Expert Workshop on Developing the Capacities of the Health Sector for Climate Change Adaptation to Protect Health from the Climate Change Effects on Freshwater Resources
Amman, 19-21 April 2016

MOROCCAN HEALTH SECTOR STRATEGY FOR ADAPTATION TO CLIMATE CHANGE

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Outlines

1. National Commitments and major national actions

2. Health Risk Assessment
   - Directs effects
   - Indirect effects

3. Health Sector Strategy for adaptation to climate change
   - Guiding principles of the Adaptation Strategy
   - Strategic pillars
   - Actions performed
1. NATIONAL COMMITMENTS

2. Organized the COP7 in 2001

3. Ratification of the Kyoto Protocol in January 25, 2002

4. Commitment to reduce GHG by 32% by 2030 compared to 2010

5. The DMN Director is the 3rd Vice President of the World Meteorological Organization (WMO)

6. Will host the COP22 by the end of 2016.
1. Generalization of 50 ppm diesel and unleaded gasoline from 2011

2. Programs implemented for the development of renewable energy
   National Goal: by 2020, 52% of the country's energy needs will be produced from renewable energy
   i. Solar Plan (Noor Program): Installation of 2000 MW of solar power by 2020 in five sites
   ii. Wind Power Program: 2000 MW by 2020 and additional 4000 MW by 2040
   iii. Photovoltaic Power Program: 400 MW
   iv. Installation of hydroelectric plants: 700 MW by 2020

3. National Drip Irrigation Program:
   - Reconvert and equip 50% of the total area developed at national level (550,000 ha) for a period of 10 years
   - An average equipment rate of nearly 55,000 ha/year.
2. CLIMATE CHANGE IMPACTS ON ENVIRONMENTAL HEALTH DETERMINANTS
IMPACT ON THE BIOCLIMATS

Moroccan Bioclimat  1991-2000
Evolution of air temperatures recorded in Morocco:

Over the past 40 years, the air temperature in Morocco has increased by 0.6°C to 1.4°C depending on the region.

Projected temperatures taking in the account the CC:

• The increase in the mean temperature will vary between 0°C and +5°C and will be greatest during the summer.
• Increase of the maximum temperature and the frequency of heat waves.
### IMPACT ON PLUVIOMETRY

<table>
<thead>
<tr>
<th>Water Resources (milliards de m³)</th>
<th>2000</th>
<th>2020</th>
<th>Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renewable</td>
<td>29</td>
<td>25,5</td>
<td>-12%</td>
</tr>
<tr>
<td>Mobilisable</td>
<td>20</td>
<td>17</td>
<td>-15%</td>
</tr>
<tr>
<td>- Surface water</td>
<td>16</td>
<td>13,6</td>
<td>-15%</td>
</tr>
<tr>
<td>- Groundwater</td>
<td>4</td>
<td>3,4</td>
<td>-15%</td>
</tr>
<tr>
<td>Water Capita (m³/habitant/an)</td>
<td>1.010</td>
<td>682</td>
<td>-33%</td>
</tr>
</tbody>
</table>

“Water Stress” announced from 2020
IMPACT ON THE FOREST COVER

Evolution of forest area  (x 1,000 ha)
3. HEALTH IMPACTS EXPECTED
An increased risk of mortality related to:

i. The heat wave, which will affect the most vulnerable people:
   - Life expectancy in Morocco, which is now about 72 years, would increase to about 80 years in 2030; therefore, there will be an increase in the population aged vulnerable than 75 years and more;
   - The urban population, the most vulnerable will be increasingly important and will represent 71% of the total population in 2030.

ii. The aggravation of the air pollution and increased associated morbidity and mortality

iii. The moving of allergenic plants increases the number of people with allergies. Risk assessment requires knowledge building
Indirect effects

i. Potential risk of **resurgence of malaria**

ii. High risk of **increasing leishmaniasis**

iii. High risk of **introduction** of other vector-borne diseases (Zika! …)

iv. Considering of future climate projections and **water stress**:
High risk of **increasing food and waterborne diseases**

v. **Extremes weather events:**
   1. Flooding will increases the risk of **deaths by drowning and mental disorders**
   2. Droughts will increase **the risk of infectious diseases**
4. THE HEALTH SECTOR STRATEGY FOR ADAPTATION TO CLIMATE CHANGE
1. **Health is multidimensional**: therefore is not under the exclusive dependence of medical action or the health sector but the contribution of other sectors is also important for health.

2. **The health sector is only part of the health system**: the need for a multidisciplinary and multisectoral approach.

3. **The CC is a new risk, a risk for decades**:
   - plan actions over much longer periods than usual (10 to 20 years) and a more systemic approach
   - integrate health, environmental, economic and social aspects

4. **The need for an adaptation strategy**:
   - reduction of greenhouse gas emissions does not immediately eliminate the risks
   - the obligation to take adaptation measures to minimize their risks to human health

5. **In the context of the CC, communities and vulnerable groups should receive information** and education they need to adapt their behavior.

6. **The partnership, national and international, in the heart of the response**:
   - The strategy must integrate all actors and sectors across the country
   - The partnership should also integrate the regional, continental and global
Main objective:

Ensure the adaptation of the health sector to the CC to enable the Moroccan population to benefit from a good protection against the health effects of this emerging phenomenon.

Intermediate objectives

- The CC dimension will be strengthened in health policy of the country and the capacity of health teams in the area of risk management related to the CC will be developed;
- Individual participation and involvement in the implementation of the CC adaptation strategy will be promoted and the adhesion and mobilization of extra-health partners for the implementation of the adaptation strategy to health effects will be obtained;
- the responsiveness of the health system related to the health climate phenomena will be enhanced and the health system warning capacity for extreme weather events will be strengthened.
STRATEGIC PILLARS

1. **Monitoring**: Strengthening the monitoring, security and capacity to anticipate health risks associated with CC.

2. **Prevention of risks to health facilities due to CC**: Promoting the best practice.

3. **Preparation**: Prepare emergency plans for exceptional situations and crisis

4. **Organization**: Strengthening the institutions involved and the legislative and regulatory framework

5. **Training**: Strengthen the capacity of health workers and develop new skills to face the new challenges of CC.

6. **Partnership**: Enhancing cooperation at the national, regional and international

7. **Knowledge**: Developing scientific research to improve understanding of the complex links between CC and Health

8. **Awareness**: Information, Advocacy and communication on health risks linked to climate change
Main actions performed

- For implementing the strategy, three committees were formed to identify concrete measures and monitor their execution.
- CC dimension has been integrated into the project to redesign the national epidemiological surveillance system and health monitoring.
- However, much remains to be done...
THANK YOU FOR YOUR ATTENTION

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