Special Report on Drought 2021

Coordinating Lead Authors:
WADID ERIAN,
Cairo University; Senior advisor, Sustainable development, LAS

ROGER PULWARTY,
National Oceanic and Atmospheric Administration NOAA; and

JÜRGEN V. VOGT,
European Commission, Joint Research Centre JRC.

Date Time: Jul 27, 2021
Structure of the GAR Special Report on Drought 2021

- Chapter 1 presents the developing understanding of drought and describes the components of drought risk (hazard, exposure and vulnerability). The breadth and complexity of drought impacts are described within the context of growing risks posed by climate change.

- Chapter 2 explores 17 case studies, which provide a cross section of the world’s recent experiences of drought.

- Chapter 3 highlights the need to build drought resilience through systemic risk management approaches. It outlines the transformation needed in governance to match the diversity of actors and viewpoints with the widely varying nature of drought. It highlights key enablers, partnerships, capacities and strategies inherent in a systemic approach to drought risk management across scales.

- Chapter 4 concludes the report with a call to action that applies to all stakeholders. The report highlights options to be explored and ways to navigate and negotiate through the complex damaging risk, although it does not claim to provide a single prescriptive solution to the challenge of drought.
DROUGHT

▪ The risks that drought poses to communities, ecosystems and economies are much larger and much deeper than can be measured.
▪ The impacts represent an extreme load on the most vulnerable people.
▪ Drought impacts are extensive across societies – they interconnect across large areas, cascade through socioecological and technical systems at different scales, and last through time.
▪ A lack of awareness of such characteristics, including the consistent underestimation of the cost of drought direct and in direct impacts, can lead to ineffective response and systemic failure.
▪ As understanding of the globally networked aspects of drought and other complex risks improves, the changes required to reduce risk and improve the experience of drought become possible.

This Global Assessment Report on Disaster Risk Reduction (GAR) Special Report on Drought 2021 aims to take a clear step forward in building that awareness
The drought onset is usually slow, and so is difficult to measure until a certain threshold is reached (Drought Event). In addition, the end can be staggered. Nonetheless, defining discrete drought events is important for quantifying loss and damage from extreme events and for policy implementation.

While drought has always been a threat, climate change projections suggest many areas will experience droughts that are more frequent and more severe.

This makes key issues such as how well society is coping with drought and the availability of governance, tools and approaches to reduce the cost of drought all the more pressing.

This report aims to answer such questions by providing an in-depth exploration of the nature of drought risk, gathering experiences from responses and providing insights into new approaches to reduce and manage risk.

Drought impacts are intensifying as the world moves towards being 2°C warmer. When not adequately managed, drought is one of the drivers of desertification and land degradation, increasing fragility of ecosystems and social instability, especially in rural communities.
Due to the widespread & cascading impacts – often not explicitly attributed to the drought – damage & costs are usually seriously underestimated.
- Drought – an under estimated systemic challenge to lives, economies and ecosystems
- The damage and costs resulting from a drought are usually seriously underestimated due to widespread and cascading impacts, often not explicitly attributed to the drought
- The drought hazard and human activities (e.g. land and water management) are strongly intertwined, such that these activities can exacerbate the hazard and increase the risk of severe socioeconomic and ecological impacts.
- The direct and indirect impacts of drought across society, economy and ecosystems are often difficult to quantify
- Vulnerabilities of the food, water and energy nexus are exposed by drought, and can spill over into a social vulnerability, stability and conflict nexus.

**HYDROLOGICAL CYCLES**, (Mountain glaciers and snowfields, Transboundary river basins); **ECOSYSTEMS AND BIODIVERSITY** (Land degradation, desertification and soil loss, Wildfire, dust storms); **SOCIETIES** (Socioeconomic impacts, Social vulnerability, Human health, Energy generation, Cities and urban environments, Drought and climate insecurity)

- The better management of drought risk requires focusing on the identification and measurement of the full costs of drought
The Lived Experience: What is being learned?
Adaptation to drought

Many of these local adaptations are not sufficiently connected to knowledge of current status of drought. While many case studies emphasize the need for empowered farmers and communities and an emphasis on preparedness tied into adequate early warning and monitoring, success is dependent on the effectiveness of policy support.

Drought risk management and governance

Almost all case studies identify

- the need for national drought policies to support drought risk reduction
- address underlying risk drivers to prevent and manage drought risk.
- they highlight limited knowledge of possible impacts,
- poor assessments of vulnerabilities and costs,
- little coordination at national and regional levels, and
- lack of awareness on policy options.

Enabling proactive and prospective responses to drought risk

Successful integrated management requires a governance shift from reaction and bailout to risk reduction and resilience, in part based on improved knowledge of the climate mechanisms controlling the onset and termination of drought periods, other factors affecting drought initiation and cessation, and level of vulnerability of exposed communities, industries and ecosystems.

Transforming drought governance

Transitions to new forms of governance can be enabled by enhancing the capabilities of public, private, civil society and financial institutions to accelerate national and local policy planning and implementation, along with accelerated and appropriate technological innovations. Engaging women and indigenous peoples, financial alignment, appropriate technological innovations, and the co-evolution of science, policy, and practice.

Towards adaptive governance of drought

- Adaptive governance aims to deal with uncertainties and surprises that are inherent in transforming complex social, technological and ecological systems. It relies on learning, planning, policymaking, implementation and evaluation over time.
- Centralized and decentralized approaches can complement each other, especially when the actor network is broadened beyond a sender–receiver model of information communication.
Systemic Drought Risks: Broadening actor networks, learning, and just transitions in a interconnected and rapidly changing world

The multi-scale nature of drivers and of institutions affecting food systems

Impetus and incentives for strengthening systematic alignment and coherence
Toward Adaptive Risk Governance: Vertical and horizontal paths

Two critical recommendations are made to achieve a shared vision and acceptable action oriented development of drought resilience:

- **Develop a National Drought Resilience Partnership** that works to ensure a seamless link between national and local levels with public, private and civil society partners.

- **Support the establishment of a Global Mechanism For Drought Management** focused on systemic risks.
Two-thirds of the world could be living with water stress by 2025.

The true impacts of drought are massively underestimated.

They can linger long after the drought has ended.

And harm sectors far beyond agriculture.

Threatening human health, biodiversity and natural ecosystems.

Droughts can disrupt public water supply and energy production.

The impacts of drought often amplify existing structural inequalities.

Across social groups, ages and demographic categories.

Affecting the most vulnerable the hardest.

Drought risk governance requires integrated action that tackles hazards, exposure and vulnerability.

With strategies that work with all kinds of people and groups.

All of society acting as one will prevent devastating drought impacts in the future.
Special Report on Drought 2021

Thank You