

Making climate resilience measurable: indicators for Morocco's water supply

Climate Resilience Indicators Morocco – Consulting services for the development of indicators measuring climate resilience in Morocco's water sector



Prolonged droughts, falling groundwater levels and more frequent floods are putting Morocco's drinking water supply under pressure. On behalf of KfW, FiW and Fichtner are developing a system of measurable indicators for the national utility ONEE to assess and steer the climate resilience of drinking water production and transmission. The indicators are co-designed with ONEE's directorates in interviews and workshops, evaluated against SMART criteria and tested under real operating conditions in the Fès-Meknès pilot region. The aim is a tool that fits into existing planning and reporting routines and complements the results matrices of KfW-financed programmes.

Morocco is undergoing a profound hydrological transition: rapid urban growth, an expanding agricultural sector and increasingly erratic rainfall are forcing the water sector into new trade-offs between available resources and growing demand. As the main public operator of drinking water production and transmission, the Office National de l'Électricité et de l'Eau Potable (ONEE) carries a growing responsibility: being able to measure and steer the resilience of its supply systems is becoming a prerequisite for a sustainable operating model.

Against this backdrop, KfW has commissioned the FiW/ Fichtner consortium to develop a robust, measurable and institutionally anchored indicator system for the climate resilience of ONEE's drinking water supply. FiW leads the project scientifically and methodologically, while Fichtner's presence in Morocco ensures operational anchoring. The tasks range from defining SMART-compliant indicators and establishing baseline values to recommendations for integrating the indicators into the results matrices of KfW-financed programmes.



Methodologically, the project combines scientific rigour with institutional co-design following the PEAK method. A review of literature and reference frameworks – including the Baden-Württemberg Water Supply Master Plan – produced a long list of 33 indicators in four categories: water resources, supply infrastructure, climate mitigation and adaptation, and anticipation and management of climate risks, including cybersecurity. Interviews and workshops with ONEE's directorates, the Sebou river basin agency and the water planning directorate DRPE show that prolonged drought is the main threat, with floods as the second risk factor. The case of Meknès illustrates the dynamics: once supplied by springs, the region now depends on ever deeper boreholes, with higher energy demand and costs. ONEE's existing performance figures are therefore extended by an explicit climate dimension rather than rebuilt.

The indicators are structured on two levels: strategic indicators for long-term steering at ONEE and sector level, and operational indicators for monitoring KfW programmes and the asset management cycle. After SMART evaluation and an analysis of measurement effort, the indicator set is validated under real operating conditions in the Fès-Meknès pilot region. Guidelines for institutional anchoring and capacity building ensure lasting use in ONEE's planning and reporting.

Project overview

PROJECT TITLE

Climate Resilience Indicators Morocco – Consulting services for the development of indicators measuring climate resilience in Morocco's water sector
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PROJECT PERIOD

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PROJECT PARTNERS

Fichtner GmbH & Co. KG, Stuttgart – consortium partner with a local presence in Morocco (operational and institutional anchoring)

FUNDING

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SUPERVISOR

Office National de l'Électricité et de l'Eau Potable (ONEE), Rabat, Morocco – executing agency and beneficiary

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