



ANNOUNCEMENT

Sustainability science for meeting Africa's challenges

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Introduction

Africa is currently experiencing striking antitheses. Despite long-term efforts to alleviate poverty, poverty still remain endemic and multi-dimensional in several of its regions (UNDP 2014). Africa is, in fact, blessed with abundant natural resources that could assist its development (UNECA 2011, 2013). However, in reality, these resources are not always evenly distributed among the different segments of society (UNECA 2011), or can have tremendous negative environmental impacts if mismanaged (Evans et al. 2013). For example, while large tracts of land is allocated across Africa for large-scale agricultural production as a means of economic development (Schoneveld 2014), the continent registers some of the highest levels of under-nutrition and food insecurity globally (EIU 2015). At the same time, Africa's biodiversity and largely pristine ecosystems cater for multiple human needs (Brashares et al. 2014; UNEP 2010), thus facing increasing pressure, especially outside of protected areas (Laurance et al. 2012; Beresford et al. 2013).

The dual realities of a rapidly increasing population and global environmental change are expected to put further strain into the natural resource base of the continent. In fact, across Africa, there is a rapid urbanization (with unique patterns), low access of urban populations to basic amenities/materials (e.g., nutritional food, modern fuels), and increasing vulnerability of these population to environmental change (World Bank 2013). The combination of the above might take a significant toll on public health, and stifle development opportunities well into the future (UN-Habitat 2015).

These are only some of the multifaceted and intertwined sustainability challenges that Africa is currently facing, and will be facing for the decades to come. There is an urgent need to solve these challenges in a socially inclusive and environmentally friendly manner if a transition to a green economy is to be realized in the continent (UNEP 2015).

Sustainability science has an inter- and transdisciplinary focus, a solution-oriented approach and an ability to link the social and ecological systems (Kates 2011; Komiyama and Takeuchi 2006). It is, thus, well positioned to lead the research agenda and to offer key insights to address these challenges in the African context. However, African voices and perspectives need to be more meaningfully integrated in current sustainability science practices, if these challenges are to be tackled effectively (Chilisa 2012).

Aims and scope

To tackle effectively the interconnected challenges that Africa currently experiences, there is a strong need to develop transdisciplinary and solution-oriented research approaches.

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This Special Feature will collect contributions from leading scholars that apply sustainability science concepts and principles at the African context. It will combine selected papers from:

- The 6th International Conference on Sustainability Science (ICSS2016), hosted in Stellenbosch (2–3 March 2016).
- An open call (15 March to 30 April 2016).

Empirical and conceptual papers that fall within the “Original articles”, “Overview articles”, “Technical reports”, and “Case reports” categories are invited as described at the Sustainability Science website <http://www.springer.com/environment/environmental+management/journal/11625>. Papers that adopt interdisciplinary and transdisciplinary research approaches are highly encouraged.

Topics that will be considered in the Special Feature include, but not confined to:

- Sustainable agriculture.
- Food security.
- Biodiversity and conservation.
- Energy use and climate change.
- Urbanization and urban sustainability.
- Resource management, including mining resources.
- Transdisciplinary research in the African context.
- Green economic transitions in the African context.

Timeline

Authors are encouraged to submit extended abstracts to the special feature managing editor (Dr. Alexandros Gasparatos) by 30 April 2016. Formal invitations will be communicated to individual authors by mid-May 2016, subject to review by the editorial team of the Special Feature.

Upon acceptance authors will be invited to submit full manuscripts through Sustainability Science’s electronic editorial management system, keeping in mind the journal’s formatting guidelines and length requirements <http://www.springer.com/environment/environmental+management/journal/11625>.

Open call	15 March to 30 April 2016
Invitation decision	by mid-May 2016
First draft submission	31 July 2016

Reviewing	September–December 2016
Revised submissions	by end January 2017
Second reviewing (if needed)	February–March 2017
Final acceptance	by end March 2017
Special issue publication	July 2017

References

- Beresford AE, Eshiamwata GW, Donald PF, Balmford A, Bertzky B, Brink AB, Fishpool LDC, Mayaux P, Phalan B, Simonetti D, Buchanan GM (2013) Protection reduces loss of natural land-cover at sites of conservation importance across Africa. *PLoS One* 8:e65370
- Brashares JS, Golden CD, Weinbaum KZ, Barrett CB, Okello GV (2011) Economic and geographic drivers of wildlife consumption in rural Africa. *PNAS* 108:13931–13936
- Chilisa B (2012) *Indigenous research methodologies*. Sage, Thousand Oaks
- Edwards DP, Sloan S, Weng L, Dirks P, Sayer J, Laurance WF (2013) Mining and the African environment. *Conserv Lett* 7:302–311
- EIU (2015) *Global food security index 2015*. The Economist Intelligence Unit, London
- Kates RW (2011) What kind of a science is sustainability science? *PNAS* 108:19449–19450
- Komiyama H, Takeuchi K (2006) Sustainability science: building a new discipline. *Sustain Sci* 1:1–6
- Laurance WF et al (2012) Averting biodiversity collapse in tropical forest protected areas. *Nature* 489:290–294
- Schoneveld GC (2014) The geographic and sectoral patterns of large-scale farmland investments in sub-Saharan Africa. *Food Policy* 48:34–50
- UNDP (2014) *Human development report 2014*. United Nations Development Programme (UNDP), New York
- UNECA (2011) *Minerals and Africa’s development*. United Nations Economic Commission for Africa (UNECA), Addis Ababa
- UNECA (2013) *Managing Africa’s natural Resource base for sustainable growth and development*. United Nations Economic Commission for Africa (UNECA), Addis Ababa
- UNEP (2010) *State of biodiversity in Africa*. United Nations Environmental Programme (UNEP), Nairobi
- UNEP (2015) *Building inclusive green economies in Africa: experience and lessons learned 2010–2015*. United Nations Environmental Programme (UNEP), Nairobi
- UN-Habitat (2015) *The state of African cities 2014: re-imagining sustainable urban transitions*. United Nations Human Settlements Programme (UN-Habitat), Nairobi
- World Bank (2013) *Harnessing urbanization to end poverty and boost prosperity in Africa*. World Bank, Washington