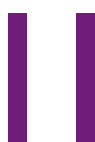
Prof Tally Palmer – Institute for Water Research



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DRAMA

Alex Sutherland, a Senior Lecturer in the Drama Department at Rhodes University who specialises in Applied Theatre, received the Vice-Chancellor's Distinguished Community Engagement Award at the Rhodes University Graduation Ceremony in April 2013.



DRAMA



Drama for the dispossessed: the role of Applied Theatre in bringing ‘outsiders in’ and uniting our society

“I draw on theatre as a form of expression of human rights to move beyond the labels society puts on people, such as ‘criminal’ or ‘street child’ or ‘mentally deviant’. I draw on theatre to allow every person to extend their imagination and to explore the possibilities of who they are, who they would like to be, and that they matter,” says Sutherland who joined the Drama Department as a lecturer in 2001.

Since this time she has used theatre and drama to work with maximum-security psychiatric patients, offenders in medium correctional facilities, youth at risk (including children referred to as ‘street children’, women’s groups and special needs groups.

Many of the people in these groups are on the margins of society; they are dispossessed and even rejected by mainstream society because they represent aspects of society that we too often do not want to acknowledge or accept as part of us. Sutherland recognises this and draws on theatre and drama to bring the outsiders in and to help unite society by reflecting on the many perspectives and participants that comprise its whole.

“My approach is that if we are living in a rights-based society where people can be rehabilitated, then we need to find ways of putting this into practice,” Sutherland explains. “Through the medium of Applied Theatre, my students and I try to play a part in achieving this.”

The role of theatre in marginalised people’s lives

“I strongly believe in the role of theatre to make a difference to marginalised people’s lives and I am fortunate that my Head of Department Andrew Buckland shares this approach. He has been a wonderful support,” says Sutherland whose type of theatre does not always get the recognition it deserves.

“In the process of exploring and understanding different characters and issues, and then telling either our own or others’ stories through the social and embodied act of theatre, we can understand ourselves, each other and the world that we inhabit through new eyes.”

Applied theatre in community engagement and engaged research

As part of her community engagement and engaged research focus, she heads a third year, Honours and Masters programme in Applied Theatre which provides students with diverse experiences of using theatre as a means of social and personal change in relation to different audiences, participants, social and cultural contexts, and theatre processes.

This has resulted in the Drama Department’s sustained presence in a wide range of marginalised groups and over 12 schools and organisations in the Grahamstown community, under Sutherland’s leadership.

“I have been active in extending the course beyond ‘traditional’ drama teaching contexts, to extend into community contexts such as adult and women’s groups, prisoners, and young people with special needs.”

Supporting students out of their comfort zones

“I deliberately aim to support students in contexts that are beyond their comfort zones to engage with communities very different from their own,” she explains.

“The course critically interrogates what change might mean, what the ethics and implications are of using the performing arts in this way, and how a cross discipline engagement with aspects of psychology, education, and political theory and practice might dialogue with how the arts relate to all aspects of society.”

In order to develop ways of using drama for educational and developmental ends, Applied Theatre students take on service learning projects in schools, prisons, youth- and community centres. Sutherland has also been instrumental in extending the application of Applied Theatre into other academic institutions. A former Honours student of hers, Tamara Gordon, is now a staff member on South Africa’s first ever Drama Therapy Degree at Wits University.



Examples of engaged practical and research projects include:

- Drama in Adult Education – a community theatre project with Gadra Education Blind Adult group;
- Drama and special needs children: the impact of the use of drama with “socially disabled” young people from Amasango School in Grahamstown, and young people with mental & learning difficulties at Kuyasa Special School;
- The use of performance strategies to interrogate aspects of young black women’s identity;
- Theatre in Prisons: a case study of the use of role in the J section of Grahamstown Correctional Service Facility;
- Museum theatre: museum exhibits as site specific participatory performance processes with junior school groups;
- Theatre-making and identity with marginalised young people (a project with young people from the Home of Joy);
- Embodied and virtual knowledge – the use of drama to encourage engagement with AwareNet, with Grade 7 CM Vellum learners.

Society's most challenging domains

Never one to shy away from society's most challenging domains, once a week Sutherland heads into the Maximum Security Unit (MSU) at the Fort England Psychiatric Hospital in Grahamstown. It is the only facility in South Africa that houses male forensic psychiatric patients requiring maximum security as a result of their risk profiles.

She enters a room where six to eight men between the ages of 20 and 45 with severe mental disorders who have committed extremely violent crimes await her. As she closes the door behind her, leaving the guards outside, something magical happens: the men transform from cut-off beings on the outside of society into amateur actors, enthusiastically participating in a drama workshop.

Gently guided by Sutherland they participate in various skits, playing different roles - sometimes they're the doctor or nurse who attends to them; sometimes they're a world wrestling champion or a tsotsi or a taxi driver or a talk show host; sometimes they are a pastor in their community giving advice to a man who has stolen from his family and who is seeking their forgiveness.

"I don't start with their crimes or their illness; when I meet with these men I meet them as human beings and reassure them that our time together is completely voluntary, and that if, at any stage, they are not feeling comfortable they can stop and let me know, as no one is forced to be here," she explains.

"Together we step into the world of imagination where we make stories together and where we have fun and laugh and can be foolish together. The beauty of drama is that people catch on to the work very quickly and the creativity that these men demonstrate during these sessions is incredible," says Sutherland who started the drama workshops in the MSU, which she calls the *Performing Change Project*, in April 2012.

Performing Change

The Performing Change Project is one example of her many community engagement projects. It is a collaborative venture with the Fort England Psychiatric Hospital in Grahamstown. It forms part of the clinical and rehabilitative programme at the institution and has been running in the Maximum Security Unit (MSU), the only centre in South Africa which houses male, forensic psychiatric patients requiring maximum security, due to their respective risk profiles.

Theatre in forensic settings is well established in the UK, the USA and Brazil and is framed by a common belief that the engagement in the process of making theatre is a powerful means of personal and social change.

“It is highly rewarding to hear from psychologist Lauren Fike who works with the men in the MSU that they light up when she asks them to tell her about the drama sessions. They ask if they can be more frequent, some ask if they can do drama every day,” says Sutherland.

There have also been some fascinating revelations. Sutherland explains how a schizophrenic patient who struggles to differentiate between his various selves outside of the drama space, is quite able to understand when he is in role or out of role during the workshops.

Theatre workshops for Medium Correctional Facility offenders

Sutherland also facilitates weekly theatre workshops at the Medium Correctional Facility in Grahamstown where, since 2010, she and her third-year, Honours and Masters students have collaborated with groups of approximately 25 offenders from this facility. Her co-facilitator on this and the MSU project for the past four years is Grahamstown resident Luvuyo Yanta who also serves as a Xhosa translator.

“He will take this work forward and he is now a full-time drama facilitator for the Rhodes Drama Department, in addition to regularly performing with Ubom!, including three productions at the 2013 National Arts Festival,” says Sutherland.

One of these productions was *STDiesel* – about sexual encounters in schools and universities, the fun and the dangers, handled in a contemporary, music-filled style.



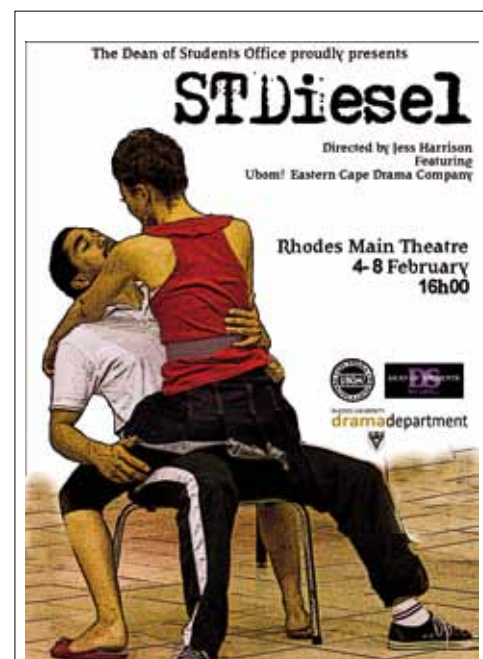
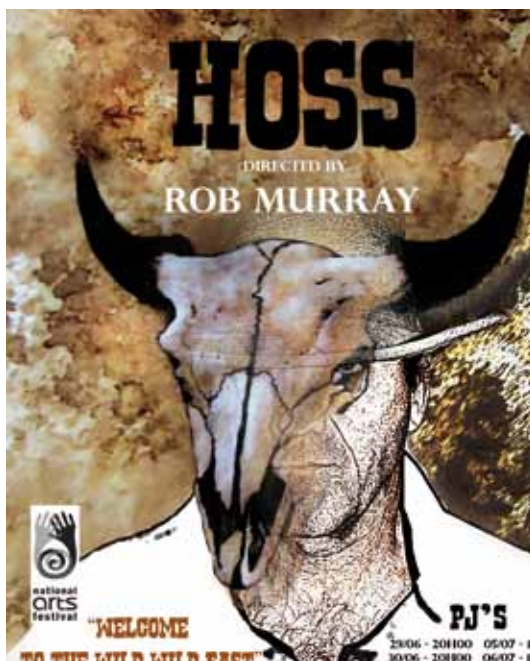
“I grew up in Grahamstown and started doing drama when Rhodes drama lecturer Janet Buckland came to my school in the township and we started doing plays,” Yanta explains. Now 31 years of age he has gained the skill, experience and maturity to perform at the highest level and to facilitate drama workshops in both the MSU and Grahamstown’s Medium Correctional Facility.

“The workshops in the Medium Correctional Facility use theatre to extend creativity, means of expression and performance possibilities which often relate to how these men see themselves in relation to each other and their world outside of the prison context,” he explains.

“We create an environment where the men feel safe enough to share their insecurities and their dreams. They start to learn about themselves and to develop the confidence and ability to present themselves well and to communicate with greater ease. They also learn, as we as facilitators do too, what it’s like to be in someone else’s shoes, which develops empathy and understanding.”

The workshops also interrogate the notion and accepted perceptions about incarceration, and make visible and embodied the realities of prison life, as experienced by the group.

Groups from the theatre workshops, classified as “low risk offenders” have successfully performed at the National Arts Festival (2011, 2012, 2013), the Makana Drama Development Festival (2010, 2011, 2012) and at the Eastern Cape Eistddofdd (2010), winning three double gold awards.



Andile 'Ace' Jaha is one of the participants. "I met him while he was still in prison serving a 12-year sentence," Sutherland explains. "In prison he learnt to play the marimbas and he participated in the drama workshops. He was released on parole in late 2011, and he immediately came to the Drama Department and asked what he can do to help. He has since worked on a community theatre piece with some of my Masters students, and various other projects.

"According to Ace himself and others, he is a changed man," adds Sutherland who has had repeated experiences of former inmates coming to ask how they can get involved in drama once they are released. "It speaks to how the drama workshops affect their lives and how hard they try to find a place for themselves back in society. Many of them battle to find work because they have a criminal record and many people are not willing to give them a second chance."

Art of the Street Project and Ubom!

The *Art of the Street Project* is a developmental theatre project with youth at risk, with a specific focus on street children that Sutherland led from 2003-2009 as part of the Rhodes-founded Eastern Cape theatre company *Ubom!*.

This project worked closely with Eluxolweni Shelter and Amasango School for street children in Grahamstown, and has resulted in six theatre pieces, all of which have been performed at the National Arts Festival.

"Through this project the so-called street children are seen in a different light compared to the stereotype image of them begging for money or food. At the same time it is a catalyst for the children to see themselves in a different way: they see how creative they can be and what talented performers they are," Sutherland explains.

The 2006 piece was developed as part of an international exchange project, between UK youth theatre groups, and youth theatre groups world-wide, resulting in a UK tour of the play. This project incorporated postgraduate students with productions directed by Masters students under Sutherland's supervision. Other students have given input through workshops, gaining experience in diverse local contexts. As a result of her work on this project, Sutherland was a finalist of Grahamstown's Citizen of the Year in 2006.

In 2009 *Ubom!* and *Art of the Street* did a theatre exchange with *The Barefoot Theatre Company* in Lusaka, Zambia, resulting in a collaborative performance titled *Float* as part of the National Arts Festival. The Barefeet Theatre Company also works with street children. *Float* examined the politics of water where a community empowers itself to learn how to stand up to- and respond to politicians wanting to dam their river and exploit their water. The performers addressed issues of active citizenry and community engagement, as well as of environmental conservation through novel theatrical devices, such as enacting the 'spirit of the water'.

A safe space for patients

The *Performing Change Project* is a collaborative venture with the Fort England Psychiatric Hospital in Grahamstown. It forms part of the clinical and rehabilitative programme at the institution and has been running in the Maximum Security Unit (MSU). Clinical psychologist Lauren Fike, who qualified at Rhodes and works with the patients in the MSU, comments on the project and the partnership with Rhodes:

“Alex Sutherland was one of my Drama lecturers when I was reading for my BA (Psychology and Drama) at Rhodes University and we both share a keen interest in the ways in which Psychology and Drama can meet and work together.

“The successful rehabilitation of those with severe and/or chronic mental ill health, and patients with forensic backgrounds, lies in a multi-disciplinary, multi-modal approach, using various rehabilitative modalities. The *Performing Change Project* has added a valuable addition to the rehabilitative programme on offer at Fort England hospital.

“It has created a safe space for patients to be introduced to theatre and performance as a medium for telling stories. For many patients, their incarceration and the stigma attached to having a mental illness means that they see themselves and are seen in a narrow, often negative way. However, within this drama space, patients are offered opportunities to extend their empathy and awareness of themselves and others through stepping into the ‘as if’ world of the theatrical and performance moment. This requires finding ways of working constructively together, enabling the performance of alternative and new roles, stories, identities and new ways of relating to themselves and others. Within these moments, patients have had the potential to enhance their interpersonal and intrapersonal skills, thereby meeting one of the core hallmarks of patient rehabilitation.

“Feedback from the patients ranges from them animatedly asking for more drama sessions to be included in the rehabilitation programme, to eagerly recalling aspects or roles that they have been able to play in the drama group to members of the multi-disciplinary team during ward round. Observations of the patients in the ward made by nursing staff include friendships strengthened, interpersonal difficulties attenuated and boredom curbed.”



In another *Ubom!!Art of the Street* production, learners from schools in Grahamstown, including a group of boys from the Eluxolweni Shelter and Amasango School for street children, partnered in the creation of a Masters student directing production called *Shark* for the National Arts Festival. *Shark* was a combination of a love story and an examination of loan sharks and people who exploit others.

Imoto Emhlope

In 2006 Sutherland was the project leader and theatre director of *Imoto Emhlope*, a theatre education project that investigates the use of theatre strategies to address issues of death and dying, disclosure, stigma, and the role of community-based care as a result of the HIV/AIDS crisis.

In collaboration with Hospice, a pilot run was completed in 2006, and a follow up workshop series was implemented around gender roles and HIV in 2009.

The kind of person who wants to make a difference

Reflecting on the many projects with which she and her students have been engaged these past twelve years, Sutherland says she has always believed in the role of the Arts in community engagement, change and development. “I am the kind of person who wants to make a difference and I have chosen theatre performance as the route.”

Ace's story

Andile 'Ace' Jaha was one of the participants of the prison theatre workshops, describes how it turned around his life. A former inmate of the Medium Correctional Facility in Grahamstown, he spent six years in prison, and is now out on parole until 2017.

“Alex Sutherland’s drama workshops in the prison changed my life and in many ways I now feel like the king of my life.

“The workshops helped me to see another angle of life and other ways of handling life, which has helped me to create another life inside of myself. As a person there are many things happening inside of you that you don’t automatically know about. Through drama I got to know the person inside me and about how to speak to myself and use this ability to handle difficulties.

“When I first got out of prison at the end of 2011 I immediately went to see Alex at the Drama Department at Rhodes because she had asked us to do this. It is amazing for people in our community to see us going straight from jail to Rhodes and she asked me to help with community theatre projects, which I did.

“I now live in the township in Grahamstown with my mother and I managed to get work at a new kaolin factory here. This has given me a sense of responsibility as I can stand on my own two feet and help support my mother who is a pensioner. I have also registered my own company – a marimba band named *Creators*. There are four of us in the band; three of us are from prison and we started playing the marimbas inside as one of the projects with Alex.

“We are constantly working on improving our musical skill and we perform at all sorts of venues, including opening for the National Arts Festival, which was amazing. We have an album titled *Kwanele*, which means ‘it is enough’ in English, and we are busy with a second album. I also help out at the business in town that manufactures marimbas.

“Through music we want to show the world what we are made of – that we made terrible mistakes and that we spent a long time in prison paying for these – but we are no longer criminals; we have grown into human beings with great potential and a lot to give. I’m now 38 and there is so much I want to achieve in my life.”



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ENVIRONMENTAL SCIENCE

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Rhodes University: Engaged Research

ENVIRO SCIENCE



What vulnerability means and what can communities do about it?

What does climate change, HIV/Aids, food insecurity, unemployment and other forms of social-ecological vulnerability actually mean to people living this reality, and what can they do about it?

The team at the Department of Environmental Science, including Prof Charlie Shackleton, Prof Sheona Shackleton and Dr Georgina Cundill sets out to answer some of these questions through long-term research with communities at vulnerability's coalface.

As Prof Charlie Shackleton emphasises the Department made a conscious decision many years ago to specifically commit to undertaking, where possible, community engaged research with the many rural communities in which they are involved.

A clear example is a four-year vulnerability assessment and climate change adaptation research project called the *Jongaphambili Sinethemba Project* (*looking forward we have hope*), which was initiated in 2009 and led by Prof Sheona Shackleton in two communities:



- Gatyana – a deep rural coastal community near the small town of Willowvale in the former Transkei; and
- Lesseyton – a rural/peri-urban community with a more urban influence as it is situated approximately 15kms from Queenstown on the border of the former Ciskei.

The project was funded by the Canadian-based International Development Research Center (IDRC) and supported by numerous researchers in the Department of Environmental Science at Rhodes University, as well as from the Department of Resource Economics and Environmental Sociology at the University of Alberta in Canada.

A broad definition of environment

While it is called a climate change adaptation project, it addresses the diversity of challenges people in these communities face in their environments, using a broad definition of environment, meaning where they live and including all the aspects of their lives – social, environmental and economic.

In both the Gatyana and Lesseyton environments very few people live off the land as commercial farmers, but many engage in some level of subsistence farming, including planting a small area of crops and running small numbers of livestock in the communal areas.

Many people have limited education and skills and are unemployed, many receive social grants; others are migrant workers. Social and health problems are considerable, including HIV/Aids, drug and alcohol abuse, rape and other forms of gender violence, crime and violence, child-headed homes and lack of parental care.

These communities generally lack the institutional resources to cope with any kind of catastrophe, including droughts, floods or any climate-change related events. Shared perceptions in these communities are that they are experiencing increased floods, droughts, severe heat and severe cold and that the wind is getting stronger and damaging or destroying their crops. The emphasis is that these are perceptions and not necessarily borne out by meteorological records.

Research is an interactive partnership

“In each community we formed social learning groups following considerable awareness-raising through meetings and drama skits about what research is and what it is not. We explained that it is not a development project; that it is an interactive partnership where we learn from each other and develop each other’s strengths,” says Dr Georgina Cundill who joined the project during her postdoctoral research in 2010.

The social learning process parallels the research process with backwards and forwards sharing and exchange of knowledge between the social learner group members and the researchers.

“Part of my postdoctoral research was on social learning and what it means in terms of vulnerability, coping and adaptability in the face of the multiple stresses in rural communities. It was also about how to design social learning processes that facilitate sustainable community adaptation mechanisms, such as problem-solving techniques. These can be drawn upon to help better organise groups in the communities to cope with the range of challenges they face.”

The team emphasised that the people elected to participate in the social learning groups from the community side needed to be able to be involved in the project for a period of at least three years.

Learning and skills gain but no financial gain

“We made it clear that while there would be considerable gain in terms of learning and skills, as well as certificates and reference letters, there would be no financial gain,” Cundill continues.

From here the two communities went off and voted for eight to twelve people per community whom they felt would best represent them in the social learning groups.

Social learning and participatory process used interchangeably

“From the project’s perspective, we tried to think about what a social learning perspective would mean for how we designed the participatory process” Cundill continues. “The participatory process was intended to be a conduit of knowledge flow, back and forth, between the communities and the researchers working on the project (nine Masters and PhD students).”

How you think about, work with and treat people

By Lawrence Sisitka

Lawrence Sisitka is an Environment and Rural Development Consultant who worked with the team in developing and implementing the 'Problem Solving Course' for members of the two social learning groups.

There are plenty of debates about participatory and engaged research – it's an entire area of study, but for me it is straightforward – it's all about how you think about, work with and treat people, and whether you recognise that we all have plenty to contribute.

I bring a pragmatic, experiential orientation rather than a theoretical or literature-based one to these projects. What I have found after years of working in various rural programmes across Africa is that while we sometimes tend to think we are engaging with people on issues beyond their grasp, we invariably learn more from these communities than we teach them.

In the two Eastern Cape communities I helped create a framework 'problem-solving' course. One of the biggest lessons postgraduate and other students can learn from these engagements is that you have to suspend your expectations because what happens today might change tomorrow. Being rigidly outcomes-based rather than adaptive does not work in communities.

In other contexts they would be doing their PhDs

The main characteristic of the members of the social learning groups was that they are genuine, passionate people who are committed to helping their communities. The multiple constraints on these people are enormous and they repeatedly astonished us with how they cope. Many of them in other contexts, and with better opportunities, would be doing their PhDs or be high flyers in other sectors.

What stands out is that in all these processes is that it is predominantly the women who commit to these projects. In the Gatyana and Lesseyton groups, all but one of the course trainees were women ranging in age from their early 20s to 50s, and all strong, highly intelligent and hard working. They used the skills they developed to facilitate a range of groups in their communities – from soccer clubs to sewing groups.

Elizabeth Spayire (49) from Lesseyton helped a sewing group to become more

organised and financially viable by making school uniforms. They operate on tables made from oil drums and planks with some old sewing machines, and they developed so much as a group with her help that they asked her to join them.

Another woman helped a burial society to create democratic, accountable structures and a financial committee to build trust and efficiency. They established a constitution, which they use as a reference point to ensure the society maintains its standards and ethics, and that all members commit to their duties.

Rosey Mraji (35) from Lesseyton supported the work of a soccer club and found employment in an extended public works programme at the end of the project. She, like all the other members of the social learning groups had been unemployed before, which is how they were able to participate in the project. She said that the project had ‘sharpened her mind’ and given her the confidence and skills to apply for the job.

Tangible impacts from the course (and the project) include social learning group member Nozibele Holoholo (32) persuading the Department of Health to use the St John’s Apostolic Church in the Gatyana community as a centre for conducting tests for illnesses such as TB and HIV, and for weighing babies. This is a major step forward for the community. The same community, guided by her problem-solving skills, repaired and repainted their church within 2 weeks following rain damage. She explained that this would not have happened before; that the repairs would have taken a long time, if they were ever done!

At the end of the course the social learning group members said they are happy to continue supporting the community groups they started facilitating as part of the course – this is all without remuneration.

We have developed six-month action plans with them, which we review with them every three months. The assumption to be tested in the long-term is whether by changing the way a small group of individuals think, leads to a larger impact on the community more broadly. As part of its ongoing monitoring process, the project team will maintain a long-term relationship with these social learning groups and communities to track their organisational capacity through the years.



The monitoring and evaluation of the social learning process was also an invaluable research process in itself and the work has been presented at several conferences and at the COP 17 in Durban.

“Many difficult issues surface in engaged research, such as whether it is ethically acceptable to ask questions around vulnerability and the incredible hardships that people face,” Cundill explains. “We didn’t feel it was ethical to ask these questions unless we were able to offer input from our side to help increase their capacity to cope, hence our adoption of a participatory process.”

What does it mean to be vulnerable in these communities?

The postgraduate students involved in this project gained an up close understanding of what vulnerability means in these communities through the social learning groups (and their own research within households), which were facilitated by an experienced community facilitator and translator, Monde Mtshudu.

“At times it was very difficult for everyone to present when people started opening up about child prostitution, for example, or about young children being raped,” Cundill explains. “We even tried to stop one of the workshops because everyone was getting so upset, but one of the older women in the community said we should let it continue. She explained that people needed to talk about these ‘unspeakable subjects’ and the difficulties they are facing because many people didn’t realise their neighbours were

dealing with similar problems.”

The groups landed up spending a whole year on vulnerability. To raise awareness about the many forms of vulnerability the communities were experiencing, they engaged local drama groups, school groups, groups of small children and soccer clubs to put together plays and songs, which were performed in the community halls, and were extremely well attended.

Coping with vulnerability

The project subsequently addressed how people are coping with vulnerability.

“What came to the fore is that people were doing an incredible amount for themselves and their community, such as helping their neighbours to plant food gardens, or forming home-based care groups for orphaned and vulnerable children or the sick and elderly out of their own pockets and on their small social grants.”

Others are running crèches, youth groups and sports clubs. People had also started their own business initiatives such as brick making, sorghum beer making and burial societies. The only externally initiated business was a poultry project.

What motivated people

To understand what motivated people the project team gave members of the two social learning groups disposable cameras and they headed out to document the community-initiated projects in photos and in writing.

They also had to take on a facilitation role for new projects or community-initiated projects that weren't working as well as they could.

The two social learning groups were subsequently brought together at a colloquium at Rhodes University in 2012 to share what they had learnt, and to discuss what is working and what is not working in their communities. An important part of the sharing exercise was also for the learning groups to gain a sense of shared challenges and solutions, and that they are not alone.

Social learning group members put together hand-written posters on what they had researched, which they then presented, and were subsequently taught how to put these posters on Powerpoint, which were then printed out and laminated.

Developing skills

“The whole exercise was also about developing researching, interviewing, documenting, presentation, problem-solving and computer skills in the social learning groups. They all did incredibly well and at the end of the colloquium we gave them certificates of attendance from the Department of Environmental Science, Rhodes University. It was

Prof Sheona Shackleton was a finalist in the 2013 Vice-Chancellor's Distinguished Community Engagement Award

*Nominated by Prof CG Palmer (IWR)
and N Hamer (Environmental Science and IWR)*

Background

Prof Sheona Shackleton has practised engaged research for her entire professional career, developing a research practice founded on the principles of transdisciplinarity, knowledge sharing and co-creation, and community engagement since her early work at the then University of Transkei, and at the University of the Witwatersrand's Rural Facility (mid-1980s to mid-1990s).

Shackleton combines the highest ethical engaged research practice with an excellent research output. She is the author of more than 100 publications the titles of which are a testimony to sustained community engaged research practice. Her graduate students have had exceptional experience and training and her contribution to community engagement is certainly at the very top of the Rhodes' academic community. Shackleton's recent, well-deserved promotion to full Professor testifies to academic leadership, and in her case the research is founded in community engagement.



very exciting for all of us because many of the social learning group members had not completed their schooling and had never received any kind of certificate,” says Cundill.

Strategies to help their communities develop more resilience:

The groups discussed the strategies they wanted to develop to help their communities develop more resilience, cohesion and collaboration. The Lesseyton group wanted to help their community to establish a football league as they have over 11 teams in one community alone. This would create a sense of purpose, especially for many of the young people, and create a rallying point for the entire community.

The Lesseyton community also wanted to develop the gardening and home-based care groups that exist there.

The Gatyana group wanted to establish community-based forestry and to develop a tourist lodge and craft centre.

“The process of helping them achieving whatever challenges they want to achieve, whether it is a sports club or food gardening group, helps them to develop coping and managing skills, which can then be applied to other challenges, including the challenges of climate change,” Cundill explains.

Amy Trefry, a Masters student from the University of Alberta whom Cundill co-supervised, discovered during her research with a home-gardening group that one of the biggest challenges facing women who were planting home gardens (and particularly fruit trees), was that they had no way to preserve their produce, and therefore experienced high levels of waste each season. In response, at the end of her research, she ran a workshop with the participants of her research (and other members of home gardening groups) in which she demonstrated how to make jam, and also how to preserve fruit whole in bottles. Trefry drew on her own upbringing in rural Canada for this, where she learned from her parents how to preserve food.

Strong problem-solving skills

“In assessing our contribution we wanted, most of all, to leave the communities with strong problem-solving skills, and an ability to recognise their strengths and how to come together to help each other to overcome some of the challenges they face, now and into the future.”

“Through the Centre for Higher Education Research Teaching and Learning (CHERTL) and the Environmental Learning Research Centre (ELRC) we have developed a NQF Level 5 accredited course on community-based environmental problem solving, for which community members with a matric or relevant experience can enroll. We approached the social learning group members and got strong buy-in for the course.”

Learning is fundamental to our capacity to cope with future social-ecological change. But how do we stimulate the ‘right’ kind of learning, and how will we know if we succeed or fail?

By Georgina Cundill, 2012
(sustainable-learning.org/2012)

I am sitting in a high ceilinged community hall in rural South Africa. Cattle graze on short dry grass outside the door, and participants look pinched from the cold breeze that whistles under the doors and through a broken window. We have just finished an activity that saw all nine of us holding hands, tangled up with one another, and trying to get untangled. We succeeded, with some cheating. The facilitator tells us this activity is symbolic of what will be needed to overcome the challenges that the community faces: it will require everyone to be present, conscious of the actions of others, and mindful of their interconnectedness. She does not mention the cheating.

This is the second year of regular interaction with a small group of people who have been taken through a process of thinking about what vulnerability means in their community, how individuals and households experience it, and how people are responding to it. We have used narratives, drama, dance, large community meetings and small focus groups to tell stories about local experiences of vulnerability in the context of multiple stressors, particularly climate change and HIV/Aids.

Ultimately, over a period of three years, we want to get to a point where we have taken a core group of individuals through a process of exploring local experiences of vulnerability, responses to those experiences, what people *could* do to respond, and why they are not doing these things.

Finally we want to reach to a point where the group begins to work with the community to break down barriers to adaptation. The hope, and the intention, is that the learning process will transcend the core group and become located within the social networks or/and communities of practice that participants belong to.

We are testing the idea that by changing the way a small group of individuals think about

themselves in relation to their community and the challenges it faces, we will have a larger impact on the community more broadly. In other words, we are testing a methodology for social learning. This is a long shot, but worth a try.

As we take these individuals through this learning process, the facilitators are attempting to monitor learning outcomes for those involved. This means documenting what both the community participants and the facilitators are learning as we go along, and using this to adjust our interactions with one another and to be mindful of the path we are walking together.

We all have an idea of where we want to get to – we want to identify and break down barriers to adaptation, and we want this to happen in the broader community, not just this core group. But we are not entirely sure how we will get there. This year we will use social network analysis to explore how far, if at all, learning is ‘moving’ from this core group into the broader community. We hope that this will shed light on the kinds of impact a sustained participatory process such as this might expect to have in a rural community struggling with so many social and ecological challenges.

As we reflect on the learning that has taken place during the day’s activities in the community hall, I look around at the faces of women and men who I have seen cry as they told stories of their experiences of vulnerability. They say that they have learned about the importance of sharing their painful stories, they have learned that the person sitting next to them also lost a loved one to HIV/Aids. They have learned that their individual actions to help others are important. I can’t help but wonder if this is really worthwhile, and I return time and again to same thought: is participation the new tyranny, as Cooke and Kothari (2001) warned? How do I make this worth these people’s time? And then I am reminded why we are monitoring and evaluating this process as we go along, and I am committed anew to critically evaluating the learning outcomes of participatory processes.



Towards this the team worked with environment and rural development consultant Lawrence Sisitka in developing and implementing, with Monde Ntshudu, the 'Problem Solving Course' for members of the two social learning groups.

This course ran for six months with two-day workshops in each community every month. The trainees were given tasks (assignments) to complete between each session. These tasks were designed to help strengthen the functioning of the community groups being supported by the trainees, and included development of constitutions, training plans, and action plans; also strategies to deal with internal conflicts and tensions. The trainees recorded all the details of the tasks in their notebooks and reported back on the outcomes to the whole group at each session. Successful completion of the assignments would enable them to receive a certificate of competence from Rhodes University.

Of the 12 people who undertook the training, 10 were successful in achieving their certificates. Almost without exception they worked extremely hard on their tasks, harder than many university students. Their motivation was both the prospect of a certificate from Rhodes, and the opportunity to really help their community groups.

The course received a very positive review from the trainees who said that it would be good for others in their communities and in other communities to do, and that they would be keen to continue their work with their own and other groups using the course as a basis.

Out of the whole process, including the problem-solving course the team has developed a social learning handbook, funded by the IDRC.

The social learning group members are co-authors of the handbook, which can be used by other social learning groups, communities, NGOs and community development officers. “We will be presenting the handbook to NGOs from around South Africa in September 2013,” says Cundill.

“You cannot underestimate how valuable the handbook and course is to communities that do not have access to skills or education.”



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The Siyakhula Living Lab – A living model of engaged research

Providing connectivity to South Africa's impoverished rural communities is a key priority that facilitates communication, education and development. It should be regarded as a human right.

This underpins the philosophy and practice of the Siyakhula Living Lab (SLL) launched in 2006 by Rhodes University and the University of Fort Hare in the field of Information and Communication Technologies (ICT) for Development (ICT4D) in a marginalised rural community in the Eastern Cape Province of South Africa.

The 15 000 people who are part of this community live in the area known as Dwesa in the Mbashe Municipality, close to the Wild Coast's Dwesa- Cwebembe Nature Reserve.

As one should expect, this ongoing, long-term initiative is run with the full participation of the community. The name, Siyakhula Living Lab meaning 'we are growing together' stresses this aspect, and was chosen in collaboration with the project participants.

A sense of being part of the world

“The Siyakhula Living Lab brings a sense of being part of the world to people in remote rural areas; people who too often live with a sense that life happens elsewhere,” explains Prof Alfredo Terzoli who initiated what was to become the Siyakhula Living Lab (SLL) in 1999. Terzoli is the Head of the Telkom Centre of Excellence in Distributed Multimedia, hosted in the Departments of Computer Science at Rhodes University and the University of Fort Hare.

“To make a success of the Centre we needed to find a research area in which we at Rhodes could share skills and expertise with Fort Hare, which, as a former ‘black’ university had a technology department needing to be better resourced.”

ICT for development – a natural match

Information Communication and Technology (ICT) for Development was a natural match and the Telkom Centre of Excellence ran with it. Building capacity and infrastructure at Fort Hare took several years, as did the development of the SLL, the motto for which is, ‘*Reconnecting marginalised communities through service co-creation*’.

An important role of universities in South Africa, Terzoli believes, is to try to unify society by overcoming development gaps and fragmentations that alienate certain sectors of society. He said his team’s work is essentially an economic pursuit because if these issues are not addressed they will have long-term economic implications for South Africa.

“There is strong support for the idea that if you provide telecommunications in societies that haven’t had them before, there is generally an improvement in their quality of life. We hope our projects contribute towards this.”

Co-creation of solutions

The Siyakhula Living Lab or SLL (www.siyakhulall.org) is organised along the lines of the emerging Research Development and Innovation processes (RDI) *Living Lab* methodology of which the underlying principle is *co-creation of solutions with empowered users*.

It demonstrates in a practical manner how marginalised rural communities that are difficult to access, can be joined with the greater South African, African and global communities for the economic, social and cultural benefit of all.

Other departments at the two Universities (Anthropology, Communication, Education, African Languages, Information Systems, Journalism and Media Studies, and Sociology) are participating in the project, giving it a vibrant, and necessary, multi-disciplinary strength.

Combining research with community engagement – The Vice-Chancellor of Rhodes University’s Distinguished Community Engagement Award

At Rhodes University’s 2012 graduation ceremony, Prof Alfredo Terzoli, Head of the Telkom Centre of Excellence in Distributed Multimedia in the Department of Computer Science at Rhodes was announced as the recipient of the coveted Vice- Chancellor’s Distinguished Community Engagement Award for 2011.

“I appreciate that the University recognises what we, as a group, have done over the years,” said Prof Terzoli whose driving force is to facilitate effective and sustainable access to telecommunications in marginalised, rural and peri-urban communities. This, he said, “will provide an opportunity for better education and help to improve the quality of life and economic possibilities of community members.”

The Vice-Chancellor’s Distinguished Community Engagement Award is presented annually to a Rhodes University staff member who has dedicated his/her skills, knowledge and expertise to the development of mutually respectful, beneficial and socially significant initiatives and relationships in the area of community engagement.

Prof Terzoli was recognised for his work in establishing three outstanding initiatives aimed at social and economic transformation:

- The Siyakhula Living Lab in rural Dwesa in the Eastern Cape;
- Information and Communication Technologies (ICT) capacity building at the University of Namibia; and
- The E-Yethu Schools Project in Grahamstown in the Eastern Cape.

The E-Yethu Project was started in 2005 to co-ordinate and formalise ICT for Development activities by staff and students in the Education and Computer Science Departments (ICTEd4D) at Rhodes.

This project aims to aid schools in sourcing computer and ICT equipment, support teachers and learners by providing a transfer of ICT skills, facilitate collaboration and communication between Grahamstown schools, as well as provide ICT literacy and training for teachers and learners. It currently provides Internet connectivity and technical support to eight schools in Grahamstown. Additional schools are being added to the network.

In all their projects Terzoli and his team work closely with community members to develop a system of technological connectivity that is sustainable and that addresses the specific needs of rural and peri-urban communities. “The world is full of solutions that have been dreamed up in conference halls and that are totally at odds with the reality on the ground,” he says.



Overall description and profile

The original objective of the project was to develop and field-test the prototype of a simple, cost-effective and robust, integrated eBusiness/ telecommunication platform, to deploy in marginalised and semi-marginalised communities in South Africa, where a large number (over 40%) of the South African population live. The project has evolved to offer generic communication- based services to rural areas in South Africa, based on the deployment of ICTs to schools, which collectively realise a distributed access network.

Since 2006 the Siyakhula Living Lab has been gaining the confidence of its local community in the Dwesa region where school learners and adults alike have obtained basic ICT literacy skills to a level that allows real participatory work and research to be performed.

Citizen participation

The Dwesa community lives in a cluster of villages with very low-density housing and is every bit a marginalised, rural community. Many of the members of the community do not have electricity in their homes, which are the characteristic combination of more modern brick houses, shacks and traditional Xhosa dwellings. The people here subsist on government grants, the few crops they grow, livestock and seafood when they can access it.

The closest town is Willowvale, which is 40 kilometres away, and the Dwesa community members spend a great deal of their minimal income on transport to

Willowvale or Dutywa which is 30 kilometres further, for shopping and general business. Learners and young people have few prospects in the area, and generally head off to find work elsewhere, leaving a high percentage of older people to look after the children.

The SLL team approached the Dwesa community because Rhodes already had a good, existing relationship with them through Prof Robin Palmer and the University's Anthropology Department, which had been collaborating with the community for some time. The Rhodes Institute for Social and Economic Research (ISER) also had a relationship with the Dwesa community, which achieved one of the first successful land claims in South Africa where the nature reserve was returned to the community.

Palmer introduced the SLL team to the community and the project took off, with funding from Telkom, and the Cooperation Framework on Innovation Systems between Finland and South Africa (COFISA).

17 participating schools

The SLL's current active user base is approximately 200 community members and 4500 learners drawn from 17 participating schools.

The research is situated directly in the community and progressively builds on ICT knowledge of participants; adapting and developing software to provide new tailor-made services for them.

It works as follows:

- First the community learns about ICTs using software developed by the Telkom Centres of Excellence (CoEs) at Rhodes and Fort Hare, based on best practices in the industry.
- In the next step, the value of ICTs is directly demonstrated through use. The value ranges from new information, such as demonstrating the presence of a virtual library on the Internet, to how to email, to communication cost savings.
- Finally, the community learns that ICT requires strong participation – and this involvement results in value for the community. An example is sales of traditional craft to global customers through participation in an eCommerce platform. Part of the process is to develop new value-adding services together with the community as the system evolves and as participation leads to new ideas. These ideas feed into new, robust software products for rural areas developed by Reed House Systems, a software house hosted by Rhodes University and launched in 2010 as part of the Siyakhula Living Lab.

The research being conducted by Rhodes and Fort Hare through the SLL is of great importance to South Africa and Africa as a whole. It is producing tangible skills upliftment and empowerment for impoverished communities in deep rural areas, and it

is hoped that this can be extended to communities throughout South Africa and across the continent.

The Siyakhula team of postgraduate students

The Siyakhula team of postgraduate students, most of them from the Rhodes and Fort Hare Departments of Computer Science, others from the Departments of Information Systems and Education, and the School of Journalism and Media Studies at Rhodes, started to regularly visit Dwesa from 2006 and has continued to do so ever since. The 2013 team includes four Masters and three PhD students from Rhodes and fourteen Masters and three PhD students from Fort Hare.

Schools were selected as the community ICT hubs, in consultation with school principals and the community, with everybody agreeing that the whole community could benefit from the computers, and be taught to use them.

Computer labs in class and staff rooms

The electricity in the Dwesa region is erratic and not of the best quality, which causes problems with the computer equipment as a result of bad surges and spikes, but the team knew from the outset this was a highly challenging environment for ICT.

The first installation was at Mpume School, which has 159 learners, where five computers were set up in the staff room. The first line of training was for school staff and community members, who attended two-week training sessions. They then imparted the knowledge to the learners and interested community members. Other schools followed, such as Ngwane, with 182 learners up to Grade 9, where 20 computers were installed in a classroom set aside as a computer room. Siyakhula now has 17 participating schools but only three of the labs are up to the standard the project team would like them to be. “We are hoping that future participation in the Department of Science & Technology’s programme on Technologies for Development will help us to bring all of them to an acceptable standard,” says Terzoli, adding that in many of the schools they need to accommodate 400 to 600 learners.

The learners were excited from the outset

The learners were excited from the outset and got the hang of using the computers, email, social media and the Internet pretty quickly.

“Typically, young people learn ICT faster than older people and the more time they spend on the computers the more they learn,” explains Terzoli. It has also proved to be a wonderful sharing experience for the communities because community participants, particularly the women, have been keen to come to the schools to learn.”



The Pigs Story

In one of the early learning classes when they were introduced to the Internet, community participants wanted to know if the Internet could help them find out what had happened to the compensation money the government had promised them. This was as a result of their pigs being slaughtered because of the swine flu epidemic that hit the region some time back.

They did a Google search and discovered there was an application form they had to fill in – this information had never been shared with them. It was a wonderful demonstration of the Internet’s usefulness, and they filled out their forms and subsequently received the compensation. This early learning experience has since come to be called ‘The Pigs Story’.

Maintaining an ongoing presence in the community

The Computer Science and Information Systems postgraduate students from Rhodes and Fort Hare have maintained an ongoing presence in the community for the past seven years, and regularly visit for weeklong community engagement and learning sessions. Other departments at the two institutions (Anthropology, Communication, Education, African Languages, Information Systems, Journalism and Media Studies, Sociology) have joined the project, making it a strong, multi-disciplinary initiative.

“It’s been a transformation for communities in the Dwesa region and we are trying to encourage the government to extend the SLL system to other marginalised communities in South Africa. We feel it is very important especially when you consider

that over 60% of South Africa's population has no access to the Internet or any knowledge of how it can enhance their lives. They can only do the basics on cellular phones but that is not enough," says Terzoli.

Government needs to come on board

"It's a large project with great potential, but we need government to come on board and commit funds to the project to ensure its continuation and expansion. We are interacting with the Technology Innovation Agency, the Departments of Science and Technology, Communication, Education, Rural Development and Land Reform, as well as the Department of Economic Development in the Eastern Cape."

The SLL team has demonstrated the effectiveness of the project but apart from a good response from National Treasury (which cannot fund anything directly) by mid-2013 there has been no follow-up funding from any of the government departments or agencies.

This is puzzling given the government's development drive and President Zuma's pledge to develop the rural areas. As Terzoli emphasises:

"We want to see all the rural schools in South Africa connected, and through them, the surrounding communities. We are ready for this but we need support."

ICT for development: cultivating ethical leadership

"Ours is an exciting environment with lots of work to be done and lots of learners with plenty of energy," says Prof Mamello Thinyane, Head of the Telkom Centre of Excellence in ICT for Development (ICTD) at Fort Hare University.

Thinyane took up this position in 2010 after completing his PhD at Rhodes University in Computer Science. He has been closely involved with the Siyakhula Living Lab (SLL) from his student days and continues to be as an academic.

The SLL is jointly run by the Telkom Centres of Excellence at the two universities.

"ICT for Development is the core focus of the Centre at Fort Hare, which was established as an independent Centre in 2002, with a focus on rural communities. Prior to that it was a unit of the Centre at Rhodes," explains Thinyane who closely collaborates with Terzoli who is also the Research Director at the Centre at Fort Hare.

A primary mandate to produce postgraduate students

Both Centres are hosted in the Computer Science departments at the two universities with a primary mandate to produce postgraduate students and to contribute to the body of knowledge in the computer science field.

The Fort Hare Centre of Excellence produced its first PhD student in 2010. Its 2013 group includes three PhD students, 14 Masters and 18 Honours students. This is significant growth since 2002 when there were no postgraduate students in Computer Science at Fort Hare.

Several postgraduate students from Fort Hare are directly involved in the SLL at Dwesa and closely collaborate with their Rhodes peers. They travel down to the project together, share the base at Dwesa, collaborate on their research and help each other with their respective competencies.

A heartfelt need to help others

“At Fort Hare and at Rhodes we set out to train students to not only complete their degrees but also to be sensitive to development issues and ethical leadership. We really hope that when they leave us to go out into the world they go with a heartfelt need to help others,” says Thinyane.

Globally there has been a Technology for Development drive over the past ten years and the Centres recognised the potential and challenges in rural South African settings, with the Dwesa community in the Eastern Cape offering a typical example.

“There really was nothing in the area in terms of computers and ICT, as is typical of most rural settings in South Africa,” Thinyane explains. “This posed various technical challenges, but the technical challenges were far easier than the social challenges in this extremely isolated rural community. The community had limited access not



only to computer skills, but also to other skills such as literacy, networking and entrepreneurship, and the basic needs of electricity and transport to market are major issues.”

Developing suitable software, systems and platforms for ICT4D

The background work that led up to the first meeting with the Dwesa community started in 2002 with laboratory research by students towards developing suitable software, systems and platforms for ICT in rural areas, including eCommerce, eHealth and eJudiciary solutions.

At the time Thinyane was doing his Masters on Wireless Hotspot management systems at Rhodes. Later, as a PhD student, he was part of the initial team that met with the community seven years ago, and launched the Dwesa Project that evolved into the SLL.

Peer-to-peer relationship system

Each of the 17 SLL schools at Dwesa serves as a hub for the community living in the villages around each school. The number of hubs in this peer-to-peer relationship system is determined by how closely situated communities are to each other. The hub can be situated in any building - including clinics, spaza shops and private homes. In the Dwesa context the schools were selected because they have electricity and because they are a good access point for all community members.

“We were very clear from the outset of the project that we were deploying the technology for the benefit of the whole community,” says Thinyane who has regularly visited Dwesa since 2006.

Important changes

In this time he has seen important changes. “It’s difficult to quantify changes in attitude but there is definitely a tangible sense of pride in the community that they are no longer at the end of the world. Many of the teachers also feel so much more motivated because they have computers as learning tools.”

“We’ve seen so many learners and community members grow through the project, and we want to do more,” adds Thinyane.

To take the SLL to the next phase of far larger impact by including many more communities, the project needs extensive support from government.

“Our vision and goal is to go large. We think the model we have and what we are doing holds enormous potential to help people all over South Africa and into Africa.”

Pinky and the Computer

Neziswa Mcinga, known as 'Pinky', was 23 years of age and at a dead end in her life when the Siyakhula Living Lab (SLL) came to her community in deep rural Dwesa on the Wild Coast of the Eastern Cape.

"I'd completed my matric in 2001 at Badi High School in the Dwesa district where I was born and raised, and after matric I worked a bit here and there as a domestic worker in East London, but what I really wanted to do was to study," she explains.

Her prospects for tertiary education were non-existent as her father, Fundile Mcinga, who raised her and who lives in Dwesa, is unemployed and on a disability grant. She also had a young daughter and three siblings to look after.

Most people in the villages that populate the mountainous landscape are in the same position, surviving on a combination of government grants and subsistence agriculture. Globalisation has bypassed the villages.

Unplugged from the formal economy, their lives have become increasingly precarious as poverty and unemployment accelerates.

"Acquiring ICT skills has opened windows for hundreds of Dwesa learners over the past seven years. Without the Siyakhula Living Lab we would not have had the opportunity to acquire these skills in an ICT-dominated world," Mcinga explains.

Like millions of young people in South Africa, Mcinga was trapped between advancing poverty and her aspirations.



“My family was really struggling and I had returned to Dwesa to be with them when I heard about this computer project that Rhodes and Fort Hare universities were busy with in our community,” says Mcinga. “I went to find out what it was all about and when I found out they were training all those from our community who wanted to learn ICT skills, I immediately started attending classes. Here was an opportunity to learn for free and I grabbed it!”

“It’s definitely helped to develop a different mindset in Dwesa – as a place where things happen rather than a place that is isolated from the rest of the world. I have personally changed a lot and I see myself very differently now.”

Mcinga’s story has been made into an SABC2 documentary called ‘*Pinky and the Computer*’ to inspire other young people from rural areas. She has since moved to Grahamstown where she is a member of the team at the Reed House Systems software company hosted at Rhodes that specialises in software for rural areas and is included in the SLL ‘ecosystem’. She is collaborating in the creation of e-services to be deployed in Dwesa and is also studying to be a social worker.

Where to for the Siyakhula Living Lab from here?

“As I have mentioned we have met with various government departments over the years with an absolutely workable plan to expand our footprint to many more schools in the rural and peri-urban areas. We also want to improve the standards of all the labs in our participating schools,” Terzoli explains.

“We are hoping that the Department of Science & Technology will recognise the merit in partnering with us. We have submitted a proposal to its new director of ICT & Service Industry who is looking at Living Labs with a track record for a range of projects.”

“As part of our proposal to the Department of Science & Technology we are including the suggested use of the Raspberry Pi Microcomputer www.raspberrypi.org. The pre-run was released in 2012,” continues Terzoli.

It is aimed at revitalising the computing space for young people in the same way that the microcomputer completely changed the face of computing in the 1980s by putting relatively inexpensive hardware in their hands. It definitely beats the price of refurbished computers - the added issue with these is that they are all different, which can add complexity. All being well, funds from the Department of Science & Technology could be forthcoming in 2014.

The team has also submitted a proposal for technology solutions in a number of Eastern Cape municipalities.

“It would be a good boost for the project, learners and researchers if we are awarded these projects. We have the skills to share and a good working model.”

In terms of new collaborations, the Siyakhula Living Lab started an exchange programme in 2013, funded under the European FP7. The collaboration is funded for 2013 and 2014 and the four partners are Rhodes, Fort Hare, the Bruno Kessler Foundation in Trento (Italy), which has a unit on ‘ICT for Good’ and a unit of Fraunhofer FOKUS in Sankt Augustin in Germany that specialises in wi-fi mesh networks. “Our German and Italian partners have already been to South Africa and members from our Rhodes and Fort Hare team are likewise heading for Germany and Italy,” says Terzoli.

A second partnership is in the making, as a result of the Global Forum on Innovation & Technology Entrepreneurship with infoDev and DST. In this case, infoDev (a unit of the World Bank) contacted us first, initially through their network in South Africa, which comprises various people we know well.

“The idea is for the Siyakhula Living Lab and Rhodes to be part of a legacy project linked to the Global Forum chapter in East London, on mobile applications,” Terzoli explains. “We would provide direct experience and access to the segment of population that the applications would, in the main, target. The meetings have gone well and if this materialises it will be in late 2013.

“We are also hopefully in line for some funding from the Department of Communications through the new coordinator of the Eastern Cape Knowledge Hub. All in all, there is so much we can do and we are hoping that support will materialise for us to assist the communities who have been left behind to start feeling they are part of society and that society is reaching out to them in an engaged process of growing.”



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JOURNALISM & MEDIA STUDIES

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Wf ward focus ward 11

As journalists working for the public we asked the public what they wanted us to report on, and how our efforts could lead to some resolution. We discovered that the rubbish dump was one of the biggest problems in Ward 11. The dump affects business in the area. The Grahamstown Golf Club is greatly affected by the rubbish constantly blowing onto the otherwise pristine greens; the Riding Club is fighting to keep the rubbish and plastic at bay. For years the issues around the local rubbish dump have been building up to a point where business owners and residents have nowhere to turn. We decided to focus our attention on these stories. We hope that by bringing these stories to light some change can be made.

Rubbish dump environmentally hazardous to Ward 11

Tom Entwain and Pictoria
Retrieved

The industrial area of Grahamstown in Ward 11 is filled with a scintillating array of plastic bags on footpaths, sand boxes on pavements and waste on the daily roads.

All the litter comes from the Grahamstown dump. The rubbish is stored in a deep cavity inside the rubbish dump, and is fortified by fences around the site and by the main road. Just one gust of wind causes mayhem in the industrial area.

Adversely affected by the litter that blows from the rubbish dump are the Grahamstown Horse Riding Club and the Golf Course.

Ernie Dapolla, the general manager of the golf course,

complains - "ever wind responding to my complaints." Our own attempts at contacting the Municipality have proved fruitless.

The poor waste management also raises hygiene concerns for areas surrounding the rubbish dump. Basola said, "The wind doesn't only blow the plastics here, you don't want to come here in summer."

A simple solution suggested by Basola is containing the rubbish in the site effectively, and installing containers for certain types of rubbish so the hopes that recycling efforts are more efficient.

The Horse Riding Club is also not immune to external damages caused by the dump. Site, Grahamstown



Active citizenry and public journalism

"I have always been drawn to a particular approach to journalism known as public journalism, which emphasises the importance of accessing and receiving the views and insights of 'undercovered areas' – communities and areas that are generally not covered by the legacy or traditional media," says Rod Amner, who has been a lecturer in the Rhodes School of Journalism & Media Studies since 2001.

He was a finalist in the Vice-Chancellor's 2013 Distinguished Community Engagement Award.

Amner regards teaching, academia, research output and community engagement as mutually inclusive.

"Excellence in journalism education is achieved by challenging students to engage with critical theories, challenging ideas and uncomfortable truths, and then by taking this a step further and testing these ideas by immersing themselves in grassroots or hyperlocal experiential contexts.

For Rhodes students this means on campus and in the wider Grahamstown community," explains Amner who has pioneered a range of public journalism

engagement projects within the first, third and fourth year and postgraduate diploma curricula.

The flagship is the third year Journalism, Democracy, Development & Critical Media Production (JDD-CMP) Course that Amner and Rhodes media studies lecturer Prof Lynette Steenveld have been instrumental in promoting. It brings together the theory and practice of journalism in a community engaged partnership.

Amner is also actively involved in a number of organisations in the Grahamstown community, including the Friends of the Library, the Grahamstown Literacy Project, Activate and Rhodes Music Radio (RMR). His involvement with literacy organisations has afforded him keen insight into some of the challenges facing the education of young people in this city, which has inspired him to theme some of his journalism courses around these issues.

Hyperlocal journalism

Public and citizen journalism are part of the non-mainstream approach to journalism that includes development journalism, radical alternative journalism, community journalism and hyperlocal journalism.

The concept of hyperlocal journalism was boosted in the 1990s with the shift in global media to citizen and public journalism. “It was an attempt by journalists worldwide to reform journalism from within where journalists realised that only the so-called ‘big stories’, which are predominantly centred on mainstream politics, society and the economy, were being told by the legacy media,” he explains.

Journalists realised they have a responsibility to burrow deeper and uncover what is happening in politics, society and the economy on its many different levels. According to this model, what is happening in remote rural areas is as relevant as is what is happening in large cities.

“This approach gained impetus since the 1990s to the extent that there is a whole academic language for it today, including in Journalism Schools worldwide where we talk about Engaged Research,” Amner explains. Many journalism school models have started to adopt this language and to develop new cognitive ways for journalists to think about who they are, what they are doing and how they go about doing it.

A richness under you feet

“It’s about realising there is a richness under you feet in whichever community you find yourself. By uncovering the wealth of partners, opinions and worldviews in a wide variety of communities, and bringing these to the fore, journalists contribute to the development of social justice, democracy and active citizenry.

“After all, it is at the community engagement level that national policies and legislation are tested and hence this is where journalism in partnership with civil society can have more agency,” says Amner who likens this fashioning of a new epistemology of news to the fashioning of new ways of doing business globally. The obtuse workings of big business misled people away from what was happening on the ground and culminated in the latest global financial crash.

“Public journalism and citizen journalism is all about bringing news back to what is happening on the ground. Handheld communication devices and interactive media, including cellphones, iPhones and the Internet, have facilitated this, changing the course of media forever.

“Enabled by technology, civil society is powerfully engaged not only in helping journalists to tell their stories, but also in directly contributing to the legacy/traditional media. It goes without saying that access and language remain barriers in many communities but at the same time there are remarkable things happening as technology grows and access spreads.”

Partnership with Upstart

Amner and the Rhodes School of Journalism and Media Studies have collaborated on several public and citizen journalism projects, including a partnership with a fascinating and highly successful Grahamstown initiative called *Upstart*.

Rhodes University’s ‘First Lady’ Shireen Badat (she is married to Rhodes’ Vice-Chancellor Dr Saleem Badat) launched *Upstart* and approached Amner to work with her in 2008 at the very beginning of the Upstart project, which developed into



What is public journalism?

Public journalism is a two-decade-old press reform movement practised in over 15 countries. It attempts to close two widening gaps in contemporary society between citizens and government, and between news organisations and their audiences by stimulating increased active citizen participation in democratic procedures.

Public journalism practices include:

- Listening to the public to help set a ‘citizens’ news agenda’;
- Giving citizens a voice;
- Covering stories in a way that facilitates public understanding and stimulates citizen deliberation of the problems behind the stories;
- Presenting news to make it more accessible and easier for people to engage in the issues; and
- Helping organise sites for public deliberation and problem solving.

a partnership with the School of Journalism & Media Studies. “My 14 Postgraduate Diploma students provided writing and editing support to the Upstarters and helped conceptualise the form and content of the Upstart newspaper. The film project followed in 2011 with our third year television course.”

The project produces over 20 short films each year as a collaboration between Rhodes students and learners from several schools in Grahamstown’s townships who are members of *Upstart*.

“The three-to-five-minute films focus on social issues that Grahamstown youth confront in their daily lives in order to catalyse discussion on these issues,” Amner explains. “In one of the films, for example, a learner presents a poem she wrote about how poverty ‘ticks her off’ and how hopeless people feel about the lack of opportunity in communities where learners cannot attend school because they don’t even have a uniform. The poem then takes a hopeful turn about how young people need to plot a course through this misery to create better futures for themselves.”

Another film focused on corporal punishment in Mary Waters – a high school in the townships of Grahamstown. One of the students reflects on this:

“Several students heard stories of corporal punishment at Mary Waters. This was tough to hear, and as a class we have decided to actively stand against the use of corporal punishment at the High School. It is a delicate balance between being too far out and getting too involved, but this was an issue we felt needed our attention. This is a view of the media as an active participant, “a guide dog more than a watchdog” (Wasserman, H.2010: 796). We, through our attention on corporal punishment, may “apply classroom knowledge and skills to a community problem thereby increasing the depth and understanding of that knowledge and skill while solving a community problem through interaction with diverse community stakeholders” (Sheffield, E.2005: 46). I learnt that we live on the doorstep of a community with real issues. The simple things that we take for granted like public works and human rights aren’t guaranteed a few kilometres from our campus.” (Currie 2012, reflective essay)

The outcome was that the Headmaster made a commitment to ban corporal punishment in this school. Sadly, he did not keep his word.

The Profiling Project

Amner and his first year Journalism & Media Studies students worked on another project at Mary Waters where the students partnered with 220 learners from this school in what came to be called The Profiling Project.

“Mary Waters is extremely short of teachers and it’s beset with Department of Education problems, such as the teachers not being paid for over a year,” Amner explains. “One of the teachers from Mary Waters approached me and asked for help as she was having to teach English to 400 Grade 9 learners, many of whom were still battling to read and write.”

Partnering with 220 of these learners the students engaged in a blogging exercise where they posted their secrets on *postsecrets.com*. “It’s the most popular non-commercial, community blog in the world and the students and learners could come together over this fun exercise. It was a scaffolding exercise for a profile-writing project where the students and learners then wrote profile on each others.”

The Profiling Project revealed to the students and learners that they certainly have distinct differences but that they also have a lot more in common as young South Africans than they might have originally thought. It also revealed to the students the community-specific traumas and difficulties in the learners’ lives and what they have to overcome to cope with life and to try to get ahead.

“It was a powerful moment for both groups where over 400 young people from diverse backgrounds were sitting under the trees at Rhodes talking to each other,” says Amner who subsequently got his students to write essays about their experience.

Community Super Source

From 2011 Amner and five other Rhodes lecturers from the Journalism, Democracy, Development & Critical Media Production (JDD-CMP) Course have engaged the services of a 'Community Super Source' named Cathy Gush. She's a literacy activist from Grahamstown, she is part of the Grahamstown Literacy Project and she has strong relationships with teachers, NGOs and other literacy activists.

Gush, who works on a contract basis and is one of the teachers in the JDD-CMP Course, helps to link students with community partners. "I have found it to be an exercise in enlightenment and learning for the students as well as meeting the media needs of a range of educational projects and organisations in Grahamstown," says Gush.

"Through Gush's participation we have created greater continuity year by year between our students and the learners and other project participants," says Amner, explaining that he and the other five lecturers were finding it problematic that the connection between, for example the students and the learners in the Profiling Project, was lost after the project was completed.

"So what we have done is to build relationship projects that carry on from one year to another, which brings its own set of issues and complexities, but it generates incredible mutual access in the community, which also facilitates good public journalism partnerships and service learning projects."

Public journalism in Makana Municipality (greater Grahamstown area)

Most Rhodes students come to Grahamstown from elsewhere. Some have never before been exposed to the stark contrasts between wealth and poverty that are strongly evident in Grahamstown where inequality is in everyone's line of sight.

Some students (both black and white) report feeling distressed by this environment. Some are afraid to go into township communities and later express surprise at the 'friendly' and 'open' exchanges they have in these areas. Others react with shock and deep discomfort at the social ills they find.

"In 2010 we did a public journalism project with our third year JDD-CMP students where we had 12 student groups each assigned to a ward in the Makana Municipality, which includes the greater Grahamstown area extending over a 50km radius," Amner explains.

Each group partnered with a community in this area and put together a meeting to facilitate community dialogue where the pressing issues of that community – which ranged from lack of service delivery to child abuse – were discussed. The students then wrote newspaper articles about their assigned community's issues, which were published in 'wall newspapers'.

Wall newspapers

Wall newspapers, as the term suggests, are newspapers that are stuck on walls in visible public places. This is a cost effective approach to producing community newspapers, where, in this case, 50 copies were produced for each ward and stuck on highly visible walls in that ward.

“Each year we choose a different public journalism theme,” Amner continues. “One year we worked on a fatherhood theme where we researched the issues around fatherhood, child support, abuse and parental rights in our communities and then stuck up wall newspapers in the courts. Some of the newspapers stay up for years.”

We also published six pages for each ward in our local newspaper Grocott’s Mail before the last municipal by-election. We then approached the municipal manager who agreed to bring the various counselors to a meeting that we hosted, which was covered by print, TV and radio journalists and attended by the communities.

We thought the meeting would help to iron out problems between the communities and the counselors but, instead, the municipal manager stood up and berated me for 25 minutes,” Amner explains. “It was a strong learning moment about the reality of the disjuncture between the communities and those who are supposed to serve them.”



Intense disturbance

Other strong learning moments have caused intense disturbance and discomfort in the students, such as in a community where they discovered sodomy had occurred between very young children in a rural school. “Some of our students strongly objected to being exposed to this, which is understandable, but at the same time it brings students face to face with the harsh realities that public journalism set out to uncover.”

Practising public journalism also helps students to express a revelatory sense of purpose in being ‘allowed to take sides’ and ‘make a difference’ for the first time, adds Gush. “Through engaging with the wider community they develop a much stronger sense of attachment to Grahamstown and its problems. They develop deepened relationships with their sources which can lead to stronger feelings of empathy, solidarity and a better appreciation of diversity. And all of this leads to a re-evaluation of their values, ethics and sense of social responsibility. Some students report that they are ‘surprised’ by the ideas underpinning non-mainstream approaches to journalism and that this led to the evolution of their journalistic identities.”

The following exam responses from students regarding what the JDD-CMP course meant to them illustrates its profound effect on them:

“I could engage with the community I was working with in Ward 4, building relationships and challenging my values, ethics and ideas of social responsibility. I could experience diversity and re-engage the people whose stories mattered, not as statistics or objects like I had come to presume they must always be, but as subjects, as partners in their process of deliberation and debate. I began to reconsider my understanding that journalism must always be black and white: here are the facts, here are the requirements, get an official comment and get on with it. I reconsidered my entire professional and personal-political identity....” (Extract from student 3 exam response, 2010)

“The course made me rethink my relationship toward audiences, and gave me hope to let go of the notion of being detached from the people that I work with ...the reason I wanted to become a journalist was to empower people and bring change... Public journalism and the other approaches make me question who I am as an individual in this industry and what will I actually use this degree for.” (Extract from student 1 exam, 2011)

“The amount of gratitude people in our ward had just because we had come to ask them about their stories, was surprising and overwhelming. It made me realise the deep need for a move away from the monitorial role. Often our claims of objectivity are actually just a cover for not having the desire or time to delve deeper into an issue. One thing I have struggled with a lot during my three years of doing journalism

About Upstart

www.upstartyouth.com

Upstart is a youth development and empowerment project based in Grahamstown. Through the various multi-disciplinary projects the programme offers, it provides opportunities for high school learners between the ages of 13 and 19 to develop skills that empower them to positively implement change in their lives and that of their communities.

Upstart initially focused on developing literacy skills through the production of a youth newspaper by the learners, but it has grown well beyond this. A range of other media activities have since been added, including community radio and film, all of which contribute to enhancing the wellbeing, life skills and opportunities of high school learners. These activities provide them with skills and a sense of hope about their possible futures instead of being engulfed by a context of poverty and unemployment.

is the ethics of it. I have been a serial parachute journalist, and even though I felt uncomfortable about it at the time, I believed that was simply part of the job. (Extract from student 4 exam, 2010)

“The course also opened me up to the concept of societal justice ... I feel that I now have a better understanding and consciousness of my identity not only as a journalist, but as a journalist in a social context with moral and important obligations to that society.” (Extract from student 1 exam, 2008)

As a lecturer, journalist and citizen

“As a lecturer, journalist and citizen of Grahamstown I hope that some of the students who have been exposed to public journalism and engaged research will use their skills to advance democratic communication,” says Amner. “Too many of our journalism graduates are absorbed by public relations and other companies or they leave the country. I hope that through our efforts more graduates will stay and that we will help empower them to reconceive their notion of what it means to be a journalist in South Africa.”



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ENVIRONMENTAL LEARNING
RESEARCH CENTRE





Environmental education as a key driver of empowerment

At the 7th World Environmental Education Congress (WEEC) in Marrakesh, June 2013, the head of the UN Environment Programme (UNEP) Achim Steiner, emphasised the importance of environmental education as a key driver of empowerment. Over 1800 participants from more than 100 countries attended the congress, which was themed *Environmental Education in Cities and Rural Areas: Seeking Greater Harmony*.

Prof Heila Lotz-Sisitka who is both head of the Environmental Learning Research Centre (ELRC) and who holds the Murray & Roberts Chair of Environmental Education and Sustainability at Rhodes University, together with two other staff members from the ELRC attended the congress, which included UNEP-led discussions on the Global Universities Partnership on Environment and Sustainability (GUPES).

“There are 340 members of this partnership, which looks to increase the mainstreaming of environment and sustainability practices and curricula in universities by developing innovative approaches around education, training and networking,” says Lotz-Sisitka, adding that the ELRC at Rhodes University is an active founding member of this partnership.

“GUPES builds on the experience of mainstreaming Environmental and Sustainability in African Universities (MESA), which has been ongoing since 2004. these efforts are part of UNEP’s flagship contributions to the ongoing un Decade of Education for Sustainable Development,” explains Lotz-Sisitka who serves on UNESCO’s international reference group for the United Nations Decade on Education for Sustainable Development, and edits the Southern African Journal of Environmental Education.

Her team’s research interests include: environmental learning and social change processes with an emphasis on participation, educational quality and curriculum transformation; educational responses to poverty, risk and vulnerability; and critical and sociological research methodologies.

A strong applied research programme that is strongly socially connected

“Our approach from the outset in the ELRC has been to offer a strong applied research programme that is strongly socially connected to our many community research partners, hence the synergy between research and practice,” she explains. “There are different ways of developing applied research, including doing the research first and applying it later where it can grow into a context where it might be useful. We prefer an approach where we explore what kind of applied research is most needed in a specific context at the time, and the application of the research takes place in an ongoing community of practice.”

The team’s approach to community engagement is multi-layered and extends beyond local communities of practice to include a range of environmental organisations in South Africa, government, parastatals, local and provincial municipalities and authorities, local schools and educational institutions.

“For us, community engagement is not just a third pillar or extra activity; it is integral to research and teaching. Based on this we have structured our programme so that our research and practice takes place both within the formal education sector and beyond to the non-formal sector, such as the farming or forestry sector or in particular communities where natural resources are used, conserved or protected. Our research is essentially about environmental learning and its many facets, and is located at the people-environment interface. As such, it can also include industry-related environmental training,” Lotz-Sisitka explains.

“We focus strongly on our research design to thoroughly understand what research means to the community of practice. As part of this our students will conduct preliminary contextual profiling in collaboration with the community of practice to ensure that the prospective research they engage in, is relevant to, and emergent from the interests of the community of practice. This does not mean the research cannot be socially critical, it just means that it is carefully situated in societal contexts where



research is necessary and of interest to those involved. This strengthens the potential reflexive role of research in seeding change in society.

Four inter-related research programmes in the ELRC:

The ELRC has a set of four inter-related research programmes that are ongoing, and that have emerged out of the work of the scholars that joined the programme over the past 23 years. Sisitka explains that at the heart of these four programmes is a common interest in ‘human learning, agency and social change’ and critical social research methodology, which makes the research focus and interest of the ELRC essentially ‘community engaged’. Her work, and the work of her colleagues in the ELRC: Prof Rob O’Donoghue, Dr Lausanne Olvitt, Dr Ingrid Schudel and Zintle Songqwaru, is to ‘hold the core together’ whilst scholars take up the contextual diversity and community-engaged research projects that the ELRC has grown to value.

I. Community Learning and Empowerment Research

This research programme focuses on how communities learn to be more empowered and resilient in the face of new forms of socio-ecological risk and change (e.g. loss of ecosystem services and climate change).

Examples include: how communities learn to adapt to or mitigate the depletion of fish resources in Lake Malawi; how communities learn to work together to manage water resources in the rural Eastern Cape.

Theories of social learning, agency, social justice and capabilities help researchers



to examine these learning processes. Social learning takes place at both individual and community levels. Developing agency involves enhancing our ability to act and learn new processes. Such action can be individual or collective. Collective agency requires developing relationships in communities of practice or relationships between different communities of practice. Learning helps to address the factors that impede or constrain agency and people's empowerment. Such learning cannot be narrowly conceived. It needs to take account of existing cultures of practice, existing knowledge and experience, new possibilities, and what people may or may not value, as well as existing power relations.

Workplace Learning Systems and Sustainability Practice Research

This research programme focuses on how new sustainability practices are learned in workplaces. It also focuses on workplace learning systems that enable or constrain such learning.

Examples include how farmers learn new sustainable agricultural practices, how local government and municipal officials learn new practices of waste management or sustainable development service delivery and how big industry learns to become more energy efficient.

Environmental education and training needs in Makana Municipality

"Several of our Masters scholars have been researching the ongoing environmental education and training needs and competencies in our local Makana Municipality in Grahamstown," Lotz-Sisitka explains. This emerged out of earlier work to develop

an environmental education and training strategy for Makana Municipality, a process that was part of the Local Environmental Action Plan. Since then, the ELRC has also supported some of the implementation activities associated with the Environmental Education and Training Strategy, such as development of a small-scale youth environmental learning programme, which O'Donoghue and Olvitt co-ordinated as part of the Makana Regional Centre of Expertise environmental education activities.

O'Donoghue has been actively researching the links between heritage and local learning and action, to develop practice centred approaches to environmental education.

“Without this contribution, the ELRC research would not have a strong community oriented focus as it is in and through situated practice that knowledge and learning emerges, and where it can be challenged and changed” says Lotz-Sisitka. O'Donoghue has supported numerous studies on indigenous knowledge and sustainability practices, and is currently editing a book on heritage and environmental learning for the United Nations Regional Centres of Expertise Programme. Two recent PhDs, Dr Soul Shava and Dr Cryton Zazu, have worked with O'Donoghue to establish this as an important arena for community engaged research and learning.

The ELRC research contributions in this area have included determining the main environmental management activities of municipal staff members, the competencies they would require for environmental-related work and the broader environmental training needs the municipal staff and the broader communities need to develop. Most recently a Masters scholar, Nthabiseng Mohanoe, examined learning pathways to sustainable development for workers, supervisors and managers in Makana Municipality, to inform municipal training programmes. Environment and sustainable development related activities apply to a wide range of municipal activities, such as waste collection, recycling and management, water management, local economic development, facilities management (such as sports grounds) and commonage management.

Service delivery improvement starts with skills improvement

“We asked who provides environmental training in this regard and discovered that people had received little or no training whatsoever, particularly at the worker level. At the supervisory and managerial level it was marginally better but ad hoc and not integrated into a systems approach to development of skills and training. These findings are important, as improvement in service provision can be significantly enhanced with improved skills and practice of the service providers, and facilitating knowledge growth, as the research also showed.

In response to the findings of the research, the ELRC team has tried to help build environmental learning capacity in the Makana Municipality and in other municipalities. “We are working with WESSA – one of South Africa's leading environmental education NGOs as a training provider of Level 2 (entry level) environmental practices within the National Qualification Framework for occupationally directed training,” Lotz-

Sisitka explains. These programmes have been run for the first time this year, and have received positive response from municipalities where they were pilot tested. Makana Municipality are also interested in running these qualifications for their workers now.

Developing the National Qualification Framework

The team has been working in this area for the past eight years because as she explains, when they started this work no environmental qualifications existed at these levels on the National Qualification Framework (NQF) and they had to develop the qualifications from scratch within the wider community of practice concerned with environmental education and training. “One of our Masters scholars, Jonathan Wigley, researched and developed a national training programme based on this work, which has been offered by WESSA and other providers at Level 5 on the NQF. This has helped to ensure that there are more professionally qualified environmental trainers who are able to offer the Level 2 qualifications. Now new qualifications for Level 2-4 environmental training is being considered which can support all of the Expanded Public Works Programmes in South Africa and one of our new Masters scholars, Katherine Fourie and one of our PhD scholars, Nomfundiso Giqwa are taking this up as a research challenge!

This is not just a technical task, however. To be transformative, such environmental learning needs to be critically constituted and engaged with at the level of organisational and societal change. It involves democratisation of learning and practice, the deliberation and adoption of new work ethics and learning how to develop and work within new systems of production and consumption. This affects the production and consumption value chain, and leads to wider circles of learning in workplace learning activity system networks. As one of the PhD graduates, and staff members in the ELRC, Dr Lausanne Olivitt has shown in her PhD research, such change oriented workplace learning is a complex process as it involves inter-acting influences from culture, history, workplace and the wider social-ecological context.

The agricultural sector

“As in the local government sector research, our research in the agricultural sector centres on *change-orientated learning* to strengthen agricultural extension services training and the relevance of the training on offer,” Lotz-Sisitka explains. “One of our PhD graduates, Dr Mutizwa Mukute, developed a methodology to assess the farmers’ knowledge about sustainable environmental practices, and how such knowledge can be expanded through social learning. Another PhD scholar, Tichaona Pesanayi, is building on this, and is now examining how farmers acquire knowledge of sustainable agriculture practices, and how this relates to what is being offered in the agricultural colleges in order to shape and form agricultural innovation and farmers’ learning.”

Case studies are conducted in South Africa, Lesotho and Zimbabwe. This work is supported by the Water Research Commission, and based on early research in this

area by scholars Charles Phiri, Nina Rivers, and Jane Burt, in the next three years the research will focus on agricultural extension and agricultural college curriculum development for sustainable agricultural practices with more scholars getting involved.

“Our studies revealed divergent needs for environmental practices. One of our Masters scholars, Linda Downsborough, showed in her research how export citrus farmers, for example, were learning about environmental practices. Her research showed that farmers learned from each other in communities of practice, and from private extension officers as environmental regulations for trade changed the nature of the export market. Other farmers, including emerging farmers were focused on issues around water and land management, as well as accessing local markets.”

The ELRC scholars also works in forestry, where a coordinated organisational development social learning process associated with a wetland management strategy has been developed by David Lindley as part of his social learning PhD research, in partnership with Mondi, and two leading South African environmental conservation organisations: the Wildlife and Environment Society of South Africa (WESSA) and the World Wide Fund For Nature, South Africa (WWF-SA).

2. Social Learning and Global Change Research

The UN Decade of Education for Sustainable Development identifies transformative learning as a key focus for re-orienting society towards sustainability.

Social learning processes and education and training systems are needed if South African society is to develop and adapt to new challenges associated with global change.



The Environmental Learning Research Centre (ELRC)

Headed by Prof Heila Lotz-Sisitka who holds the Murray & Roberts Chair of Environmental Education and Sustainability, the ELRC was established twenty three years ago at Rhodes University for teaching and research in environmental education, when the Murray & Roberts Chair was established in the Faculty of Education as Africa's first chair of environmental education. Today, it remains the only Chair of Environmental Education in Africa, which also explains the breadth and scope of its research programme.

It houses a postgraduate programme in environment and sustainability education, a social learning research network, and an internationally recognised research programme focusing on environmental learning, agency and societal change; and associated implications for education and training systems in South Africa.

The ELRC also hosts a number of community engaged programmes and projects, which form part of its *Sustainability Commons* initiative. The *Sustainability Commons* is a social learning project that is an integral part of the Makana Regional Centre of Expertise in Education for Sustainable Development.

The ELRC currently supports 34 Masters scholars, and an active research programme involving 14 PhD scholars. Over the past 12 years, has the ELRC has graduated an exceptional number of PhDs (16), of whom Prof Lotz-Sisitka has been the lead supervisor of 14 of these, and co-supervisor of another 4 PhDs. In recent years the number of environmental education students, particularly at PhD level from the SADC region and further north has increased, and annually they sadly have to turn many deserving scholars away. It's a strong indication of the need for and relevance of the programme for the African continent.

All the research programmes in the ELRC contribute knowledge of social learning and global change with an emphasis on social learning processes in different contexts; programmes focus on the re-orientation of education, training and social systems. An active research network focussing on social learning and global change exists, hosted by the ELRC, which is increasingly acting as a 'Social Learning and Global Change' research hub. "We plan to produce a book based on the research emerging from this research programme in the near future", says Lotz-Sisitka. Last year they produced a monograph that documented some of the social learning research in which they are engaged. The ELRC team has also collaborated with the Environmental Science Department to develop the social learning component of their climate change adaptation research programme.

One of our PhD scholars, Dylan McGarry has been involved in developing pedagogical process methodologies for ecological citizenship in what he calls an 'era of ecological apartheid'. His research emphasises the importance of community building, listening, and empathy, all processes that have become neglected in 20th century education and training programmes.

3. Educational Quality and Relevance Research

This research programme focuses on how environment and sustainability education can contribute to and improve educational quality and relevance in schools, colleges and universities. It includes micro-level analyses of learning, practice and curriculum development in schools and classrooms, and macro-level analyses of curriculum, knowledge systems, and discourse on quality and relevance.

"We have been involved in the Eco-Schools environmental education programme ever since it was launched in South African schools ten years ago," says Lotz-Sisitka. Dr Ingrid Schudel has been our lead researcher in this area, and was recently short-listed for the university community engagement awards for her ongoing work with Eco-Schools. She recently completed her PhD on the transformative praxis of foundation phase teachers in the Eastern Cape, which emerged out of her ongoing support to Eco-Schools in the Eastern Cape. This in turn, is informing her ongoing support to Eco-Schools in Makana and the rural Eastern Cape.

Eco-Schools Programme

The Eco-Schools Programme is a school curriculum-based aimed at educating South Africa's future generations about environmental sustainability and how it improves the quality their lives.

An internationally recognised programme, the South African Eco-Schools Programme is co-ordinated by WESSA and WWF-SA, and was originally developed by Prof O'Donoghue and Prof Lotz-Sisitka, working with the Department of Environmental Affairs and WESSA, many years ago soon after the National Environmental

Management Act was proclaimed and a need was identified to involve children in school with environmental management activities. Over 1000 South African schools are engaged in the Eco-Schools programme today.

The ELRC's research includes evaluations of the Eco-Schools Programme in individual schools, such as Makana Primary School in Grahamstown, research conducted by one of our Masters Scholars and local SADTU leader, Gwen Jamela. Such studies can be used to map progress and developments and links with other Eco-Schools on a national and continental level. Other Masters scholars Gregory Odeke and Tino Haingura have studied Eco-Schools in other African countries, including Kenya and Namibia. Some of the ELRC postgraduate students have also examined the professional development of teachers in the Eco-Schools Programme, while others conduct more curriculum-based research. One such scholar is Zintle Songqwaru who has recently completed her Masters Degree on teacher professional development in the Life Sciences, and who this year was appointed as a lead PhD researcher and co-ordinator of the newly established Fundisa for Change programme in the ELRC, a programme that will focus on ongoing teacher professional development for environmental learning in South African schools. Lebona Nkhahle, a teacher from Cape Town, is just one of the new masters students interested in taking up a research project within the Fundisa for Change programme.

“Social learning, involving environment and sustainability education in schools, requires engagement with the wider school-community and society to establish relevance. This, in turn, requires curriculum transformation and new forms of educational knowledge, structures, policy and practice,” says Lotz-Sisitka.

At the university level

“We are currently participating in the Southern African Regional Universities Association (SARUA) initiative (phase I mapping study) to establish a five-year research programme in South African universities on climate change and the relationship between universities and society,” says Lotz-Sisitka. “The goal of this regional initiative, is to create a platform for universities to work in more interactive ways with communities, policy makers, with each other across countries, and with wider southern African society in addressing climate change issues”. Sisitka is involved in the study design, and in some of the regional data generation and analysis work, showing her practical engagement with research activities in the region.

Sixty universities in southern Africa are members of SARUA. The climate change programme of SARUA was initiated following a leadership dialogue of Vice-Chancellors in Mauritius, facilitated by the former Secretary General of the Association of African Universities (AAU) Prof Goolam Mohamedabai. The AAU is a major association working African universities, and it has a membership of approximately 300 African universities, which includes most of the continent's public universities. Rhodes University is a member.



Collaborating with a network of 90 African universities

“We are also working on a systems monitoring approach for universities to analyse the scope of their environmental sustainability work as a base for further development in environmental sustainability in Africa and Asia,” explains Lotz-Sisitka. This was pioneered by one of our PhD graduates, Dr Muchateyi Togo, and her work has been widely used within an International Training Programme on universities and sustainability. The tool she developed has recently become part of a global platform profiling such tools for universities to monitor changed practices towards sustainability.

“The systems approach is being developed within a network of 90 universities throughout Africa through a partnership called the Mainstreaming of Environment and Sustainability in African Universities (MESA), which is partly funded by the United Nations, and the Swedish government. The ELRC and a range of other centres and hubs at South African universities have considerably contributed to this.”

Lotz-Sisitka and Dr Mandy Hlengwa from the Centre for Higher Education Research Teaching and Learning (CHERTL) at Rhodes University are coordinating an International Professional Development Programme for the MESA with Swedish and Asian university partners. “Without the research that our scholars do, the programme would not be half as dynamic”, says Lotz-Sisitka. “Mandy and I will be co-supervising another PhD, Vanessa Agbedahin, who is interested in this programme this year, and we hope her research will help us to track some of the outcomes and change oriented learning processes that have been going on”.

Bringing together lecturers, professors, Deans, and policy makers

“In this Swedish, Africa, Asia professional development programme for university teachers, we bring together lecturers, professors, Deans, and policy makers and expose them to some of the most recent global environmental sustainability research. They critically analyse new trends in this regard, and how to consider the changing social-ecological context in their teaching and learning, and how to integrate transformational teaching and learning methods into the curriculum. We also look at institutional culture, the sustainable management of systems at universities and the process of community engagement”. Lecturers on this programme from Africa visit Rhodes University every year, and are always most impressed with the environmental programmes at Rhodes University, including the Rhodes University Environmental Science Department, Biotechnology Unit, and the Community Engagement Programme.

Supporting such transformations in education are complex, given the format of modern education systems, which remain primarily concerned with reproduction rather than transformation in society. They are, however, necessary if education systems are to respond to contemporary environment and sustainability challenges facing humanity, and if education is to be relevant to the future.

“At the end of the day it is all about ‘learning, new forms of human agency, and societal change’. It is not an easy relation to come to understand, but through our community engaged research approach in a variety of communities of practice, we are generating interesting new perspectives on this, while also making contributions to society and societal change through our research”, says Lotz-Sisitka.



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Rhodes University: Engaged Research



Owning our water

From April 2013 Prof Tally Palmer – founder and director of the Unilever Centre for Environmental Water Quality (UCEWQ) in the Institute for Water Research (IWR) at Rhodes – is leading a major new water project awarded by the Water Research Commission (WRC), titled ***Towards and New Paradigm for Integrated Water Resource Management in South Africa (TNP)***.

This is a large, ambitious project for the WRC to have commissioned, with a budget of R5-million over 4 years. The UCEWQ was one of an impressive line-up of organisations – including the Council for Scientific and Industrial Research (CSIR) – that applied to lead the project.

It is a huge accolade for Palmer’s group of researchers, and it was awarded because of their transdisciplinary, integrative, adaptive, community partnership approach to water management research, combined with their impressive experience of practising this approach in several ongoing projects.

“This *new paradigm* is envisaged as a shift to working effectively across traditional silos. This complements the growing practice of transdisciplinary (TD), engaged research



and postgraduate supervision at Rhodes University,” Palmer explains. “We have also had encouraging results: stakeholders in our key Eastern Cape water project in the Lower Sundays River Valley (LSRV), have moved to a point where constructive co-management and service delivery of water will be more effective in the Sundays River Valley Municipality (SRVM). As a result we have been able to leverage additional research funding that moves the work to a national scale, and to include additional graduate students.”

South Africa’s water crisis

“As we all know, South Africa is facing a water crisis and our government is not admitting the seriousness of water scarcity, although it does acknowledge the urgent need to proactively and adaptively manage our water resources,” Palmer continues.

“Through this new water project we want to see the on-the-ground practice of water resource protection, use and management, shifting towards greater integration, and towards real evidence of improved social and ecological water justice. By the end of this project we plan to significantly contribute to the third National Water Resource Strategy, which as the implementation policy for the National Water Act of 1998, is due to be re-written in five years time.”

An understanding of people in catchments

“The vision of this project is that engaged research – undertaken with an understanding that people in catchments comprise complex social ecological systems – which uses appropriate complexity- and systems-based approaches and methods, could result in a deeper embedding of these approaches and practices in Integrated Water Resource Management (IWRM) in South Africa. This is the vision of The New Paradigm (TNP) Project,” says Palmer.

The project team includes Dr Sharon Pollard and Derick du Toit of the Association for Water and Rural Development (AWARD) who specialise in systems analysis and learning, and the Khulumani Support Group who have partnered with the UCEWQ in an initiative called *Water for Dignity*. Khulumani is a national, membership-based human rights NGO whose members are committed to engagement towards social and environmental justice.

The TNP Project has three themes through which the practice of the new paradigm must be demonstrated over the four years of the project: water resource protection, eutrophication and microbial pollution in relation to human health.

The Project's three core case studies include:

1. The Eastern Cape Water and Local Government Case Study
2. The Crocodile River in the Inkomati Catchment (funded by the National Research Foundation – NRF; the Technology and Human Resources for Industry Programme – THRIP; and industries that depend on the catchment)
3. The Olifants River Catchment – Mpumalanga-Limpopo (funded by the United States Agency for International Development – USAID)

1. The Eastern Cape Water and Local Government Case Study

In the Eastern Cape, the project team aims to extend the Lower Sundays River Valley Project to the Makana Municipality (another municipality in the Sarah Baartman District Municipality) with a focus on local government and governance, and to link this to *Water for Dignity* aiming to specifically address microbial pollution and human health. The Makana Khulumani *Water for Dignity* team has already developed a work plan for 2013 that includes regular contact with water representatives in municipal wards, hand-washing, sanitation and health issues in schools and clinics; and “walking the river” to contribute to cleaning up the local freshwater resource. This case study engages at the finest biophysical and institution scale.

2. The Crocodile River in the Inkomati Catchment

An independently NRF-THRIP funded project aims to bring together industries in the Crocodile River catchment – which is part of the Inkomati system. Local government, water service providers and water users seek to collaboratively improve water quality in the Crocodile River thus reducing industries’ and local government’s treatment costs whilst contributing to human and environmental health. The Inkomati Catchment Management Agency (ICMA) has made this project part of their business plan for water quality, operationalised through their Catchment Management Strategy. This strategy was designed in collaboration with TNP team member Prof Kevin Rogers from the University of the Witwatersrand.

IWR-UCEWQ has a Post-doctoral researcher as the on-site project leader, a Masters student and a research assistant who have offices within the ICMA in Nelspruit.

Extracts from the introduction to the research proposal “From policy to practice: enhancing implementation of water policies for sustainable development.” *Submitted to SANPAD February 2011. Project duration July 2011-June 2013.*

Despite excellent water research, policy and law, such as in South Africa, barriers are still painfully evident in the implementation of sustainable integrated water resource management (IWRM). Too many people are without a safe reliable water supply and the health of water resources is steadily deteriorating. This is particularly pertinent in regions vulnerable to climate change (e.g. South Africa and the Southern African Development Community). The project aim is therefore: *to design a “knowledge and research builder” that can help breach implementation barriers and blockages with particular application in water resource management for development.* The objective is to create a knowledge- and practice-based guide that clearly and practically demonstrates ways to engage in water resource development that are most likely to lead to effective uptake of investment, technology and sustainable practices.

The world abounds with intractable, complex problems that have been termed “wicked” by Rittel & Webber. IWRM is a typical arena. How can water resource researchers, practitioners, users and policy developers most effectively collaborate, using knowledge, to realise the goals of equity and sustainability in the practice of water resources management and development in southern Africa? There is an upsurge in awareness of the shifts in research and practice approach necessary to deal with wicked problems.

The driving model of the project is participation and social learning. So the researchers will learn together – in the company of a wide range of participants. Action principles of the project will include: offering equality of voice to all participants; mixing early career and experienced researchers; learning by doing (playing); and articulating clearly the added value of “thinking like this” (acknowledging complexity & the need for deep TD approaches). The outcome will be that all project participants will be exposed to new thinking, approaches and tools, and will have practiced flexible ways to implement them. These learning experiences will be captured in a practical guide that will assist in making practical approaches to complexity broadly available in an accessible manner into the IWRM community, both in southern Africa, and internationally.

The project aims are therefore:

1. To develop among the research team a shared understanding of “playground” concepts and processes e.g. complex social-ecological systems, transdisciplinary practice, action research, multi-actor systems, next generation infrastructure and infrastructure transformation;
2. To articulate clearly the concept of IWRM as a playground (*a challenging place in which to learn new skills*) and the need to assess learning outcomes;
3. To identify key implementation barriers and blockages that impede the policy goals of equity and sustainability in southern African IWRM;
4. To use case studies to connect the playground concepts to the practical implementation context IWRM and to monitor learning outcomes; and
5. To produce a guide to making research, knowledge and experience **work** together in the practical business of IWRM.

We will only resolve intractable IWRM challenges with new thinking – and new thinking needs to be experienced and disseminated in order to have an impact. This is the task of the project.

In this way we are already practising the new paradigm thinking, in that research and management are embedded in a common activity to improve instream water quality.

3. The Olifants River Catchment

At the broadest bio-physical and institutional scales, AWARD is running a large USAID-funded project where the aim is to achieve a common, systems-based understanding of the Olifants River basin across South Africa and Mozambique, with participants learning to move their practices towards a more resilient system. The IWR-UCEWQ team are members of the AWARD project which has an explicit aim of building water resource protection. The Loskop dam within the catchment will be the focus of the eutrophication theme of the TNP project.

The project team will actively work at the same time with IWRM practitioners, especially within government, so that new paradigm thinking and practice emerges over time, rather than only being presented in four years time as 'findings'.

Research practice that engages with difficult water resource problems

In the following section Prof Palmer shares information from a Water Research Commission Report on research funded by the South African Netherlands Programme for Alternatives in Development (SANPAD). The report is co-authored by leading South African and Dutch water experts towards the development of a guide to research practice that engages with difficult water resource problems.

Engaged Research in Integrated Water Resource Management

Authors: CG Palmer, C de Wet, J H Slinger, K H Rogers, S Linnane, C Burman, J Clifford-Holmes, R Luton, S Shackleton, G Cundill, L Hermans, S Taljaard, S Cunningham, S Mantel, N Hamer, AR Palmer, M Muller, L Molony, J Gonzalez, G Barnes, A Finca, J Burt and H Fox.

Getting started: Amsterdam 2010

In November 2010 The South African Netherlands Programme for Alternatives in Development (SANPAD) held a workshop in Amsterdam and The Hague in order to invite an international consortium of Dutch, Irish and South African researchers to submit a proposal for their final round of funding, in the broad arena of water and development.

Why water?

In his workshop keynote address, Prof Hamanth Kasan from Rand Water, South Africa, painted a gloomy and disturbing picture, with alarming global statistics of water-related human death and deprivation, and environmental degradation. After further presentations and conversations, researchers from Rhodes University, South Africa; the Delft University of Technology, the Netherlands; Trinity College, Ireland; and the Dundalk Institute of Technology, Ireland agreed to submit a proposal.

The core idea was that in the last decade or so, a wide range of methods and approaches have emerged to augment, enlarge, and support the use of traditional science and engineering in actively engaging with the world's considerable and pressing problems with fresh water.

The project team aimed to identify and engage with a set of such problems, bringing to bear novel and interesting combinations from the range of new approaches.

Tackled playfully

Our first insight was that the enormity of the task could only be tackled playfully. That with so much to learn and so much that was new and daunting, we could best envisage ourselves as children, learning new skills in a playground of swings and climbing frames – challenged by each other and by the elusive holy grail of sustainable, just, integrated water resource management. The metaphor has the added power of humility.

The first draft title was: *Crafting the water playground: learning to breach implementation barriers and blockages*. This was too playful for the funders and was sobered down to: *From policy to practice: enhancing implementation of water policies for sustainable development*. However, the metaphor of the playground remained powerful within the project team for the duration of the project. Finally, with the firm aim of research being



The knot metaphor

Have you ever walked along a beach and picked up a piece of tangled fishing line? Perhaps with some seaweed and a fish hook mixed in? Have you started to pick at it – seeking to untangle it? As you pull on a piece of line – the line tightens elsewhere and it is hard to see where to start, and what is connected where. The first step is to loosen – to pull at the knotted pieces until a place to unravel becomes apparent.

We liken difficult water problems to the knotted fishing line, and our research process to the loosening process. Loosening is followed by some unravelling which we see as the opening of opportunities to reduce tangles and engage with problem areas. This loosening and unknotting takes time, patience, attention and nimble fingers.

Likewise, engaging with ‘knotty’ water problems takes time, attention and skilful facilitation and engagement.

Four knots were identified at our workshops in the Sunday River Valley Municipality (SRVM): 1) bulk water supply and storage; 2) treatment of water to drinking quality; 3) reliable distribution of safe water to households; and 4) waste water (sewage) treatment works and their effects on human and environmental health. Finance was seen as a multi-faceted issue that was part of each of the knots.

Jai Clifford Holmes’ research focussed on knot 1 – how to get reliable water from the plentiful inter-basin transfer supply to people. As a direct result of this work, in July 2013, the SRVM and the Lower Sundays River Water User Association (WUA) have agreed to work together to develop a common understanding of the water supply system, and to translate that understanding into a step-by-step water supply process they can jointly run.

Several other graduate students have undertaken research that is contributing to loosening knots and building conceptual understanding:

Matthew Muller has worked on knot 4: managing waste water. He participated with the SRVM in the Green Drop process which measures performance in waste water treatment. At the same time he monitored the stream into which the sewage effluent flows. His key finding is that if the municipality continues to improve its Green Drop score and to meet its licence conditions, the stream condition is likely to improve to the level required by the National Water Act of 1998.

Lara Molony engaged with local residents with regard to knot 3, and explored the relationship between access to housing and water. She has provided valuable insights into the realities of life with, at best patchy, domestic water supply. Additional domestic water supply research by Andiswa Finca, Tony Palmer and Sukhmani Mantel contributed to understandings of the use of rainwater tanks.

Jane Burt is using the project team as her case study, and she is directly investigating the process of transdisciplinary research, and she, Georgina Cundill and Jai Clifford-Holmes are writing about the social learning processes within the case study.

Helen Fox is exploring engagement and participation of scholars with urban water resources, and has brought in the concepts and methods associated with critical realism which will add to the options presented in the guide.

'used' rather than just potentially useful – we are currently in the process of producing a guide to a research practice that engages with difficult water resource problems.

Building a Transdisciplinary (TD) team: Delft 2011

A driving thrust of the research was for a group of researchers, colleagues and students to work to bring together research, citizenship and IWRM practice across a range of customary divides – including context, experience, language, terminology, conceptual framing and, perhaps the most divisive, methods.

This process was to be rigorous: an intellectual and practical wrestling with coherence rather than a facile patching over of differences. The process of integration was to be concurrent – that is researchers, practitioners and case-study participants would work together concurrently – rather than independently on separate disciplinary-based aspects that would be integrated at a later stage. Practically, this concurrence had to be managed within the constraints of discontinuities (such as different people together in time and space). However, the commitment to concurrence served to encourage repetition and re-telling, so as to build a functional redundancy of insight, as a more whole understanding and practice emerged.

The TD work aimed to open up opportunities for new insights out of intersections of thinking and practice, so as to offer new ways of grappling with being human on plant earth.

Case studies and the co-creation of knowledge

The integrating work was to be tackled in the context of case studies, with participants co-creating new knowledge, drawing on disciplinary and life experience.

The process of assembling the project team and selecting case studies comprised part planning and part serendipity. This is consistent with our understanding of being part of a complex system with feedbacks, delays and unanticipated consequences and impacts. SANPAD brought together the initial members (C.G. Palmer, Slinger, Linnane and Carmody). Others were invited to join the team because of experience with complex social-ecological systems (SES) and an action research approach to IWRM research (Rogers and Luton); an interest in the links between the social and the ecological in SES (de Wet, Clifford-Holmes, Burman, Shackleton); and later more students joined as additional funds were leveraged (Muller, Molony, Barnes, Gonzales, Burt and Fox). Additional researchers made contributions to specific case studies (A. Palmer, Finca, Cundill, Hamer, Taljaard, Hermans, Cunningham).

Most of the authors and several collaborators from other Dutch institutions gathered in Delft in June 2011 to initiate the project. Each participant was asked to write a 1-2 page outline of their research and practice perspective, or to share a key paper, report or proposal, and email it to rest of the team before workshop. Team members were



also asked to prepare a 15 minute presentation, or to lead discussion on their tried and tested approaches and methods that could be applied at the IWRM coal-face.

Workshop documents introduced team members to a set of principles for TD engagement derived by Palmer and others in an Australian TD team building project:

- “Tolerate discomfort and unresolved tensions as they are often a gateway to a new level of knowledge, understanding, and trust.
- Be sensitive to “aha” moments (insights), they emerge out of irritation as often as from consonance.
- Engage with balanced generosity: enquiring, listening and sharing. Managing contribution and constraint is closely linked to listening.
- Practice tolerance and trust – exploring the nature of conflict before making judgements.
- Be sensitive to “arrivals” physical and meta-physical – ideas, opportunities and people “arrive”.
- Create and use reflective opportunities.
- Manage discontinuities (e.g. time intervals, purpose, discipline focus, team composition).
- Sustain enquiry – engage in the concrete question, sustain reading,

discourse and attention.

- Remember everyone involved in the research is a multi-faceted person, with the potential to engage with their whole self and many ways of knowing.”

The project team

CG Palmer	Prof Tally Palmer, project leader, Lower Sundays River Valley case study leader, student supervisor, Rhodes University, South Africa.
C de Wet	Prof Chris de Wet, Lower Sundays River Valley case study, student supervisor Rhodes University, South Africa.
J H Slinger	Dr Jill Slinger, co-project leader, Great Brak Estuary case study leader and SRVM case study, student supervisor, Delft University of Technology, The Netherlands.
K H Rogers	Prof Kevin Rogers, Inkomati Catchment case study leader, student supervisor, Rhodes University, South Africa.
S Linnane	Dr Suzanne Linnane, Great Brak Estuary Case Study, Dundalk institute of Technology, Ireland.
C Burman	Dr Chris Burman, Inkomati Catchment case study, University of Limpopo, South Africa.
S Shackleton	Professor Sheona Shackleton Lower Sundays River Valley case study, student supervisor, Rhodes University, South Africa.
G Cundill	Dr Georgina Cundill, Lower Sundays River Valley case study, Rhodes University, South Africa.
L Hermans	Dr Leon Hermans, Great Brak Estuary case study, Delft University of Technology, The Netherlands.
S Cunningham	Dr Scott Cunningham Dr Leon Hermans, Great Brak Estuary case study, Delft University of Technology, The Netherlands.
S Mantel	Dr Sukhmani Mantel LSRV and Great Brak Estuary case studies, Rhodes University, South Africa.
N Hamer	Nick Hamer, project co-ordinator and editor, LSRVM case study, Rhodes University, South Africa.
S Taljaard	Susan Taljaard, Great Brak Estuary case study, CSIR, South Africa.
AR Palmer	Dr Anthony Palmer, LSRV and Great Brak Estuary case studies, ARC, South Africa.
Graduate students:	Jai Clifford-Holmes, Rebecca Luton, Matthew Muller, Lara Molony, Juan Gonzalez, Garth Barnes, Andiswa Finca, Jane Burt, Helen Fox.

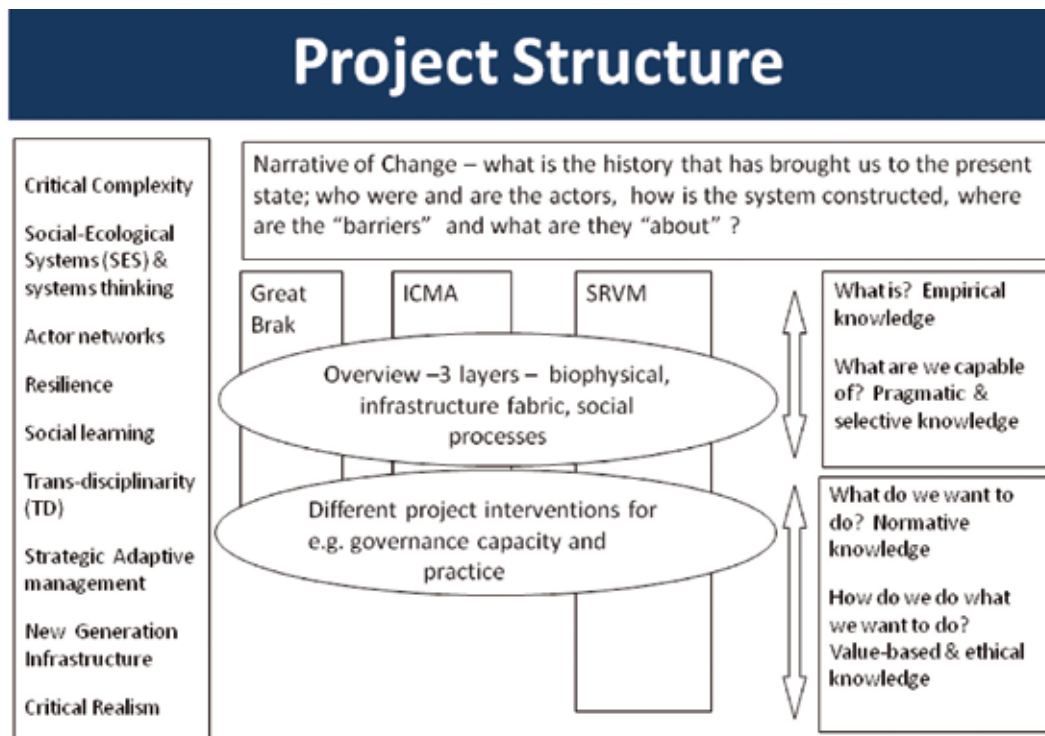
Case studies and methodology

The five-day Delft workshop set the tone for the unfolding project. Later on, people would admit to nervousness, anxiety, uncertainty and a sense of “grappling in the dark” during this workshop – but also to a sense of excitement at the shared ideas and an unfolding sense of purpose. From the start, open communication and a willingness to trust and explore, characterised the team. As days passed the similarities, differences,

connections, disconnections, challenges and agreements among team members created a vibrant ebb and flow of ideas, as well as pointers to, and examples of, practice.

Conceptual model for the project

By the end of the workshop we shared an agreed conceptual model for the project:



On the left of the model diagram is a block with guiding integrative concepts which have associated methods. With the exception of critical realism, which was brought into the project later, each of these was presented and discussed in Delft. This is the intellectual scaffolding we used to build a common understanding by discussing the content and use of each concept and using these to derive the structure and function of the project.

The top horizontal block of the model diagram acknowledges that history shapes the present context. This provides an example of the way the concepts guided the research activities: given an acceptance and understanding of general complexity thinking (which provides a characterisation of the ways in which complex systems operate), and of the complex nature of the social-biophysical systems that comprise planet earth, we decided that the first step for each case study was to characterise the pathway to the present. This was described as the narrative of change. It brings to the fore the recognition that structure and function/relationships only make sense within a context – and that one of the primary contextual processes is through time. The narrative of

change is given focus by leading questions related to IWRM: What is the history that has brought us to the present state; who were and are the actors, how is the system constructed, where are the barriers and what are they about?

Selection of the case studies

This brings us to the selection of the case studies. Again, drawing on understandings of complex social ecological systems, we accepted the importance of scale. Time and spatial scales affect the nature of system structure and functional/relational processes. Therefore, as the various researchers presented the 'what', 'how' and 'where' of their research, we sought to stratify characteristics of the potential case studies by bio-physical and institutional scale.

Smaller scale: The Great Brak River estuary is situated in the southern Cape. The estuary is at the bio-physical scale of a river reach, and the social-institutional system of the estuary mouth emerges from a relatively small community of residents. The IWRM challenge is the inflow of freshwater into the estuary, released from an upstream dam.

Medium scale: The Lower Sundays River Valley in the Eastern Cape is at the bio-physical scale of a sub-catchment, and the associated social-institutional system is the Sundays River Valley Municipality (SRVM). The sub-catchment comprises the lower



reaches of the Sundays River catchment, from the point where it receives an influx of water from an inter-basin transfer from the Orange River, via the Fish River. This once seasonal river is now perennial and supports a thriving citrus industry (predominantly for export). In contrast, many people living in the SRVM have poor quality drinking water and a frequently interrupted supply. The IWRM problem scenario is one that is common in South Africa: well serviced agriculture and poorly serviced people.

Larger scale: The Inkomati River catchment or basin in the north-east of South Africa spans South Africa and Mozambique. It comprises four sub-catchments, and the IWRM institution is at the scale of a catchment management agency (CMA) - a new institutional model in South Africa, which emerged from the reformed water policy and legislation after democracy. The challenge was to support the Inkomati Catchment Management Agency (ICMA) to effectively practice IWRM.

Two phases of research

For each of the case studies, the two central ovals on the conceptual model diagram indicate two phases of research. The first is an empirical and descriptive phase where particular bio-physical, and social processes, and the associated infrastructure are recorded and analysed. In the second phase the project researchers and case participants work together on a particular aspect of the IWRM problem to move towards loosening the problem and opening up new choices and capacities for action.

Loosening problematic areas

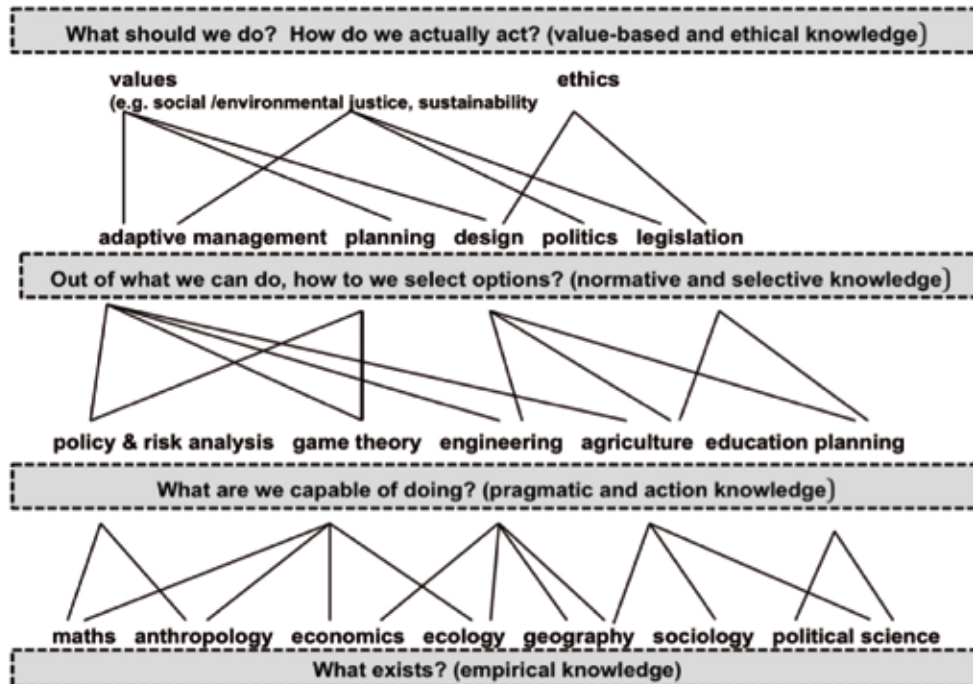
It is important to note the language used. In complex systems there are no solutions – we work to loosen problematic areas and to create new perspectives and capacity so that actions can be selected from a range of possibilities. The cycles of strategic adaptive management enable decision making and action in line with negotiated and agreed goals. These goals can also be shifted adaptively through time.

The two phases represented by the ovals in the model diagram can be related to the two blocks on the right of the model diagram, which summarise the transdisciplinary theory of Max-Neef (2005). Max-Neef envisaged different disciplines contributing to a hierarchy of human skills, as further represented in the diagram on page 91.

What has changed?

Finally, the project is underpinned by the question: *What has changed?* This is reflected in the bottom block of the project model diagram. If this way of thinking and of practising research is to be transformative, something needs to change. Problems are not shifted by a repetition of the same processes. So throughout the project we worked to reflect personally, and share reflections among team members as to how we were changing and what we were learning. We asked project participants to do the same. Whilst this process of encouraging and tracking social learning is well developed in the literature, in this project we only added it after the Delft workshop, and it was

not embedded in the research practice of any of the case-study leaders. This is one of the overall project lessons – attention to social learning needs to be embedded from the start, with careful attention to monitoring – if we are to make our learning conscious and shared as we seek to undertake research in ways that facilitate social transformation.



Catalytic individuals

A crucial factor in engaged research, as exemplified by the Sundays River Valley Municipality process, was the involvement of a Master's student, Jai Clifford-Holmes. In future research we will pay attention to the role of catalysing individuals in the process of engaged research. Clifford-Holmes has an undergraduate background in history and philosophy and a student-activist history of involvement in local community water matters. He started in the project as a Masters student in Integrated Development Studies, and has recently upgraded to a doctoral study in Water Resources Science. He lived in the SRVM, becoming an integral part of SRVM activities, following an ethnographic methodology, and using actor analysis and systems analysis to build an understanding of water management within the SRVM. The other emerging lesson for TD practice is the value of the co-supervision of graduate students across disciplinary and even faculty boundaries. Clifford Holmes' supervisors were from Anthropology, Water Resource Science and System Dynamics – and everyone learned a great deal.



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