

Water Governance Benchmarking Criteria

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A. GOVERNANCE FUNCTIONS

- 1. Organizing and building capacity in the water sector**
 - 1.1 Creating and modifying an organizational structure
 - 1.2 Assigning roles and responsibilities
 - 1.3 Setting national water policy
 - 1.4 Establishing linkages among sub-sectors, levels, and national sub-regions
 - 1.5 Establishing linkages with neighboring riparian countries
 - 1.6 Building public and political awareness of water sector issues
 - 1.7 Securing and allocating funding for the sector
 - 1.8 Developing and utilizing well-trained water sector professionals
- 2. Planning strategically**
 - 2.1 Collecting, managing, storing and utilizing water-relevant data [1, 2, 3, 4](#)
 - 2.2 Projecting future supply and demand for water
 - 2.3 Designing strategies for matching expected long-term water supply an demand and dealing with shortfalls (including drought mitigation strategies) [5](#)
 - 2.4 Developing planning and management tools to support decision making
- 3. Allocating water**
 - 3.1 Awarding and recording water rights and corollary responsibilities
 - 3.2 Establishing water and water rights transfer mechanisms
 - 3.3 Adjudicating disputes
 - 3.4 Assessing and managing third party impacts of water and water rights transactions
- 4. Developing and managing water resources**
 - 4.1 Constructing public infrastructure and authorizing private infrastructure development
 - 4.2 Forecasting seasonal supply and demand and matching the two
 - 4.3 Operating and maintaining public infrastructure according to established plans and strategic priorities
 - 4.4 Applying incentives and sanctions to achieve long and short term supply/demand matching (including water pricing)
 - 4.5 Forecasting and managing floods and flood impacts
- 5. Regulating water resources and services**
 - 5.1 Issuing and monitoring operating concessions to water service providers
 - 5.2 Enforcing withdrawal limits associated with water rights
 - 5.3 Regulating water quality in waterways, water bodies, and aquifers (including enforcement) [6, 7, 8, 9, 10](#)
 - 5.4 Protecting aquatic ecosystems
 - 5.5 Monitoring and enforcing water service standards

B. GOVERNANCE PROCESS CHARACTERISTICS

- 1. Transparency.** 11
- 2. Participation.**
- 3. Accountability and Integrity.**
- 4. Rule of law.** 12, 13, 14, 15
- 5. Coherency and Integration.**
- 6. Responsiveness.**

C. CROSS CUTTING CATEGORIES

1. Water Sources

- 1.1 Surface water 16, 17
- 1.2 Groundwater 18
- 1.3 Derivative water (reclaimed, reused, desalinated) 19, 20, 21

2. Water Uses

- 2.1 Irrigation 22, 23, 24, 25, 26, 27, 28, 29
- 2.2 Municipal
- 2.3 Industrial
- 2.4 Environmental
- 2.5 Hydropower
- 2.6 Fisheries, navigation, recreation
- 2.7 Other uses (including social, esthetic, and religious uses)

Joint Order of the Minister of Infrastructure and the Minister responsible for Land Use Planning, Urban Development, Habitation and the Environment No. 1276-01 of 10 Chaabane 1423 (17 October 2002) establishing the quality standards for waters intended for irrigation use ^{6, 16, 22}

The Minister of Infrastructures,

In view of Decree no. 2-97-787 of 6 Chaoual 1418 (4 February 1998) regarding water quality standards and the inventory of the degree of pollution of waters; ^{7, 12}

In view of Decree no. 2-97-875 of 6 Chaoual 1418 (4 February 1998) regarding the use of wastewaters; ^{13, 19}

After obtaining the opinions of the Minister of Health and the Minister of Agriculture, Rural Development and Waters and Forests,

Hereby resolve:

Article 1: As of the publication date of this Joint Order, the quality standards for waters used for irrigation cited in article 1 of Decree no. 2-97-787 mentioned above are established in the table attached to this Order. ^{8, 14, 23}

Article 2: All water intended for irrigation use must comply with the quality standards set in the table attached to this Order. ^{9, 24}

However, the hydrological basin agency may, when the available water resources are insufficient, permit the use for irrigation of waters whose limit values relative to salinity, toxic ions and sundry effects do not conform to those indicated in the table cited in the previous paragraph. ^{5, 25}

Article 3: The minimum number of samples on the basis of which the water intended for irrigation use is declared compliant with the standards set in the table mentioned in article 2 above, is six (6) per year with a frequency of one (1) every two (2) months starting in February for surface waters, and two (2) per year for groundwaters during the irrigation period. ^{1, 17, 18}

However, for treated sewage effluent, the minimum number of samples on the basis of which water intended for irrigation use is declared compliant with the standards established in the table mentioned in article 2 above, is: ^{2, 20, 26}

- four (4) per year with a frequency of one (1) per quarter to analyze heavy metal contents;
- 24 per year at the rate of one (1) every fifteen (15) days to analyze the bacteriological, parasitological and physico-chemical parameters.

The sample mentioned above must be extracted at the outlets of the treatment plants.

Article 4: For the issuance of authorizations to use wastewaters in accordance with the above-cited Decree no. 2-97-875 of 6 Chaoual 1418 (4 February 1998), the basin agency must comply with the

following criteria: 15, 21

Category	Irrigation conditions	Exposed group	Intestinal nematodes (a) [arithmetic mean of numbers of eggs per liter (b)]	Fecal coliforms [arithmetic mean number per 100 ml (b)]	Treatment procedures for wastewaters likely to ensure the desired microbiological quality
A.	Irrigation of crops to be consumed raw, of sports fields, public gardens (c)	Farm workers, consumers, public	Absence	: : entity=lt: : 1000 (d)	A series of stabilization ponds designed to obtain the desired microbiological quality, or any other equivalent treatment
B	Irrigation of cereal, industrial and forage crops, pastures and tree plantations	Farm workers	Absence	No standard is recommended	Retention in stabilization pond for 8-10 days, or any other procedure enabling an equivalent elimination of helminths and fecal coliforms
C	Localized irrigation of category B crops if the farm workers and the public are not exposed	None	N/A	N/A	Treatment according to the irrigation technique, but at least one primary settling

(a) Roundworms, whipworms and hookworms.

(b) During the irrigation period.

(c) A strict directive (: : entity=lt: : 200 fecal coliforms per 100 ml) is justified for lawns with which the public can have direct contact, such as hotel lawns.

(d) In the case of fruit trees, irrigation must cease two weeks before picking, and no fallen fruit can be retrieved. Spray irrigation is prohibited. 27

Article 5: All samples on the basis of which the water to be used for irrigation is declared compliant with the standards set in the table cited in article 2 above, must be 24-hour composite samples. 3, 28

For the intents and purposes of this Order, a composite sample is understood to be any intermittent or continuous mixture in suitable proportions of at least six samples or parts of samples of which the average value of the desired parameter can be obtained.

Article 6: Samples collected at the time of floods, accidental pollution incidents and natural disasters are not considered for the purposes of assessing the compliance of such waters with the standards cited in article 2 above. 4

Article 7: The parameters indicating the quality of water to be used for irrigation are measured according to standardized methods. 10, 29

Article 8: This Joint Order is published in the *Bulletin Officiel* (Official state gazette).. 11

Rabat, 10 Chaabane 1423 (17 October 2002).

The Minister of Infrastructures,,
Bouamor Taghouan

The Minister for Land Use Planning,
Urban Development, Habitation and the Environment,
Mohamed El Yazghi

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Table of Quality Standards Applied to Water for Irrigation Purposes