



Sustainability commons and other innovations in SOUTHERN AFRICA

One day everyone will live and work in a Sustainability Commons. Although they may not use the term 'Sustainability Commons', such is the imperative to reduce human impact of non-renewable fossil fuels, save money and live more sustainably, that many people are experimenting with different ways of living. One way to do this is to implement a range of 'low-carbon' technologies through the Sustainability Commons concept.

Dr Jim Taylor



NGOs from all over Lesotho explore rainwater harvesting at the LCN offices in Maseru

A 'Sustainability Commons' is a place to try out sustainable living. It is a place that anyone can visit and experiment with low-carbon technologies, which are being used locally for the benefit of the community and the environment. A Sustainability Commons is more than a physical space. It is the culmination of historical trends and practices within the field of climate change adaptation (Environmental Education and Education for Sustainable Development - EE & ESD); it is an experiment in social learning, and an argument for and against science and technology. It is a meaning-making exercise in facing environmental risks, and a movement towards social ecological justice through sustainability practices. It supports the communal 'moments' of learning.

A 'Sustainability Commons' is thus a place to try out sustainable living (Taylor & Westerman, 2013). It is also a place that anyone can visit and experiment with low-carbon technologies, which are usually very simple and inexpensive, and are being used locally for the benefit of the community and the environment. This article reflects on the development of five Sustainability Commons that are being developed in Lesotho, Swaziland, Namibia, Zambia and Botswana. Interestingly, each of the Sustainability Commons is unique, and reflects the local priorities and social contexts of the institution in which they are being developed.

Such approaches to Education for Sustainable Development (ESD) are also supported by a range of

innovations which are also described further on in this article.

Beyond theory and awareness raising – putting practices first

Education for Sustainable Development goes beyond awareness-raising. Rather than simply making people aware that they should live more sustainably, we are finding that it is through engaged, locally situated practices where real change occurs. With the support of USAID, WESSA is working in five southern African countries where learner-centered change is emphasised. Through such 'Action Learning' processes, which were shared by Taylor & Venter (2017), the Five Ts inform our theory of change.

We are finding that low-carbon technologies provide the sustainability practices for groups of people to Tune-in to new, more sustainable ways of living, deliberate amongst themselves about possibilities (Talk), reflect on different less expensive and less harmful ways of living (Think), apply and try out low-carbon technologies (Touch or real-life encounters), and implement more sustainable ways of living (Take Action).

Although this open-process approach to learning and change is showing many benefits and tangible outcomes, the process is 'open' and does not have to be implemented in any particular order. The links to, and support for, the local context of learning and change are thus of much importance.

A Sustainability Commons approach is thus a locally situated response to risk. Initial reviews (audits) establish just how people are using resources, whether they are electricity, water or impacting on biodiversity (plants and animals), as well as how they are generating and dealing with waste. In southern Africa most electricity on the national 'grid' is generated from non-renewable coal-fired power stations, so reducing the amount of electricity we use from the grid is good for our pocket (it saves us money) and reduces the harm we do to the Earth (good for the planet). Using water more wisely and managing our waste better is a further way we are learning to live more sustainably. And of course, taking care of our local biodiversity and looking after indigenous plants and animals, is also good for our local environment, in particular, and for the planet as a whole.

To support people to make appropriate choices when seeking to live more sustainably, WESSA has developed a booklet, *Stepping Up to the Sustainable Development Goals* (WESSA, 2017). This booklet supports people with learning pathways and change choice practices that they can select should they wish to work towards meeting the SDGs. You can download

a copy from the WESSA website under documents.

Ongoing challenges from a practical point of view

Of course, implementing a Sustainability Commons is not an easy business! For many people, being 'modern' means having lots of electricity and water, regardless of how it is generated or where it comes from. Furthermore, many of us make far too much waste and have a negative impact on biodiversity through our actions that may directly and indirectly contribute to habitat loss. So, living more sustainably may become less-convenient and more difficult than simply living and using large quantities of resources! Indeed, for many people, living more sustainably can even appear to be 'anti-modern'. What an interesting challenge for our times!

The Sustainability Commons in Lesotho

The Lesotho Council of NGOs (LCN) represents 40 Non-Government Organisations (NGOs) and has its headquarters in Maseru, the capital of Lesotho. LCN is thus well-placed to establish a Sustainability Commons and this has been done, in a modest way, at its offices in Maseru. LCN has focused on rainwater harvesting, reducing electricity use, better waste management and tree-planting, to develop its vision and practices for a more sustainable world. Mr Kanono Thabane (the LCN Programmes Director) explains:

"When NGO partners visit our LCN headquarters at Maseru, they are able to try out and explore the various low-carbon technologies and figure out, for themselves, if they too can save money, and the environment, by implementing these ideas in their own contexts."

Learning for Change

At LCN head-quarters a plastic 'Jojo' rainwater tank, linked to an electric pump, is able to supplement the water supply to the toilets. This 'low-carbon' technology saves considerable amounts of water each month. Low energy light bulbs, linked to photo-voltaic panels, also helps LCN reduce its electricity bill and draw less electricity from the national grid. This solar-powered electricity system complements the national grid and also ensures that, should the national grid be interrupted, LCN can generate its own electricity and keep working! This may be described as what Sen (1999) refers to as 'development as freedom', giving us the freedom to choose and change and be independent of national supply systems. It may also be described as a 'transgressive learning' orientation in that one lives and works in a manner that transgresses the normal way of doing things! It is thus not a 'business as usual' approach!

"Learning to live more sustainably does not mean replacing all our technologies with one silver bullet recipe. Rather, it is about experimenting with different technologies and using these to complement each other in a situated, local situation"



Mr Kanono Thabane explains how low-carbon technologies reduce electricity use at LCN head-quarters in Maseru

observes Professor Rob O'Donoghue, who helped develop the Sustainability Commons concept at the Environmental Learning Resource Centre (ELRC) at Rhodes University in South Africa.

The following Sustainable Development Goals are being addressed through the Lesotho LCN Sustainability Commons project: SDGs 1,3,4,6,7,9,11,12,13,15,16 and 17.

In Swaziland, the Chakaza Women's Development Network (CWDN) and other support partners are developing a community-based Sustainability Commons. One interesting outcome is that the ladies are developing the skills to manufacture and sell 'wonder-boxes' so as to develop an income stream at the same time as they seek to save money and protect the environment. It is estimated that cooking with a wonder box can save up to 70% of the fuel-wood or the electricity one needs for cooking a conventional meal!

In Botswana the Molepolole College of Education Sustainability Commons project was launched on 28 February 2017. The launch stemmed from a two year training programme and various support workshops in Botswana on climate change, the Sustainability Commons concept and low-carbon technologies. As noted by Professor M.J. Ketlhoilwe from the

University of Botswana: "The approach to learning applied here is all about 'learning through doing'. Rather than just receiving messages, College students, who are soon to become teachers, are engaging in real-life learning and making meaning as they explore more sustainable ways of living."

The focus of the Sustainability Commons in Botswana includes rainwater harvesting, the application of Technology and Design principles, and the development and propagation of indigenous trees.

The Sustainability Commons in Namibia

In Namibia the National University of Science and Technology (NUST) launched its version of a Sustainability Commons on 16 February 2017. The launch was attended by government, NGOs and industry. A key focus of the NUST Sustainability Commons was on providing learning on energy saving, water conservation and waste separation.

While opening the Commons, Dr Kavita, Head of Department: Hospitality and Tourism Management, reminded all participants that the SDGs should be implemented as a whole. Musonsa Ngulube, from USAID, introduced the concept of Sustainability Commons and indicated that they encourage cultivating alternative livelihood practices to reduce carbon footprints and environmental impacts.



Tembeka Dambuza from WESSA outlined how the concept of Change-Choices-Practices enabled people to choose how to respond to issues rather than be imposed upon. Examples were used to differentiate between 'good', 'better' and 'best choices, depending on people's interests and levels of commitment.

The Sustainability Commons in Zambia

In Zambia the Mayor of Lusaka, Mr Kalumba, launched the Sustainability Commons project on 15 February 2017. He indicated that with Zambia being one of the most urbanized countries in Africa, the launch was timely and appropriate. The Lusaka Sustainability Commons will be focusing on learning for a 'green' city, and is being led by the University of Zambia (UNZA), with support from the Lusaka City Council (LCC). The Commons will focus on waste and waste separation so as to compost waste for community

sustainability.

Transgressive learning: This means doing things differently and transgressing what most would see as normal. An example of this is that most people, who can afford it, rely on the national grid to supply them with electricity (power) and water. A transgressive learning approach means trying out different or complementary technologies such as those being applied by the LCN in Lesotho including capturing solar power and rainwater harvesting.

The Enviro-meal: The way we eat places enormous pressure on the natural resource base. By choosing foods that are locally grown and are not transported over long-distances, are freshly produced (not frozen) and reducing meat consumption, we are able to eat more healthily and impact less on the planet. Avoiding trans-fats, refined sugar and salt, the 'unholy trinity'



Water wise plants and containers at the National University of Science and Technology

gardens. These gardens will produce vegetables and will be managed by the Kabwata Women's Group.

Innovations for our times

Such is the pressure people are exerting on our life support systems, such as air, water and food, that we have to find different ways of living and being in the world! Growing populations and urbanization increase the pressure still further. As we research and try out different ways of learning and bringing about change, so approaches such as 'transgressive' (doing things differently) and 'transformative' learning (changing how we learn) gain momentum. The following innovations are proving meaningful, as WESSA projects explore different approaches to

in the book *The Diet Myth: The Real Science Behind What We Eat* by Tim Spector, are further ways that support more sustainable living (Taylor, 2016).

A Sustainability Commons: As outlined in the above example from five SADC countries, a Sustainability Commons is an experiment in low-carbon living. WESSA is researching and testing 20 low-carbon technologies that are being used in our offices, in our homes and during our recreation pursuits! (WESSA, 2012).

Change-choice-practices: For many, attitude change and the assumption that behavior change will follow, is a well-worked idea. This prevailing assumption endures, despite research and experience showing



that there is no causal relationship between attitudes and behavior (Kemmis & Mutton, 2012). We have found that change-choice practices, where participants are encouraged to make choices for a sustainable future, enable change in more powerful ways (Taylor, 2010 and 2014). This approach to change draws on ‘nudge’ research and is gaining momentum. What makes change-choice-practices so relevant, is that the agency for change is more with the participant than an external pressure or impulse, as Rabie (2012) discovered in her research:

“At least 36% of the participants maintained their ‘change-choice-commitment’ and still continued with it a month later.... All the females in this range adopted the technologies. The solar lighting kit was the technology most commonly purchased, and the solar bottle bulb, that does not cost anything, was not adopted at all.”

Values and Attitudes – wishful hope and complacency

Many projects rely on conveying strongly held beliefs, values and attitudes, as being key to social change for a more sustainable world. Pierre Bourdieu, however, provides a counter-intuitive caution against such hopes (Robbins, 1991). He notes that once values are internalised and implicitly believed, the incentive or desire to meet the value or goal may even decline! Values are certainly helpful and can support a mission or quest but they are just that, an ongoing striving for something better, not a destination one can arrive at and then become complacent with the feeling that one has achieved the value. People who are striving to live more sustainably do so because they believe they need to! Those that feel they have achieved the value of living more sustainably may feel they no longer need to make the effort!

An example for social relationships may help here: One can strive, for example, to become a friendly and polite person. But once one believes that one is a friendly and polite person, the impulse to be so is no longer as pressing, and may even be removed. In this way the efforts to become more friendly and polite may even decline.

Sustainable Development Goals 2030 – with education pathways: The SDGs were produced from the largest and most wide-spread public participation process in history. Now endorsed by 193 countries, the SDGs are thus a powerful window of opportunity for the next 14 years. By designing learning pathways to achieve each goal (WESSA, 2017), more sustainable living could just become a reality!

Ecological infrastructure: Ecological infrastructure refers to naturally functioning ecosystems that deliver valuable services to people, such as fresh water,

climate regulation, soil formation and disaster risk reduction. It is the nature-based equivalent of built or hard infrastructure, and is actually more important for providing services and underpinning socio-economic development. The slogan ‘there are no jobs on a dead planet’ is sometimes used to endorse the importance of ecological infrastructure. Indeed WESSA now has a department dedicated to **Ecological Infrastructure and Sustainability**.

Action Learning (O’Donoghue, 2001, UNEP, 2004 and Taylor & Venter 2017) is a powerful theory of change. Drawing on process sociology (Elias, 1991) this approach to change supports practical action-taking and real-life learning. Action learning includes the five Ts of ‘Tuning in’: ‘Talking or dialogue’, ‘Thinking and reflection’, ‘Touching or real-life fieldwork’ and ‘Taking Action’, applying our vision through practical responses.

Living data: For most people, research is something that scientists and governments do. The data from research is often kept in large-scale data-bases and is difficult for ordinary people to access. By developing a living data system, on a Google Earth layer, WESSA, GroundTruth and the Water Research Commission have been able to develop a citizen science approach to water quality monitoring that generates a River Health Index that is continuously updateable on Google Earth. This biomonitoring system, which we call the Stream Assessment Scoring System (miniSASS), is easy to use and costs nothing to apply! It also gives a visual account of all the data and functions on virtually all perennial rivers in the world (www.minisass.org).

Enviro-Facts: Sixty one-page fact sheets have been developed to help answer the 60 most commonly asked environmental questions in South Africa. Ranging from Education for Sustainable Development to What is Climate Change and Biodiversity Loss, these 60 fact sheets briefly outline what the issue is all about, and also offer a section on ‘what you can do?’ as well as a ‘Did you know?’ fact that makes fascinating reading.

Change Projects: Human capacity development and ESD offers us all a chance to change for a better or more sustainable way of living. A ‘Change Project’ is just that, an account of how the learning we have experienced has enabled us to change our home, our work or our recreational pursuits for the better. Usually reflected as one-page summaries, with photos, Change Projects make excellent material for evaluating the effectiveness of the work we do.

Handprints for Change: One of the best practices identified during the United Nations Decade of Education for Sustainable Development (DESD 2004-2014) is the Paryavaran Mitra programme that uses *Handprints* as core pedagogy to involve school students, and adults, in taking positive action towards



sustainability. Instead of focusing on the doom and gloom of one’s Carbon footprint, the Handprint applies a pedagogy of hope to instigate actions that we apply, *with our hands*, for sustainability that can make a positive difference. Handprints for sustainability are now being widely applied across South Africa as well as in India and elsewhere in the world (<http://www.handprint.in>).

Evaluating the effectiveness of what we do: Evaluation processes help us understand what we do and guide us to implement more effective and efficient projects. We are finding that ‘Evaluation as Learning’ is a most helpful perspective and can draw on ‘Realistic Evaluation’ (Pawson & Tilley, 1997 and Ward, 2016) and ‘Appreciative Enquiry,’ (Venter *et al.*, in press). Such evaluations support learning and enable us to manage projects to become more effective and more efficient. Two recent evaluations of WESSA projects include an evaluation of the *Jobs for Carbon* project (Mander *et al.*, 2016) as well as a review of the USAID supported *Stepping Up to Sustainability* project (Rabie, 2012).

Concluding Comments

This article commenced with a reflection on the *Sustainability Commons* concept in five southern African countries. It then noted how a range of innovations are being mobilised to help us engage with the issues and risks that appear to be diminishing the ability of the Earth to support a healthy quality of life for people, plants and animals. These innovations are not magic recipes; neither are they fool-proof ways of doing things. Rather they are experiments in more sustainable living and we invite all who are serious about living more sustainably to join WESSA and support our projects so that all can enjoy a healthier and more sustainable quality of life!

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REFERENCES

- Elias, N. (1991). *The Symbol Theory*, Sage Publications, London.
- Kemmis, S. & Mutton, R. (2012) Education for sustainability (EfS): practice and practice architectures. *Environmental Education Research*, 18:2, 187-207. <http://dx.doi.org/10.1080/13504622.2011.596929>
- Mander, M., Diederichs-Mander, N. & Blignaut, J. (2016). *Independent Project Evaluation Report: Jobs for Carbon*. FutureWorks, Durban.
- O’Donoghue, R. (2001). Environment and active learning in OBE. Share-Net, Howick.
- Pawson, R., & Tilley, N. (1997). *Realistic Evaluation*. London: Sage.
- Rabie, D. (2012). *The acceptability of small-scale sustainable technologies in the Namaqualand region, South Africa: An empirical investigation*. Unpublished MSc. Degree, University of the Free State.
- Robbins, D. (1991). *The Work of Pierre Bourdieu*, Open University Press, Milton Keynes.
- Sen, A. (1999). *Development as Freedom* New York: Alfred A. Knopf.
- Taylor, E. (2016). *My Carbon Footprint: A hand-print resource*. WESSA, Howick.
- Taylor, J. (2010). Education for Sustainable Development: Perpetuating Myths or Bringing about Meaningful Change? *Global Environmental Research*. UNU, Japan, pp 187-192.
- Taylor, J. (2014). Shaping the GAP: Ideas for the UNESCO Post-2014 ESD Agenda. SAGE Publications. *Journal of Education for Sustainable Development* (Los Angeles, London, New Delhi, Singapore and Washington DC) www.sagepublications.com Vol 8(2): 1–9 10.1177/0973408214548369
- Taylor, J. & Westerman, L. (2013). Stepping up to sustainability through ‘change choice practices’ and social media. *Environment* (Vol. 15, Winter 2013) pp 26-31. Future Publishing, Johannesburg.
- Taylor, J. & Venter, V. (2017). Towards a Sustainable Future: Action Learning and Change Practices. *African Wildlife & Environment* 64; pp 37-40. WESSA, Bryanston.
- Venter, V., O’Donoghue, R. & Taylor, J. (in press). Educating for a Sustainable Future: the contribution of Education for Sustainable Development. In the UNESCO publication *Education on the Move*. UNESCO, Paris.
- Ward, M. (2016). *Review of the Enviro-Champs in mPophomeni*. DUCT, Pietermaritzburg.
- Wenger, E., McDermott, R. & Snyder, W. 2002. *Cultivating Communities of Practice: a guide to managing knowledge*. Boston: Harvard Business School Press.
- WESSA (2012). *Sustainable Technologies: People, Products and Practices*. A handbook for deliberating Climate Change adaptation and ecosystem restoration. WESSA, Howick.
- WESSA (2017). *Stepping Up to the Sustainable Development Goals. A practical guide to integrating the SDG’s into our daily lives, including our practical activities, year plan, networking and sustainable centre developments through change-choice-practices*. WESSA, Bryanston, Johannesburg.