

Outcomes of the Global workshop on droughts in transboundary basins, 26-27 February 2024

Droughts and their impacts

Droughts are the deadliest and most costly disasters¹. Water scarcity resulting from droughts adversely affects human health, agriculture including livestock, ecosystems, domestic and industrial water supply, hydropower generation, and navigation. Droughts have numerous cascading effects including impacts on food security, loss of biodiversity, increased forest fires and sandstorms, reduced cooling of power plants, desertification, increased water pollution, saltwater intrusion, and land subsidence. Droughts can also undermine education and inclusion, especially for women. Droughts, combined with population growth, drive water scarcity, which can result in increased tensions and conflicts between countries and increased migration. Also, the economic impact of drought is immense.

Droughts are slow-onset events, and climate change is expected to increase their frequency and intensity. As air temperatures rise, droughts may occur more rapidly. At the same time, with more moisture in the atmosphere from evapotranspiration, precipitation may become more intense, leading to increased flooding.

Every part of the world now suffers from droughts and, given the complexity of droughts and their cascading effects, it is important to address them in a systemic way. As droughts cannot be avoided, it is imperative that measures are taken to reduce the impact of droughts and prevent droughts from becoming disasters. It should be borne in mind that the costs of inaction generally outweigh the costs of action.

Benefits and challenges of tackling droughts at transboundary level

More than 60% of freshwater resources are shared by two or more countries. Transboundary cooperation is therefore crucial in drought management. Transboundary cooperation helps prevent maladaptation and makes drought management more effective by sharing data and resources and by locating measures where they will have the greatest impact.

Droughts are generally a common concern in transboundary basins, although the priority may differ between riparians depending on whether they are upstream or downstream, the proportion of the basin they share, and their water-related economic activities. Differences in interests and priorities, as well as difficulties in harmonising approaches and methods between riparians, can make cooperation difficult. These differences need to be identified and understood. It should be borne in mind that cooperation has economic benefits.

The role of basin organizations

As drought management is a multi-sectoral, transboundary challenge, it is necessary to develop appropriate institutional frameworks, consultation and coordination mechanisms at both national and transboundary levels. Water should be seen not as a sector but as a nexus between food, energy, ecosystems and livelihoods, and water management should therefore be taken very seriously as, for instance, water security is a prerequisite for food security.

Strengthening regional bodies and institutionalising cooperation, e.g. through strong agreements and supporting dialogue, can foster cooperation. Joint bodies, such as transboundary basin organisations, are well placed to advise member states in their decisions to maximise the benefits of their collective action in transboundary cooperation to a level that cannot be achieved by unilateral action. The creation and strengthening of the capacity of transboundary basin organisations must be accelerated and given this role to ensure coherence in drought prevention and water management policies. It is important that an increasing number of transboundary basin organisations continues and starts working on droughts but much more

¹ UNCCD, 2022. Drought in numbers 2022 - restoration for readiness and resilience.
<https://www.unccd.int/resources/publications/drought-numbers>

attention is needed. In this regard, more basins are encouraged to join the Global network of basins working on climate change adaptation, coordinated by UNECE and INBO.

The mandates of joint bodies should cover both surface and groundwater. Existing and future transboundary agreements should take into account hydrological changes and extremes such as droughts as a result of climate change. They should be designed to be flexible and adaptable.

Relevant measures to improve response to droughts

Drought management is a complex issue that requires an integrated approach. Drought management begins with sustainable land management. This includes attention to wetland restoration, reforestation and ecosystem restoration in general, prevention of overgrazing, water harvesting, managed aquifer recharge, prevention of erosion, combating soil sealing and sustainable agricultural practices. Such measures help to ensure healthy soils that can capture and store water, making the land less vulnerable to drought and flooding. Land use planning is therefore needed. Nature-based solutions, sometimes combined with grey infrastructure, can offer good opportunities. It should be noted that measures can have an impact far beyond the catchment area, as is the case with the La Plata basin, which is suffering from deforestation in the Amazon basin.

Drought management is also about managing water demand, reducing water consumption, avoiding overexploitation of groundwater and surface water resources, and sustainably meeting the needs of different uses and ecosystems, including maintaining minimum environmental flows. This includes water use efficiency, targeting different sectors such as agriculture and industry, but also households. The use of non-conventional water resources, such as the reuse of treated wastewater, should also be explored.

In addition to structural measures, non-structural measures such as regulations, drought insurance schemes and economic incentives for efficient use (tariffs and subsidies) as well as raising public awareness should be included. Subsequent enforcement of laws and regulations is essential.

Action plans and strategies need to be developed, based on a fair and equitable allocation of resources, giving priority to the most essential uses. In the case of transboundary cooperation, they should be based on the principle of sharing benefits and burdens. Drought management plans also need to be developed in a continuum with flood management plans, as both share the objective of reducing extremes in the water cycle and, in addition, the same basins are often affected by both floods and droughts. It is also important to integrate drought issues into river basin management plans, including on the transboundary level.

Monitoring, data management, data analysis, modelling, decision support systems and early warning systems are essential for effective drought risk reduction. Indicators provide useful information to diagnose the observed phenomenon and its severity, and to design an appropriate and proportionate response. Ground observation systems must be supported by a digital computer system that benefits from remote sensing operations and global climate systems to complete and verify data. At the transboundary level, monitoring and data management require coordination between stakeholders, timely data sharing and coherent communication channels to disseminate data and information in local languages. It is essential to combine local indigenous knowledge with scientific knowledge to make climate information relevant to and empower communities. Finally, an incentive system can strengthen the sense of responsibility and ownership of the measurement systems to ensure its sustainability.

Capacity building and awareness raising are essential for the development of drought management strategies and plans. All levels of government, from local to international, need to be aware of the causes and effects of drought and what can be done about it. The private sector also needs this awareness, as do local communities.

Once plans are in place, they need to be implemented. Many robust basin (drought) management plans sit on a shelf without being implemented on the ground. Dedicated resources (financial, technical and human)

need to be mobilised through sustainable mechanisms to ensure that key functions of the planning process are not project-dependent but can be routinely carried out by basin organisations. Increased funding and financing for drought management is needed from national and international sources.

Consistency of sectoral policies at national and international level

At the national level, experts working in the line ministries on the afore-mentioned issues, for example, ecosystems, wetlands, forests, water, agriculture, desertification and climate, should work better together. For this purpose, it could be beneficial to prepare a compilation of different focal points for the relevant Multilateral Environmental Agreements (MEAs) in each country. In addition, it is important to promote regional intervention programs with a synergistic approach between the objectives of the three RIO conventions (UNFCCC, UNCCD, and CBD) with water security as the common thread.

Landmark tools and initiatives

Many different tools and initiatives exist, including those developed under the UN Convention to Combat Desertification (UNCCD), the Integrated Drought Management Programme (IDMP), International Drought Resilience Alliance (IDRA), the Sendai Framework for Disaster Risk Reduction, the Water Convention and others. There are many successful examples of transboundary drought monitoring and management around the world that can provide useful lessons for other transboundary basins. Countries and basins should use and build upon these tools and experiences.