Water in Mexico: Priorities and Perspectives
Ministry of Environment and Natural Resources

- Administration & custody of national waters;
- Management & control of the hydrological system;
- To promote & induce social development.
Introduction to CONAGUA

I. Socio-economic information

II. Water in Mexico

III. National Water Plan 2014-2018

IV. Plan goals

V. Final remarks
<table>
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<tr>
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<th>Kenya</th>
<th>Mexico</th>
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</thead>
<tbody>
<tr>
<td><strong>Area (km²)</strong></td>
<td>581,309</td>
<td>1,972,550</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td>45,010,056</td>
<td>119,570,753</td>
</tr>
<tr>
<td><strong>Government</strong></td>
<td>Presidential Constitutional Republic</td>
<td>Federal Presidential Constitutional Republic</td>
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A growing country gradually becoming a powerhouse ...

- 11th largest economy in the world
- Member of Organisation for Economic Co-operation and Development (OECD) and its largest growing economy
- 5th exporter of vehicles (on top of France, UK, Canada, Brazil)
- World's biggest exporter of flat-screen TVs
- 4th exporter of aircraft
- World’s top beer exporter

**Mexico’s water challenges**

- Diminishing per capita water availability
- Water crisis derives from economic growth, social needs and climate variability
59 metropolitan areas
57% of the population in MA
7 MA with more than 1.5 M inhabitants:
Tijuana, Monterrey, Guadalajara, León, Toluca, Valle de México, Puebla-Tlaxcala
Evolution of rural, urban and total population 1910 - 2013
Urban population has been constantly increasing.
- Geographical location fixes its hydrological characteristics;
- A portion of Mexico is at the same latitude than the Sahara Desert;
- Hence, northern and central Mexico is arid or semi-arid.
Water in Mexico

- Scarce in north and northeastern Mexico, as well as in Baja California Peninsula;
- Abundant in the southeast.

- Population density and economy are mostly located where water is scarce.

Yearly average: 760 mm (1,489 km$^3$/yr)
Normal Precipitation (1981-2010): 740 mm

68% of the precipitation in 4 months (Jun-sept)

Monthly distribution of mean annual precipitation (mm)
• Per capita availability
  • In 1950 was 18,035 m³/per capita/yr
  • In 2014 is 3,982 m³/per capita/yr (low vis à vis UNDP)

• Population growth is rapidly slowing down; however per capita availability will continue thining down.
35 million people living in conditions of low water availability

Contrast between development and water availability
• 653 Aquifers
• Main water sources for industry and population centers (60 million people drink groundwater; almost 50% of all population)
• Groundwater is used to irrigate 2 million ha (35% of all irrigated land)
• Overpumping affects 106 aquifers (out of 653)
Historical trajectories of hurricanes

2002 to 2010 hurricanes affected 30 million people and caused damages of more than 26 billion USD

Atlantic from 1851
Pacific from 1949
Mexico is regularly exposed to severe hydrometeorological events. Between 1980 and 2010 more than 8 million people were affected by floods. Economic damages beyond 20 billion USD. Mostly, flooding risks concentrate in 17 out of 32 states in Mexico where 62% of the population lives. 160,000 km² in risk of flooding.
Water demand will continue growing

- To a lesser extent in terms of water supply

- In 2050 México will have 150.8 million inhabitants that will exert additional pressure on water resources

- By 2030 water demand will be 91,200 million m³/yr

- To a greater extent because of economic expansion and diversification

- Water supply can still be raised (with existing technology) to 68 300 million m³/yr

- However, the gap between supply and demand will increase up to 23 000 million m³/yr
Article 27 of the Constitution ...

- the water of rivers and their tributaries,
- inland lakes,
- springs and groundwater

... is owned by the nation, only the federal government may grant concessions for water use.
National Water Law (LAN)

- Derived from Article 27 of the Constitution,
- Regulates the exploitation and use of national waters,
- Preserving the quantity and quality of water to achieve sustainable development.
TURNING THE TIDE ....

THE NATIONAL WATER PLAN
2014-2018
National Water Plan 2014-2018

Challenges and halfway achievements

1. Asegurar el agua suficiente para todos los usos en cantidad y calidad

Mexico faces a complex water situation

2. Garantizar la seguridad hídrica de los mexicanos

CONAGUA
Comisión Nacional del Agua
A profound reform in water resources planning and its tools

• A new approach based on

  – Aligning the water sector with the growing economy and gradual social improvement

  – Responding to the National Development Plan of 2013

  – Ample consultation with water experts

  – Social consultation at subnational / basin levels

  – Reforms to the water sector.
National Water Plan 2014-2018

A profound reform in water resources planning and its tools (2)

- Modernization of several key elements & tools, processes and policies

- Emphasizing the replacement and excellence of expert human resources in the water sector

- Improved cross cutting ties with all government levels. *For the first time, the NWP is multi-sectoral*

- Improving water governance and overall sustainability

- Cope with the effects of climate variability
National Water Plan 2014-2018

National Development Plan

National Water Program (NWP)

Sectoral Guidelines

Water Sector Reforms

Modernization Schemes

NWP Objectives

Main goals
National Water Plan 2014-2018

Move Mexico to its maximum potential

Five overall guidelines

I. PEACE
II. INCLUSIVENESS
III. QUALITY EDUCATION
IV. PROSPERITY
V. GLOBAL RESPONSIBILITY
Multisectoral Approach

Cross cutting approach

A special program among sectoral programs

Long term vision

Biennial feedback, revision, re-edition

Establishes objectives, strategies and action lines

Attain water security and sustainability

National Water Plan 2014-2018

Establishes objectives, strategies and action lines

Biennial feedback, revision, re-edition

A special program among sectoral programs

Long term vision

Cross cutting approach

Multisectoral Approach

Attain water security and sustainability
Legal Framework

Institutional framework & Arrangements

Water Resources Planning

Reforms

Water Sector Financial Strategy

Improved Human Resources Management and achieving excellence
Water Policies and National Water Strategy

National Strategy of Adaptation to Climate Change

Re-engineering Research and Development in the Water Sector

Re-engineering Water Measuring Systems and Tools

Water Intelligence Unit

Investment Projects’ Pipeline WRM Projects’ Pipeline

Integrated Water Resources Management: Revisited

Mexico: a Worldwide Leader in Water Matters
National Water Program
6 OBJECTIVES, 22 Strategies & 105 Lines of Action

Strengthen water management practices
6 Strategies

Increase water security in front of floods and droughts
2 Strategies

Strengthen and improve water supply and sanitation
5 Strategies

Increase sectoral technical and scientific capacities
4 Strategies

Insure water supply for economic activities and environmental sustainability
2 Strategies

Consolidate Mexico’s role in the international Scenario
3 Strategies
Total Spending: **60 Billion USD** in the period 2014-2018 of which 65% is investment in infrastructure

**Drinking Water**
- Go from 92% to 94% in the period 2014-2018
- 8 million additional inhabitants to be benefited
- 10.2 billion USD to be invested in the period

**Sewage**
- Go from 90.5% to 93% in the period 2014-2018
- 8.4 million additional inhabitants will be benefited
- 7.2 billion USD to be invested in the period

**Wastewater Treatment**
- Grow from 47.5% to 63% nationwide
- This means treating an additional 34.5 m³/s
- 4 billion USD to be invested 2014-2018

**Modernizing irrigated areas (infrastructure & operation)**
- 1.38 million will be modernized

**Conagua**
- 4 billion USD to be invested (treasury, private sector investment)
Thank you

National Water Plan of Mexico

Available in Spanish, English and French

Kindly use the following link to download it:

http://187.189.140.149/pnh/