

# Equitable access to water in times of climate change

Given the over-exploitation of water resources against the backdrop of climate change, Enabel is promoting an integrated multi-sector and multi-actor approach that involves the private sector.

## Positioning

To address the decline in the quantity and quality of water worldwide and the chronic under-investment in the sector, Enabel proposes a transversal approach which sees the water cycle as an essential element of development.

The Belgian agency for international cooperation offers to approach the interconnections that the water cycle has with other sectors so as to achieve a range of socio-economic and environmental benefits. Guaranteeing access to water and sustainable water management for ecosystems as well as human activities and ensuring equitable distribution between present and future users requires a multi-sector approach and coordination between the various actors in several key sectors in order to maximise synergies. These include the Water-Energy-Food-Ecosystem (WEFE) Nexus and health.

To achieve this, Enabel relies on strong and innovative Belgian expertise from both the public and private sectors, civil society and academia.

## Issues at stake

Globally, 785 million people do not have access to a safe water source and 1.5 billion people are directly exposed to extreme flood risks (UNESCO, UN-Water, 2020). While the quality of water has largely deteriorated, demand has risen sharply due to population growth, urbanisation and ever more pressing economic needs.

Climate change directly affects the water cycle, both in terms of quantity and quality. It can lead to irreversible upheavals affecting both ecosystem services and human activities as a whole. Often, poor land-use planning practices amplify the negative effects of extreme weather events, such as stronger flooding and more severe droughts. All of this leads to an increase in conflicts of usage priorities between sectors, starting with agriculture, which absorbs more than 80% of Africa's needs (FAO, 2005) as well as manufacture, the energy sector (hydro-energy, green hydrogen, etc.), basic services and tourism.

Access to water is thus becoming a strategic issue in many parts of the world, potentially fuelling conflicts.

In addition, the difficulty of accessing water disproportionately affects women, who are the main providers of food and water for their families in many African countries. Climate disturbances and natural disasters have a direct impact on their living conditions, on social structure and on the economy. This situation exacerbates their precarious living conditions and compromises household food security (UNESCO WWAP, 2021).

## Enabel and the water sector

For the past twenty-five years, Enabel has been working with partner countries to improve access to basic services, including access to water. But a gradual reduction in the budgets allocated to the water and sanitation infrastructure sector has reduced governments' capacity to respond. In view of this, and in line with the general policy on water (DGD, 2020), Enabel is keeping a strategic watch for potential funding in infrastructure and is redirecting some of its expertise to sector governance, access to data and technical as well as societal innovation. These three dimensions make it easier to link water issues with other sectors in which Enabel operates, such as sustainable food systems, the circular economy, health, energy and sustainable cities.

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### Governance of the water sector

In Morocco, in particular with the assistance of the the Walloon Water Company (SWDE), Enabel supported the creation of multi-sector consultation forums through a support project for three river basin agencies and a sanitation programme. Citizen engagement was promoted and Integrated Water Resource Management (IWRM) was strengthened. Raising awareness among the public was also essential in changing behaviour and strengthening collective action.

In Burundi, Enabel promotes regional approaches and multi-level cooperation by integrating the political dimension of water cycle management as a means for combating conflicts between neighbouring countries and restoring ecosystems around Lake Tanganyika and Lake Kivu. Access to quality water at community health facilities is also a major focus of Enabel's health programme.

### Collection and analysis of data

The collection, analysis and dissemination of data is key objective decision-making and to ensure effective multi-sector governance at local, national and cross-border level. For example, the use of scientific data is being supported, in particular with the assistance of the Flemish Institute for Technological Research (VITO), in the Lake Tanganyika and Lake Kivu management project so as to create and implement integrated water management sector policies and strengthen regulatory measures (water policing, incentives, pricing, recovery of ecosystem costs, 'polluter pays' principle). By mobilising data collection and environmental monitoring tools, Enabel has also supported the adoption of preventive measures in Morocco and Mozambique to anticipate climate extremes and strengthen the resilience of ecosystems, in particular through early warning systems.

In a drinking water access project in Mozambique, Enabel is strengthening the transparency of access to information by ensuring the availability of reliable and verified data, including the financial costs of investment.

### Technical and societal innovations

In the DRC, Enabel supports the introduction of innovative management approaches, giving priority to demand-side management rather than supply-side management, or the introduction of community-based management, such as catchment contracts and water funds that involve the moral and financial responsibility of users, and recourse to the private sector. Social engineering makes it easier for communities to take ownership of the facilities through the good management practices they encourage. In this way, it helps to ensure sustainability.

Innovative production, distribution and recycling techniques are being tested and scaled up, such as remote sensing for water quality analysis in Burundi and Tanzania and

desalination in Mozambique where solar panels provide the energy. In this way, good practices contribute to the development of circular and resilient systems with AI-based approaches, for example.

Assistance to the development of more efficient water-saving techniques and reasoned production methods (agricultural, industrial and energy) developed in Burundi, Senegal, Burkina Faso and Mozambique allows for the protection and sustainable management of water. In the Climate in the Sahel regional programme, assistance in agriculture limiting soil degradation and improving plant cover, maximises the water retention capacity of the land and mitigates the consequences of climate change.

In Rwanda's urbanisation programme, climate-resilient public spaces are promoted as well as 'nature-based solutions' to combat flooding, heat islands and pollution via sustainable drainage systems and wetland buffers. These innovative technologies strengthen the resilience of cities and regions to climate disruption and reduce the economic costs of environmental degradation.

Enabel also assists the private sector in the rational use of natural resources (water, energy, sand, etc.) and the development of a circular economy, particularly in the production of building materials and in agriculture in Palestine (marble and olive oil) and Rwanda (stone and clay).

### Lessons learned

Multi-sector governance is particularly useful for going beyond the simple dimension of water production, distribution and treatment infrastructures. This more comprehensive approach allows us to maximise social, economic and environmental benefits in a transversal way.

The sharing of knowledge and the multi-actor dialogue are crucial to ensuring shared management by all users and the sectors concerned.

Raising awareness and building the capacity of stakeholders is just as important to ensure that water management is part of systemic strategies that are recognised for covering socioeconomic needs as well as ensuring ecosystem preservation. Authorities and users are often unfamiliar with these complex principles which is why customised digital and communication competences must be developed.

The involvement of the private sector is essential to guarantee the development of innovative technologies and ensure a return on investment that enables companies to grow and create decent jobs. The local private sector as well as the Belgian and European private sector have a role to play here. Through them, Enabel is promoting approaches that combine access to water

with renewable energy production systems and sustainable food production systems. These systems, known as the WEFEE Nexus, promote integrated resource management based on the interfaces between these four areas.

Other links with other sectors are to be pointed out, such as health, the circular economy, ecotourism and sustainable green buildings and cities. In these areas, Belgium and Europe have a cutting-edge private sector willing to share its expertise and innovative technologies. It is important to integrate these new technologies into technical training courses so as to ensure their future technical maintenance.

Enabel's active participation in networks such as the Walloon Region's H2O cluster fosters strategic partnerships with the private sector, allows Enabel to follow market developments and encourages the adoption of innovative solutions in partner countries. This dynamic will also provide a better understanding of the opportunities offered by the national and international private sector.

Enabel also works with public partners such as the SWDE, the National Geographic Institute or VITO and with Belgian universities. Enabel contributed to the creation of a Belgian multi-stakeholder exchange platform. Partnerships have also been developed with civil society, in particular with NGOs (Join For Water) and the SECORES network (Social and Ecological Resilience Network).

By incorporating these principles of the multiple dimensions of water, Belgium has succeeded in attracting the support of a wide range of Belgian and international actors and to position itself in Team Europe Initiatives regarding the Green Deal and the Blue Deal and the Transboundary Water Management in Africa TEL.

Beyond the transversal nature of the theme, it is essential to have specific key indicators. The table below lists some of them. These should be included depending on the area concerned.

### Specific key indicators

#### Management, access & efficiency

- Percentage of population with a quality distribution system.
- Percentage of income spent on water bills.
- Level of water stress by basin.
- Level of water use efficiency.
- Degree of IWRM implementation.

#### Ecosystem & agriculture

- Percentage change in wetland areas, lakes and rivers.
- Percentage of agricultural area equipped with efficient irrigation systems.

#### Quality

- Percentage of wastewater treated.
- Percentage of water meeting drinking standards.

#### Water & energy

- Percentage of Renewable Energy in drinking water production/distribution.

#### Resilience

- Percentage of population covered by multi-hazard early warning systems.
- Percentage of economic losses due to flooding.

#### Gender

- Average time women spend to water chores.

## Recommendations

Given the challenge of both societies and ecosystems to access the water reserves, on the one hand, and the lack of investment in the sector, on the other, Enabel is giving priority to a transversal approach to water cycle management. It considers the latter to be an essential element of development. Doing so, recommendations are formulated at two levels:

### Strategic recommendations

#### Promote a multi-sector approach

- 1. Foster water governance** that focuses on integrated water resource management by highlighting the transversal dimension of water. This approach is particularly relevant in the context of cross-border management programmes (regional programmes).
- 2. Advocate the implementation of a multi-sector approach to water resource management** as part of an integrated territorial approach (Enabel, 2024), targeting flood and drought adaptation projects in particular, as well as strengthening collaboration between WEF Nexus themes.
- 3. Systematically integrate the water issue in programme elaboration in key domains**, such as:
  - Sustainable food systems and the green and circular economy regarding productive water,
  - Land-use planning, linked with the Integrated Water Resources Management IWRM approach,
  - Urbanisation as it relates to access to basic services, including drinking water and sanitation, and adaptation to flooding and heat islands,
  - Energy in reference to hydro-energy and green hydrogen,

- Health, by targeting both access to drinking water and the problem of water-borne diseases,
- Education as it relates to access to water and sanitation in schools.

#### Promote a multi-actor approach

- 4. Foster inclusive and collaborative multi-actor processes** (co-management, shared accountability, co-funding, etc.), while respecting gender equality and promoting the participatory approach of all users in both the design and management phases based on an Environmental and Social Impact Study model.
- 5. Exploit Belgian public expertise**, using a 'peer-to-peer' coaching approach, but also that of civil society actors to strengthen participatory approaches, the academic world for research, **as well as the Belgian and international private sector for technical innovation and training.**

### Operational and technical recommendations

- 1. With the support of the private sector, promote technical and societal innovations** that guarantee secure access to water for all, by adopting sustainable management models that are interconnected with the main economic sectors.
- 2. Install reliable gender-sensitive data collection and analysis systems** of the water cycle and of ecosystems to better integrate environmental factors and facilitate the matching of demand and supply availability.
- 3. Integrate risk assessments on water usage** in productive activities (agriculture, semi-industrial production, energy, etc.) per catchment area.
- 4. Systematise the use of key indicators** specific to the water-climate theme, regardless of the domain concerned.

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Belgian agency  
for international cooperation  
Public-law company  
with social purposes

Rue Haute 147  
1000 Brussels, Belgium  
T + 32 (0)2 505 37 00  
info@enabel.be  
www.enabel.be



#### Editing board

Sophie Collette / Didier Cadelli / Benoit Legrand / Claude Croizer / Farah Beniacoub / Xavier Tesso / Sabine Soetens / Emma Tilquin

#### Edition

Sonia Gsir



**Belgium**

partner in development