

Education as a key for Integrated Water Resources Management (IWRM) and adaptation to climate change

A.O. Demydenko¹, M. Leidel²

*¹Ukrainian Center for Environmental and Water Projects, IPMMS of
National Academy of Sciences, Kyiv, Ukraine,*

*²Technische Universität Dresden,
International Water Research Alliance Saxony (IWAS),
Dresden, Germany*

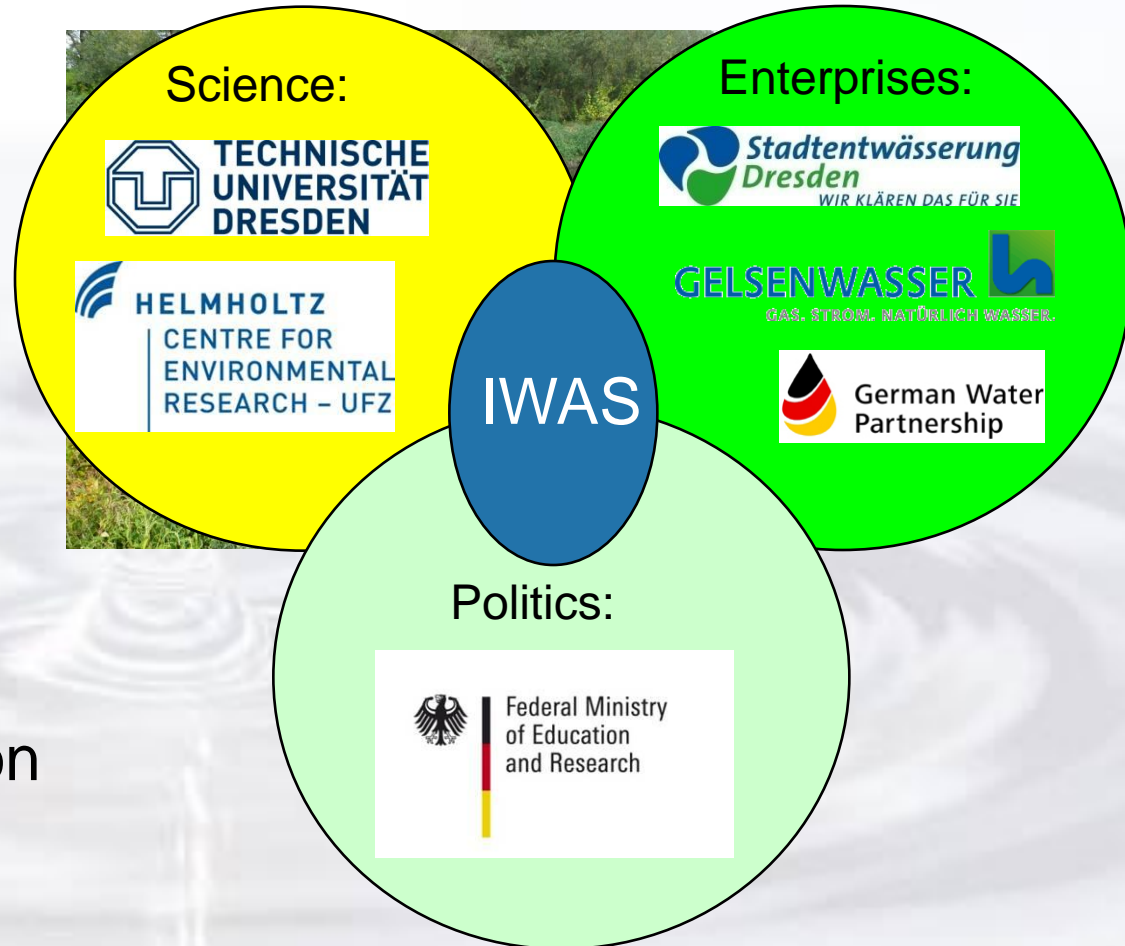
Kiev, 17/11/10

Outline:

- **Introduction to GWP CEE and IWAS**
- **Integrated Water Resources Management (IWRM)**
- **Water Resources Management in Ukraine**
- **Capacity Development for IWRM**
- **Water Education in Ukraine**
- **Conclusion**

- aims to contribute to an **Integrated Water Resources Management (IWRM)** in hydrologically sensitive regions
- Western Bug Basin, Ukraine
- developing specific system solutions

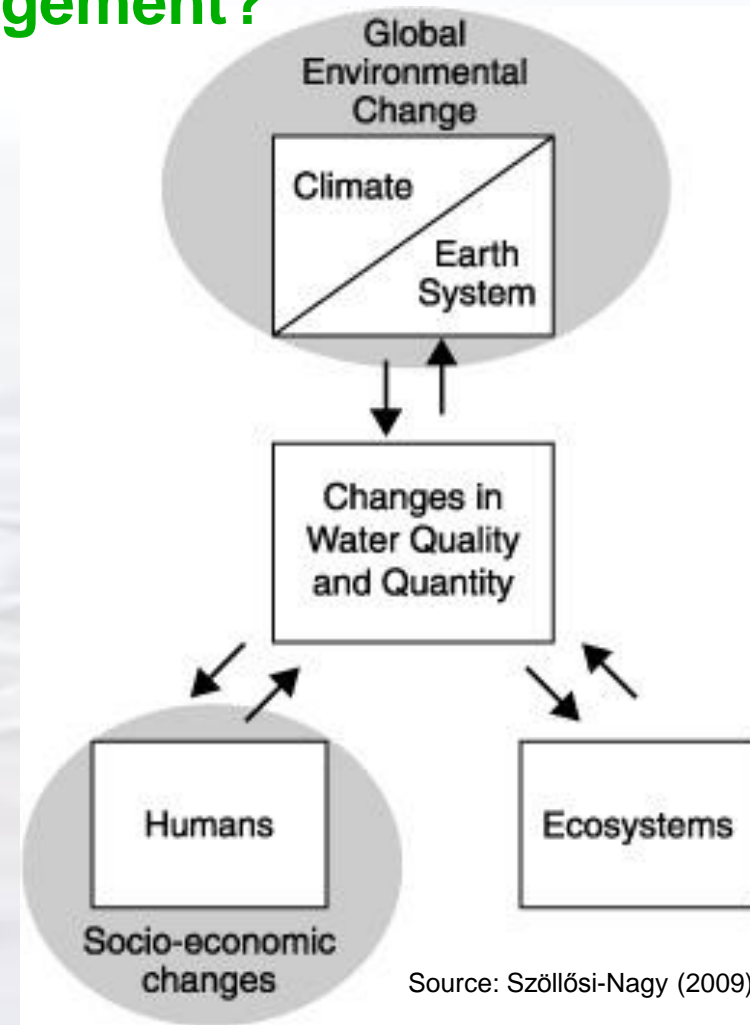
Joint approach:
trans-sectoral collaboration



+ Partners from the model region

Why do we need a better water management?

- **Humans are changing the water system without.....**
- **...adequate knowledge of the system and its response to change**
- **Adaptation to Global change**



Source: Szöllősi-Nagy (2009)

Different water sectors

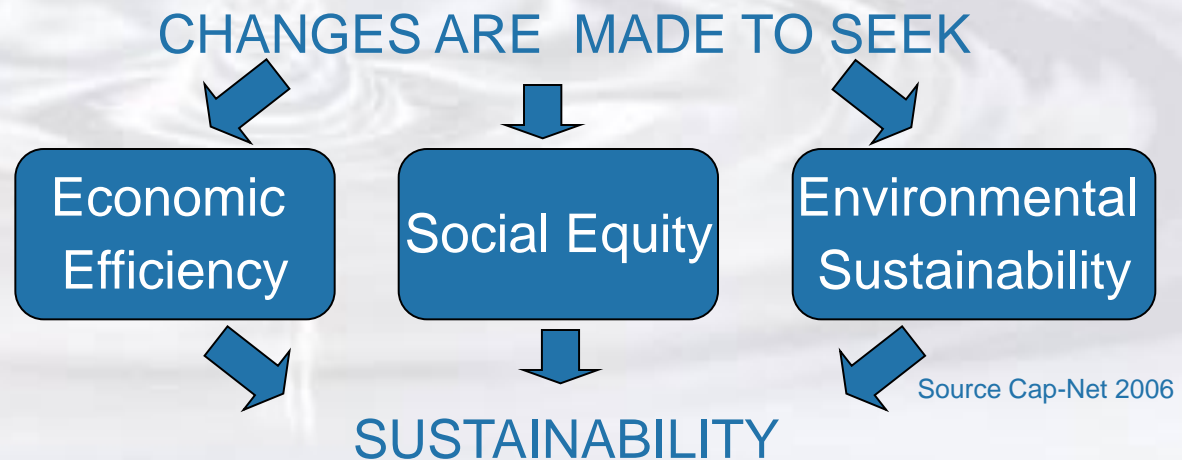
- Agriculture
- Water supply & wastewater
- Mining, industry, energy
- Environment
- Fisheries
- Tourism



- ➔ Water governance crisis because of sectoral approaches to water resources management
- ➔ Fragmented and uncoordinated development and management of the resource

The classic Global Water Partnership (GWP) definition of Integrated Water Resources Management (IWRM):

IWRM is “a process that promotes the coordinated development and management of water, land and related resources in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems”



IWRM, global change and evolving adaptive capacity

- Core of water management has been its historically evolving adaptive capacity and capability.
- **What has changed is our understanding** and implementation of the integrated ensemble of water management measures which conform with modern principles and policies.
- We no longer start with the presumption that certain **technical measures (dams, levees) are the best solutions**. Rather, we begin now our planning by asking **what are the objectives of our water plans and programs**.
- These usually now **include not only “management objectives”** but also such factors as social and community well-being, water quality, ecosystem sustainability and environmental restoration
- Adaptive management for coping with uncertainty

World Summit for Sustainable Development in Johannesburg (2002)

- development of IWRM and water efficiency plans with their subsequent implementation as major steps in the process towards achieving the Millennium Development Goals (MDGs) in water sector
- Official Russian translation: «Разработать к 2005 году планы комплексного управления водохозяйственной деятельностью и повышения эффективности использования воды».
- Integrated vs. complex

Integrated vs complex or rational use?

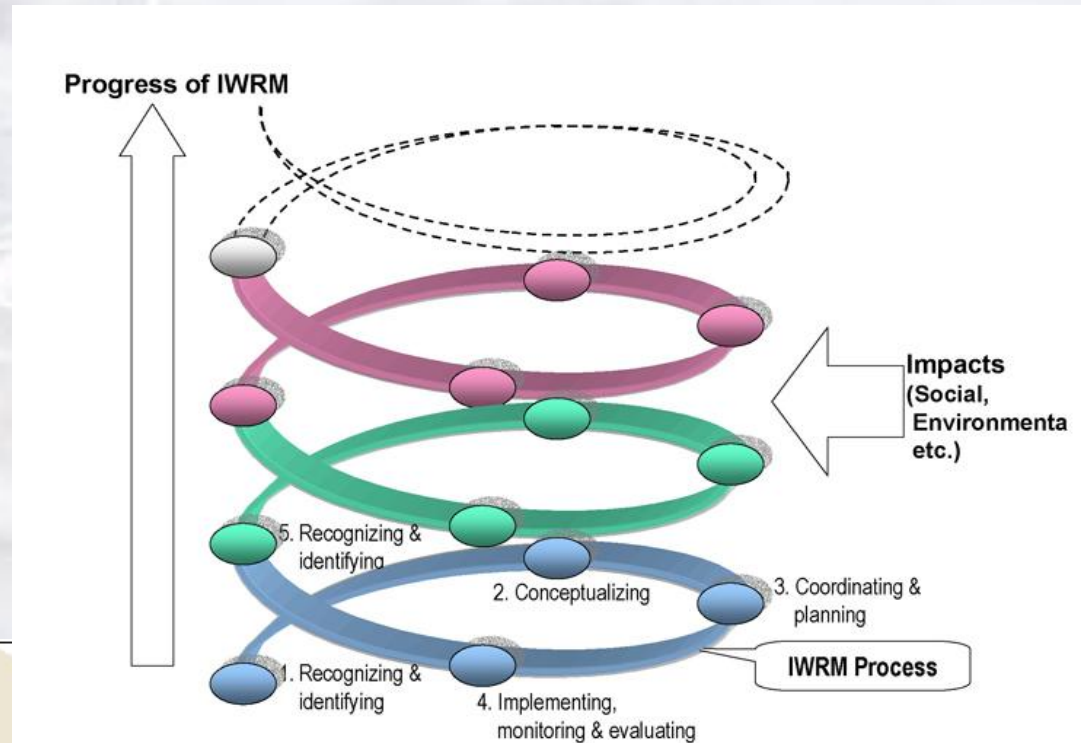
- Complex use – simultaneous, the most appropriate satisfaction of needs of stakeholders in water management areas and the most optimal combination of their interests.
- Rational use - comprehensive use which ensures optimum benefits for society as of today and of tomorrow, subject to the requirements of environmental and water legislation

Instead of “integrated” Ukraine, after WSSD, decided to implement “basin” management see below excerpts from respective Presidential Decree

В екологічній сфері				
1.	Запровадити інтегроване управління водними ресурсами та здійснити плани щодо ефективного водозабезпечення до 2005 року з підтримкою в цій сфері дій країн, що розвиваються.	Активізація реалізації Національної програми екологічного оздоровлення басейну Дніпра та поліпшення якості питної води (Постанова Верховної Ради України від 27.02.97 р. N 123), запровадження басейнового принципу управління в галузі використання, охорони та відтворення водних ресурсів України.	<i>Мінекоресурсів</i>	2003-2005 роки

Implementing IWRM for adaptation to Global Change

- “IWRM is a challenge to conventional practices and attitudes
- Implementing IWRM = Change
- Change means threats and opportunities
- Adaptation to the special and unique requirements of the region (e.g. EU-WFD)
- Adaptive management



Source: UNESCO IWRM Guidelines 2009

Water Resources Management (WRM) in Ukraine

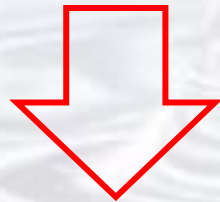
- sectoral, non-sustainable WRM
- more oriented on management of water infrastructure
(see the latest development of National Targeted Program of Development of Water Management and Environmental Strategy)
- capacities needed for performing IWRM are often not well developed
- elaboration of a profound capacity development concept identifying the needs is required

Capacity Development for IWRM

- Water as decisive factor for sustainable development and for reaching the MDGs
- Technical solutions not sufficient

➔ worldwide implementation still dissatisfying

(UN-Water 2008)



- Education as a key dimension of the international response to world's water crisis
- Enhancing the competencies of individuals, organisations and the society



Capacity Development:

Refers to the process through which individuals, organizations and societies obtain, strengthen and maintain the capabilities to set and achieve their own development objectives over time. (UNDP 2008)

Research & Implementation + Capacity Development

Sustainability

→ Capacity Development as key for successful implementation of IWRM

E-Learning Module on IWRM

Erstellt von Camtasia Studio 7 - Mozilla Firefox

Datei Bearbeiten Ansicht Chronik Lesezeichen Extras Hilfe

file:///E:/Sicherung_TUD/E-Learning/IHP_IWAS_E-learning_Modul/Presen

Aktuelle Nachrichten GMX - E-Mail, FreeMai... Webmail :: Willkomme... SPIEGEL ONLINE - Nac...

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Baum schaffen,
Küme

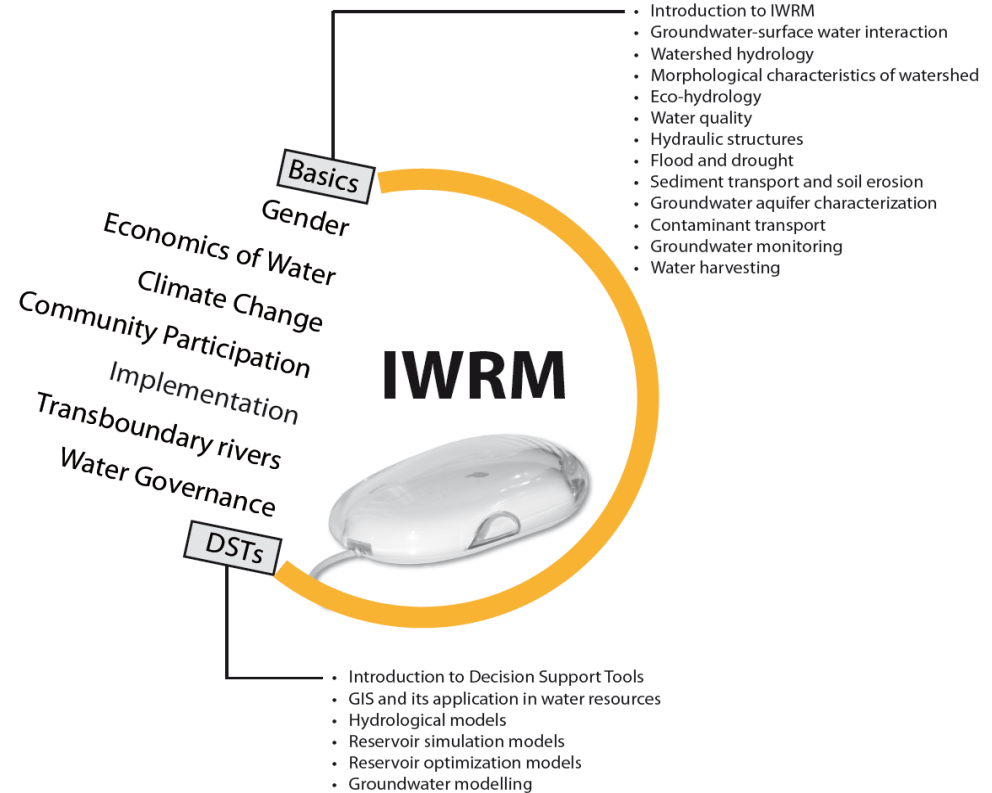
Institutionalising river basin management: The challenge
Structure

- ▼ 1. River basin management: institutional challenges
 - 1.1 The institutional dimensions to RBM
 - 1.2 A framework for analysing institutional challenge
- ▼ 2. Institutionalising RBM in Europe
 - 2.1 Background to the WFD
 - 2.2 The WFD in brief
 - 2.3 Criticisms of the WFD
 - 2.4 The WFD and problems of fit, interplay and scale
- ▼ 3. Implementing the WFD in Germany
 - 3.1 Challenges posed by the WFD
 - 3.2 Institutions of water management in Germany and
 - 3.3 Current achievements and deficits in Germany
- 4. Concluding remarks

Leibniz Institute

Angehalten

Video-Integrated E-learning Material in IWRM



Objective

To develop internet-based video-integrated E-learning modules dealing with IWRM that complement classical learning options

Target groups

Graduating students in water-related fields, decision makers, water related professionals, administration staffs in developing countries

Prepared by

German IHP/HWRP Secretariat and International Water Research Alliance Saxony (IWAS)



Water Education in Ukraine

- Tertiary education focuses on training on hydraulic construction and infrastructure
- no interdisciplinary courses on IWRM are available at Ukrainian universities
- ➔ Shift sectoral water education
- ➔ Developing academic capacities to cope with those problems and to deal with uncertainty of CC (adaptive management)
- ➔ Integration of various academic schools of thought is needed
- ➔ Interdisciplinary courses on IWRM and adaptation to CC
- ➔ Regional adaptation of IWAS/UNESCO/WMO IWRM-Modul?

Key issues to be included into courses on IWRM

- reasons for changing water management style
 - sectoral water management
 - changing water system
 - global change and uncertainty (adaptive management)

- IWRM planning process (strategic, i.e. goal-oriented approach)
- river basin management
- considering regional specific characteristics

- **intrinsic connection between social, natural and engineering science of IWRM (interdisciplinarity)**

Supply and Demand?

- several IWRM curricula developed world-wide
- e.g. IWRM E-learning module from IWAS/UNESCO/WMO
- often demanded and implemented in countries which made already some real progress in IWRM implementation
- Ukrainian pledges regarding approximation to European approaches to IWRM **remain largely declarative**
- Starting point for enabling future water managers and scientists
In solving complex water related issues in the light of global change
- **visible indicator of progress** in readiness to real work towards IWRM and adaptation to Global change at national and regional scale

Дякую за увагу!

Thank you for your attention!

Contact: andriydemidenko@gmail.com

Marco.Leidel@tu-dresden.de