



***Ecological Flow: A Tool for
Inclusive Water Resource
Management***



WATER RESOURCES IN MOROCCO

22 Md m³

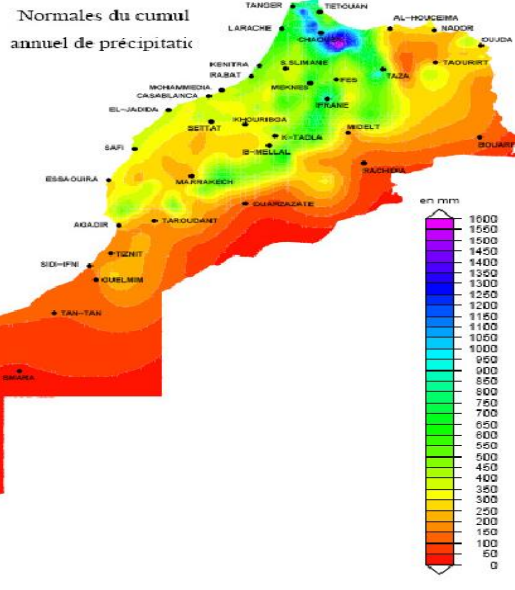
Surface. Water 18 Md m³

Groundwater: 4 Md m³

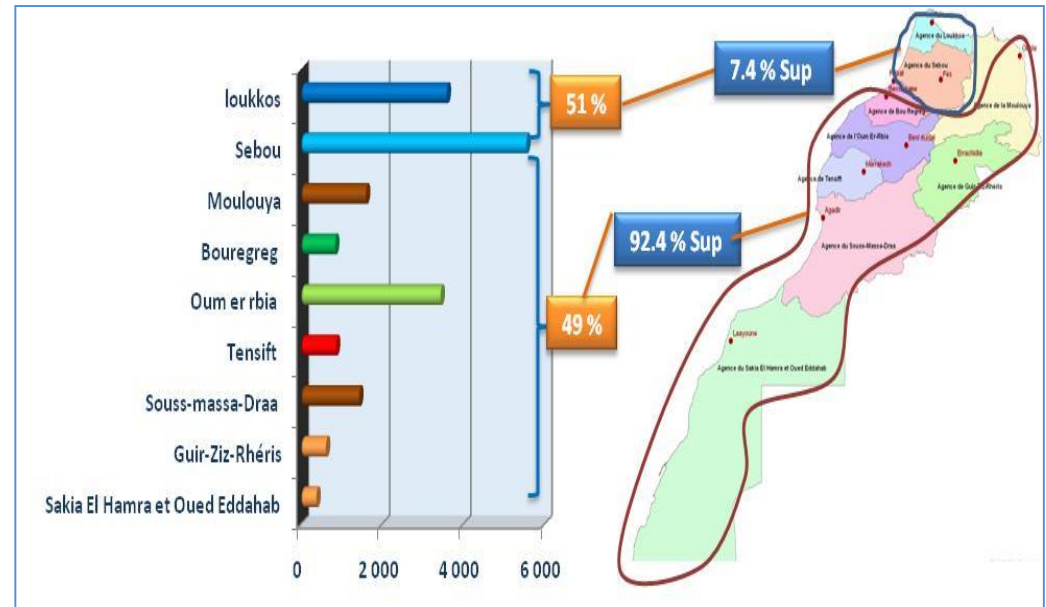


- 135 dams: 17.5 Mdm³
- 14 dams in progress
- 13 transfer systems
- 4 desalination plants

- Drinking water: 100% -94%
- Irrigation: 1.5 M Ha
- Hydropower: 15%



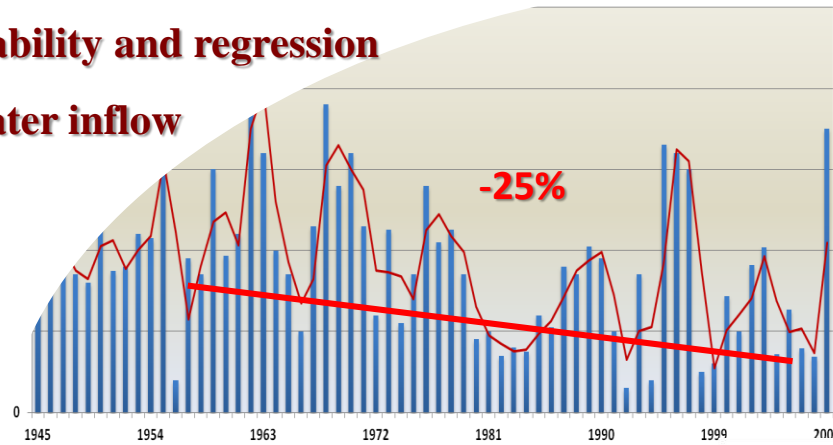
Rainfall distribution



Water resources distribution

WATER MANAGEMENT CONSTRAINTS

• **Variability and regression
of water inflow**



• **Recurrence of extreme
events**



• **Amplification of
vulnerability to pollution**



• **Increase in water demand**

Impacts of climate change:

**Agriculture, industry, health, tourism, energy, biodiversity, urban
planning, ...**

WATER RESOURCES MANAGEMENT POLICY

National Water Strategy

National Water Plan

Master Plan for Integrated Water Management in river basin



Management of water demand



Development of water supply



Preservation and protection of water resources and climate change adaptation



Development support

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Pilot project: Cooperation between HBA/ Sebou and WWF

Case Analysis: downstream of a dam

➤ Using the holistic method based on the water needs of the different components of the ecosystem:

- Flow and water quality
- macro-invertebrates
- Fish
- Vegetation



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Main results

- To maintain connectivity in downstream of the dam : Min flow rate 1 m³ / s.
- Between October and November: Ecological flow 5 m³ / s.
- Between April and May: Ecological flow 6m³ / s.

➤ **Integration of the minimum flow concept in the new water law 2016**



IMPLEMENTATION OF THE ECOLOGICAL FLOW

