



UNESCO Chair
International Network of
Water-Environment Centres for the Balkans



Aristotle University
of Thessaloniki

**UNECE WORKSHOP ON
BENEFITS OF TRANSBOUNDARY WATER COOPERATION
Geneva, 22-23 May 2014**

**Costs/Benefits
Evaluation and Communication:
the Case of Mesta/Nestos River**

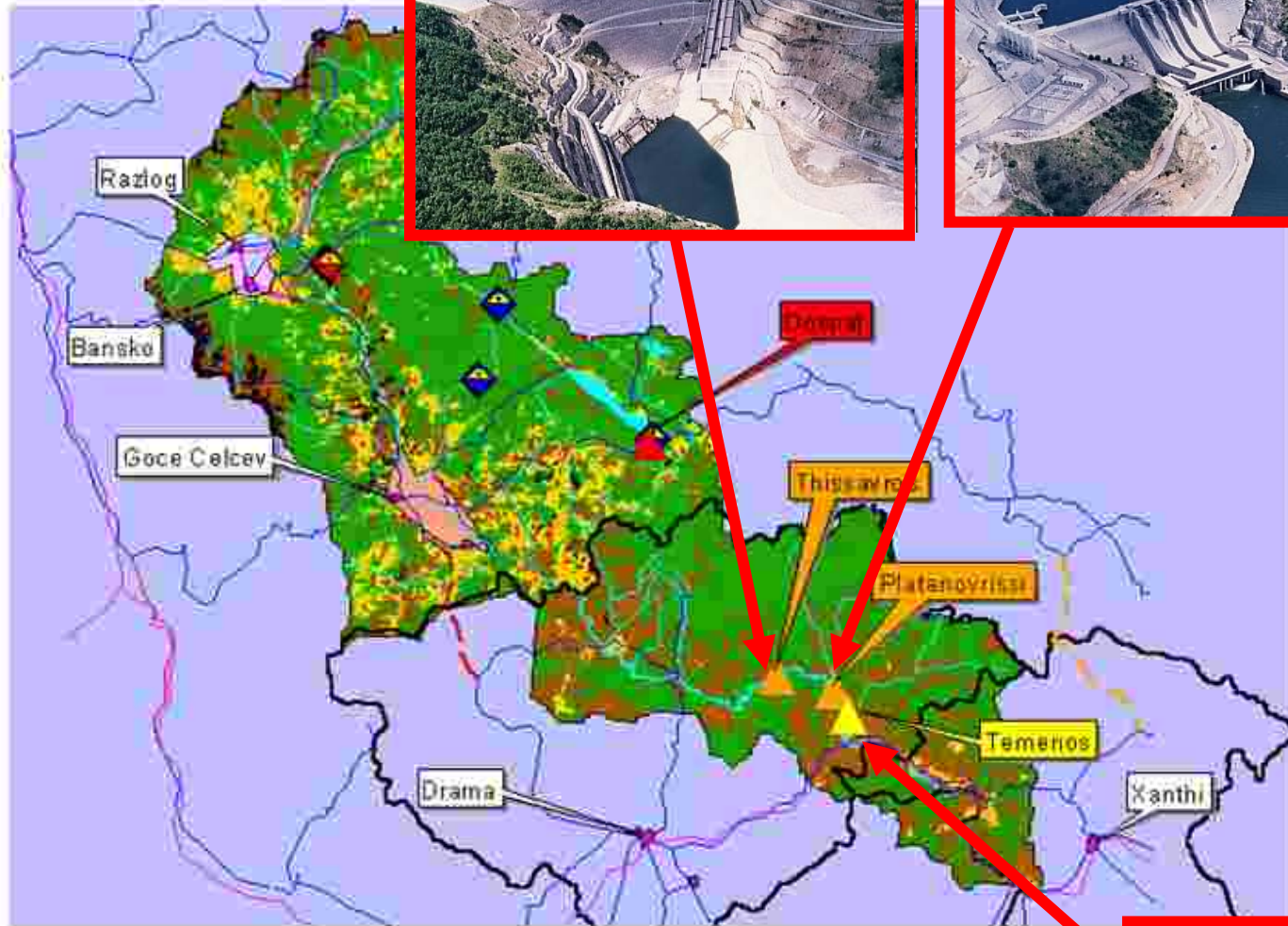
**Jacques Ganoulis
UNESCO/INWEB**

Aristotle University of Thessaloniki, GR

The Nestos/Mesta River



400 km



in 1989
before 1989

- In project
- Operational
- Operational since June 1997
- Railway
- Town
- Roads**
- Cross-border road
- Cross-border road in construction
- Cross-border road in project
- Road
- Boundary
- Basin
- Lake
- Rivers
- Main Area of activities**
- Agriculture, Industry
- Agriculture, Industry, Tourism

10 0 10 20 Kilometers

Scale 1:800 000



Benefits Assessment

- **Economic within the Basin**

- irrigated agriculture (delta region): increase productivity
- hydroelectric power generation: with environmental protection
- water supply of cities and settlements
- eco-tourism development, including water-related recreation
- reducing risks of floods and droughts
- mitigation of climate change impacts

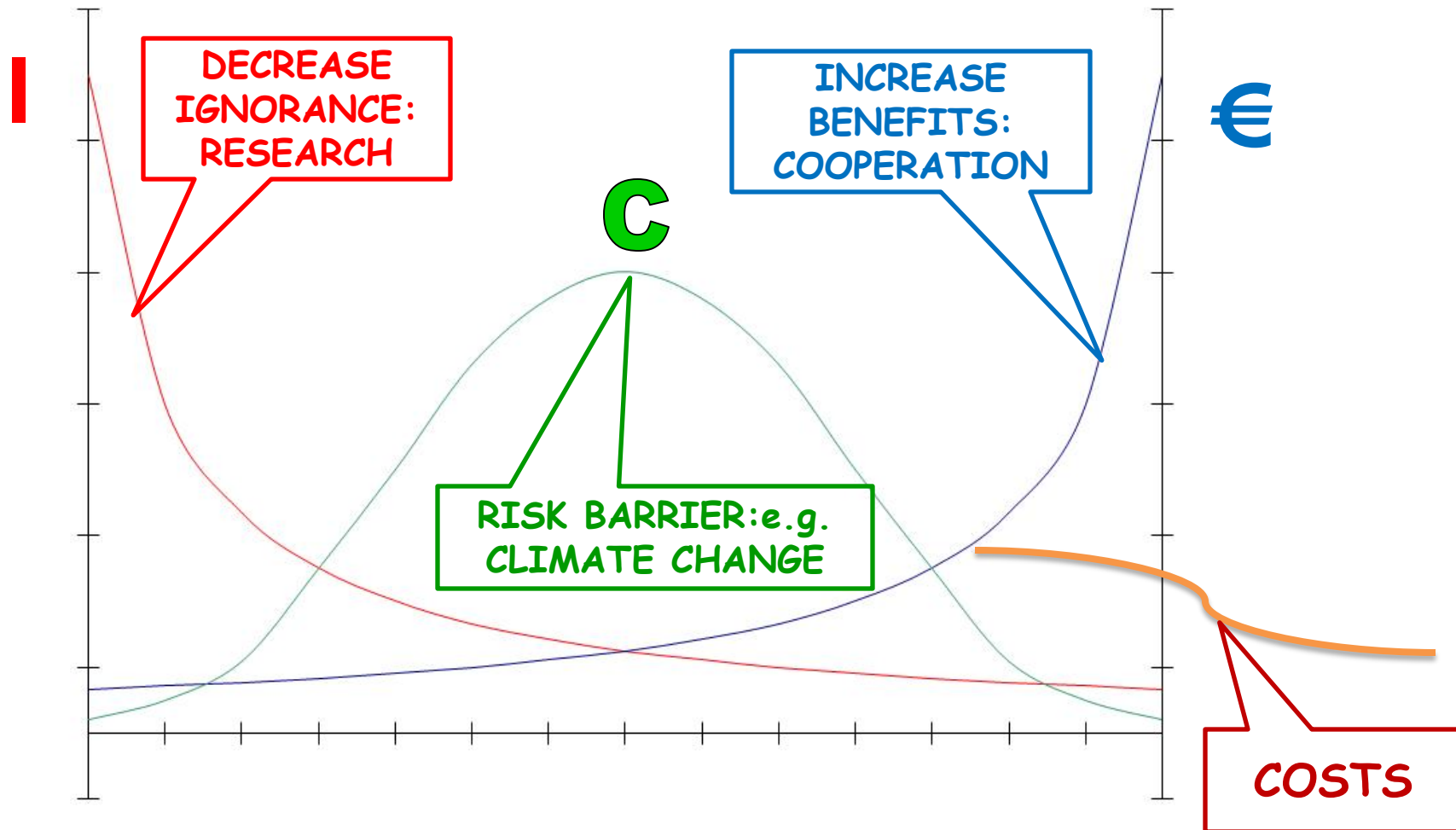
- **Economic beyond the Basin**

- development of international energy networks
- opening markets for goods, services and labour
- generating cross-border investments

- **Social, Environmental & Geopolitical**

- Unemployment, Biodiversity, Migratory Birds
- Political Stability

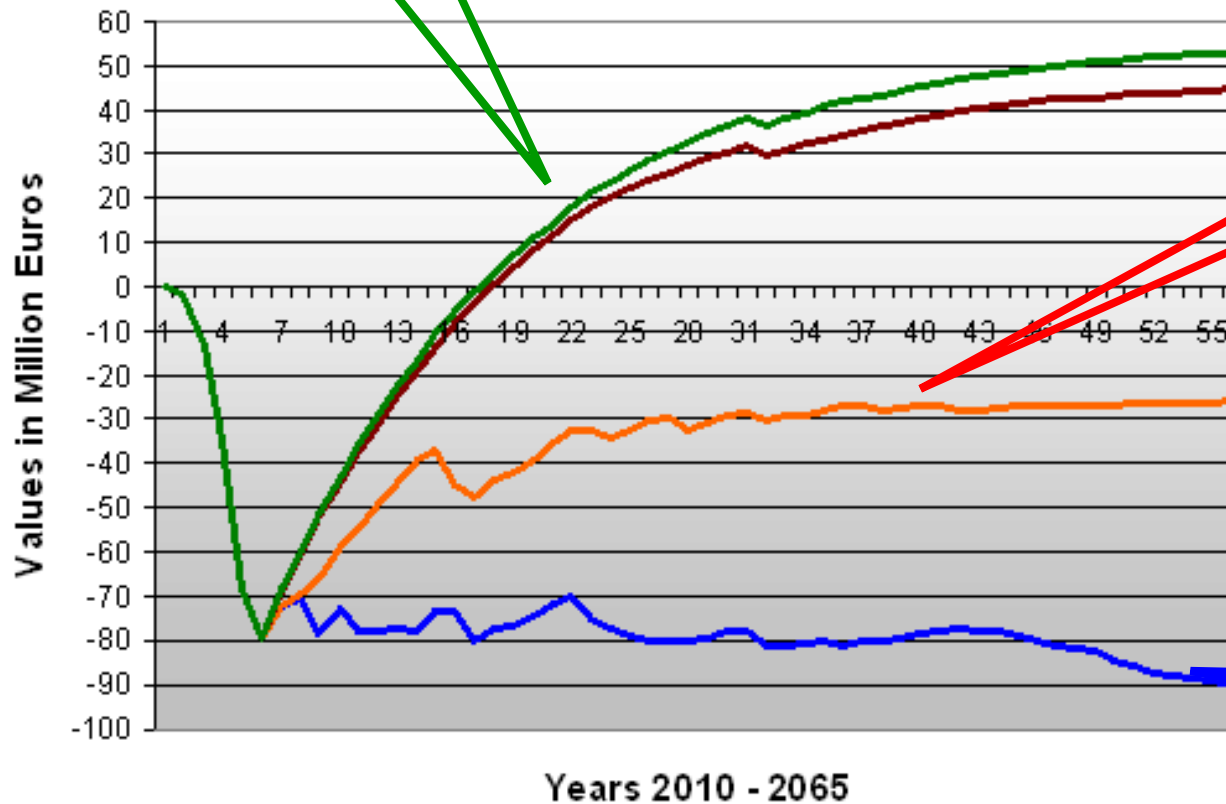
From Knowledge to Benefits under Risk (Potential Costs)



Cost/Benefit of a New Dam under Risk (Climate Change)

NO CLIMATE CHANGE

Discounted Cumulative Cash Flow (Full runoff)

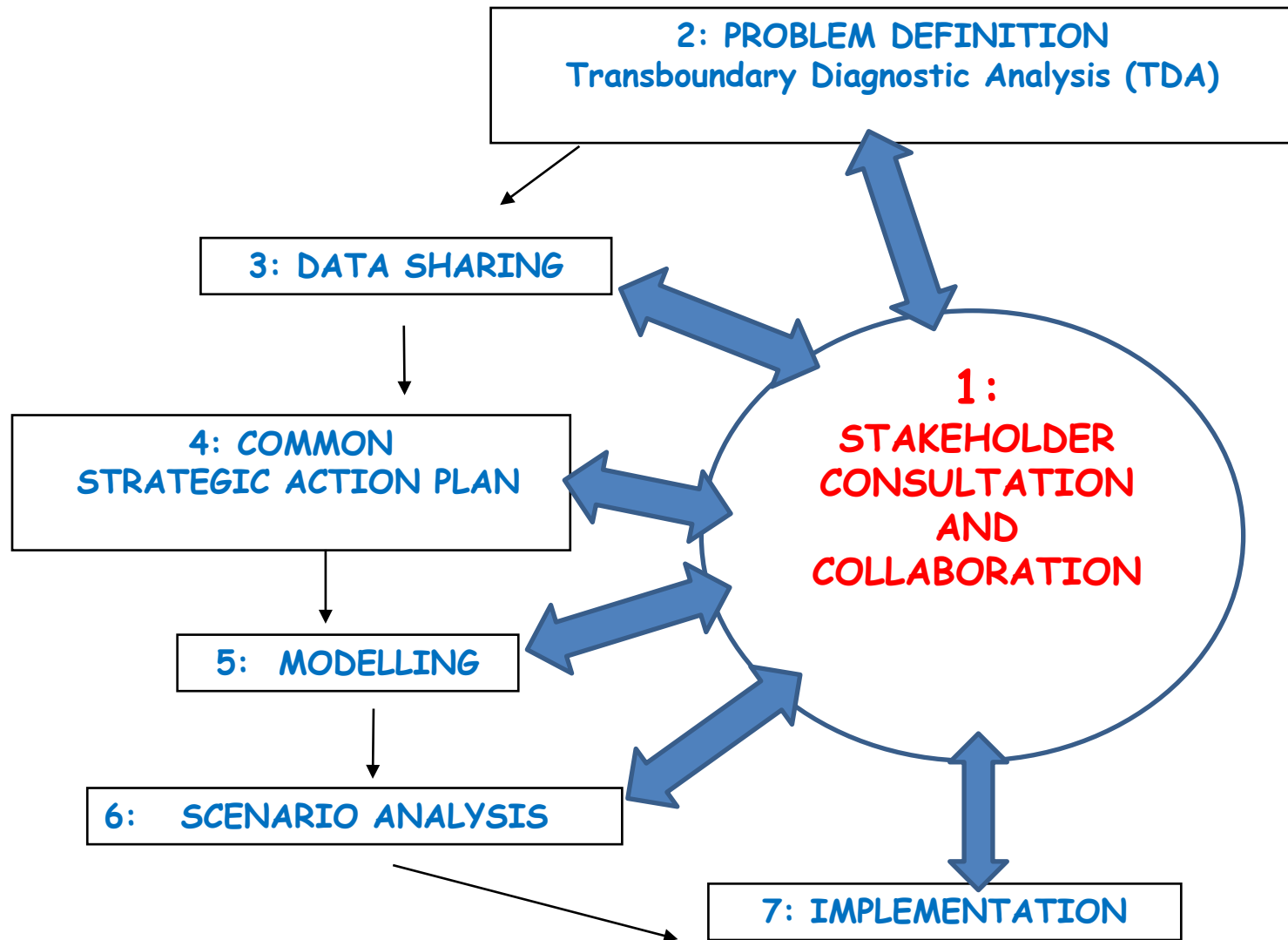


CLIMATE CHANGE: B1

- Accum. NPV, Scenario CLM-A1B, Full runoff
- Accum. NPV, Scenario CLM-B1, Full runoff
- Accum. NPV, Scenario PC-SM, Full runoff
- Accum. NPV, Scenario RF-SM, Full runoff

CLIMATE CHANGE: A1B

A Conceptual Model for Cost/Benefit Assessment



CONCLUSIONS

- COLLABORATION BENEFITS BUT ALSO COSTS DUE TO RISKS
- COST/BENEFIT ASSESSMENT THROUGH RISK ANALYSIS/IMPROVING KNOWLEDGE
- APPLICATION OF A CONCEPTUAL MODEL BASED ON STAKEHOLDER INTERACTION

