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Education for water culture: valuing the past inspires sustainable futures

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UNESCO Chair | Water, Heritage and Sustainable Development

**BEYOND
MUSEUMS** Tools for Promoting the Natural
and Cultural Water Heritage



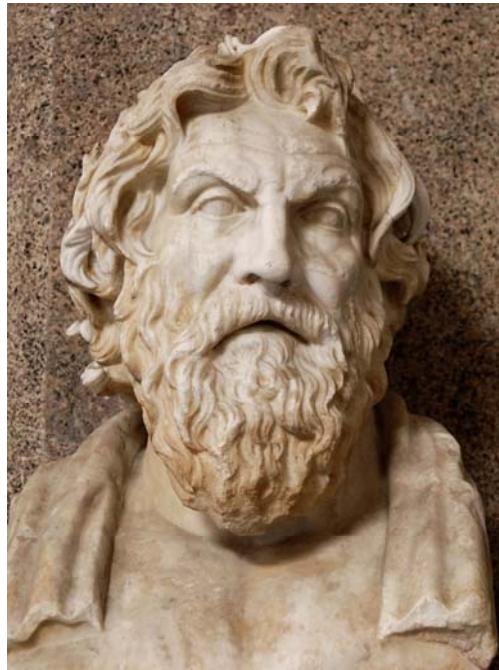
Introduction – Background to the presentation

- Museums and cultural sites have frequently educational activities, focusing on environmental and cultural interpretations.
- The new tendency is to open more the museums and sites to the society and multiple target-groups and link their work to important current issues.
- The methodological and theoretical background issues of such approaches are frequently neglected / overlooked / misrepresented.

«Αρχή σοφίας τῶν ὀνομάτων ἐπίσκεψις»

“The beginning of wisdom is the definition of terms”

Antisthenes (445-360 BC)



Water

Sustainable
Development

Education

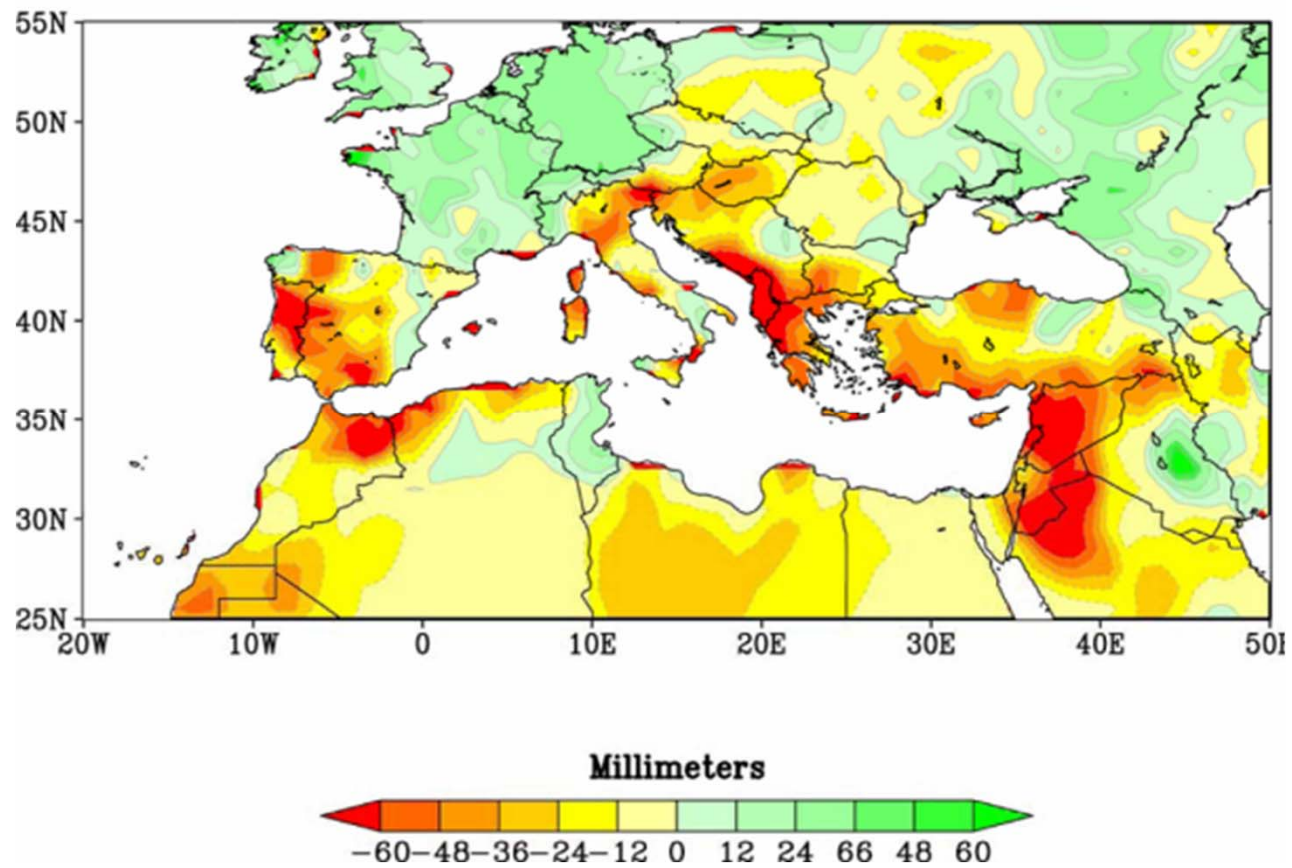
Culture

Water Problems of our days

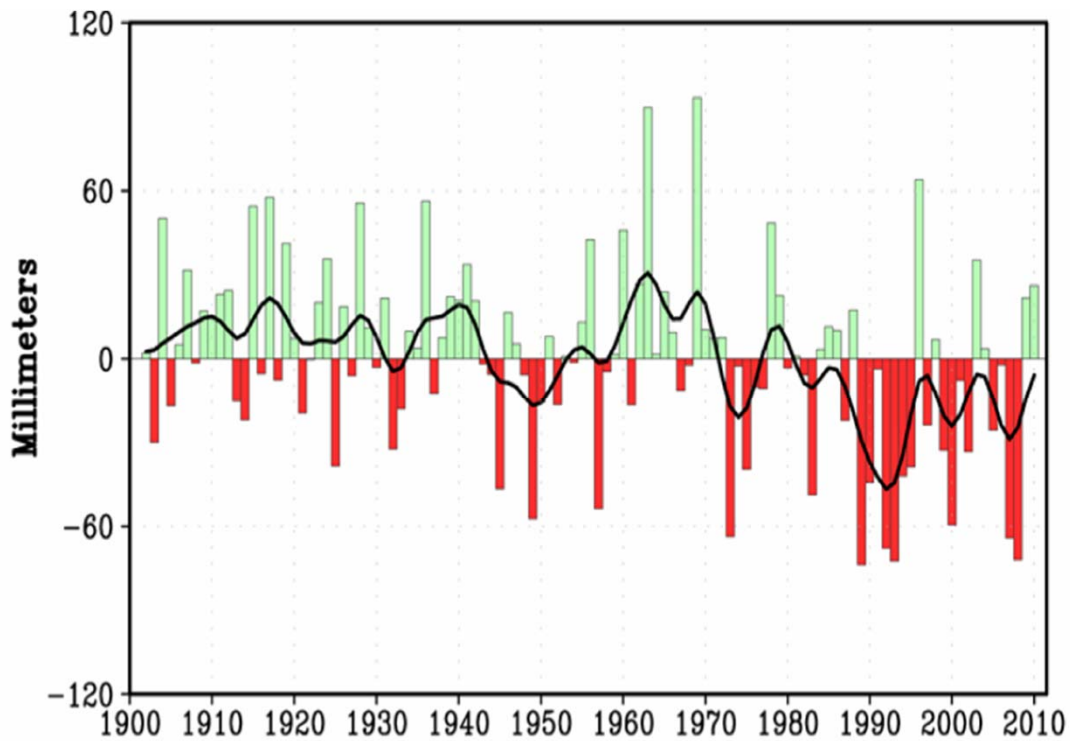
- Water scarcity
- Non-homogeneous distribution of water
- Increasing population and water demand (e.g. agriculture 8%)
- Climate change
- Consumption per capita in the developed world is increasing to irrational levels
- Water for 2 billion people is unsafe and no access to sanitation



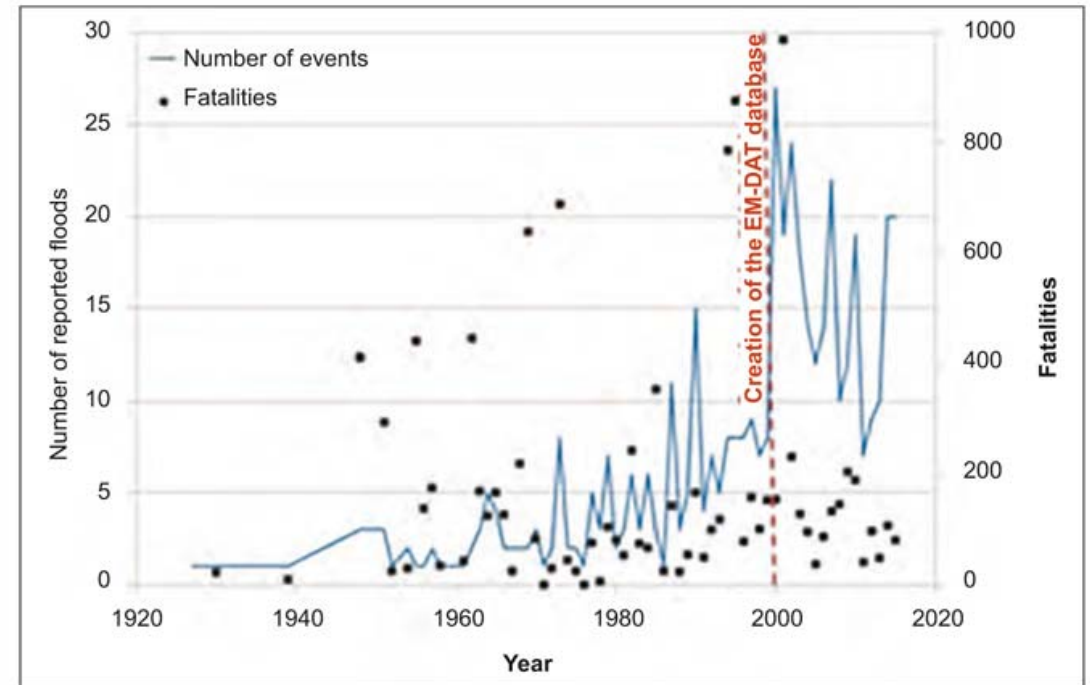
The red areas are the ones most affected by water scarcity recently due to a reduced precipitation in winter periods



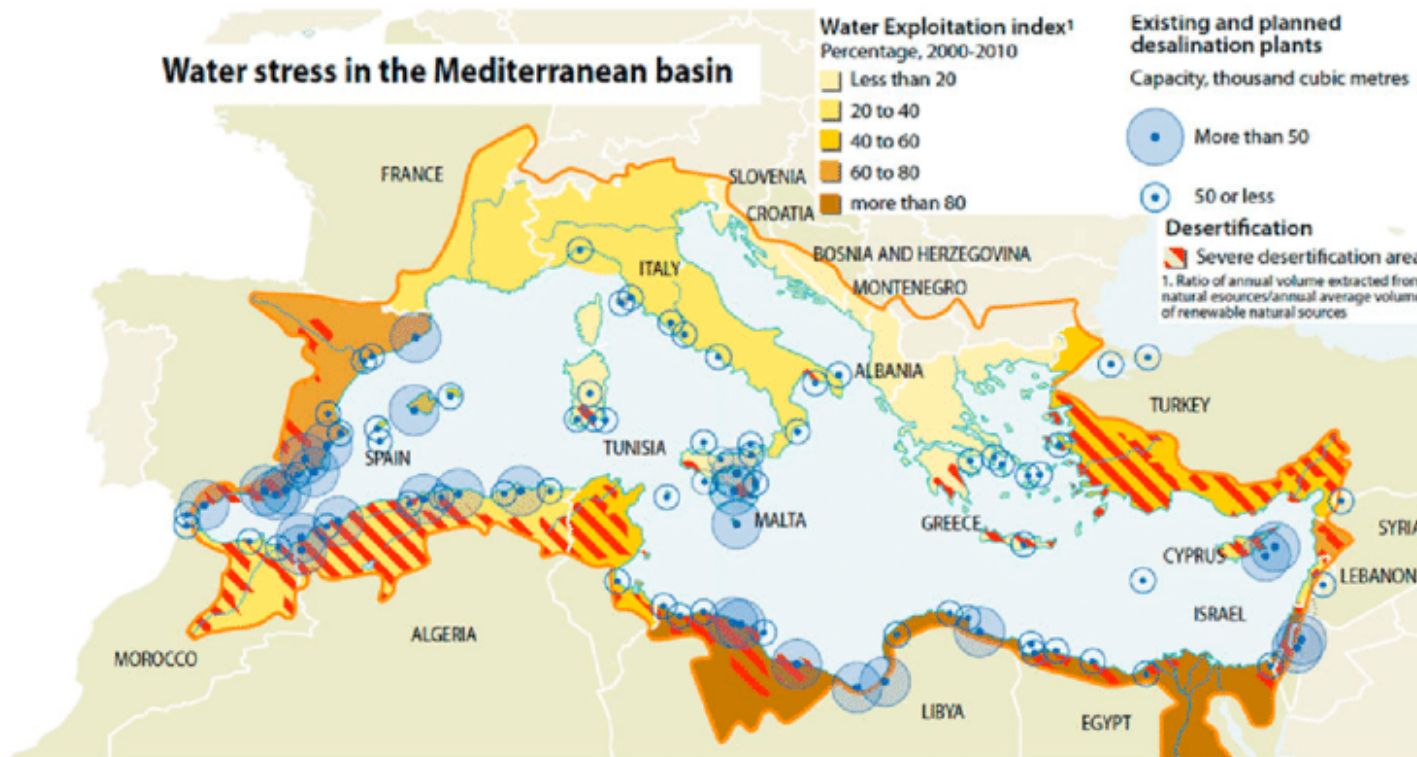
More frequent periods of reduced precipitation during winter, contributing to water scarcity.
(NOAA, 2011)



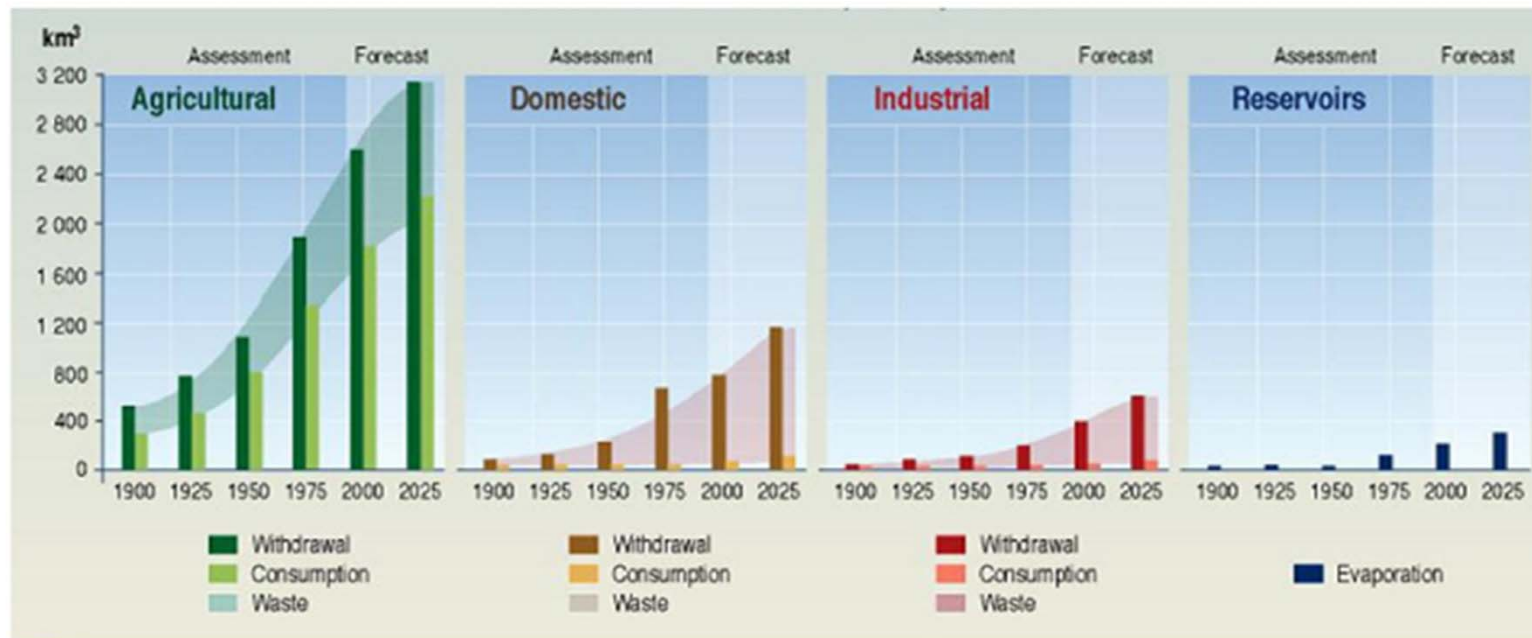
Changes in the number of damaging floods in the countries surrounding the Mediterranean Sea in the EM-DAT database.
Source: emdat.be (2020)



Water Scarcity and Desertification in the Mediterranean



Evolution of global water consumption, withdrawal and waste



Source: Bijani 2011

WE NEED A NEW WATER CULTURE



Culture

- **Culture** is a very wide and complex “umbrella” term that encompasses the social behavior and norms found in human societies or specific groups as well as the knowledge, beliefs, arts, laws, customs, capabilities, and habits of the majority of individuals within these groups.
- Humans acquire culture through the learning processes of **enculturation** and **socialization** which is shown by the diversity of cultures across society.
- A **cultural norm** codifies acceptable conduct in society: it serves as a behavioural framework and reflects current society values.

Definition of meanings

- **Mass culture** refers to the mass-produced and mass mediated forms of consumer culture that emerged in the 20th century and directly and indirectly influences water consumption primarily at individual level, but also in most aspects of production and public use.
- **Cultural repositioning** means the reconstruction of the cultural concept of a society.

Shaping Water Culture

- We consider “**Water Culture**” as part of the so-called **cultural universals**, found in all human societies and including both material and immaterial aspects related to water

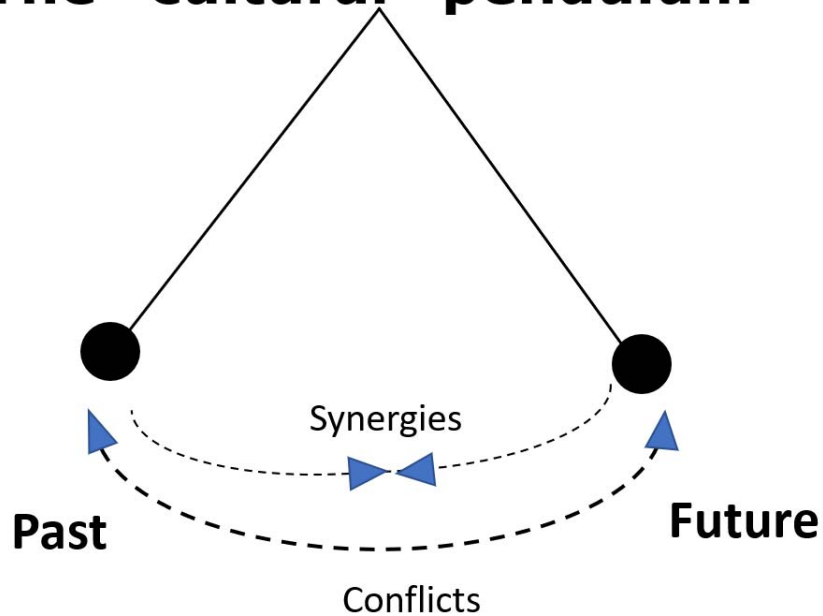
Under the **material aspects** we have the physical expressions of culture such as technologies, architecture (including water monuments), arts and crafts (including water vessels, etc.)

The **immaterial aspects** include principles of social organization and institutions as well as mythology, literature and a variety of scientific, domestic, agricultural, etc. practices involving water, all of which comprise the **intangible water heritage of a society**.

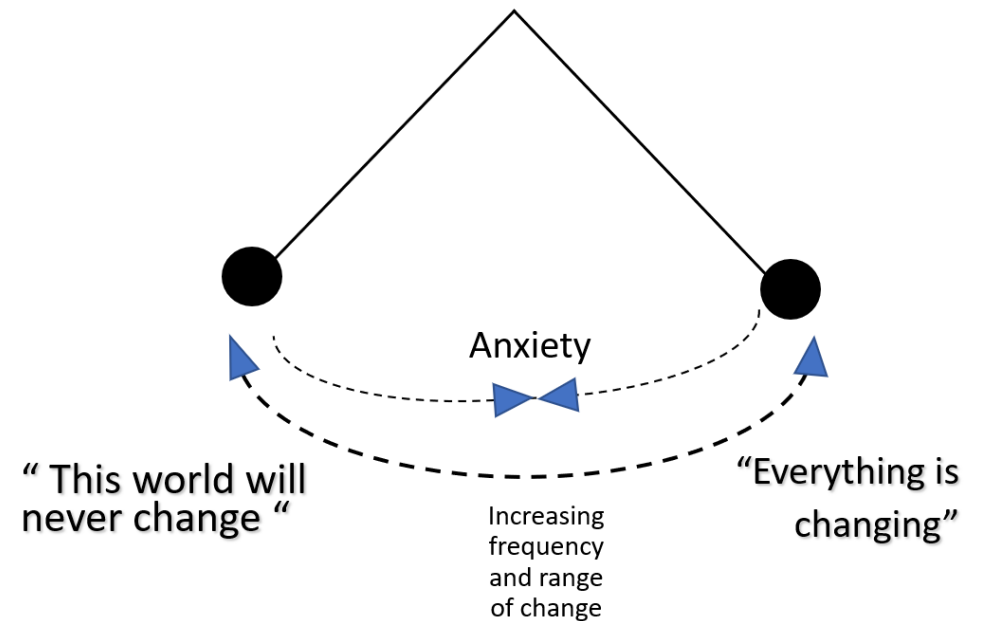
- All the above are guided by actual **needs** but also by **perceptions** and **values** that at the end shape the **behaviours** and **attitudes** towards water.

- Cultures are affected by both forces **encouraging change** and forces **resisting change**.

The “cultural” pendulum



The “anxiety” pendulum of the society of our days



These forces do not necessarily result in conflict but also in synergies

Important factors of change

- **Environmental conditions** (see ice age, climate change etc.), **population movement**, **social conflict** and the **development of technologies** can produce changes within society by altering social dynamics promoting new cultural models and cultural diffusion, inhibiting also or enabling **generative action**.
- These social shifts may accompany ideological shifts and other types of cultural change such as new symbols of “success”.



All the above are closely related to both Development and Education and in particular Education for Sustainable Development (ESD)

Has been recognized as facilitator of the implementation of all SDGs

SUSTAINABLE DEVELOPMENT GOALS

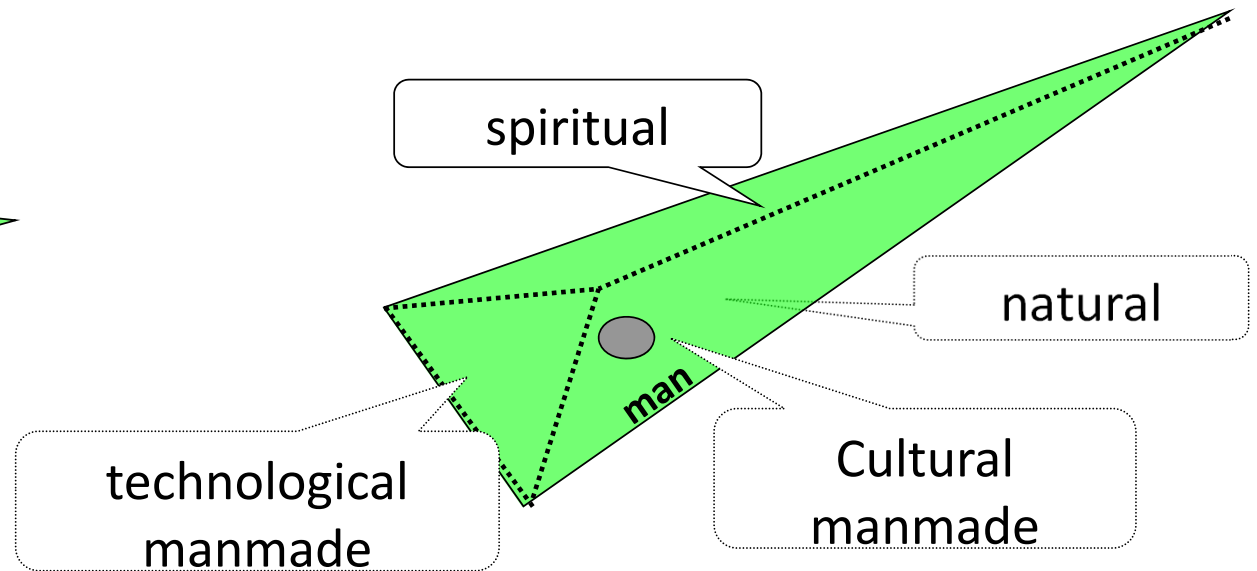
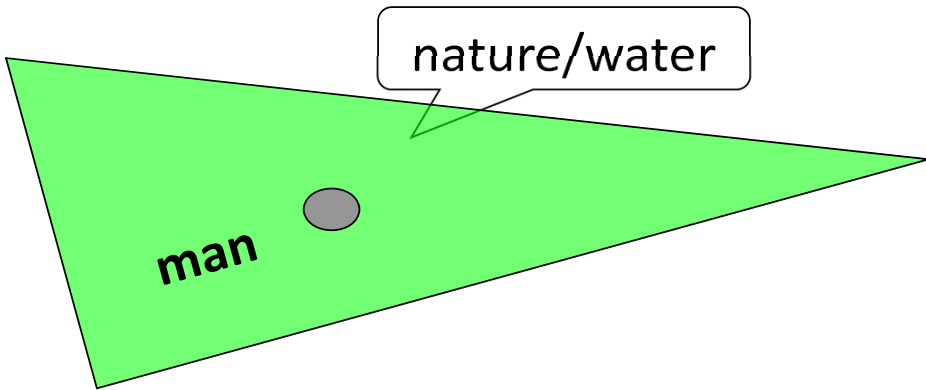


Background of the relationship between Man and Water as part of the Environment

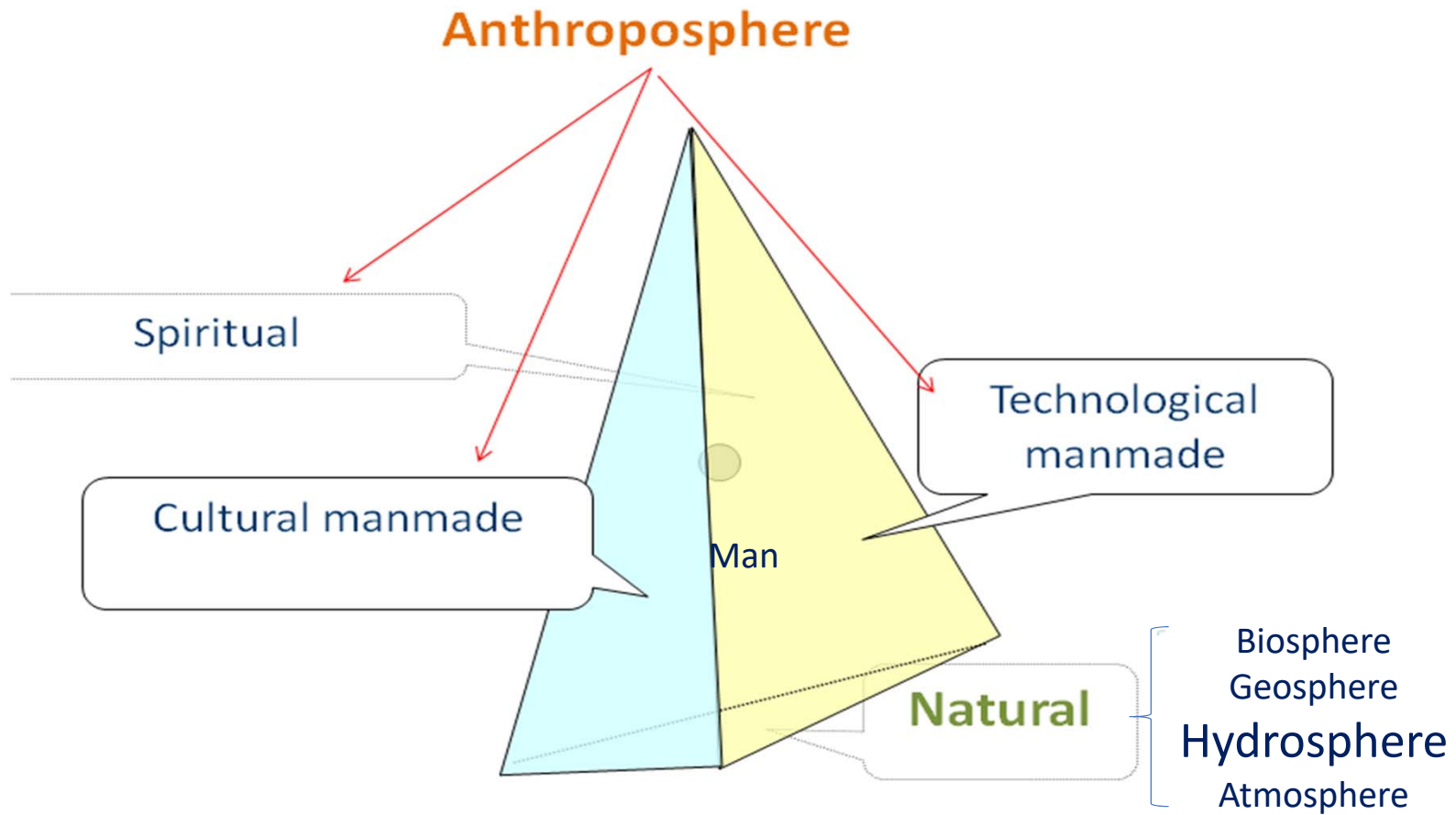
ENVIRONMENT



ENVIRONMENT



Anthroposphere on the Natural Environment



3-levels of human involvement with Nature/Environment/Water

People's attitudes and learning as it concerns water, as well as the overall environment and its protection, are based in three levels of involvement, all of which are linked with "values" and "ethos" :

- **Self interest** – personal benefit from a clean water/environment (drinking water, preparation and production of food, etc.)

- **Social good** – altruistic, environment as a common good for social welfare

- **Intrinsic value of environment** – eco-centric approach

usefulness-functioning of anthropocentric approaches

based on "respect" and "admiration" of water and its "creation"

Spaceship Earth (or spacecraft Earth or spaceship “water” planet / Earth)



Earthrise, 1968 photo taken by astronaut Bill Anders from the Apollo 8 command module

1960s & 1970s: Introduction of EE

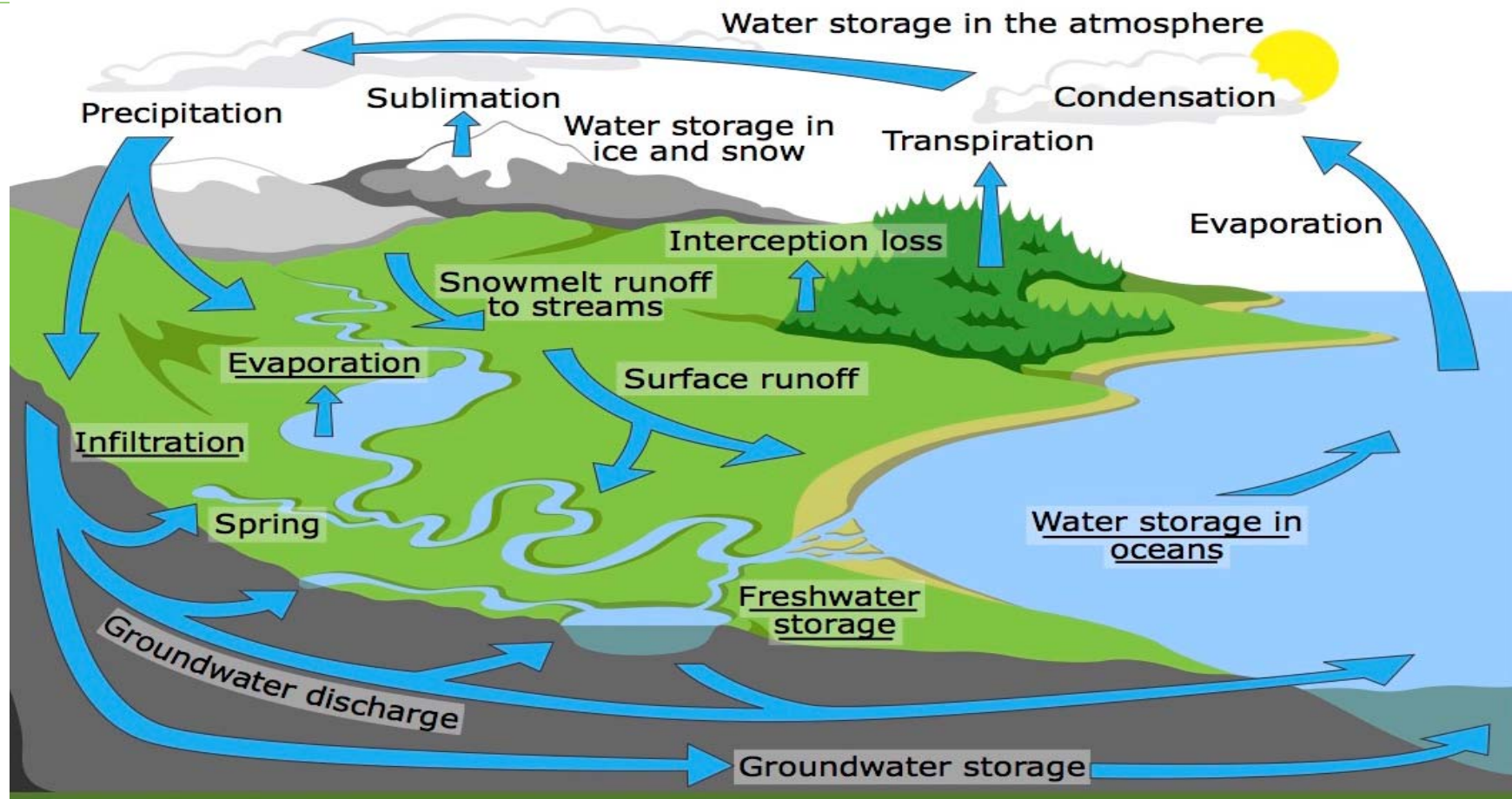
An alternative approach to address the natural and cultural heritage (environment and monuments), but also education: emphasis on conservation

- The explicit aims of introducing an **alternative education** were to stimulate a sense of both individual and collective **responsibility** for both the **natural and manmade aesthetic/cultural environment**, based on general ecological principles, knowledge of the scientific bio-geo-chemical cycles, including water cycle, and addressing the visible impacts of human activities on the natural and cultural environment.
- A systematic approach to reduce the **“tragedy of the commons”**, one of the most important aspects of water.

In parallel:

- Innovative economic thinking by Kenneth Boulding (“circular” economy) and Jan Timbergen (replacement of GDP).

DYNAMIC AND COMPLEX: THE GLOBAL WATER CYCLE

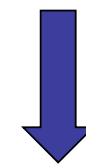


First initiatives for the protection of the environment & EE

GOAL: The protection of the environment (natural and cultural)

- “Limits to growth” Report / MIT Club of Rome
- Stockholm Conference on the Human Environment (1972)
- Belgrade Conference on EE (1975) → Scientific basis of EE
- Tbilisi (1977) “Intergovernmental Conference on Environmental Education”

Introduction of Environmental Education as a tool for the protection of the environment among which the aquatic one was in the forefront

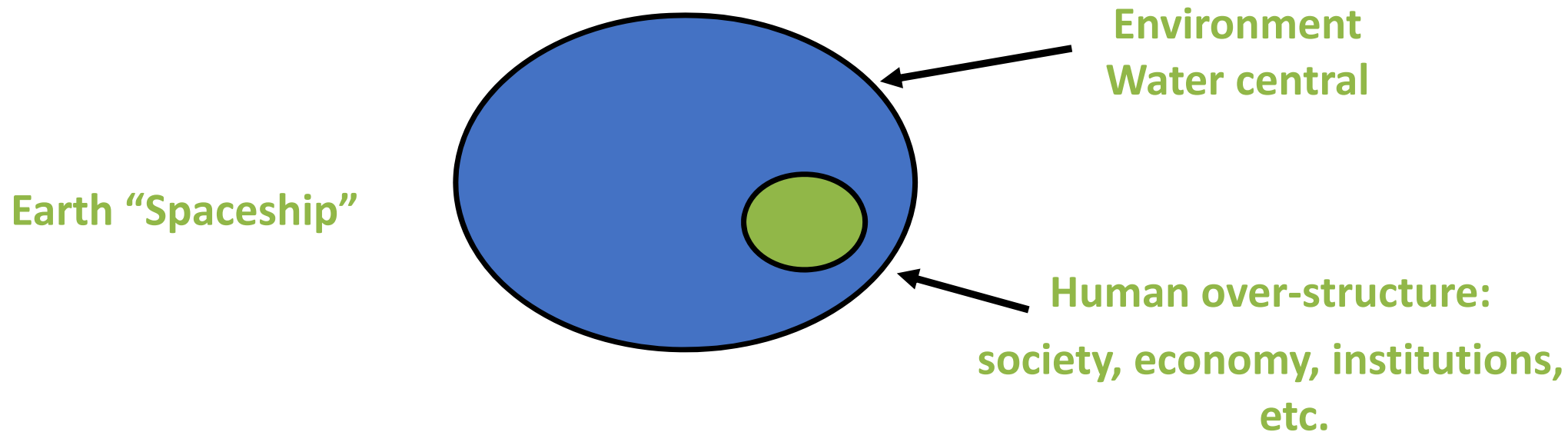


*Leading
(as consequence) to:*

Development

(economic, personal, social)

Environmental Education (EE) scope: the protection of the Environment based on the limits to growth



Key Principles & Methodologies of EE

- “About” (Water: Cognitive, psychomotor, affective)
- “In” (in direct contact with reality) (water a readily available example)
- “For” (commitment in favour of) the environment and culture

- Combination of knowledge with action.
- The learners in the centre.
- Multidisciplinary approach (natural sciences, humanities, etc.)

Tbilisi+10: Moscow (1987) UNESCO-UNEP International Congress on Environmental Education & Training

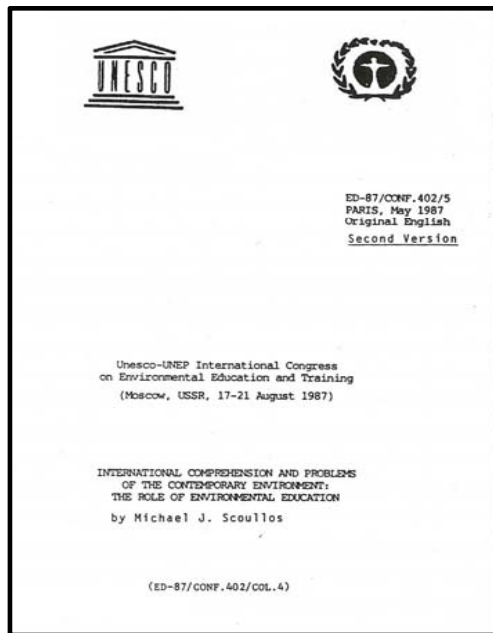
WATER & PEACE

Questions: *“How are we going with EE?”*,
“What else or more EE could bring with?”

One of the background papers (ED-87/CONF, 402/5; 2nd version) by M. Scoullios: *“International Comprehension and Problems of the Contemporary Environment: the Role of Environmental Education”*

One of the key areas of conflict among countries or regions the sharing of waters – *“rivalties”*

Recognition of the dynamism of EE and the need to combine it with other ‘hot’ issues



Moscow 1987 report

The Rio 1992 World Summit on Environment & Development

SUSTAINABLE DEVELOPMENT



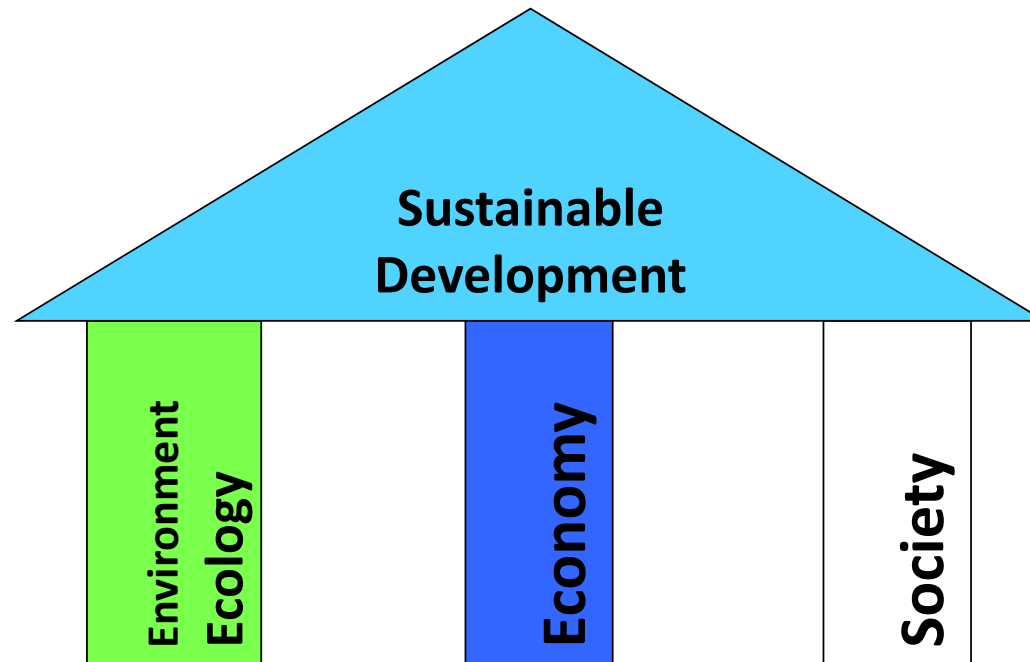
World Summit Rio 1992



Gro Harlem Brundtland

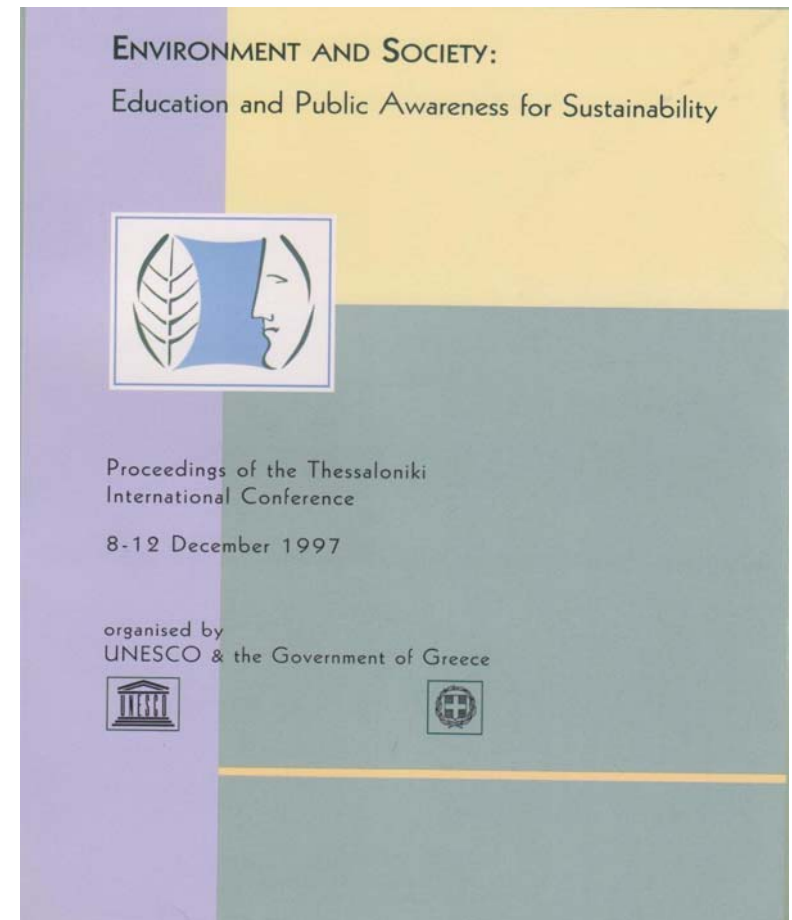
The Rio UN Conference on Environment and Development 1992

Chapter 36, Agenda 21

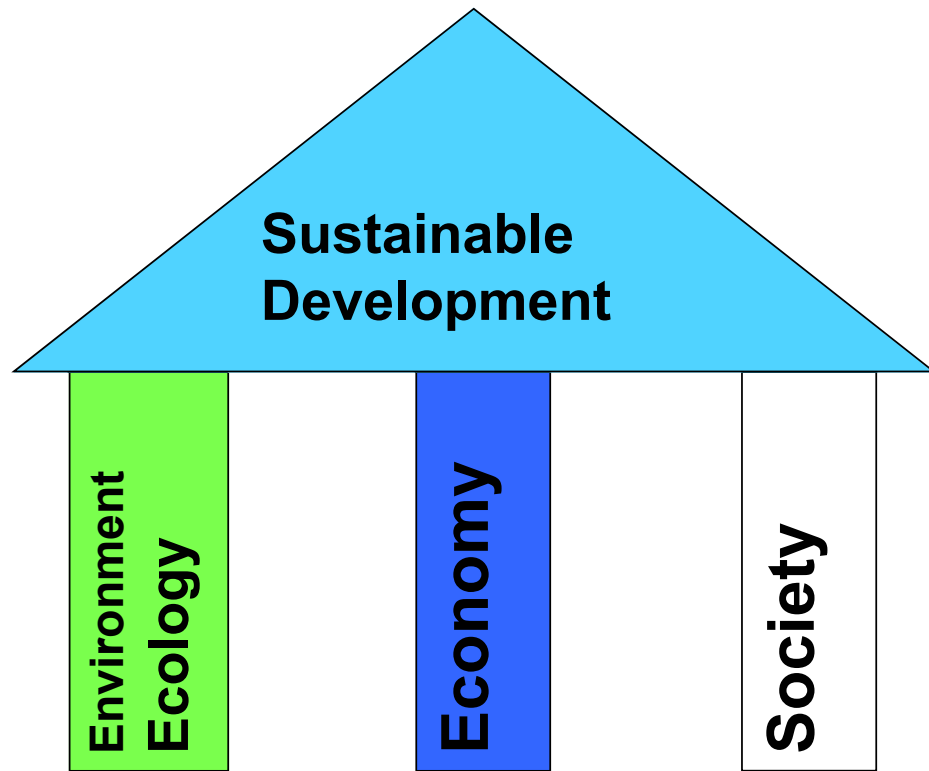


Tbilisi+20: The Thessaloniki 1997 Conference on Environment & Society: Education & Public Awareness for Sustainability

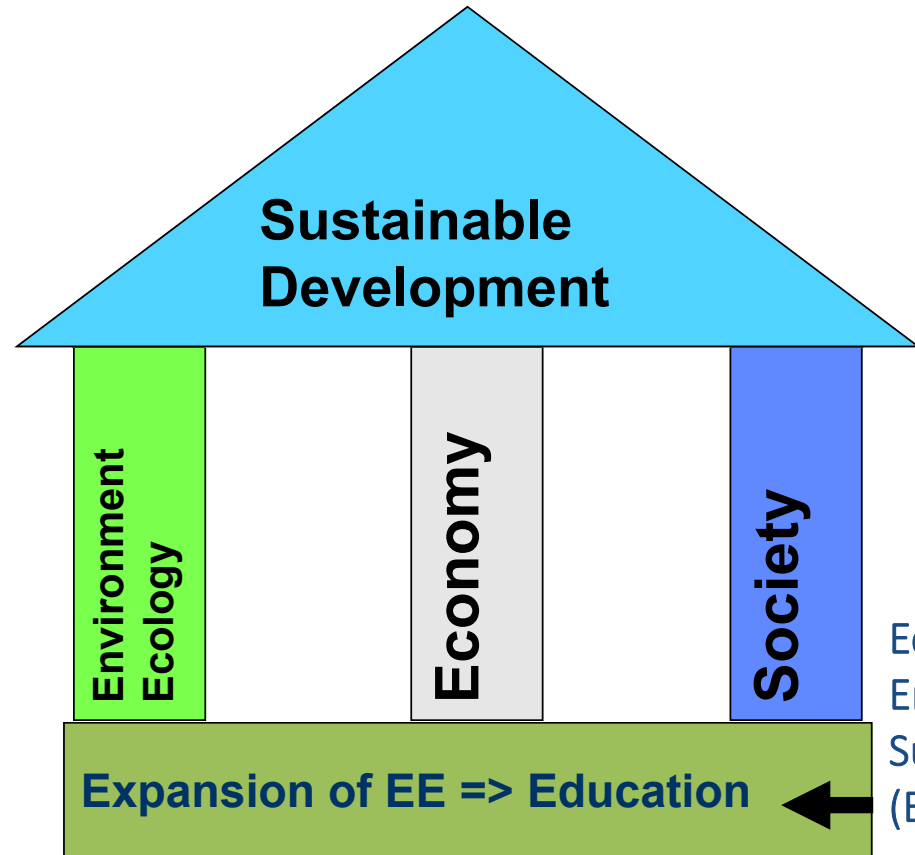
A major Conference of 1300 registered participants from 87 countries and all International inter-and non-governmental organisations producing 862 pages of proceedings and the historic Declaration which actually opened formally the way to ESD & elaborated on its connection to EE. The Thessaloniki Declaration makes clear reference to **Education as one of the tools achieving sustainability, together with legislation, technology and economy** (meaning “economic tools”, rather)



The Thessaloniki International Conference (1997): EE only to support environmental protection or having a broader role?



EE to where??

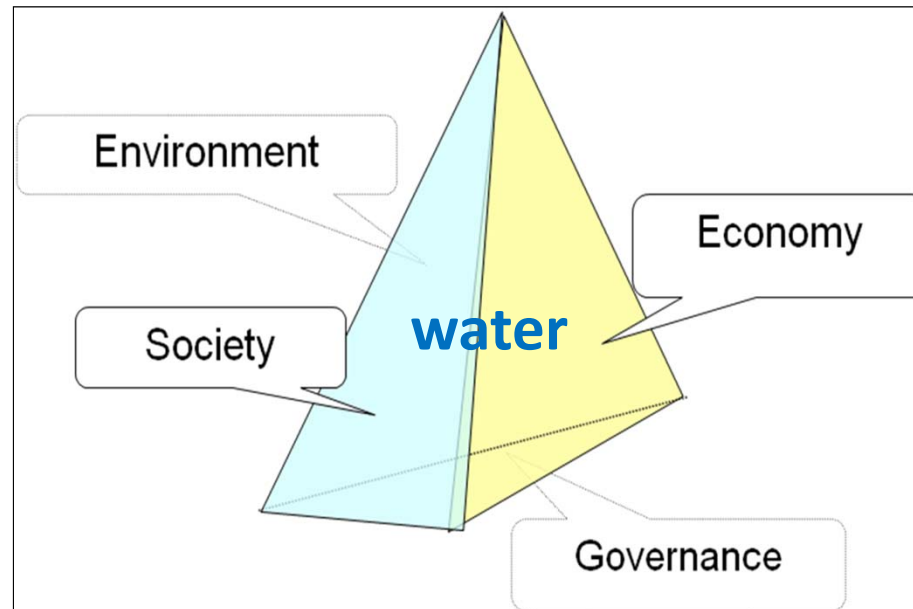


A new educational approach is needed

- A new approach for Water at all levels of Education and Training is needed, integrating SD principles, considering water security, Integrated Water Resources Management (IWRM) and the **entire water cycle** (including natural and non-conventional water inputs) and **employing ESD teaching/learning methodologies**, in accordance with the #ESDfor2030.

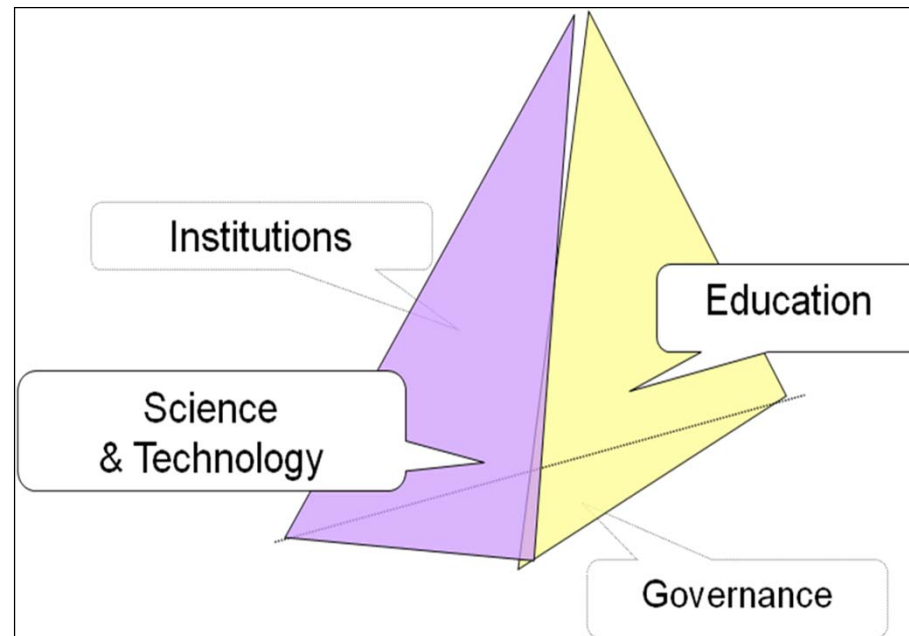
*Water: fundamental within the **non-pillar approach to sustainable development** and, therefore it needs to be properly reflected within Education for Sustainable Development.*

Water within the tetrahedron of Sustainable Development



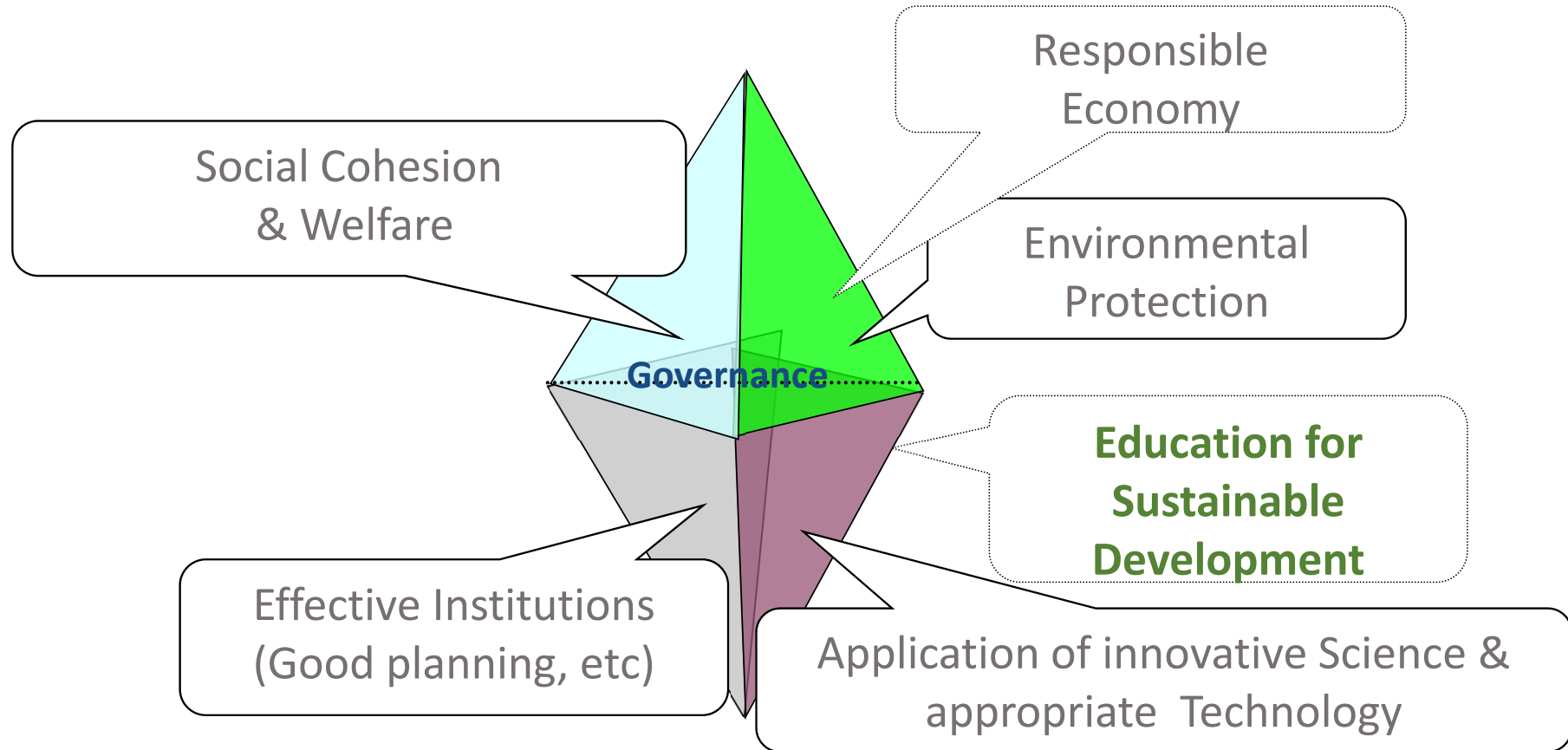
The “new” water culture for Sustainable water use and management should also follow the wide Sustainable Development dynamics, in which appropriate water governance is a prerequisite. Water Education needs to duly recognize the role of governance.

Analysis of Governance as a tetrahedron

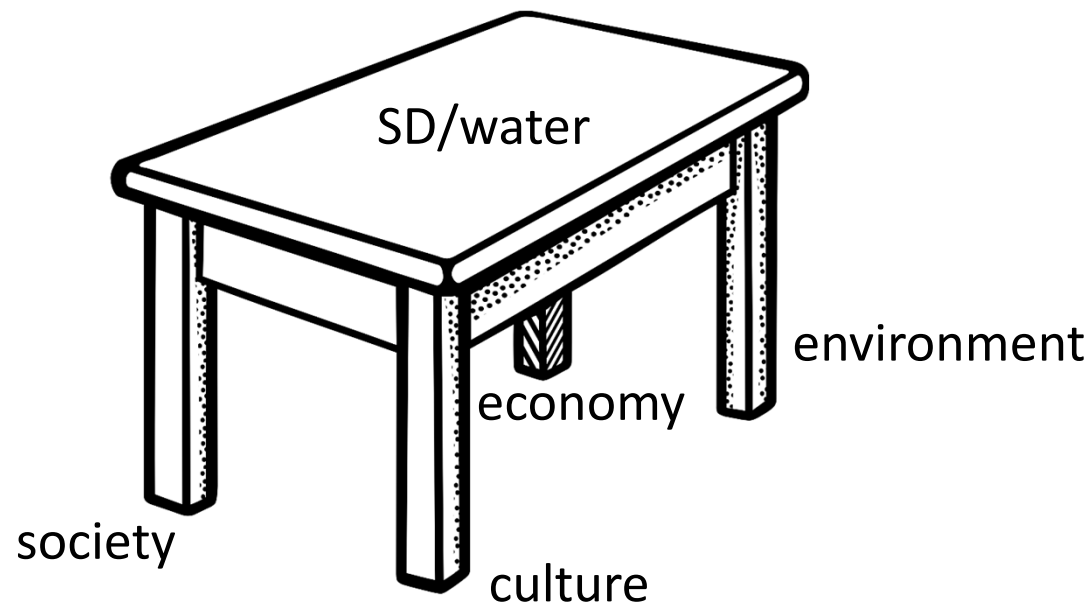


Education, itself, is a major tool for Governance

To obtain Sustainable Development we need:



The proposal of the Delors Committee of UNESCO for culture as a fourth pillar of Sustainable Development



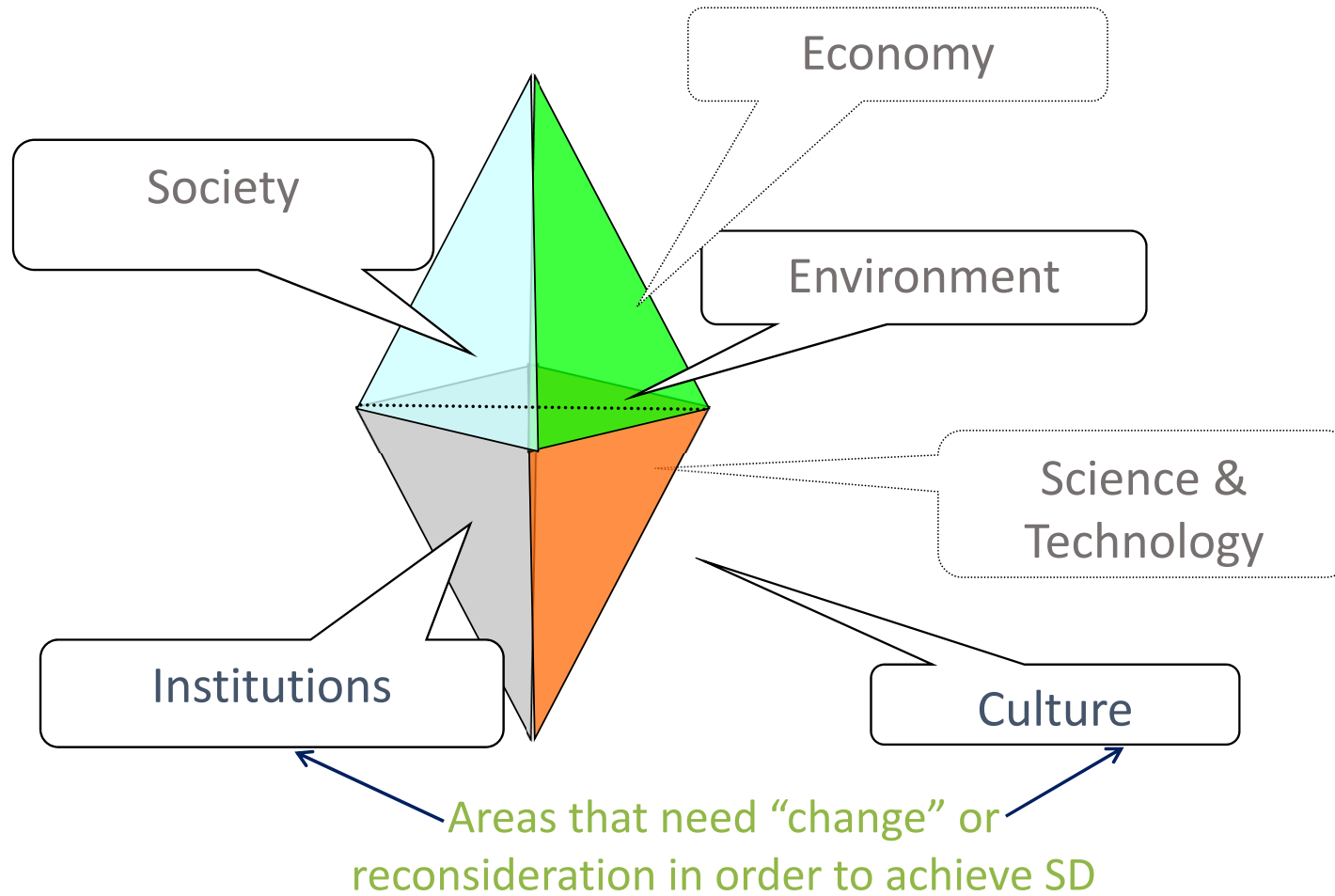
Strongly contested

Institution,
Science,
Artistic Creation

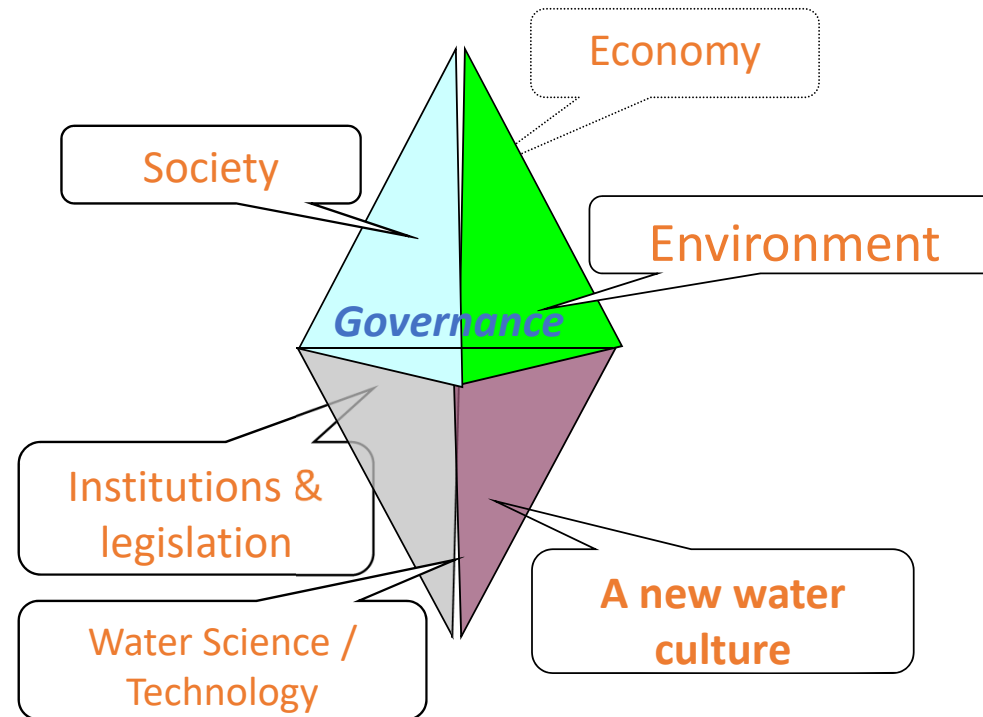
Culture  **Society**

Integral Part and
Identity Feature of

The contents of ESD



Water related ESD content as a double pyramid



Water related education is a critical factor for achieving SD and could shape not only people's behavior on water issues but also build and/or enhance the ability of water professionals.

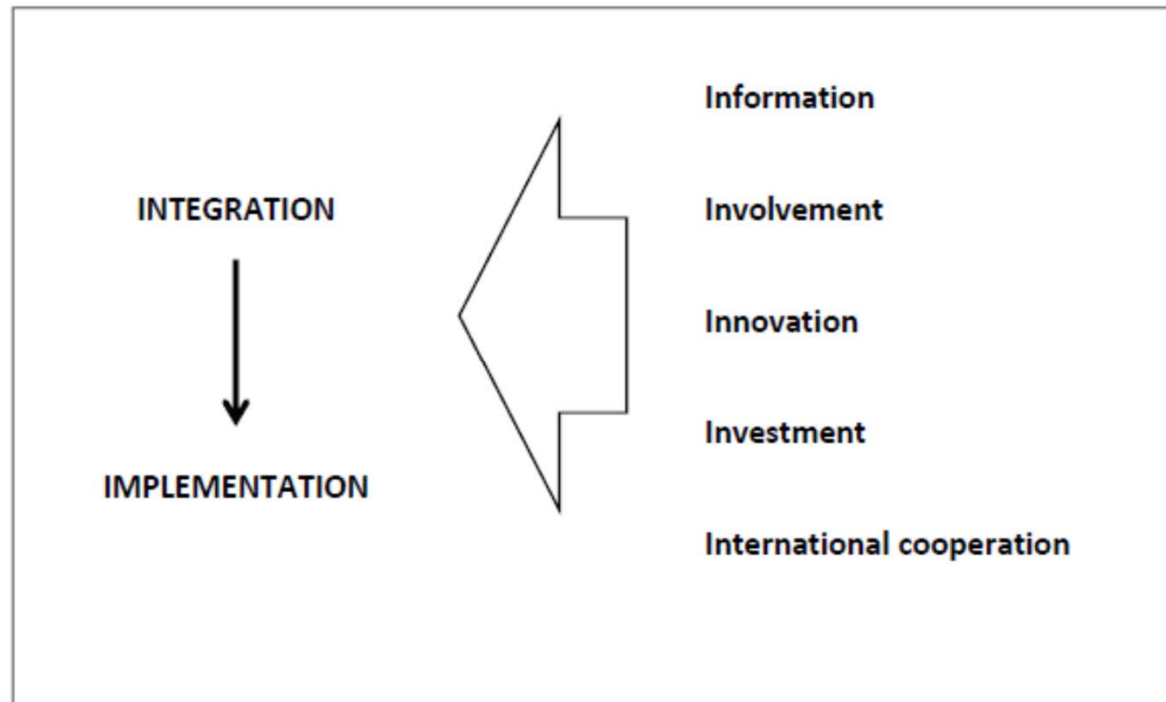
Learners Competencies using water as an entry point

- Learning to learn
- Learning to be
- Learning to work with others
- Learning to act

Educators Competencies using water as an entry point

- Being transformative
- Envisioning future/change
- Applying holistic approaches

Educating about integration and implementation





Data

Information

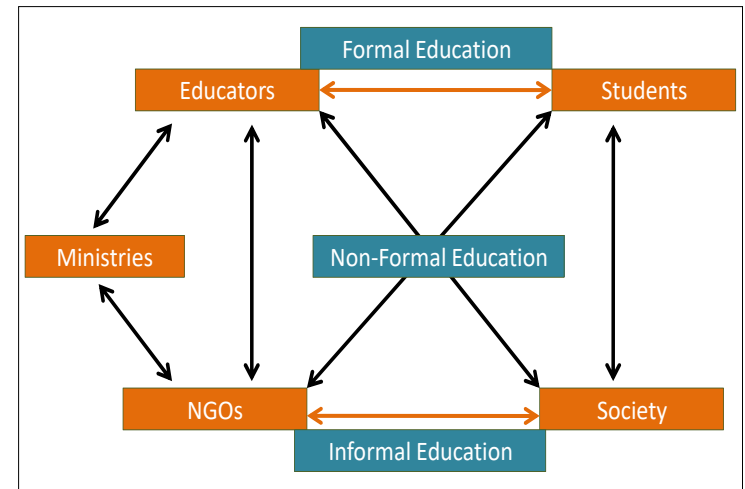
Knowledge

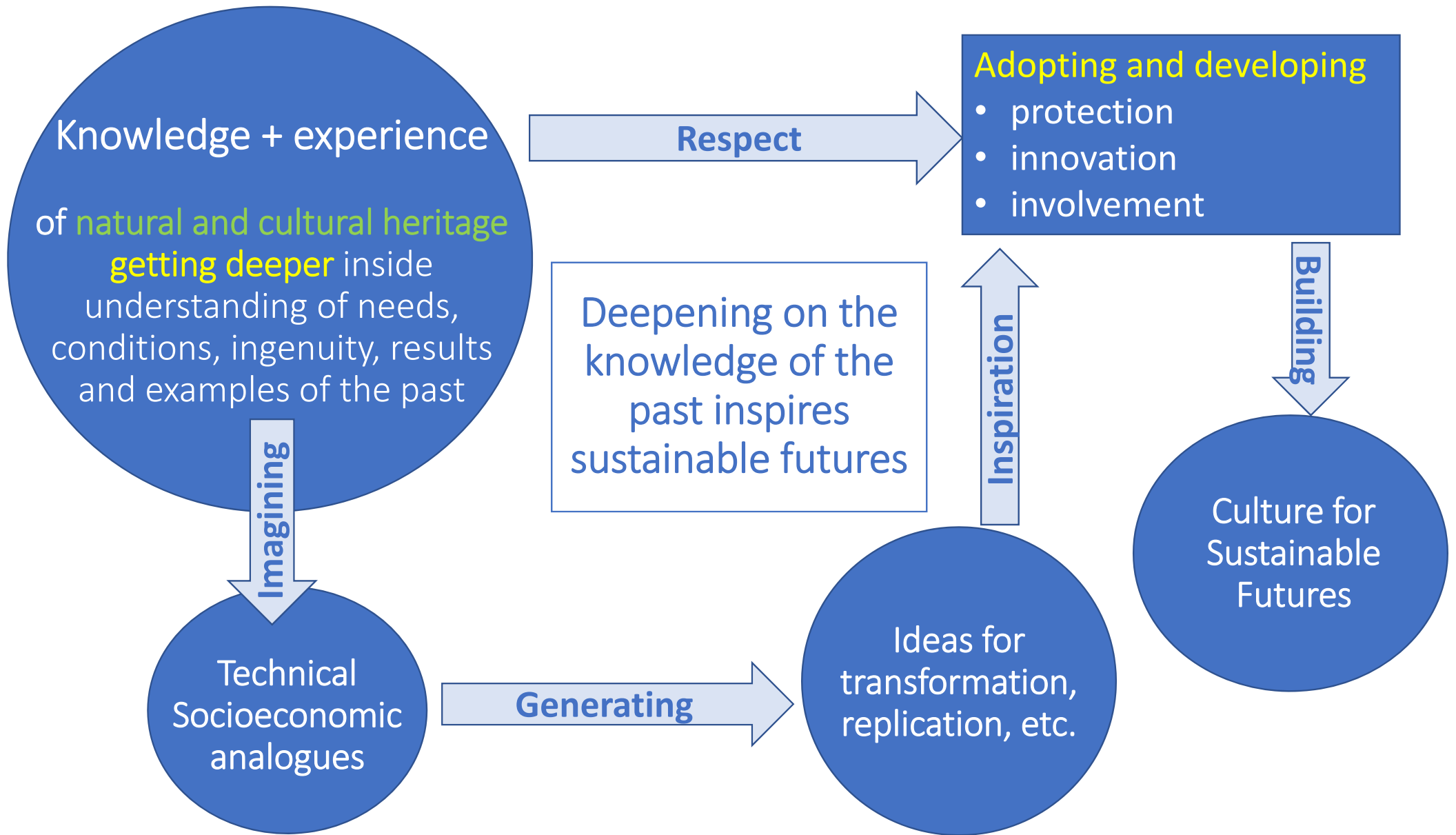
Experience

“Wisdom”

Education (formal, non-formal, informal)

Family, external environment, friends, working and other conditions, etc.





Mediterranean Education Initiative on Environment and Sustainability

MEdIES

The programme supported by MIO-ECSDE and GWP-Med, established in 2002, as a UN Type II Initiative and currently connecting more than **6,000 educators and institutions** (www.medies.net)

SINCE 2002 MEDIES HAS IMPACTED

9200

EDUCATORS

Both formal (teachers) and non-formal (i.e. facilitators) through trainings & seminars.

33456

STUDENTS

Through school visits and targeted initiatives such as student contests, etc.

47912

CITIZENS

Through public events such as exhibitions, conferences, festivals, etc.

Capturing rain for local food production in Ramla Valley, Malta



6,000,000
LITRES WATER
CAPTURED
ANNUALLY



MORE THAN
18,000 GRAPE
VINES IRRIGATED

Restoring the Knight's reservoir in Malta



**1,800,000 LITRES
OF WATER
COLLECTED
ANNUALLY**

**400 YEARS
OF OPERATION
OF THE RWH
RESERVOIR**



Collecting rainwater using state of the art technology in cultural sites and urban environment





Vertical and roof gardens for aesthetic improvement and energy efficiency in building

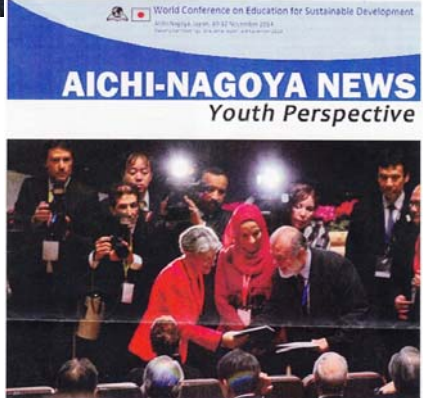
Example of GWP-Med action for abstaining from the construction of a new water dam capturing storm waters and avoiding potential damages in the environmental and cultural value of the area (Greece)



the Mediterranean Strategy for ESD and its Action Plan
*A valuable framework for the **water culture education**:*

STRATEGY DEVELOPMENT STAGES

- **2005:** Athens, Official Launching
- A long participatory process, engaged universities, ministries, experts and NGOs from the North and the South of the Mediterranean.
- **May 2014:** Strategy formally and unanimously endorsed by the 43 Environment Ministers of the UfM.
- **Nov 2014:** Strategy presented in the Nagoya end Conference of the UN Decade on ESD and the post 2014-era
- **Nov 2016** Incorporated in the MCSD of the Barcelona Convention/UNEP-MAP (2016).
- **Dec 2016** Adopted Action Plan, by the Mediterranean Ministers of Education (2016).



Flagship of the: Barcelona Convention/MCSD; UfM; UNESCO

The Mediterranean Committee on ESD

- The MCESD in cooperation with state and non-state actors systematically promotes the Strategy and its Action Plan through publications, digital means (e-bulletins, webpage, social media) and participation in related *fora* and conferences.
- Its members are international organizations and countries (Ministry representatives: Cyprus (Chair), Croatia, Greece, Jordan, Malta, Portugal).



Scientific & Technical
Secretariat



HYDRIA, MIO-ECSDE and the Global Network of Water Museums

present

https://www.youtube.com/watch?v=OY6f9iOtDos&ab_channel=MIO-ECSDE