Successful practices and alternative strategies focused on water education in Mexico

Javier Aparicio
ANEAS de México
javieraparicio@prodigy.net.mx
Water Education

• **Strategic entry point** in ensuring integrated water resources management

• **Is often linked** with poverty eradication, adaptation to climate change, basic human rights, gender equality and indigenous cultures, among other key issues

• **Has to occur at all levels** to equip people with the skills, knowledge, and values required for positive societal responses for a sustainable future

UNESCO: Water Education for Sustainable Development
WATER CULTURE: HOW TO IMPROVE?

EDUCATION

- Formal
- Non-formal
- Informal
UNESCO’s focus on water education in Latin America and the Caribbean

• Tertiary education and professional development
• Professional training for water technicians
• Education at schools
• Education for communities, direct stakeholders and communication media
UNESCO’s focus on water education in Latin America and the Caribbean

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<th>Main topics</th>
<th>Goals</th>
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<td>• Mathematical modeling</td>
<td>• Incorporate new countries to these experiences</td>
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<td>• Prevention of water-related conflicts</td>
<td>• Share experiences with other regions</td>
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<td>• Basin level IWRM</td>
<td>• Promote other regions initiatives</td>
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<td>• Water management, use and reuse</td>
<td>• Promote inter-sectorial work within UNESCO and UN system</td>
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<td>• WET Project</td>
<td>• Promote synergies with existing initiatives</td>
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<td>• Blue Planet – Water cycle</td>
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<td>• Training for journalists on WRM</td>
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<td>• Video &amp; photography</td>
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• International network for capacity development in sustainable water management
• Made up of a partnership of autonomous international, regional and national institutions and networks committed to capacity development in the water sector
Cap-Net International

• **Capacity building**
  Develop capabilities so that institutions and individuals can sustainably manage, develop and use water resources and adapt to variable climatic conditions within a gender equity and sustainable living conditions

• **Knowledge management**
  Develop and implement knowledge management systems that ensure access to the best knowledge at local and international level, measure the effectiveness of capacity-building services and establish indicators and systems of monitoring

• **Strengthening of Associations**
  Improve the practices of management of the water through:
  - Use of capacity builders networks
  - Development of partnerships with international agencies to improve the scope and collaboration in capacity building
(I) The case study: Master & PHD in Engineering National University of Mexico, Campus Morelos

- UNAM: largest number of specialists, masters and PhDs in Mexico with international recognition
- Raise quality of professional activity, education and research
- Graduates of the program: important impact on activities in their work field
(1) The case study: Master & PHD in Engineering National University of Mexico, Campus Morelos

• Morelos Campus: established on the premises of the Mexican Institute of Water Technology (IMTA) in 1987

• Offers courses in
  – Civil Engineering/Hydraulics
  – Environmental Engineering/Water

• Most of the students research projects are conducted in IMTA

• Close relationship with IMTA and institutions of the sector
REGISTERED AND GRADUATED STUDENTS

- Registered Hydraulics
- Registered Environmental
- Total registered
- Graduated Hydraulics
- Graduated Environmental
- Total graduated
(II) The water and education interface

The 2030 Water Agenda

Clean water bodies: 24%

Universal access to water services: 7%

Efficient water utilities

Suburbs connected to water supply and sanitation networks

Rural comm. with improved water supply and sanitation (0)

Balanced supply & demand: 45%

Reuse of all Treated WW (0)

Aquifers in Equil.

Self-Managed Basins

Flood zones free from human settlements

Warning and prevention systems with state-of-the-art technology

Universal access to water services: 7%

Sustainable land-use management

Warning and prevention systems with state-of-the-art technology

Flood zones free from human settlements

Universal land-use management

Suburbs connected to water supply and sanitation networks

Rural comm. with improved water supply and sanitation (0)
(III) **Challenges**

- Equipment and laboratories maintenance
- Increase scientific and technological productivity
- Improvement of financial conditions
- Increase international mobility of students
(IV) Lessons Learnt

• Interaction with R&D and operative Institutions through technology transfer
• Programs diffusion and promotion
• Student mobility
• Institutional and Program planning
Messages to WWF7

• Capacity building is essential for a new culture of water

• Capacity building should be incorporated as a current practice in IWRM

• To modify the culture of water, it is necessary to perceive, believe, know, organize, live and project a common future through water education\(^1\)

• Formal education is indispensable but not the only way: non-formal and informal education can be more persuasive and effective in some aspects of the culture of water

\(^1\)Herrera, C.: 1er Encuentro Iberoamericano de educación y cultura del agua en la GIRH, 2014
감사합니다
¡Muchas gracias!
Thank you very much!