



# Contextualising Curriculum Design and Recontextualising Its Implementation

## The Case of Climate Change Education for Southern African Transfrontier Conservation Area Practitioners

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### *Abstract*

*This paper discusses how the climate change education needs of park managers, ecologists, and community development officers in Southern African Development Community (SADC) Transfrontier Conservation Areas (TFCAs) were established through contextual profiling. It subsequently analyses how a curriculum that was designed in response to a contextual profiling process was recontextualised during implementation by the SADC Regional Environmental Education Programme (REEP), with support from German Federal Enterprise for International Cooperation (GIZ). The paper's purpose is to trace the trajectory of contextualised curriculum development and implementation with a view to identifying how the twin concepts of contextual profiling and recontextualisation were utilised and lessons were learnt. The paper has potential value for educators/trainers interested in increasing the relevance of protected area workplace learning and its congruence to learners' realities.*

### *Introduction*

The authors were involved in developing the contextual profile, designing the course and training the course participants, who were organised in two groups of about 20 each. The participants comprised ecologists, park managers and community development officers from SADC TFCAs. A TFCA is a component of a large ecological region that straddles the boundaries of two or more countries encompassing one or more protected areas, as well as multiple resource-use areas, for example, the Great Limpopo Transfrontier Conservation Area that covers adjacent parts of Mozambique, South Africa and Zimbabwe. SADC TFCAs are underpinned by two philosophies that are based on ecological and socio-economic integrative perspectives respectively (Mombeshora, 2005). The ecosystem philosophy seeks to enhance ecosystem integrity and natural ecological processes across political boundaries. The integrative perspective intends to enhance partnerships among the state, civil society, communities and the private sector to conserve and benefit from wildlife and related natural resources, and enhance inter-state collaboration for regional peace and security.

### *Conceptual Framing*

The three main concepts that shape this paper are: contextual profiling; learning needs identification; and curriculum recontextualisation. *Contextual profiling* is a process by which contextual factors and complexities that have a bearing on a course are identified and utilised to inform curriculum or course design (Schudel, le Roux, Lotz-Sisitka, Loubser, O'Donoghue & Shallcross, 2008:453). Such contextual complexities and factors are considered at multiple levels, ranging from the international and national to the local (ibid). Hall and Kidman (2004) also identify three different levels of contextualisation:

- The wider community contexts comprising the international, national and local;
- The institutional context, which refers to the organisation that designs the curriculum and its associated sub-contexts; and
- The teaching–learning contexts comprising the learner, the content and the teacher.

Contextual profiling also allows for policy transfer and translation at multiple levels while at the same time enabling response to environmental risks and issues in diverse contexts (Schudel *et al.*, 2008). The value of contextual profiling resides in increasing the congruence between learning and reality, and the effectiveness of what is learnt.

*Learning needs identification* is achieved through identifying the learning needs of potential learners by establishing the gaps between the knowledge and skills that they have and those that they need in order to perform their tasks effectively. Such needs often vary from place to place, and individual to individual. In this case study, the contextual profiling process identified some of the climate change–related learning needs of park managers, ecologists and community officers largely through a climate change dialogue workshop that was attended by TFCA and protected area leadership from most SADC Member States. At a later stage, the specific learning needs of the selected learners were identified through workshop expectations that were generated at the beginning of the course. This assortment of methods to generate data for curriculum design was intended to achieve the necessary depth of learning needs and contextual relevance.

*Curriculum recontextualisation* is based on Bernstein's theory of curriculum translation from the designed, to the implemented, and the enacted curriculum. Bernstein (2000) identifies three main levels of how curriculum is contextualised and re-conceptualised from the societal/ideological, to the curriculum, to the teaching and classroom levels; or from the transnational curriculum scripts, to the national, and local school (Daniel, Jan & Carl-Henrik, 2013). Recontextualisation refers to how knowledge substance and nature that is *produced* at one site – such as an environmental and environmental education policy-making body (for example, UNESCO, African Union or SADC) – and is *recontextualised* by curriculum designers at an educational institution such as SADC REEP/WESSA, and *reproduced* by teachers/trainers when they interact with learners. This process involves de-location and relocation of a discourse from the field of production to that of reproduction (Jenkins, 2007; Bertram, 2012).

In the process of curriculum recontextualisation, curriculum designers choose the content, pedagogy and sometimes how learning is to be assessed. Teachers and trainers on the other hand interpret the curriculum or course document and decide on the pedagogic practices and assessment tools to work with to reproduce what is intended by the curriculum or course. The whole process involves various stages of selective appropriation and ideological transformation (ibid.). Several African scholars have worked with the concept of curriculum recontextualisation and found it useful for enhancing curriculum coherence and educational relevance, effectiveness and quality (Nsubuga, 2006; Jenkins, 2007; Bertram, 2012; Hewlett, 2013). Accordingly, this paper uses recontextualisation lenses to examine the trajectory of a newly developed course on climate change adaptation and mitigation in SADC TFCAs. The trajectory starts from the contextual profile and ends at the end of the first series of one-week workshops because it was in this space that the major contextualisation and recontextualisation took place. Quality checks and improvements of the translation process were made at three levels, through: course coordination meetings that comprised SADC REEP/WESSA, GIZ and the course designer/facilitator; the change project mentoring team, which comprised trainers from SADC/WEESA and the course designer/facilitator; and course participants' feedback and evaluations.

## ***Background***

Studies that have been conducted in southern Africa have shown that climate change, climate variability and biodiversity are SADC priority sectors for capacity development (IRA, PASS & University of Dar es Salaam, 2007; Ziervogel, Taylor, Hachigonta & Hoffmaister, 2008; Chishakwe, 2010; Mukute, Marange, Masara, Sisitka & Pesanayi, 2012). Consequently, SADC REEP developed a GIZ-funded project called: *Stepping-Up to Trans-boundary Sustainability: Human Capacity Development for Climate Change Adaptation in SADC Trans-frontier Conservation Areas*. The objectives of the 16.5 months project, which went on for nearly one and a half years, were to:

- Identify trans-boundary capacity gaps, needs and development measures related to climate change adaptation in the 18 SADC TFCAs;
- Facilitate climate change adaptation learning and actions to contribute towards improved livelihoods; and
- Foster trans-boundary collaboration, networking and cultural understanding in a community of practice of climate change adaptation alumni to support climate resilience.

SADC REEP, which commissioned the contextual profiling, course design and implementation, works with a social learning approach that is practice- and solution-oriented (Mukute, Wals, Jickling & Chatiza, 2012). More specifically, SADC REEP works with an emergent, reflexive model of capacity development that seeks to achieve improved professional knowledge and changed institutional practices. This is achieved through: review of context of practice;

on-course interactions based on appropriating new knowledge and practice (that is regionally recontextualised); and subsequent site-based applications using the change projects (SADC REEP, 2012:49). SADC REEP's capacity-building approach is consistent with contextualisation and recontextualisation as discussed above because it takes account of realities that learners live and work in, is change-oriented and is designed to take place at the individual professional level, at institutional level, and at the environment-education-society nexus (ibid.). The approach works with situated learning ideas, which encourage learners to acquire and incorporate new ideas into their own social-ecological and workplace contexts through a change project.<sup>1</sup>

SADC REEP, through its programme manager, played the role of overseeing the contextual profiling process and coordinating the development and implementation of the course. An external consultant conducted the contextual profiling, designed the course and facilitated part of its implementation as workshop facilitator.

### *Contextual Profiling of Climate Change in TFCAs*

Data generation for contextual profiling was done through document analysis and a literature review and a TFCA leaders' dialogue workshop that was attended by 19 SADC representatives. Document analysis and the literature review focused on policy and strategic documents that gave direction to climate change adaptation education as determined by international, Pan-African, SADC and Member States policy-makers. These documents carried the framework that was to shape the content and nature of the course material. Data generated from the TFCA leaders' dialogue workshop focused on the local, individual and institutional climate change issues in SADC TFCAs. These provided a map of the learning needs of prospective learners. The main international policies and treaties that shaped the content of the designed course were the Convention on Biological Diversity (CBD) and the United Nations Framework Convention on Climate Change (UNFCCC), which provide for strategies to deal with biodiversity and climate change issues. Education for sustainable development (ESD) thinking and the United Nations Decade of Education for Sustainable Development (UNDESD) provide ideas on how education can contribute to a more sustainable world (UNESCO, 2009).

At Pan-African level, ESD is anchored in Education for All, the NEPAD Environment Action Plan and human resources development, which is underlined by the importance of context, which includes African cultures, knowledge systems and experiences (Lotz-Sisitka, 2006). The African Union (AU) decided to green its economies by tackling poverty, unemployment, food insecurity and environmental risks while tapping into its natural capital assets (UNECA, 2011). The AU's African Ministerial Conference (AMCEN) of 2007 prioritised the UNFCCC and recommended that regional economic communities (RECs) such as the SADC should develop and implement climate change programmes.

The main SADC biodiversity-related policy documents that informed the contextual profiling were the Wildlife Policy of 1997, the Wildlife Sector Protocol of 1999, SADC Regional Biodiversity Strategy, the SADC TFCA Programme and the SADC Regional Indicative Strategic Development Plan (RISDP) (SADC, 2003). These provide for using TFCAs as a means for regional cooperation and peace building, biological conservation and economic empowerment

of rural communities through tourism. The Southern African Regional Universities Association (SARUA), on the other hand, provides a *methodological argument* for a multi-disciplinary approach to research, learning and teaching of climate change and related matters while encouraging collaboration within and between universities, policy-makers and practitioners (Climate and Development Knowledge Network, 2012). The national policies that informed the profiling include the National Capacity Self-Assessment reports, the National Communications to the UNFCCC reports, and National Adaptation Plans of Action (NAPAs). These documents identified the priority issues and capacity development areas which informed the course.

The ideology that runs through the policies described above is that of sustainability. But it is also an ideology that is characterised by tensions between different interests and actors, between the social, economic and ecological. The dominant societal issue revolves around how to deal with the causes of climate change (mitigation) and its effects (adaptation). African states, including SADC Member States in which the TFCA under review are found, argue that their contribution to climate change is low but they bear the burden or effects of climate change. Therefore, they should invest more of their energies in climate change adaptation.

### *Results and Needs Identification*

The contextual profiling and needs identification process identified several topics for inclusion in the course. The course designer developed a coherent set of topics from these to produce a course curriculum. The selected topics were as follows:

- *Basics of climate change and related issues and concepts*: including climate change adaptation, mitigation, resilience, adaptive capacity, ecosystems-based adaptation, and scenarios (past, present and future);
- *Planning, managing and monitoring TFCA in the context of climate change*: including ecological monitoring and evaluation for adaptation and mitigation, indicator species and trends, and associated data analysis;
- *Climate change adaptation and mitigation in TFCA sectors*: covering wildlife, forestry, water, agriculture, and marine and coastal areas;
- *Building social-ecological resilience in the context of climate change*: including livelihood strategies suited to the different settings, disaster risk reduction and management knowledge, habitat manipulation, climate proofing possibilities, and climate-sensitive income-generating projects;
- *Documenting and sharing best practices in climate change adaptation and mitigation across sectors*: including emerging best practices in TFCA, and traditional coping mechanisms;
- *Facilitating multi-stakeholder linkages, joint planning, learning and action processes*: such stakeholders including TFCA structures, policy-makers, government institutions, education and research organisations, the private sector, NGOs and international development partners; and
- *Design and implementation of change projects*: these should be informed by the respective TFCA contexts.

The course designer used several criteria to select topics, which included topics that: provided the necessary conceptual foundation on climate change, climate change adaptation and mitigation; revealed the social, economic and ecological dimensions of climate change issues and responses; linked climate change, climate change adaptation and mitigation of TFCA; fostered relationship-building among TFCA stakeholders with potentially different and conflicting needs; and developed practical and context-specific solutions that reduce human impact (mitigation) and enhance resilience (adaptation). His choice of topics was largely informed by recommendations on how climate change education curricula should be designed. For example, Vogel (2010) suggests that climate change curriculum development should weave together sustainability thinking, transdisciplinarity, and knowledge co-production that draws from different systems and perspectives.

The designed course curriculum had the following three objectives, to:

- Enhance SADC TFCA practitioners' awareness and knowledge on climate change, climate change adaptation and mitigation concepts, issues, policies and programmes;
- Develop TFCA practitioners' methodological knowledge and skills to incorporate climate change adaptation and mitigation in their workplaces and TFCA management plans and activities; and
- Deepen cross-border, multi-stakeholder collaborative work in SADC TFCA through joint work among TFCA practitioners (through joint change projects and the development of communities of practice).

The process of designing the course curriculum from the contextual profiling and needs identification constituted what Bernstein (2000) calls: 'de-location' – selecting a discourse or part of a discourse from the field of production where knowledge is constructed; and 're-location' – where the original discourse(s) is/are transformed in the field of recontextualisation, which is found between the fields of production and reproduction respectively.

The process of recontextualisation of the curriculum involved negotiation between the consultant, SADC REEP and GIZ, through the course coordination structure. Sustainable development thinking, which is based on social justice, ecological sustainability and economic viability (see [www.unesco.org/desd](http://www.unesco.org/desd)), was the 'ideology' that determined course content (SADC REEP, 2012). The political choice of what to include was partly shaped by the intentions of the project and the SADC's position of prioritising climate change adaptation measures over climate change mitigation. The course design's pedagogical coherence was achieved through a Cultural-Historical Activity Theory (CHAT) conceptualisation of learning, which includes acquiring knowledge from those who know more than the learner, linking everyday knowledge to concepts, and the creation of new knowledge (Engeström, 1987; Edwards, 2005).

### *Implementation of the Climate Change Education Curriculum*

The course curriculum was implemented in two one-week workshops for each group of participants. The workshops were held at the national office of the Wildlife and Environment

Society of South Africa (WESSA), which has officially hosted the SADC REEP since its formation. Workshop trainers were mostly drawn from the WESSA office, which is also an SADC Centre of Excellence in Environmental Education.

Several tools were developed to aid curriculum implementation to foster the achievement of course intentions. SADC REEP produced and shared facilitators' notes, which prepared the trainers to implement the course in a coherent manner. The course designer drafted a workshop programme (for the first workshop), the content and flow of which was negotiated through the course coordination structure. The workshop programme was made available to trainers to help them contextualise their sessions. The workshop was structured such that the learning processes moved from theory to practice, from the concepts to concrete actions. For example, the concept of climate change adaptation was introduced and discussed, followed by practical examples of how communities in southern Africa are adapting to climate change. The workshop moved from relatively conceptual and abstract to more concrete and practical topics. The emphasis of the last part of the workshop focused on planning future-oriented actions such as developing climate change adaptation activities. At the same time, the workshop was structured to facilitate appropriation of new knowledge, for example through lectures and group exercises; and the externalisation or application of what was being learnt through the development of change projects. Participants brought change project ideas, which were enriched as they acquired new knowledge and skills during the course of the workshop.

Curriculum implementation was also shaped by participants' expectations. One of the two groups' expectations were summarised as follows (Box 1):

**Box 1.** Synthesis of participants' expectations

**a. Learning about concepts and meanings of:**

- Climate change, climate change adaptation and mitigation; and
- Change projects.

**b. Acquiring information and knowledge about:**

- Climate change issues and trends;
- Available financial support mechanisms for climate change adaptation and mitigation in TFCAs; and
- Sources of information on climate change adaptation and mitigation in TFCAs.

**c. Learning about strategies and techniques regarding how to:**

- Apply and integrate climate change knowledge in TFCAs;
- Identify climate change policies, issues and concerns and integrate them into TFCA strategies and plans and monitor climate change and its associated impact;
- Work with climate change adaptation and mitigation strategies in the context of TFCAs;
- Involve local communities, and stakeholders, including politicians, policy-makers and business people in projects that tackle climate change; and
- Mobilise resources to support the integration of climate change into TFCAs plans and activities.

**d. Building relational agency**

- Network and collaborate with TFCA practitioners from the same TFCA but different countries; and
- Plan for continued collaboration with one another, beyond the workshop and the project.

The above expectations, together with the needs that were identified through the TFCA leaders' climate change dialogue workshop and responses to a questionnaire, provided the bottom-up input to the designed course and workshop programme; while contextual profiling provided the top-down input into the same. The former provided the institutional and individual perspective, while the latter provided the international, Pan-African, SADC and SADC Member States perspective. Some of the issues revolved around environmental protection, community responsibilities, access to and benefit from the TFCA, and cross-border collaboration. Examples of mitigation issues included fire and fire control, and alternative energy, while adaptation issues included habitat change and the implications for some plant and animal species.

In summarising the net effect of multiple sites of sources for the course content, and consistent with challenges that are likely to be found in the process of recontextualisation, the course designer and workshop facilitator (Mukute, 2013:9) wrote:

Inevitably, the different orientations and interests of the three sources [policy documents; GIZ resource materials on climate change; and participants' expectations] created some tension in the programme in terms of what to include and exclude [...] This partly explains why the workshop was overloaded. The topics that were dropped are: Whole Systems Approach to Decision-making; Participatory Learning and Action; Integrating Climate Change Adaptation in TFCA Planning; and Proposal Development [...] The main addition was an educational tour of the WESSA centre, which is implementing adaptation and mitigation measures that create co-benefits.

The trainers, who had diverse backgrounds because of the nature of the topics, used a range of teaching/learning methodologies to implement the course. These were:

- *Knowledge and information transfer*: through presentations to course participants;
- *Deliberative and dialogical interactions*: through group work and group assignments and mentoring sessions on change projects;
- *Investigative tasks*: through individual and group tasks to generate relevant data from selected documents and internet searches;
- *Experiential learning*: through a learning tour of the WESSA Centre and the uMngeni Valley Nature Reserve, which incorporate mitigation and adaptation practices; and
- *Learning by doing*: through joint development of change projects.

It is important to note that knowledge and information transfer did not only take place between the trainers and the learners, but it also took place among the learners. This was especially the case because of the range of topics covered and the diverse professional backgrounds of the participants, which created knowledge gradients. For example, ecologists took the lead on ecosystem and biodiversity topics while park managers took the lead on the development of park management plans and community development officers on multi-stakeholder involvement.

The educational methodologies were grounded in the contexts and realities of the trainees, that is, the TFCAs. The methodologies also recognised and built on existing knowledge, skills,



experiences and resources (capabilities); they were change- and practice-oriented; and were designed to cause change at individual and institutional levels. The change projects assisted participants to connect park conservation priorities with the collaborative integration of climate change adaptation/mitigation with both local and cross-border interests.

The change project approach was particularly central because it enabled participants to link the context of work and the context of learning iteratively: they generated project ideas at their respective workplaces; then they shared these with fellow learners who came from the same TFCA and agreed on the idea(s) to convert them into a joint change project idea; then they collaboratively developed strategies and action plans which were subsequently shared with colleagues back in the TCAs, and shared again in the second course workshop.

Mandikonza (2012:4) defines a change project as:

An EE/ESD project that one embarks on, together with colleagues in one's workplace, in order to respond to an environmental/sustainability issue [...] In this way it supports one's practice as an environmental education practitioner. A change project may bring a totally new approach or it may enhance initiatives already in place.

According to the Sida-funded International Training Programme on ESD in Higher Education Change Project Guidelines (Rhodes University & Swedish International Centre of Education for Sustainable Development, 2012; Lotz-Sisitka & Hlengwa, 2013), change projects respond to the learner/trainees' professional development needs, organisational priorities and to the field of ESD. They should be relevant to institutional mandates and sustainable development issues and be theoretically and practically defensible.

### *Feedback from Learners and How It Informed Course Implementation*

Learners in both groups had opportunities to give feedback on course implementation at the start of each day; and at the end of the workshop in the form of an evaluation, which was both quantitative and qualitative. For example, the feedback at the end of the first workshop of Group A (of 18) had dual purposes: it helped in the redesigning of the workshop for Group B (of 21), who were still to attend their first workshop; and in the design of the second and final workshop for the first group. Listening to learners' feedback appeared to have improved the recontextualisation of the implemented course. This was partly evidenced by better ratings of the workshops: Group A rated workshop achievement levels as: 53% Excellent, 41% Good and 6% Not Entirely Satisfied; and Group B's ratings were as follows: 80% Excellent and 20% Good.

The learners' ratings of how different topics were covered by different trainers also prompted the course designer to compile resource people's guidelines, and share these with the resource people ahead of Group B's first workshop. This process can be seen as part of the recontextualisation process. The other improvement arose from time allocation per topic, which was increased by using two strategies: covering even fewer topics than those covered by the first group; and starting the workshop 30 minutes earlier each day in order to have more time. The allocation of more time per topic also enabled the resource people to cover the conceptual,

policy-related and practical matters in one session and not to have them spread over a number of sessions. The blocks of time that were allocated per topic ranged from two to three hours, from an average of 30 minutes to 90 minutes. The additional time improved the coherence and flow of the workshop.

### *Conclusion*

The contextualised curriculum design and recontextualisation of curriculum implementation journey discussed in this paper shows that potentially creative tensions emerge throughout the translation process; and that these have to be dealt with reflexively by multiple stakeholders. Tensions arise, for example, from having to engage with the international and the local, the abstract and the concrete, the socio-economic and the ecological, the short-term and the long-term, mitigation and adaptation. The prevalence of such tensions suggests the importance of working with conceptual, philosophical and theoretical frameworks that enable contradictions to be used to stimulate learning and action-taking. These frameworks are dialectics, as described in dialectical critical realism and CHAT, respectively.

The main educational lesson from this case study is that curriculum designs that are informed by contextual policy, theory and practice analysis and stakeholder needs-identification are likely to produce more adequate results than when one of them is used in isolation. For example, focusing on stakeholder needs analysis has the danger of overlooking what the potential trainees are unaware they need to know; while focusing on the latter is likely to leave out the more nuanced and specific training needs and lack the ethical credibility of participatory involvement of those who matter. Such a lesson is worth considering in the design of short and long course curricula as educators take forward the complex challenge of sustainable development in the context of climate change. The curriculum development process (and subsequent implementation) is likely to galvanise joint planning and action among stakeholders and contribute to learning that is more grounded in the strategic and practical needs of the learners, their institutions and society. The ability to recontextualise the curriculum effectively is enhanced when there is interaction and rapport between the curriculum designer, the institution of learning, the trainers and the learners.

The change projects that were jointly designed and progressively improved upon stimulated action research, and reflexive professional practice in situated learning – something that Schudel *et al.* (2008) encouraged as a way of building on the insights generated from the review of the Advanced Certificate in Environmental Education. Change projects also serve as an important mechanism for not only applying and reproducing what has been learnt, but also for mobilising the distributed cognition of learners and co-workers in creating innovations to deal with complex sustainability issues.

### *Notes on the Contributors*

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### *Endnotes*

1. A change project is a reflexive, action-oriented intervention through which course participants institutionalise and externalise new knowledge and practices with the aid of co-workers and supervisors.

### *References*

- Bernstein, C. (2000). *Pedagogy, symbolic control and identity: Theory, research and critique* (Revised ed.). Lanham: Rowman and Littlefield Publishers.
- Bertram, C. (2012). Bernstein's theory of the pedagogic device as a framework to study the history of curriculum reform in South Africa. *Yesterday & Today*, 7.
- Chishakwe, N.E. (2010). Southern Africa sub-regional framework on climate change programme report: working document. Gaborone: SADC.
- Climate & Development Knowledge Network (CDKN). (2012). *Invitation to tender terms of reference: Scoping the development of transdisciplinary research programmes to address climate compatible development needs in the SADC region*. London: CDKN.
- Daniel, U., Jan, H. & Carl-Henrik, A. (2013). *The recontextualisation of curriculum reform: Local curriculum innovation under the accountability regime of the New Swedish Curriculum, Lgr11*. Kalmar, Sweden: Linnaeus University.

- Edwards, A. (2005). Let us get beyond community and practice: The many meanings of learning by participation. *The Curriculum Journal*, 16(1), 49–65.
- Engeström, Y. (1987). *Learning by expanding: An activity theoretical approach to developmental research*. Helsinki: Orienta-Konsultit.
- Hall, C. & Kidman, J. (2004). Teaching and learning: Mapping contextual influences. *International Education Journal*, 5(3), 331–343.
- Hewlett, L. (2013). Recontextualising knowledge in curriculum in Public Management. Unpublished doctoral thesis. Johannesburg: University of Witwatersrand.
- Jenkins, M.W. (2007). Curriculum recontextualisation using gardens for the health promotion in the life orientation learning area of senior management. Unpublished master's thesis. Grahamstown: Rhodes University.
- Institute of Resource Management (IRA), Pan African START Secretariat (PASS) & University of Dar es Salaam. (2007). Building African capacity for conserving biodiversity in a changing climate in the Albertine region: A baseline assessment report. Dar es Salaam: IRA/PASS/University of Dar es Salaam.
- Lotz-Sisitka, H. & Hlengwa, A. (2013). *International training programme for higher education and sustainable development: Phases 1-5 progress report – Africa cluster*. Grahamstown: Rhodes University.
- Lotz-Sisitka, H. (2006). Participating in the UN Decade of Education for Sustainability: Voices in a southern African consultation process. *Southern African Journal of Environmental Education*, 23, 10–33.
- Mandikonga, C. (2012). *Practice-based change-oriented learning in the workplace: The change project*. Howick: SADC REEP.
- Mombeshora, M. (2005). *Collaborative partnerships in transboundary wildlife management: A review of southern African experiences*. Harare: IUCN – The World Conservation Union.
- Mukute, M., Marange, T., Masara, C., Sisitka, H. & Pesanayi, T. (2012). *Future capacity building: Capacity assessment for environmental policy implementation*. Howick: SADC REEP.
- Mukute, M., Wals, A., Jickling, B. & Chatiza, K. (2012). *Report on the evaluation of the Southern African Development Community's Regional Environmental Education Programme (SADC REEP)*. Howick/Nairobi: SADC REEP/Government of Sweden.
- Mukute, M. (2013). *Climate change adaptation and mitigation in SADC transfrontier conservation areas (TFCAs) Module 1: A reflective workshop report*. Howick: SADC REEP.
- Nsubuga, Y. (2006). An exploration of how natural resources management (NRM) discourse is integrated into key pedagogic texts. *Southern African Journal of Environmental Education*, 23, 162–169.
- Rhodes University & Swedish International Centre of Education for Sustainable Development. (2012). *International Training Programme: ESD in Higher Education – ESD Change Project Guidelines*. Grahamstown: Rhodes University.
- SADC REEP. (2012). *Learning for a sustainable future: Fifteen years of Swedish-SADC cooperation in environment and sustainability education*. Howick: SADC REEP.
- SADC. (1997). *Wildlife sector policy and development strategy for the Southern African Development Community*. Lilongwe: SADC Wildlife Sector Technical Coordinating Unit.

- SADC. (1999). *Protocol on wildlife conservation and law enforcement in the Southern African Development Community*. Lilongwe: SADC Wildlife Sector Technical Coordinating Unit.
- SADC. (n.d.). *Southern African Regional Community Regional Biodiversity Strategy*. Gaborone: SADC.
- SADC. (2003). *Southern African Development Community Regional Indicative Strategic Development Plan*. Gaborone: SADC.
- Schudel, I., le Roux, C., Lotz-Sisitka, H., Loubser, C., O'Donoghue, R. & Shallcross, T. (2008). Contextualising learning in Advanced Certificate in Education (Environmental Education) courses: Synthesising contexts and experiences. *South African Journal of Education*, 28, 543–559.
- UNECA. (2011). *Towards a green economy: Pathways to sustainable development and poverty alleviation: A synthesis for policy makers*. [www.unep.org/greeneconomy](http://www.unep.org/greeneconomy), visited 26 August 2013.
- UNESCO. (2009). *Education for sustainable development and climate change: Policy dialogue 4 – ESD and sustainable development policy*. Paris: UNESCO.
- Vogel, C. (2010). Climate change curriculum: In search of creative design. *SARUA Leadership Dialogue Series*, 2(4), 117–128.
- Ziervogel, G., Taylor, A., Hachigonta, S. & Hoffmaister, J. (July 2008). *Climate change in southern Africa: Addressing needs of vulnerable communities*. Stockholm: Stockholm Environment Institute.