



Science and disaster management for social justice

NSTF DISCUSSION FORUM (hybrid event)

CONCEPT DOCUMENT

5-6 December 2022

Background

The scale, impact and occurrence of natural, human-made and epidemic disasters seem to be increasing. The recent disasters caused by the SARS-CoV-2 pandemic worldwide, as well as those caused by the flooding in KwaZulu Natal province and the recent disaster when a mine tailings dam broke on 11 September 2022 in Jagersfontein, South Africa (SA) make this a currently relevant and important topic in SA and across the world. The impacts of these disasters result in environmental, social and economic imbalance. As a result of this, the livelihood of the people in crisis affected areas is severely impacted. Therefore, it is important to consider social justice when planning for disaster response, recovery and prevention.

Work based on science during such crises helps to guide decision making, from evacuation planning, search and rescue, health and safety monitoring, to basic resource provision and environmental restoration. Science can also be used in systematic efforts to analyse and manage the causal factors of disasters to reduce the risk of (re)occurrence. Part of this scientific work should be on how to communicate and promote awareness in rural, remote and township communities. Making sure that everyone is included in communication, emergency measures, and prevention of disasters is critical for the success of disaster management procedures. Without preventing, managing and mitigating disasters, there can be no social justice for the marginalised.

Purpose

The [National Science and Technology Forum \(NSTF\)](#) in SA brings together various stakeholders in science, engineering and technology (SET). Every year NSTF representatives of the [Science Councils and Statutory Bodies](#) sector in NSTF plan a discussion forum on an important and relevant matter for which SA's researchers at these organisations among others, are finding solutions.

For the past two years the representatives in NSTF addressed issues around the [SARS-CoV-2 pandemic and the lessons learnt](#) from this disaster. To continue the conversation in a broader context, it was decided to address disasters as a subject and to host this event on the side lines of the World Science Forum. This discussion forum provides a platform to share knowledge and insights on the connections between disaster management, science and the impact on social justice.

Objectives:

- To unpack the role of science and innovation in preventing and managing disasters.

- To deliberate on what being prepared means, and lessons from recent disasters.
- To learn about what the South African government is doing to prevent and prepare for future disasters.
- To decide on priorities for public knowledge and engagement re disaster prevention and management

Themes:

- How does/can SET and innovation contribute to early warning systems?
- How can disaster awareness be promoted among the public based on evidence and science?
- How can science be applied to maintain and restore environmental balance?
- How can science be used to improve the livelihoods of survivors in affected areas?
- How should disaster management and social justice be taught at school?
- How can science contribute to the reduction of specific types of disasters, such as water-, fire-, built environment and health-related disasters?

Outcomes:

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We aim to answer the question: *How can science support disaster impacts in terms of management, precautionary measures, social justice and public awareness, in South Africa?*

We aim to formulate recommendations:

- On how to promote public awareness on disasters
- On how to recover from the effects of disasters
- On how to prepare for disasters

Outputs:

As is usual for [NSTF Discussion Forums](#), a media release will be issued which summarises the most important issues and conclusions. The following outputs will also be made available on the [event page](#) and through social media platforms ([Facebook](#), [Instagram](#), [Twitter](#), [YouTube](#) and [LinkedIn](#)):

- Video recordings of speakers' presentations (subject to the speakers' agreement)
- Presentation slides (if available and subject to the speakers' agreement)
- Speakers' biographies document
- Useful links (Feel free to let us know should you have any information that you would like us to consider posting here)
- NSTF will engage the media on possible interviews and/or articles, and post on social media before, during and after the event.

References:

MACHLIS, G.E., 2019. SCIENCE DURING CRISIS: THE ROLE OF SCIENCE IN DISASTER RESPONSE. *The Built Environment*, p.103.

<https://news.climate.columbia.edu/2021/05/12/we-must-incorporate-social-justice-when-planning-for-compound-disasters/>

News articles:

[Jagersfontein residents face challenges as poverty bites | eNCA](#)

[South Africa: Floods in KwaZulu Natal - Emergency Plan of Action \(EPoA\), DREF Operation MDRZA012 - South Africa | ReliefWeb](#)

Previous NSTF Discussion Forums relevant to this topic:

- [Preparing for epidemics in South Africa – human and animal – NSTF](#)
- [Skills to prepare South Africa for future pandemics – NSTF](#)
- COVID-19's Impact on Education (Commonwealth Study): [6. Dr Andrew Paterson - YouTube](#)
- [Plant health in South Africa – threats to biosecurity, biodiversity and food security – NSTF](#)