



The National Climate Change Adaptation Strategy

1. Introduction

South Africa's current draft National Adaptation Strategy (NAS) is intended to be the cornerstone for climate change adaptation in the country and to reflect a unified, coherent, cross-sectoral, economy-wide approach to climate change adaptation. It signals priority areas for adaptation response, both to provide guidance to adaptation efforts around the country and to be a point of reference to inform resource allocation to climate change adaptation.

The document is supposed to act as the primary guidance document for climate change adaptation efforts in South Africa, providing direction for all levels of government; to help measure the degree to which development initiatives at different levels of government integrate and reflect critical climate change adaptation priorities; and to inform national, provincial and local development planning. The NAS was written to support South Africa in meeting its international obligations by demonstrating progress on climate change adaptation, and to guide stronger coherence and co-ordination on climate change adaptation between different institutions and levels of government. With so many complaints regarding the island-like operations of government departments, this is a welcome effort.

On the morning of 24 February 2017, CPLLO hosted a roundtable discussion looking at the NAS, with guest speaker Assistant Professor Gina Ziervogel, Adaptation and Vulnerability Specialist from Department of Environmental and Geographical Science at the University of Cape Town. The discussion aimed to stimulate and contribute to public discourse on the strategy in a manner that

could empower participants to make submissions regarding the NAS by 28 February.

2. Assessment of South Africa's Exposure to Climate Change Impacts

The impacts of climate-related disasters are wide-ranging and affect multiple sectors. Climate change thus increases the urgency of integrating risk management into our development interventions and disaster management approaches, with a focus on being proactive rather than reactive. In relation to climate change, South Africa is particularly vulnerable to:

- increased temperatures that will cause heat stress; impacts on human health exacerbated by urban heat islands; loss of productivity; declining air quality in cities; and increased demand for cooling;
- extreme weather in the form of heat-waves and droughts, with increased water demand, water quality problems, heat-related deaths and reduced quality of life, and food insecurity;
- extremely heavy rainfall and violent storms, leading to water quality problems; deaths and injuries, infections and water-borne diseases; damage to infrastructure and economy; and loss of property;
- sea level rise and coastal storm surges, resulting in salt water intrusion on fresh water reservoirs; deaths and injuries; forced relocations; property losses; erosion and

submersion of land; and damage to infrastructure and services.

The three most significant drivers of climate-related disasters in South Africa are drought, floods and veld fires. Drought has affected approximately 15 million South Africans between 1980 and 2013 – the highest number of people affected by a climate-related disaster in the country. Droughts, which often extend over a number of years in South Africa, tend to affect more people than those living in the immediate locality, and therefore have far-reaching impacts. Floods occurring from 1980 to 2013 have affected an estimated 483 000 people in the country, whereas other natural hazards, such as hail storms, tend to affect far fewer people. Damages caused by veld fires also have a significant impact in South Africa, especially in the agriculture and forestry sector. Disasters such as coastal storms also have implications for coastal developments, fishing communities and infrastructure, in addition to coastal biodiversity. Climate change thus increases the urgency of integrating risk management into development interventions and disaster prevention and management approaches in order to reduce the potential impacts of these extreme events.

In a Long Term Adaptation report from 2015, a wide variety of socio-economic impacts arising from climate change, and which have the potential to result in disasters, were identified to include:

- impacts on human settlements (such as damage to property), access to basic services, resettlement, and forced-migration;
- impacts of extreme rainfall events on public and private infrastructure, resulting in costly repairs, road closures, limited or no access to electricity, and failure of sewage and storm-water systems;
- growing temperature anomalies affecting infrastructure sensitive to temperature extremes, such as roads;
- extreme rainfall, resulting in soil erosion, land degradation, loss of ecosystems and ecosystem services, alien species invasion, salinization of groundwater and flood trails containing pesticides and fertiliser;

- sedimentation following floods, which will negatively affect the storage capacity of dams, especially those of smaller capacity;
- rainfall and temperature impacts on agriculture and food security;
- extreme weather events which will affect tourism and the livelihoods that depend on this sector;
- flooding which will lead to contamination of water, including groundwater, and an increased threat of acid mine drainage.¹

3. Commendable Aspects of the NAS

Among the aspects of the NAS that deserve full support are the following:

- recognition of the broader sustainable development context of South Africa and emphasis on the crucial messages acknowledging that transformational, far-reaching change is required to address the challenges presented by climate change;
- the fact that the NAS has taken into consideration all existing sectoral, provincial, and local climate change adaptation strategies in South Africa, as well as those currently in development, by noting the importance of a cross-sector and multi-actor approach that will aid a more holistic response to climate change impacts. It also stresses the potential role of science and academic input; the importance of capacity building, and the importance of stakeholder consultation efforts in relation to the document;
- the foregrounding of local government in climate change adaptation is a welcome intervention, though this additional function will require adequate capacitation of municipalities;
- the acknowledgement that climate change matters need to move from the Department of Environmental Affairs into a different institutional structure that will look at climate change from a sustainably progressive perspective.

4. Points of Concern

- the NAS should be more ambitious and deliberate in using indigenous knowledge systems to adapt to the vast effects of climate change;
- the lack of an implementation plan hinders the overall strategy, leaving an information void that will impede citizens from gaining the kind of deep understanding that ought to be characteristic of a comprehensive National Adaptation Strategy. This reduces the strategy to a myriad of grand plans, without a plan stating how these will be achieved;
- current developmental challenges and needs must be clarified, with reference to the achievement of SA's sustainable development objectives and the maximization of opportunities for advancement. The requirements of systematic change need to be articulated clearly;
- the NAS places too much responsibility on the government, and does so in a manner that excludes communities and civil society organisations. This could be rectified through the implementation plan of the strategy, which should ensure that communities are actively involved in the development of solutions that distribute opportunities more fairly, thereby reducing the inequities that magnify vulnerability to disaster. The demands by our communities for solutions *for* them, *by* them, need to be heeded;
- while the NAS correctly acknowledges that climate change is more of a sustainable development matter than a purely environmental issue, the idea of moving responsibility for climate change to the Department of Co-operative Governance and Traditional Affairs (COGTA) needs to be reconsidered in favour of a more dynamic and influential ministry.

5. Indigenous Knowledge Systems

Indigenous knowledge systems (IKS) refers to the long-standing traditions and practices of culturally specific local communities. It encompasses the skills, innovations, wisdom, teachings, experiences, beliefs, language and insights of the people, produced and accumulated over years and applied to maintain or improve their livelihood. Such systems are also known as community knowledge, traditional knowledge, and environmental knowledge. Many indigenous people depend on IKS for survival in health, food security, shelter, natural resource management, conflict resolution, as well as leadership and governance.

Sadly, much of this knowledge has over the years been marginalized in the search for sustainable solutions for developmental challenges, e.g. climate change, unemployment, disease, conflicts, and environmental degradation. IKS needs urgently to be documented, preserved and promoted to contribute to the global pool of knowledge in the search for developmental answers. Indigenous knowledge is community-based, accessible, affordable and culturally sensitive – hence sustainable.² Climate change adaptation projects can learn from the experiences of other developmental projects by recognizing the value of indigenous knowledge systems. Two major obstacles to integrating indigenous knowledge into formal climate change mitigation and adaptation strategies are: recognizing the need to do so; and how to actually integrate indigenous knowledge into formal western science.³

The increased consideration of IKS will raise our resilience and assist with the reduction of vulnerabilities in the following areas:

- *Access to basic services:* Households that are poorly built, poorly located, or lack flood and lightning protection, efficient water systems, cool spaces, heat-reflective surfaces or damp-proofing, are a source of climate vulnerability.⁴

This makes South African informal settlements particularly vulnerable. According to studies done by Dr Bongani Ncube of the Water Research Commission, in the naturally dry area of the Karoo, farmers and communities have adapted to dry conditions because drought is something that occurs over long periods of three or four years. They have focused on drought-resistant species, such as Angora goats, ostrich or springbok, and some resort to hardy saltbush, prickly pear, agave or mesquite as fodder. Boreholes are depended on as a means of accessing groundwater, and communities have also become adept at harvesting rainwater from mountain slopes.⁵

- *Health:* Climate resilience is dependent on baseline health, including age. Children and the elderly are more susceptible to illness, heat stress, food insecurity and malnutrition, all of which are projected climate hazards. There is a growing recognition that traditional health care providers, such as traditional healers and traditional midwives, retain the confidence of their communities. The preference to consult traditional healthcare practitioners is also attributed to the time taken to communicate in an understandable and sympathetic way. Moreover, IKS-based health care services are holistic, as they consider the physiological, psychological, spiritual, economic, environmental and social aspects of health. This is in line with the principles of primary health care, namely, equity, community participation, an inter-sectoral approach, appropriate methods and health promotion and prevention.⁶ In the medical field, an improved understanding of IKS can result in bio-prospecting becoming more of a win-

win situation for both pharmaceutical companies and the original holders of knowledge of medicinal plants. A proper socio-economic valuation of indigenous knowledge is urgently needed.⁷

- *Demographic factors, including age and gender:* Most of this knowledge resides with the older generations and is transmitted orally. Communities with a smaller than average proportion of working-age adults are particularly vulnerable, thus increasing the need for this information to be documented so that it can be protected and shared with younger generations for sustainability. Since it is predominantly women in South Africa's underserved communities who suffer from age-related health vulnerabilities, IKS that benefits them need to be prioritised.⁸

6. Conclusion

The development of the NAS is to be welcomed, and we look forward to improved climate change adaptation tactics and their consequent application in our communities. The strategy combines a commitment to build SA's resilience and adaptive capacity with the provision of guidance on the integration of climate change responses into current and future development objectives. This will be achieved through the optimisation of policy, planning, and implementation of climate change adaptation actions. We therefore commend the Department of Environmental Affairs for creating an informative adaptation strategy, and hope that the NAS, once it is concluded, will be properly implemented to provide urgently-needed improvements in the situation.

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¹ South Africa Draft National Adaptation Strategy.

<https://www.environment.gov.za/sites/default/files/docs/nas2016.pdf>

² The Department of Science and Technology-National Research Foundation Centre in Indigenous Knowledge Systems (IKS)
<http://aiks.ukzn.ac.za/iks-faq>

³ E. N. Ajani, R. N. Mgbenka¹ and M. N. Okeke. Use of Indigenous Knowledge as a Strategy for Climate Change Adaptation among Farmers in sub-Saharan Africa: Implications for Policy. 26

⁴ The Department of Science and Technology-National Research Foundation Centre in Indigenous Knowledge Systems (IKS)
<http://aiks.ukzn.ac.za/iks-faq>

⁵ Water Research Centre. Indigenous Knowledge Systems: What can we learn from Karoo farmers about coping with drought? 18. http://www.wrc.org.za/Lists/Knowledge%20Hub%20Items/Attachments/11276/WWJuly2015_climate.pdf

⁶ Eguru, A. Role of Indigenous Knowledge in Climate Change Adaptation: A case stud of the Teso Sub-Region, East Uganda. 223.

⁷ Eyong, T.C. Indigenous Knowledge and Sustainable Development in Africa: Case Study on Central Africa.

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⁸ South Africa Draft National Adaptation Strategy. <https://www.environment.gov.za/sites/default/files/docs/nas2016.pdf>

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