

university of south africa



Call for Book Chapters

CYCLONES, FLOODS AND SUSTAINABLE DEVELOPMENT GOALS (SDGs) IN SOUTHERN AFRICA

17 June 2019

Preamble

The Exxaro Chair in Business and Climate Change Research Group at the University of South Africa has partnered with Chinhoyi University of Technology in Zimbabwe in a research Programme focusing on "African Ecosystems and Human Settlements in the face of Extreme Weather Events, Climate Change and the SDGs". One major outcome from this partnership will be three (3) book volumes to be published by Springer New York in 2020.

Introduction

The 2030 Agenda for Sustainable Development (AfSD) presents 17 indivisible Sustainable Development Goals (SDGs). In fact, the battle cry for the 2030 AfSD is 'Let No One be Left Behind' (United Nations, 2015a). The 11th SDG focuses on making cities and human settlements inclusive, safe, resilient and sustainable. It is beyond doubt that this SDG ties in, all other SDGs. SDG 11 therefore has both direct and indirect relationships with SDG 2 (Food Security), SDG 3 (Health), SDG 4 (Education), SDG 5 (Gender), SDG 6 (Water and Sanitation), SDG 7 (Sustainable Energy), SDG 9 (Sustainable Industry and Infrastructure), SDG 12 (Sustainable Consumption and Production), SDG 13 (Climate Action), SDG 14 (Oceans), SDG 15 (Biodiversity), SDG 16 (Peace and Security) and SDG 17 (Partnerships).

With Cyclones Idai, Dineo, Favio, Eline and Kenneth, the 1991/92 and 2015/16 droughts as well as the 2019 floods in South Africa all fresh in memory and in the background, time has come for the academia to be in the forefront of untangling how best the world, and particularly Africa can deal with the ever increasing challenge of extreme weather events. These extreme weather events present huge roadblocks to the quest to attain SDG 11 by 2030 in southern Africa. With a foregrounding in the Sendai Framework (United Nations, 2015b), Paris Agreement (UNFCCC, 2015), Africa Agenda 2063 (African Union, 2014) and Habitat III's New Urban Agenda (United Nations, 2016), the research agenda is cut short for the academics. There are many new things (in fact too many to mention) that research institutions ought to tackle and tackle them yesterday.

The emergence of Cyclones Idai and Kenneth that hit the Comoros, Malawi, Mozambique and Zimbabwe in March 2019, for example, trigger many research angles. Among such: the comparison of Idai and Kenneth's intensity as well as with past cyclones like Eline, Favio and Dineo; understanding the damage to traditional medicinal plant sites; dealing with transboundary disasters and sovereignty matters and protocols; the increasing roles of defense forces in natural disaster risk reduction and budgeting; ICT readiness for extreme weather events; impacts on agriculture, settlements, ports, loss of human lives and livelihoods, damage to infrastructure (electricity, roads, schools, sporting facilities, WASH, etc.), impact on tourism, security matters, impact on fisheries, environmental refugees and loss of social and cultural ties); roles of aid and development agencies; naming of cyclones in SADC; and matters of gender in disaster risk reduction etc. In the Chimanimani mountain ranges, recent natural hazards such as landslides, mudslides, and flooding have caused considerable human and economic losses. On the other hand, droughts have their challenges too, including the threats of 'Day Zeros' across southern Africa.

Brief Literature Survey

As the cost of weather extreme events in southern Africa continues to soar, there is increased realisation that settlements (both urban and rural) and their supporting eco-systems that include agriculture, tourism, health etc. are particularly vulnerable to these extreme weather events resulting from climate variability and change (Adelekan et al., 2015). Extreme weather events expose and add to the already existing socio-economic and environmental challenges that settlements have been grappling with such as environmental degradation, water shortage, poverty, poor governance, and inequality to mention but a few (Myers, 2016; Lwasa et al., 2018). Climate change has caused rapid rural-urban migration (Bazrkar et al., 2014; Indian Institute for Human Settlements, 2018) and negatively impacted food supplies.

As highlighted earlier, recent storms, droughts and cyclones that occurred between 2000 and 2019 exposed the extent of vulnerability of southern African settlements as they led to the suffering of both the marginalised and privileged communities alike. Weather extreme events in urban environments have led to fears that continued occurrence of such extreme weather events will have an adverse impact on livelihood and economic activities across the urban spectrum with implications on national economic performance across the sub-Saharan Africa (SSA) (Archer et al., 2017; Baudoin et al., 2017). The Intergovernmental Panel on Climate Change - IPCC (2018), points out that Africa will be worst affected by the increasing impact of climate change that is 1.5° to 2°C temperature increase above pre-industrial era. To confirm this, Lwasa et al. (2018) maintain that a further increase of temperature by a further 1.5°C will double or triple the current climate change impact challenges. Such a scenario will prove catastrophic to urban infrastructure and urbanites in the region. Current changes to climate have had a dire impact on urban socio-economic activities and infrastructure. Climate change induced extreme weather events have also led to water shortages, disease outbreaks and other health challenges like heat waves (Gizaw & Gan, 2017).

In Africa, most climate change impact studies have been focusing on agriculture and rural communities, with fewer studies on urban areas where the vast of Africa's population is anticipated to live by 2050. Urban areas in Africa are important national economic hubs. As such, any disturbance to urban areas has a direct and indirect impact on the performance of national economies. With regard to Africa, a few studies have been conducted on the impact of climate change driven droughts and flooding on coastal areas (Steyl & Dennis, 2010). This resulted in

wide knowledge gaps as to how climate change will affect other aspects of the urban ecosystems in inland and coastal urban areas in SSA (Adelekan et al., 2015).

According to Khosla and Bhardwaj (2019) at least 11 out of the 17 SDGs require particular actioning by cities. For example, urban areas are expected to deliver and provide clean water and sanitation (SDG 6). On the other hand, under SDG13 cities are expected to take urgent actions to address climate change. While under SDG 1 and SDG 10, urban areas are expected to reduce poverty and inequality respectively. Climate change related disasters might make this very difficult as funds will be diverted to tackle climate change impacts. Urbanites might find it difficult to respond to SDG11, which requires the establishment of sustainable cities and communities among other SDG demands (United Nations 2015a). Equally, in the absence of climate science, the southern Africa region will unlikely be able to meet its commitment of disaster risk reduction under the Sendai Framework for Disaster Risk Reduction 2015-2030 (United Nations, 2015b). Cities as both perpetrators and victims of climate change have a bigger role to play in the climate change action as espoused in the UN Habitat's 2016 New Urban Agenda (United Nations, 2016). Dube and Nhamo (2018a-c) focused on the impact of climate change on tourism. Their work narrowed down to the Victoria Falls tourist resort. Being one of the top 10 wonders of the world and a UNESCO site, results confirmed that indeed climate change was happening and the resort was being affected.

It should also be borne in mind that natural disasters within Africa call on the various militaries to respond. As of late, we have seen the SADC Standby Force/Brigade, especially the South African Defence Forces (SANDF) under the auspices of Operations Chariot and Operation Arabella with its superior air assets, provide much humanitarian assistance and relief to the affected areas. Other militaries under the SADC Standby Force have also been deployed to the areas affected by the recent cyclones, especially Cyclon Idai. Therefore, we see a shift in the role that the militaries are playing, from a peacekeeping force to a force that will be engaged in humanitarian relief and aid. The SADC Standby Force/Brigade is an element of the African Standby Force (ASF) that is based on the standby arrangements among Africa's five sub regions of North Africa, East Africa, Central Africa, West Africa and southern Africa. The SADC Fore operates as a tool of the SADC Organ on Politics, Defence and Security cooperation. It receives direction and guidance from the SADC Committee of Chiefs of Defence and the Committee of SADC Police Chiefs to provide peace building efforts in the southern African region. Scuh efforts include post conflict disarmament and demobilisation, humanitarian assistance in conflict areas and areas impacted by major natural disasters such as floods and droughts. We can therefore, deduct that militaries landward forces, air forces, naval forces and health forces will be playing a crucial role in the impacts of climate changes in the region.

Justification of the book volumes

Given that there is limited literature on cyclones and floods, particulalry, work focusing on southern Africa, a group of academics from southern African Institutions of Higher Education has decided to comprehensively document the imapcts of such. The academics are of the view that had past cyclones been adequately documented, with policy positions drawn up, the region would have been better prepared for Cyclone Idai. Hence three (3) book volumes will now be produced, holistically documenting cyclone and flood related impacts within the framework of the SDGs in southern Africa. Although authors are free to write on other past cyclones and floods experienced in southern Africa, the major focus is on Cyclones Idai and Kenneth and the April 2019 floods in South Africa.

Objectives of the book volumes

- 1. To establish trends and impacts of climate variability and change in selected southern African settlements (including cities, rural areas and coastal regions) and some of the interventions thereof.
- 2. To investigate and predict the impacts of known and future cyclones, droughts, heat waves, extreme cold, wilde fires etc. on livelihoods across southern Africa [with the view to assess damage and impacts on traditional medicines, cultural and heritage sites; wildlife, agriculture, settlements, ports, loss of human lives and livelihoods and damage to infrastructure (electricity, roads, schools, gender, sporting facilities, WASH, environmental refugees and loss of social and cultural ties etc.), IKS habitats and impacts on tourism attractions and fisheries)].
- 3. To determine the roles of aid and development agencies and governments in dealing with transboundary disasters and sovereignty matters and protocols.
- 4. To determine and document SADC Protocols and national policies governing the (increasing) roles of defense forces in natural disasters and the challenges of budgetting for such tours of duty.
- 5. To establish ICT readiness for future extreme weather events and disasters like Cyclone Idai and Kenneth as well as the 2019 floods in South Africa.
- 6. To examine and document the important roles played by aid and development agencies, NGOs and CBOs (including faith based organisations) in disaster risk reduction, with a particular focus on Cyclones Idai, Kenneth and the recent 2019 loods in South Africa.
- 7. To trace and document the history and legacy of cyclone naming and earliry warning systems in SADC.
- 8. To determine the transport and accessibility modalities, mobility responses and infrastructure readiness during and after transboundary disasters in southern African nations/states.
- 9. Investigate the principles and indicators of sustainability and forms of resilience to climate change induced disasters in Southern African cities and regions.
- 10. To assess and map ecosystem services (ES) provision and identify areas vulnerable to natural risks
- 11. To explore the extent to which Community Based Initiatives (CBIs) promote the mainstreaming of Climate Change Adaptation into DRR.
- 12. To determine the impacts of rapid urbanization and floods on urban green spaces and identify hazardous installations within human settlements (e.g., Chimanimani Town Council scenario).
- 13. To compare vulnerability of both formal and informal urban settlements to climate induced disasters.

Call for book chapters

Based on the foregone, the call for solutions oriented book chapters is now open to populate the following key areas (based on the SDGs framework) included in the book volumes as impacted by cyclones and floods in southern Africa:

• Goal 1: End poverty in all its forms everywhere in southern Africa.

- Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture in southern Africa.
- Goal 3: Ensure healthy lives and promote well-being for all at all ages in southern Africa.
- Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all in southern Africa.
- Goal 5: Achieve gender equality and empower all women and girls in southern Africa.
- Goal 6: Ensure availability and sustainable management of water and sanitation for all in southern Africa.
- Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all in southern Africa.
- Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all in southern Africa.
- Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation in southern Africa.
- Goal 10: Reduce inequality within and among countries in southern Africa.
- Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable in southern Africa.
- Goal 12: Ensure sustainable consumption and production patterns in southern Africa.
- Goal 13: Take urgent action to combat climate change and its impacts in southern Africa.
- Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development in southern Africa.
- Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss in southern Africa.
- Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels in southern Africa.
- Goal 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development in southern Africa.

Deadlines

- 30 July 2019 or earlier: Extended chapter abstracts of up to 500 words, including sufficient details on methodology and chapter outlines.
- 30 August: Response to authors regarding the outcome of their abstract acceptance or rejection.
- 31 December 2019: Full chapters in.
- 28 February 2020: Chapter double blind peer review outcomes
- 30 March 2020: Finalization of chapters.
- 30 April 2020: Book volumes handed over to Springer for publication

Contacts

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