

Water



Outline

- Water and sanitation strategy in Morocco
- Key numbers and main indicators 2014
- Principal achievement projects 2014 -2015
- Investment program 2015 - 2017
- Perspectives project (2030)
- Financing and tendering process
- Operating strategy
- Training activities
- National and international development

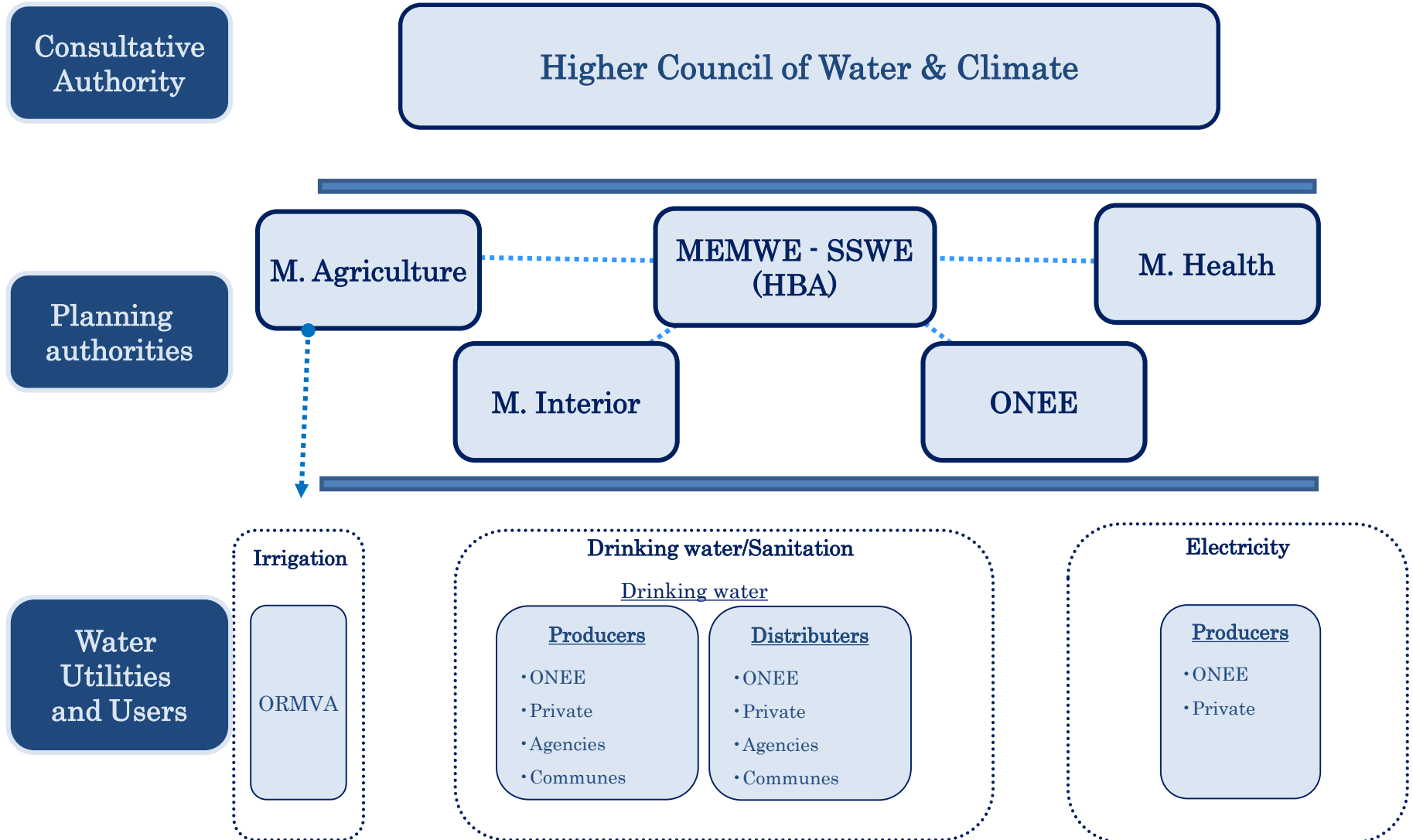
The water strategy

- Unequal distribution of water resources in time and across the country
- Water scarcity : $700 \text{ m}^3 / \text{capita} / \text{year} < \text{critical threshold } (1\,000 \text{ m}^3 / \text{capita} / \text{year})$
- Water resources becoming more scarce :
 - Decrease in resources input of 15 to 20% in the last 30 years
 - Expected further decrease of resources of 10 to 15% by 2020
- Increase of extreme weather phenomena (*floods , drought*)
- Deterioration of the quality of water resources :
 - Delay in liquid sanitation and solid waste management
 - Pollution caused by some agricultural practices (*nitrates*)
 - Seawater intrusion due to over exploitation of aquifers

To address this situation a new strategy was launched this year based on :

- Development of non-conventional water resources (*desalination for the Coastal cities water supply and, demineralization etc.*)
- Large transfers of water from the north which is surplus to the south, which is in deficit
- Development of more efficient irrigation systems, such as drip
- Need to accelerate liquid sanitation projects and reuse of treated wastewater

Water sector organisation



ONEE missions



Planning :

- Supply of drinking water throughout the country
- Programming of investments (*drinking water and sanitation*)

Study and infrastructure :

- Drinking water and sanitation projects
- Bids procurement and follow up of projects' implementation

Management on behalf of municipalities / communes :

- Service of drinking water distribution
- Service of liquid sanitation in municipalities where ONEE ensures water distribution

Quality control :

- Produced and distributed water
- Water sources likely to be used for drinking water consumption

Legislative:

- Assistance in the elaboration of legislative texts and participation in the studies related to drinking water and sanitation sector as well as providing technical support to third parties

ONEE strategic axis

- Secure, sustain and strengthen existing infrastructure of water supply and sanitation
- Generalize access to drinking water in rural areas “*Right to water for all*”
- Participate Actively in liquid sanitation “*Integrated management of the water cycle*”
- Improve technical and managerial performances



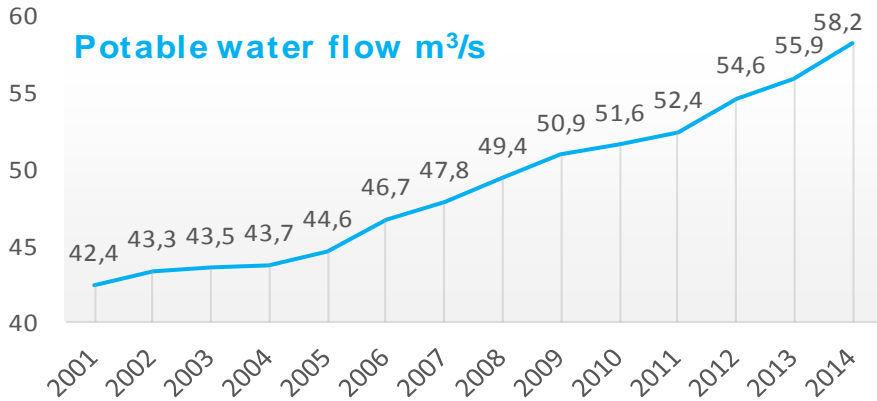
ONEE key numbers and main indicators 2014(1/3)

- **National drinking water producer** : *Over 85% of drinking water national production, 1 068 million m³ per year.*
- **1st Distributor of drinking water** : *With nearly 1.8 million customers in more than 656 centers/cities across the entire country.*
- **Supplier of drinking water with an access rate of** :
 - 100 % in urban areas
 - 94,5 % in rural areas
- **Major actor in the management of liquid sanitation service** : *Sanitation services in 92 cities and municipalities with 865,000 customers -about 4 million people.*
- **500 million US\$ is the annual investment for the year 2014**

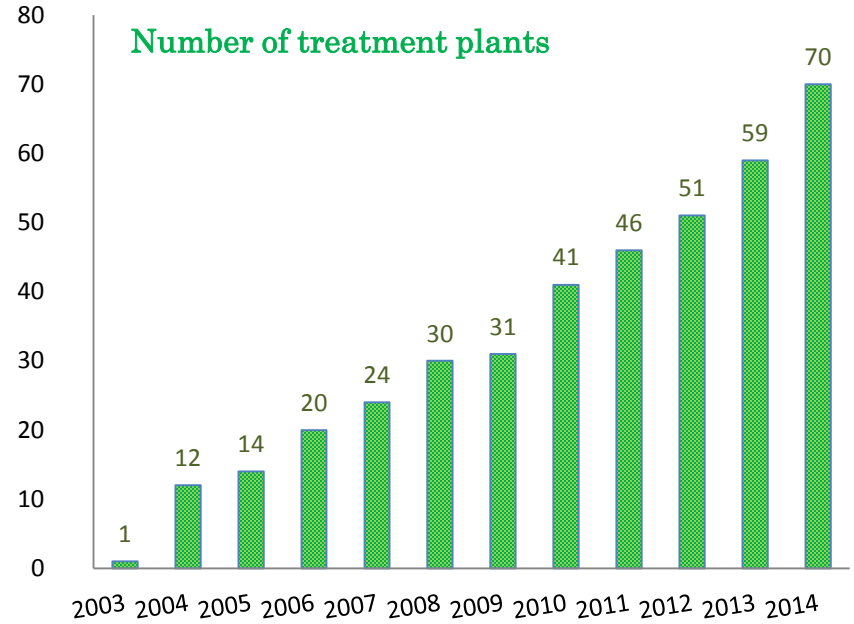
ONEE key numbers and main indicators 2014 (2/3)

Global Investment 2001 – 2014 : 4.2 billion US\$

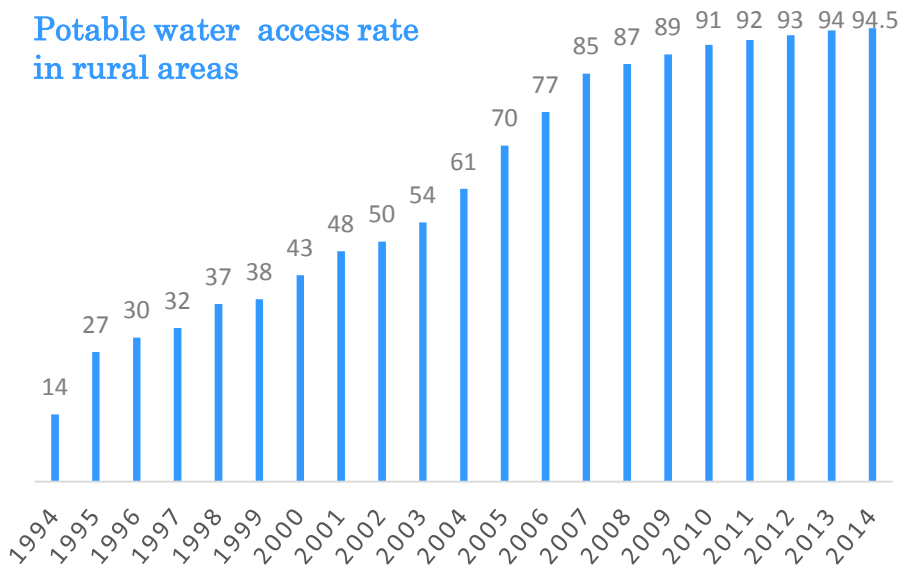
Potable water flow m³/s



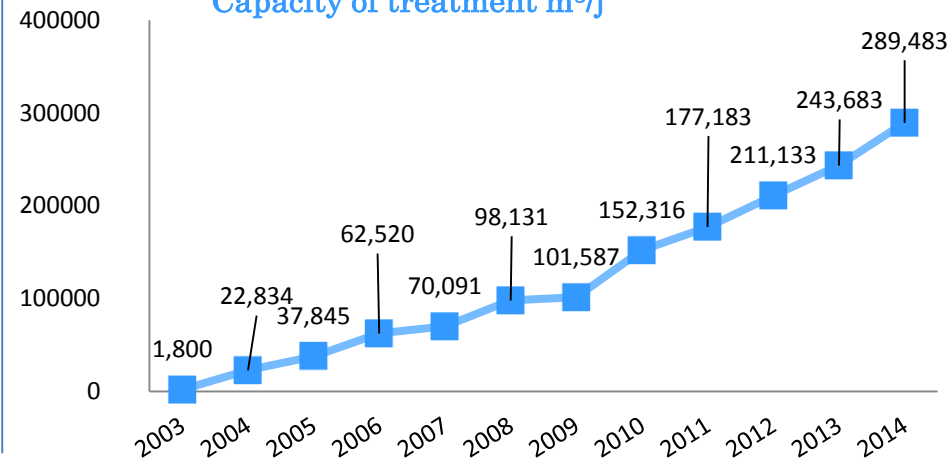
Number of treatment plants



Potable water access rate in rural areas



Capacity of treatment m³/j



ONEE key numbers and main indicators 2014(3/3)

Drinking water

Flow rate	58 m ³ /s
Volume Produced	1.068 Mm ³
Centres of Intervention	656
Number of clients	1.8 millions
Access rate in rural areas	94,5 %
Production yield	95,1 %
Distribution yield	73,9 %
Investments 2014	3,3 billion US \$

Sanitation

Purification Capacity (10 ³ m ³ /d)	290
Centers of Intervention	92
Number of Clients	0,86 millions
Depollution rate	60,5 %
Number of treatment plants	70
Investments 2014	900 million US \$

Principal Achievement projects (2014)

1. Water supply (*Urban area*)

Investment : 230 millions \$

- 4 treatment plant classic / 1 desalination plant (250 560 m³/day)
- 317 Km production pipes
- 540 Km supply pipes
- 32 reservoirs of storage (34 170 m³)

2. Water supply (*Rural area*)

Investment : 80 million \$

- Added population beneficiaries : 250 000 inhabitants
- Rural access rate : 94,5%

3. Sanitation :

Investment : 100 million \$

- 11 wastewater treatment plants (45 800 m³/day)
- 575 Km pipes and network

Principal Achievement projects (2015)

1. Water supply (*Urban area*)

Investment : 320 million \$

- 4 treatment plants classic / 1 desalination plant (250 560 m³/day)
- 318 Km production pipes
- 265 Km supply pipes
- 32 reservoirs of storage (34 170 m³)

2. Water supply (*Rural area*)

Investment : 92 million \$

- Added population beneficiarie : 230 000 inhabitants
- Rural access rate : 95%

3. Sanitation :

Investment : 124 million \$

- 15 wastewater treatment plant (60 900 m³/day)
- 520 Km pipes and network

Main objectives

	2015	2016	2017
Flow rate (m ³ /s)	2,8	6,9	6,8
Rate connection	95	96	97
Production yield	95,4	95,6	95,7
Distribution yield	75,1	76	76,5
Volume produced (10 ⁶ m ³ /year)	1 088	1 126	1 168
Volume sold (10 ⁶ m ³ /year)	920	948	967
Customers (10 ⁶)	1 909	2 013	2 121
Rural access rate (%)	95	96	96,5
Treatment capacity (m ³ /day)	41 300	21 000	15 700

Investment Program 2015 - 2017

Investment (million \$)	2015	2016	2017	2015 - 2017
Water supply (Urban area)	317	312	312	941
Water supply (Rural area)	92	90	85	267
Total water supply	409	402	397	1208
Sanitation (Collection & Treatment)	124	125	103	352
Total	532	527	501	1560

Further Main Project (water supply) 2015- 2017

Project including pipes, pumping stations and water
classique treatment plants

Cities covered by the project	Capacity (m3/day)
Complexe Bouregreg	432 000
Safi	43 200
Nador	51 840
Khemisset (*)	20 736
Maroc Central (*)	138 240
Taroudant	25 920
Fes/Meknes	172 800
Marrakech (*)	216 000
Tanger	120 960
Nador	51 840
Tetouan	43 200
Chichaoua	8 640
Essaouira	25 920
Chefchaouen	8 640
Taounate+Hoceima	13 824
Zagora	17 280
Ouarzazate	25 920

Project including pipes, pumping stations and
Dessalination treatment plants

Cities covered by the project	Capacity (m3/day)
Agadir (*)	100 000
Laayoune, Sidi Ifni, Al Hoceima(*)	52 000
Dakhla	17 280
Boujdour	6 912

Further Main Project (sanitation) 2012 - 2015

- Main wastewater treatment plants expected to be launched during 2015 – 2017 using different technologies (*activated sludge, natural lagoon, aerated beds...*)

Beneficiary cities	Outflow (m ³ /day)
Ouarzazate	9 000
Taourirte	4 100
Berkane	2 000
Ahfir	1 840
Taghazoute	1 092
Drarga	1 000
Zag	600

Perspective projects

Perspective main desalination projects (2030)

Boujdour

7 000 m³/day (in progress)

Dakhla

34 560 m³/day
(17 280 m³/day (in progress))

Sidi Ifni

17 280 m³/day (in two steps
of 8 640 m³/day each)

Laâyoune

26 000 m³/day (in progress)

Grand Agadir

200 000 m³/day
(100 000 m³/day in progress)

Al Hoceima

17 280 m³/day

Tarfaya

1 300 m³/day (in progress)

Zagora

5 000 m³/day (in progress)

Casablanca

about 150 000 m³/day

Perspective projects

Perspective SANITATION projects (2030)

Within the framework of its action plan for the period 2018-2025, ONEE plans to :

- Increase wastewater treatment capacity with additional 150 000 m³ /d through the implementation of over 60 new wastewater treatment plants
- Improve the depollution rate from 67% in 2017 to 80 % in 2025 in centers where ONEE ensures this service (part of the PNA “ National Sanitation Program”)
- Manage liquid sanitation services in more than 60 additional cities and centers

Funding and tender process

1. Funding

- **Loans** : *public international development lenders, local lenders (banks)*
- **Central authority subsidies** : *rural water supply and sanitation*
- **Self Financing** : *~ 35%*

2. Tender process :

- **International/national competitive bidding (95%)**
 - Tender without previous selection
 - Tender with previous selection
- **Limited competitive bidding (5%)**

Tariff and operating strategy

1. Tariff

- Financial, social, economic and environment considerations
- Two types of tariffs
 - Production tariff : *applied for distributors (public and private companies)*
 - Water supply tariff : *applied directly for final consumers*
- The tariff system of drinking water consider a solidarity mechanism between :
 - Urban and rural consumers
 - Different social revenue rank

2. Operating strategy :

- Outsourcing of management of water supply Systems in rural areas and small cities with management contracts
 - Contract duration : *5 years*
 - Basics of contract : *the private operator has to insure all the materials and human resources to achieve operating and maintenance activities*
 - Reach the fixed target regarding rate of losses water and a capacity to realize a private connections.
- Outsourcing operating and maintenance of a small water supply area, production systems in rural areas.

Other additional activities

- Technical assistance for private and public department in order to achieve new projects (*touristic, industrial, households projects*)
- Quality control for external partners
- Training program with public and private partners

IEA - International Institute for Water & Sanitation



- Location in a an exceptional framework in the main office of ONEP Rabat (Morocco) containing :
 - A Water treatment plant (one of the most important in Africa 9 m³/s)
 - An experimental wastewater treatment plant.
 - A laboratory of water quality control

- A rich experiment of more than 30 years

- A team of skilled staff (50) and a network of expert trainers (100)

- A WHO collaborating center in the area of research and training, since 1994

- Rich pedagogical instruments & facilities

- Training Capacity (22 000 Trainees days/year)

Bilateral partners in the north

- **France** : EAU DE PARIS, SIAAP, SCP (*Société Canal de Provence*)
- **Deutsh** : Inwent (*training partnership*)
- **Belgium** : SWDE (*Société Wallonne des Eaux*), VIVAQUA (*Bruxelles city*)
- **Spain** : ACUAMED (*Madrid city*), CENTA, EMASESA (*Sevilla city*)
- **Portugal** : AGUAS de PORTUGAL
- **Netherlands** : WATERNET (*Amsterdam city*)

Bilateral partners in the south

- **Burkina Faso** : ONEA
- **Senegal** : SONES
- **Cameroon** : CAMWATER
- **Mauritania** : SNDE
- **Tunisia** : SONEDE
- **Guinea** : SEG
- **Rwanda** : RWASCO
- **Mali** : SOMAGEP

Thank you for your attention



Bouregreg treatment plant (10 m³/s) ONEE - RABAT