



The Fourth International Conference and Exhibition on  
**Water Storage and Hydropower Development for Africa**  
10 to 12 July 2023, Kampala, Uganda



## Kampala Declaration on Water Storage and Hydropower Development in Africa

After three days of deliberations, dealing with Africa's challenges and opportunities in water storage and hydropower development, the conference participants recommended to make the following declaration.

### Preamble

The world population is expected to increase from 7.7 billion in 2017 to between 9.4 and 10.2 billion by 2050. More than half of this anticipated growth is expected to occur in Africa (+ 1.1 billion).

Over the last 100 years or so, more than 60 000 large dams have been built around the world, but only 5 per cent of these are located in Africa. Consequently, the average per capita storage capacity in Africa, which is a measure of climate vulnerability, remains very low, at an average of approximately 200 m<sup>3</sup>/year. This figure can be compared with 3400, 4800 and 6000 m<sup>3</sup>/year for Brazil, Australia and the USA, respectively. To date, Africa has developed less than 10 per cent of its technically feasible hydropower potential. The total installed capacity is approximately 35 GW, generating 151 TWh/year, while there is approximately 15 GW of generation capacity currently under construction [H&D World Atlas, 2022]. Still, more than 30 per cent of the African countries have less than 15 per cent access to electricity.

The 2022 IPCC Report identified the fact that the considerable development constraints leave Africa highly vulnerable to climate hazards. Increasing extreme weather and climate events continue to increase the exposure of millions of people in Africa to flooding and acute food and energy shortages.

In a reaction to population growth, and in an effort to improve water and energy supplies to mitigate climate change impacts, many African countries are striving to develop untapped hydropower potential and to develop more irrigable land.

The Programme for Infrastructure Development in Africa (PIDA), endorsed in 2012 by the continent's heads of state and governments, laid out an ambitious, long-term plan for closing Africa's infrastructure gap. In the water and power sector, PIDA calls for an expansion of hydroelectric power generation capacity by more than 54 GW and an increase in water storage on the continent by 20 000 km<sup>3</sup>. With these critical infrastructure gaps, there are also constraints in the form of human capacity and financial resources on the part of the implementing agencies.

The aim of the Fourth International Conference and Exhibition on Water Storage and Hydropower Development for Africa was to bring together experts, policymakers, planners, civil societies, development partners, consultants, contractors and researchers from all over the world to focus on issues of specific interest for Africa, in the field of water storage and hydropower development.

*The collective attendance of the Fourth International Conference and Exhibition on Water Storage and Hydropower Development for Africa state that:*

1. We recognize the critical insufficiencies in water storage and hydropower infrastructure in the region. We underscore the need for more water storage and hydropower facilities to meet the growing demand in respect of energy, food security and adaptation to the impacts of climate extremes;
2. We recognize the financial constraints in bridging the infrastructure gaps in water and energy in Africa. Considering the crucial role of infrastructure in minimizing risk in respect of energy and food security, water scarcity and flood management, we call on the regional and international funding agencies to increase their engagement with African countries on financing new water storage and hydropower development projects, as well as supporting the upgrading of existing projects;
3. We take note of the negative impacts of climate change on hydropower generation, food production, water security, safety of water infrastructure, etc, and we call on governments to strengthen their capacity and to promote international cooperation in mobilizing access to finance to develop climate resilience-related water infrastructure;
4. We take note of the great importance of water storage dams and hydropower facilities in various declarations, including the 'Beijing Declaration on Hydropower and Sustainable Development' (2004), the 'World declaration on Dams and Hydropower for African Sustainable Development' (2008) and the 'World declaration on Dam Safety' (2019). We reaffirm our commitment to continue to support the objectives of these declarations;
5. We take note of ICOLD's findings on dam failures, observing that all dam failures recorded since 2000 have occurred during the first five years of operation and have mostly been associated with design errors (inadequate geotechnical investigations and/or insufficient spillway capacity). We call on government and private developers to review their practices and allocate adequate resources to investigation and the project preparation phase so as to ensure dam safety above all else;
6. We recognize that the planning, design, construction and operation of dams and hydropower infrastructure requires expertise and competence in different disciplines (geology, geotechnology, hydraulics, hydrology, mechanical and electrical engineering, etc) and a lack of expertise in the project cycle leads to increased project risks, implementation time and cost. We call upon governments, dam owners, development partners and ICOLD to increase their support and commitment in building and strengthening institutional and technical capacity and skills at all levels;
7. We recognize the limited participation of African countries in international and regional conferences and forums and the lack of cooperation in the exchange of experience among African countries. We recommend countries to strengthen their ICOLD national committees and to collaborate with ICOLD (Africa Regional Club) to develop a mechanism for experience-sharing between developed and developing countries;
8. We take note of the vital importance of the Fourth International Conference and Exhibition on Water Storage and Hydropower Development for Africa in bringing government officials, planners, experts, policymakers, donors and civil societies together to discuss and exchange ideas on regional issues, in promoting the exchange of best practice and lessons learned on dams and hydropower development and in generating innovative ideas for decision makers. We recognize and thank the organizers, Aqua-Media International, ICOLD, and the national, regional and international supporting organizations for organizing such a highly technical and inclusive conference in Africa;
9. Finally, we recognize and thank the Government of Uganda for supporting and hosting this very important international conference.

*Kampala, Uganda, 12 July, 2023*