



Risk governance of water-related hazards: a combination of top-down and bottom-up approaches

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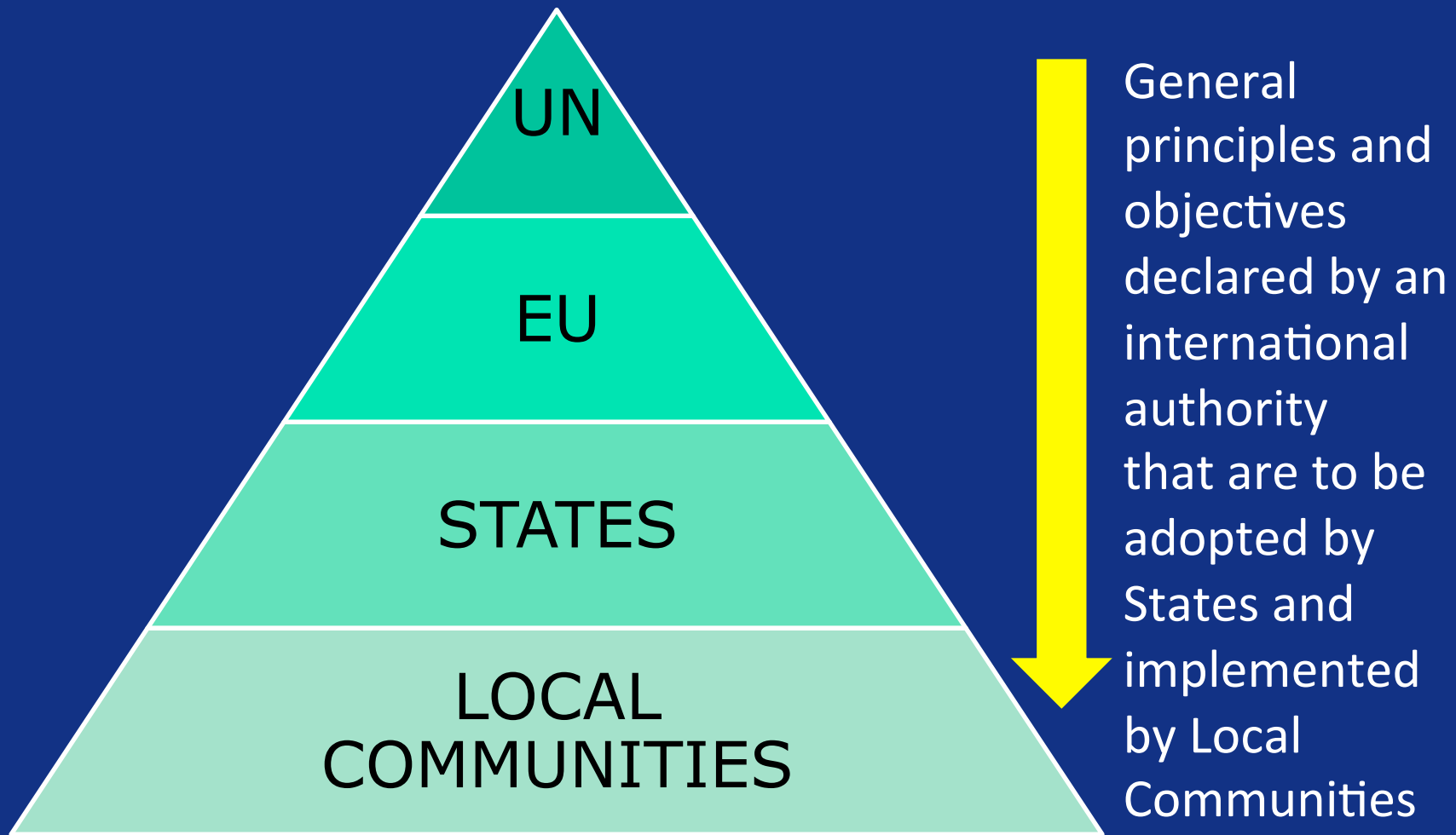
“Environment, including climate change”



Focal point for UNISDR campaign in Venice



LAWS and POLICIES follow a traditional TOP-DOWN process



HYOGO FRAMEWORK FOR ACTION (HFA)

The HFA is a 10-year plan to make the world safer from natural hazards

Five priorities:

- Ensure that DRR is a national and local priority with a strong institutional basis for implementation
- Identify, assess and monitor disaster risk and enhance early warning
- Use knowledge, innovation and education to build a culture of safety and resilience at all levels
- Reduce the underlying risk factors
- Strengthen disaster preparedness for effective response at all levels

United Nations level

World Campaign Making Cities Resilient: My City is Getting Ready!

*Cities and local governs
should be prepared,
have to reduce risks and
to become **RESILIENT** to
disasters.*

Sign up
today to make
your **city** resilient
to disasters



www.unisdr.org/campaign

To increase the **RESILIENCE**



Defend the
territory



Protect citizens'
lives, assets and
culture

Already **1078** cities are getting ready,
what about yours?



United Nations Level HFA – Priority n. 1

National institutional and legislative frameworks

- (a) *multi sectoral national platforms*, with designated responsibilities at the national through to the local levels to facilitate coordination across sectors.
- (b) Integrate *DRR into development policies and planning* at all levels of government
- (c) Adopt, or modify *legislation to support DRR*, including regulations and mechanisms that encourage compliance and that promote incentives
- (d) *Decentralize responsibilities* and resources for DRR to relevant subnational or local authorities

United Nations Level HFA – Priority n. 1

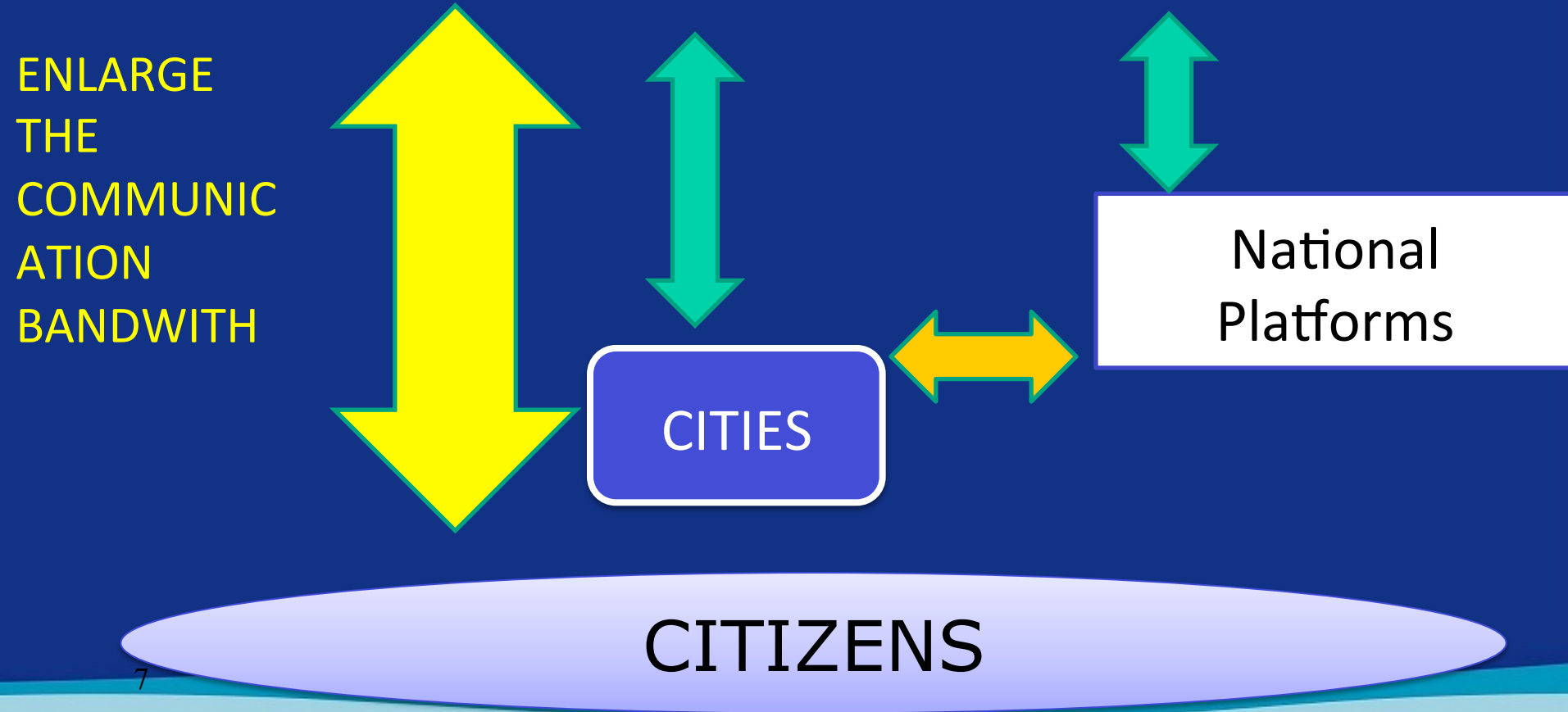
Resources

- (e) Assess existing *human resource capacities* for DRR at all levels and develop capacity-building plans and programmes
- (f) Allocate resources for the *development and the implementation of DRR management policies, programmes, laws and regulations on disaster risk reduction in all relevant sectors and authorities* at all levels of administrative and budgets
- (g) Governments should demonstrate the *strong political determination*

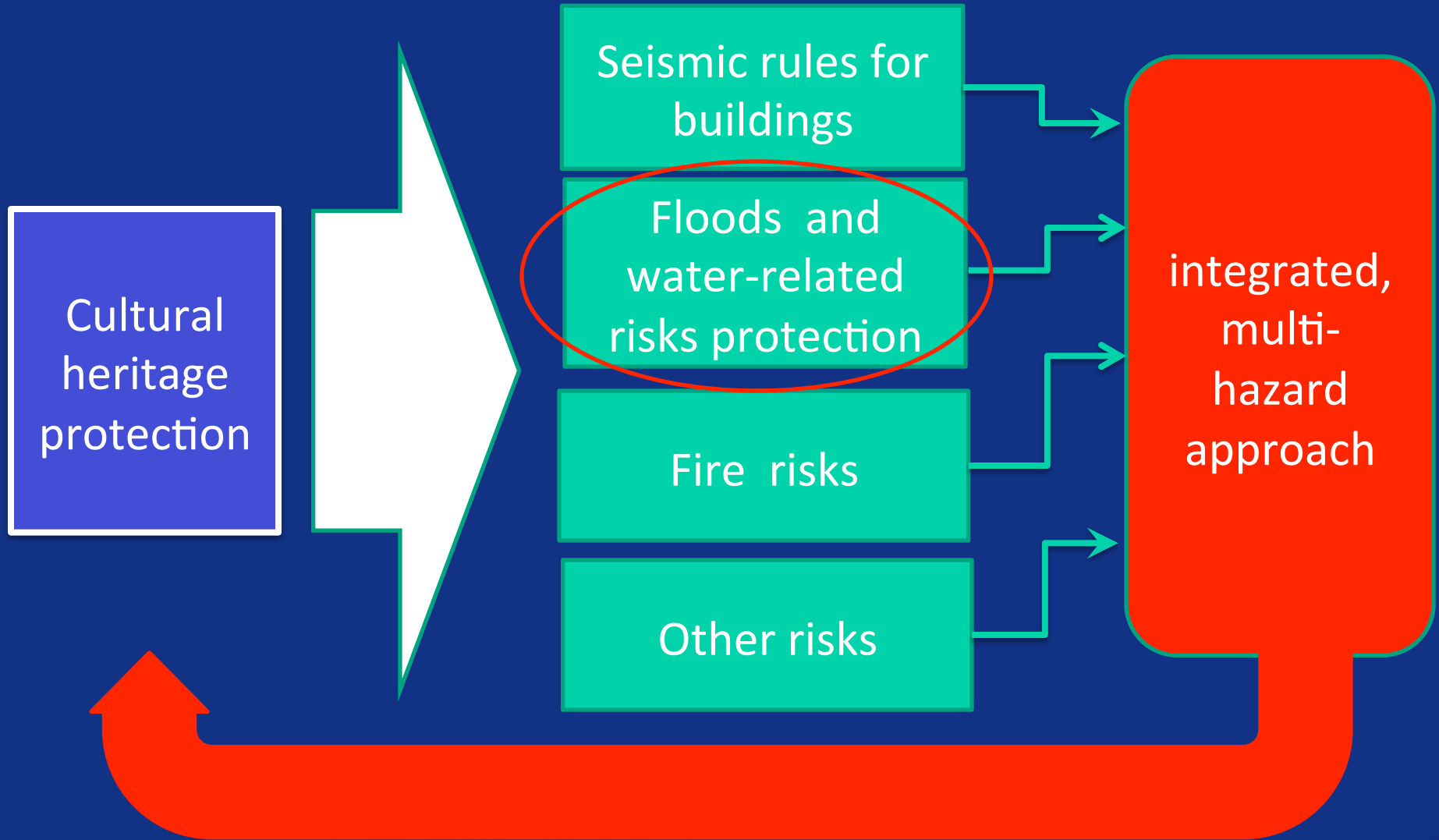
Community participation

- (h) *Promote community participation* in DRR through the adoption of specific policies, the promotion of networking, the strategic management of volunteer resources, the attribution of roles and responsibilities, and the delegation and provision of the necessary authority and resources.

The role of local level (cities and local admin)



Building the Resilience of Nations and Communities to Disasters



European Policy Papers relevant to Risk governance

- “A Community approach on the prevention of natural and man-made disasters,” COM(2009) 82 final (linking actors and policies throughout the disaster management cycle — prevention, preparedness, response, recovery)
- **Floods Directive** (2007/60/EC) (need for assessments, maps and plans that cover the river basin district including the borders of the river basins, sub-basins and where appropriate associated coastal zones)
- **Water Framework Directive** 2000/60/EC (participation of stakeholders and the public in the management of resources)
- **Sustainable Development Strategy** (inform citizens and involve them in decision-making)
- **European White Paper on Governance 2001** (transparency in decision-making processes)

WFD +FD: Common Implementation Strategy

- Since 2001, in order to facilitate the implementation of the WFD and the FD, the Member States, Norway and the Commission agreed on a Common Implementation Strategy (CIS)
- Guidelines and technical reports have been elaborated in order to support stakeholder in the implementation process
- In order to exchange and share data and information the European Commission created an internet platform "WFD CIRCA".
- Working group F - floods



A social and cultural issue, not only juridical

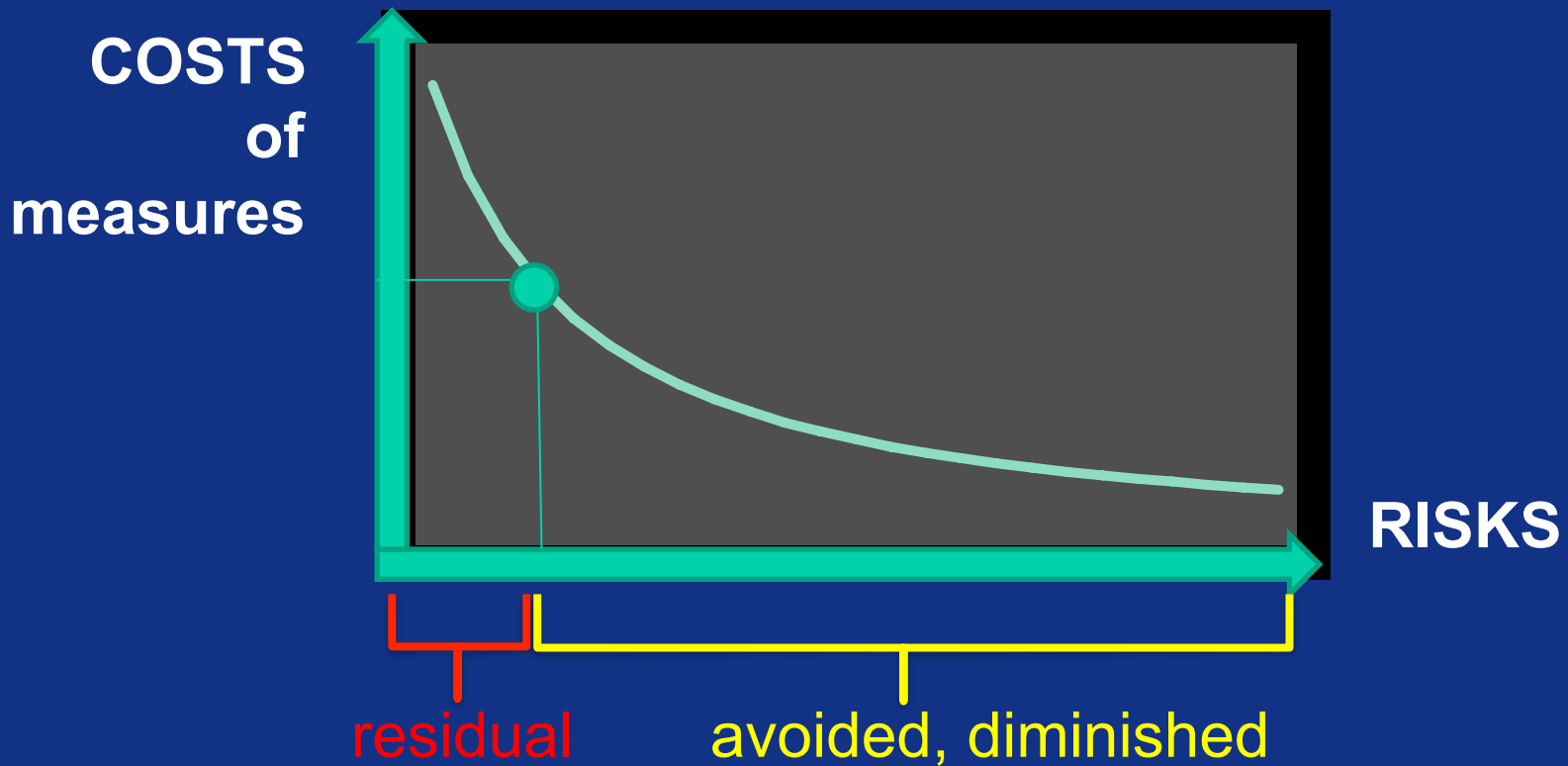
*Le leggi son,
ma chi pon
mano ad
esse?*

“Laws exist, but who apply them?”

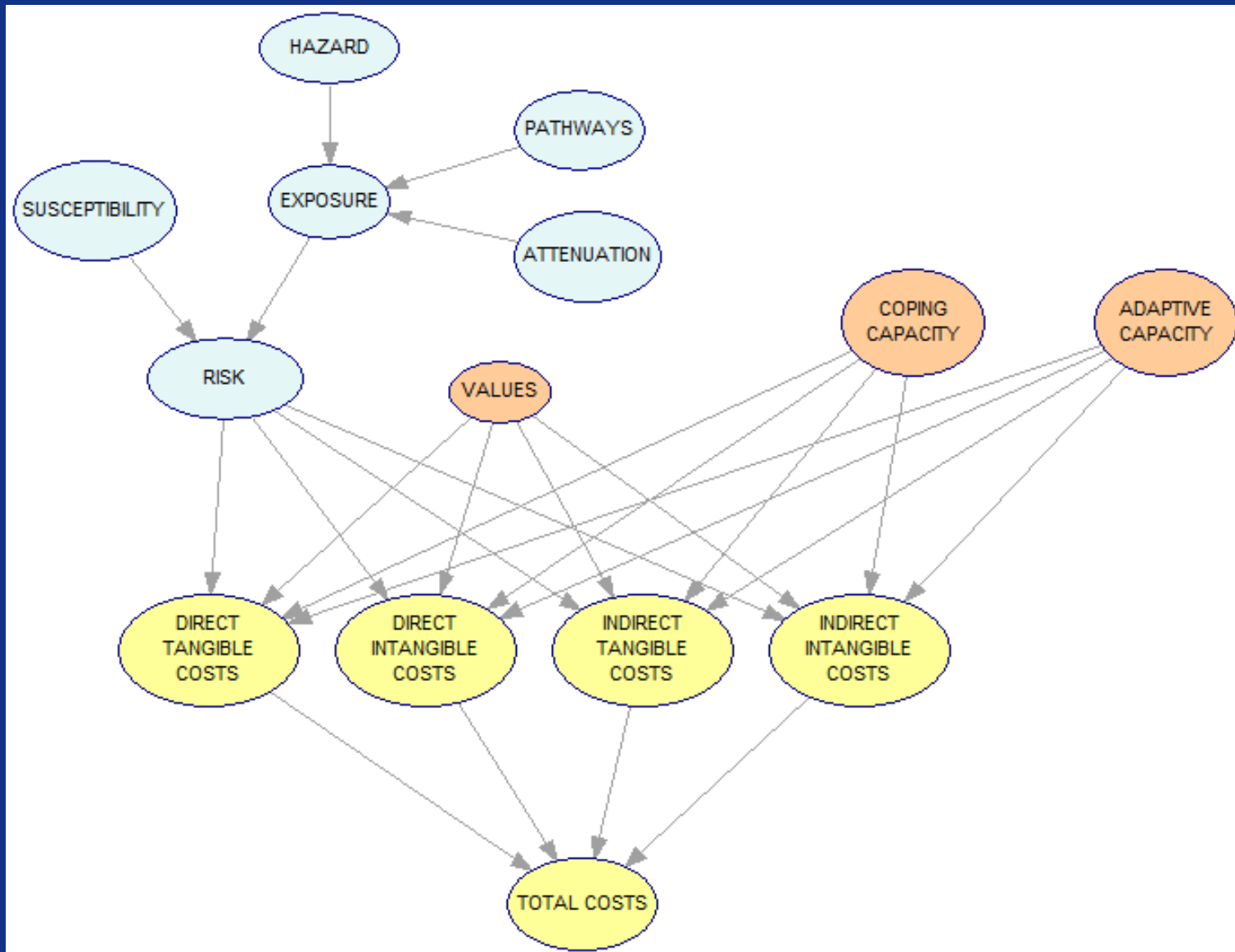


Purgatorio XVI, v.97
1300 AD

Prevention is better than cure, but often...



Total costs evaluation



KULTURisk

KULTURISK Knowledge-based approach to develop a
cULTUre of Risk prevention



FP7 Collaborative project

January 2011 – December 2013

Total Budget 4.45 M€ (EC contribution 3.22 M€)



KULTURISK

The KULTURisk project aims at developing a ***culture of risk prevention*** by evaluating the benefits of different risk prevention initiatives. This evaluation will be carried out by developing a novel methodology and referring to different types of water-related catastrophes, such as river inundations, urban flash floods, storm surges, rainfall triggered debris flows and landslides.

In order to demonstrate the advantages of prevention options, an original methodology will be developed, applied and validated using specific European case studies

The benefits of state-of-the-art prevention measures, such as early warning systems, non-structural options (e.g. mapping and planning), risk transfer strategies (e.g. insurance policy), and structural initiatives, will be demonstrated.

KULTURisk partnership

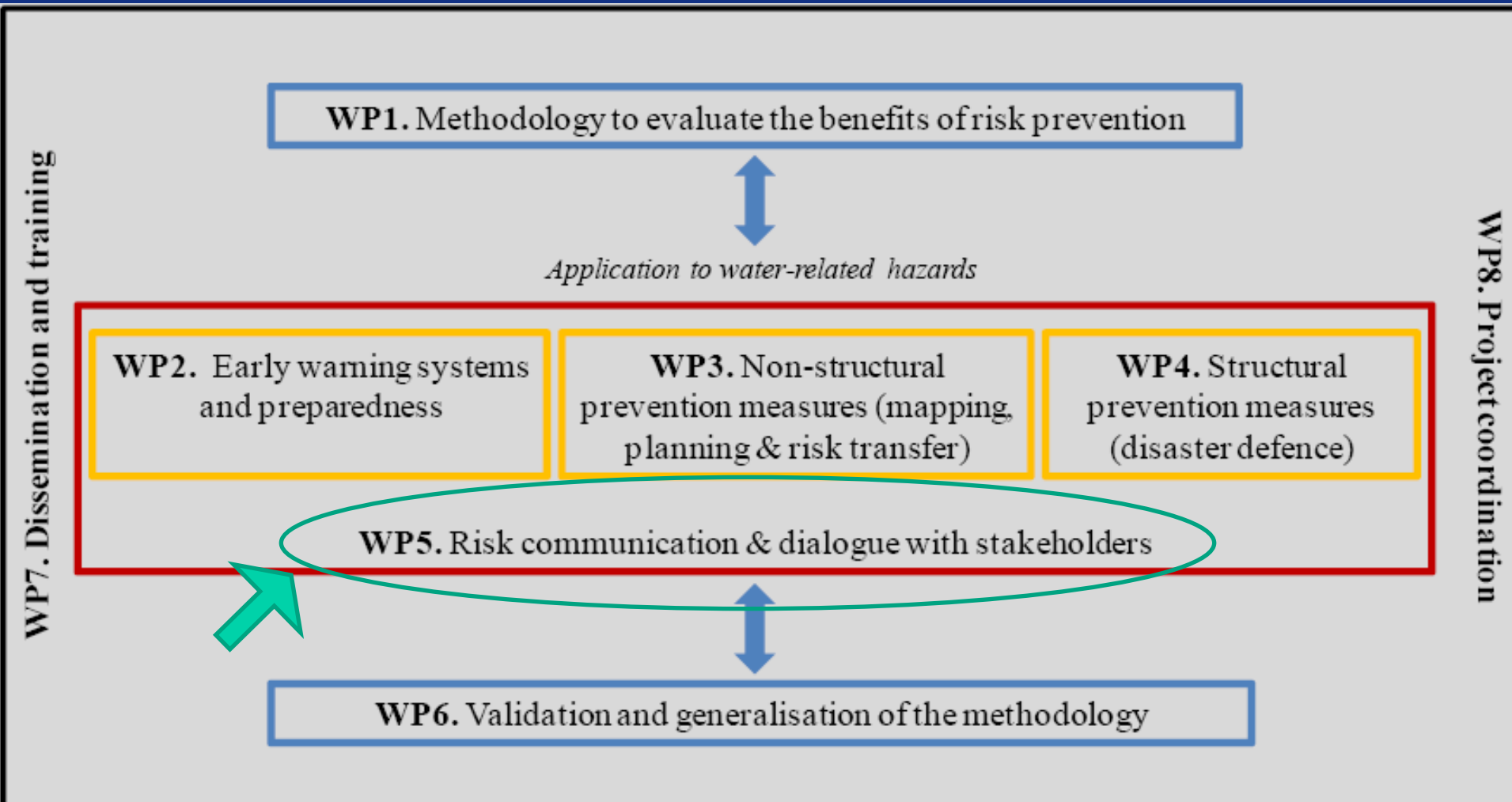
11 Partners from 6 Countries.



KULTURisk - Case Studies

Name	Type	Water-related hazards
Alpine areas (MAP D-PHASE)	Small catchments	Floods & Landslides
Danube	Trans-boundary large river	Large-scale inundations
Barcellona	Mountainous catchment	Landslides & debris flows
Carlisle	Urban area	Urban floods
Soča-Isonzo	Trans-boundary catchment	Floods & landslides
Somerset	Coastal area	Storm surges

KULTURisk - Structure



Water-related disasters

Urban fluvial flooding

- excessive rainfall, snowmelt



Urban pluvial floods

- excessive (local) rainfall
- impeded drainage



Coastal floods

- high tides & surge, wave action



Flash floods & Landslides

- high intensity rainfall
- fast responding catchments



Levee Breach

- failure or overtopping of dikes



KULTURisk – preliminary findings

There is a need for CLEARER TERMINOLOGY

Strictly speaking, the term risk prevention is not technically accurate, since risks can only be reduced, not prevented.

The term **risk reduction** has been recommended to refer to the policy objective and **risk management** to refer to the set of tools to achieve such objective.

KULTURisk – preliminary findings

COMMUNITY INVOLVEMENT

All too often the participation of the community is relegated to the final selection of risk management measures, instead of being considered as an integral part of the process from the very start.

KULTURisk – preliminary findings

INTANGIBLE COSTS of disasters: controversial to monetise but crucial to identify

The full impact of a disasters includes costs (and benefits) that are difficult to identify and quantify. They comprise all direct, indirect, tangible and intangible costs and benefits. Given the significant limitations concerning the monetisation of intangibles, a cost-effectiveness approach is more appropriate for a comprehensive assessment of risk prevention measures.

KULTURisk – preliminary findings

RISK PERCEPTION new research opportunities

Risks perceived by ordinary people are more complicated than those calculated by experts

More research is needed to develop methodologies for incorporating these components of risk perception into the framework of risk assessment.

KULTURisk – preliminary findings

PROBABILISTIC FLOOD MAPS

Probabilistic approach technically is more correct than deterministic approach as it accounts for uncertainty in the modelling process. However it still is difficult to implement and communicate

KULTURisk – preliminary findings

COLLABORATION can improve the performance of **EARLY WARNING SYSTEMS**

Stronger involvement by private and public stakeholders and greater transparency about EWS methods and performance are key factors in encouraging public confidence in, use of, and consequently benefit from EWS. This process requires more communication both to the public and within the scientific community as well.

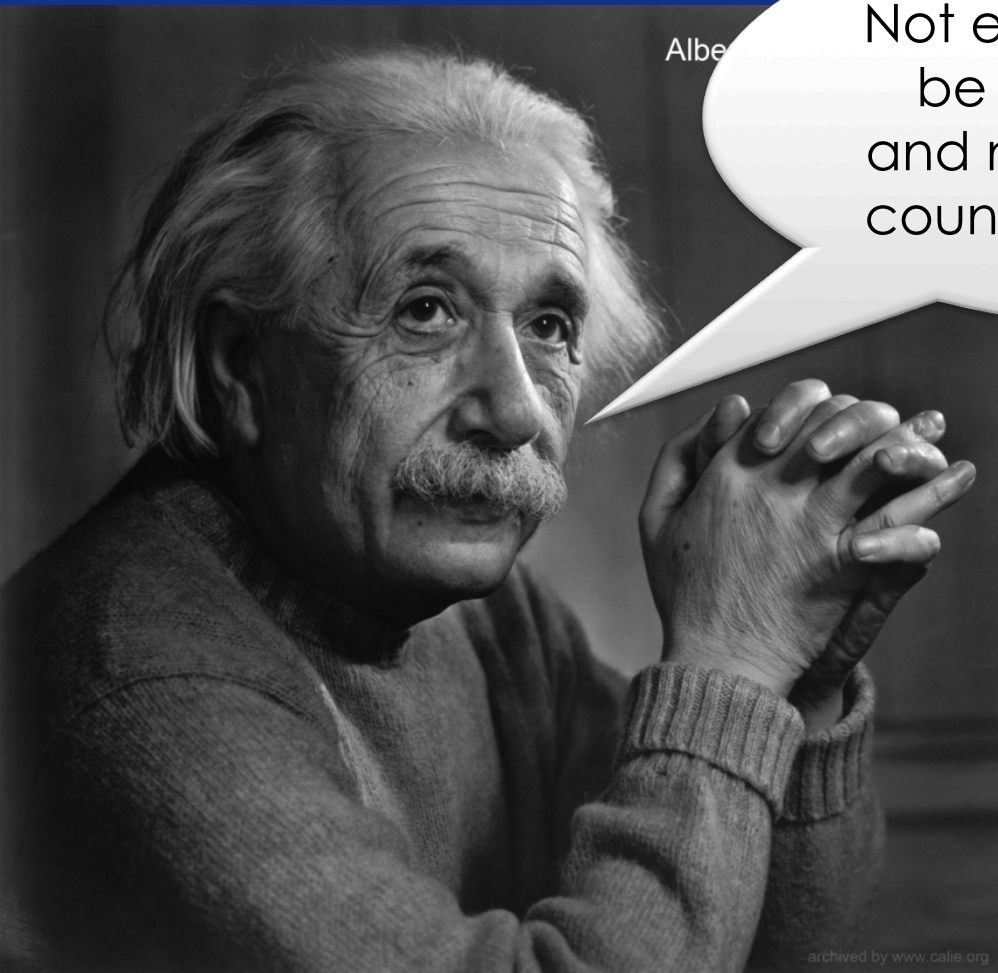
Measure !

Measure what is
measurable, and
make measurable
what is not

Galileo Galilei, 1564- 1642



From understanding to managing

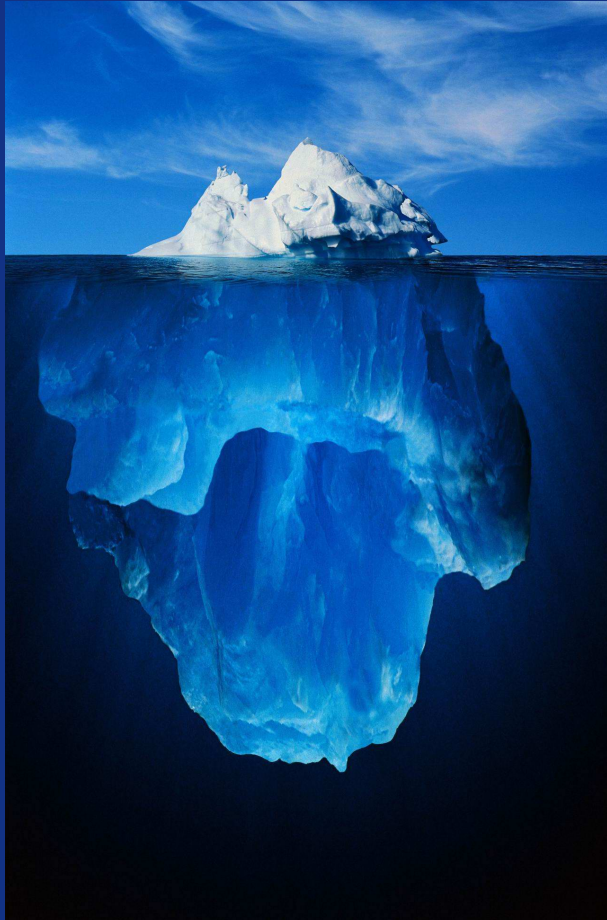


Albe

Not everything that can
be counted counts,
and not everything that
counts can be counted

Albert Einstein, 1879-1955

You cannot manage what you cannot measure



Often indicators give priority to
what is measurable and not to what
is really important

**You cannot rely only on
visible things!**

William Edwards Deming
(October 14, 1900 – December 20, 1993)

Ask the people! (participatory approach)

- The participatory approach carry into the system the missing equations for solving the problem



The ITALIAN CASE STUDY

Piani di Tutela delle acque
(D.Lgs152/2006)
(REGIONI)



Piani stralcio di
distretto per
l'assetto
idrogeologico (PAI)
(D.Lgs 152/2006)
(ADB)

Piano di Gestione
dei bacini
idrografici
(2000/60/CE)
(ADB)

Piano di Gestione
del rischio di
alluvioni
(2007/60/CE)
(ADB)

Piano di bacino distrettuale
(D.Lgs152/2006)
(REGIONI)

SAFEGUARDING OF VENICE

Italy's Special Law for Venice
(1973)

second special Law , 1984

third special law, 1992



- Venice: Italy's national interest
- To reach hydraulic equilibrium
- To preserve environment from pollution
- To reinforce socio-economic vitality
- To safeguard the architectural patrimony
- Cooperation of different levels of administration involved (State, Region, Municipality)
- 10 billion Euro in 30 years already spent

Venice: UN role model city for cultural heritage protection

Third Global Platform for Disaster Risk Reduction
Geneva 9-13 May 2011

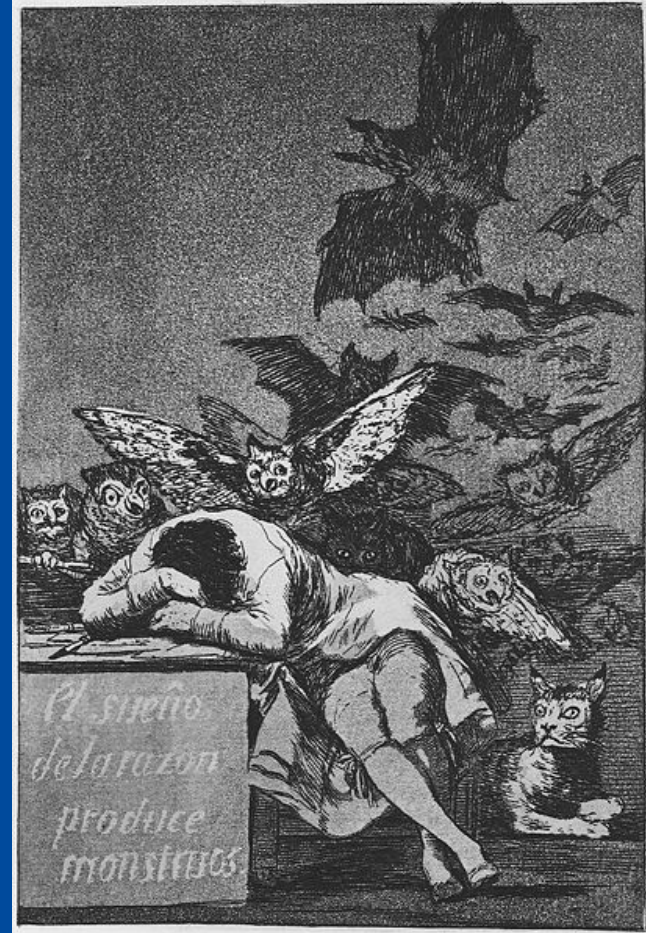


Asha-Rose Migiro (Vice segretario generale ONU),
Giorgio Orsoni (Sindaco di Venezia),
David Cadman (Presidente ICLEI)



Vulnerability: *The Sleep of Reason Produces Monsters*

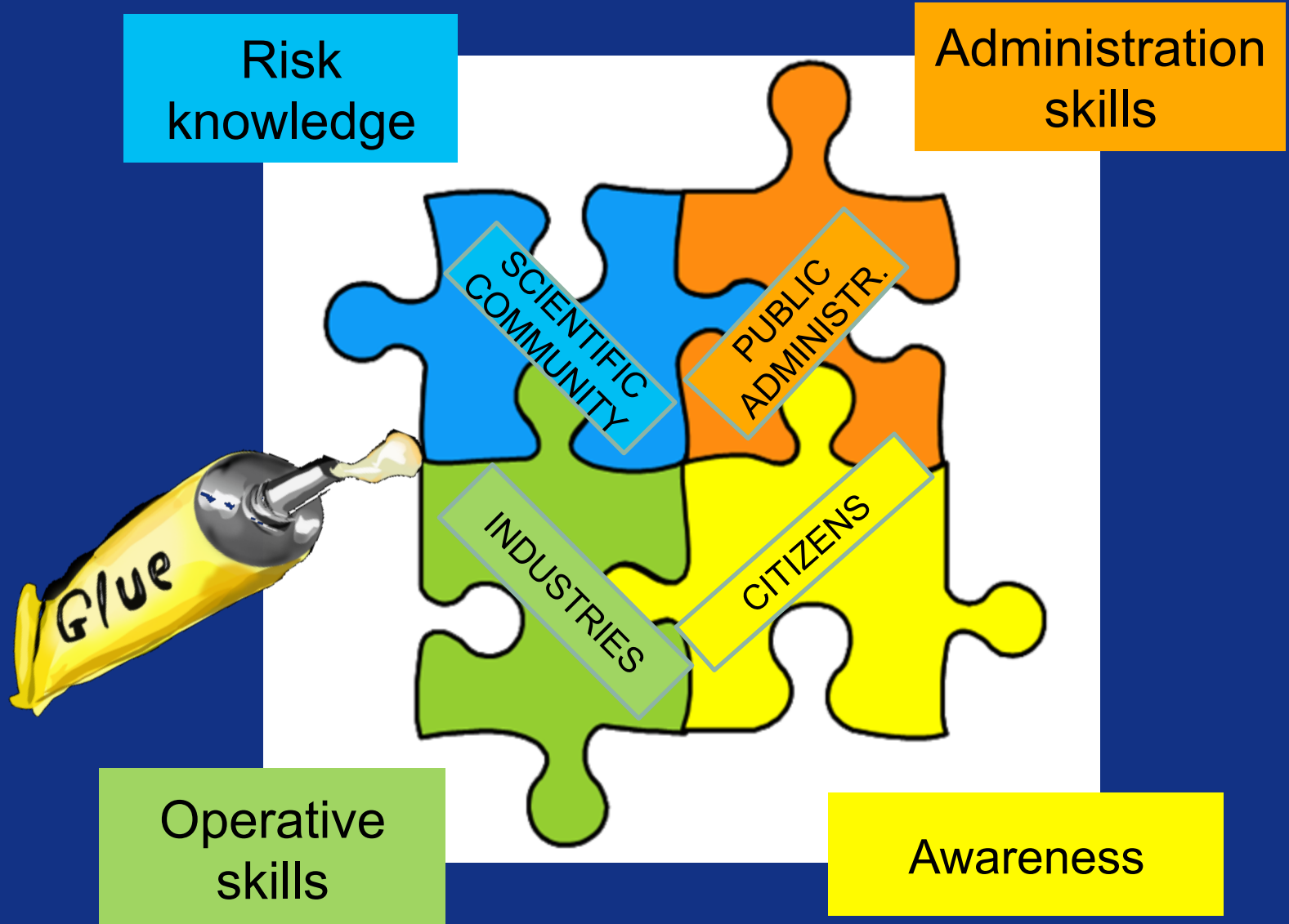
- How much vulnerable our societies are to cultural losses?
- After the falling of Roman Empire, we had to wait some centuries to re-discover the perspective in painting , well known in Roman times
- The “culture”, as we usually consider it, counts only some thousand of years, while “living nature” many million



Francisco Goya, 1797

Apparently, culture is less resilient than Nature

A new sustainable paradigm



THANKS FOR YOUR ATTENTION

