

**“Technology alone is not enough: the need for long-term think and interdisciplinarity in water services management”” Adjunct Professor Tapio S. Katko, Tampere University of Technology**



**CADWES**

Capacity Development in Water and Environmental Services  
Research Team at TUT, IEEB

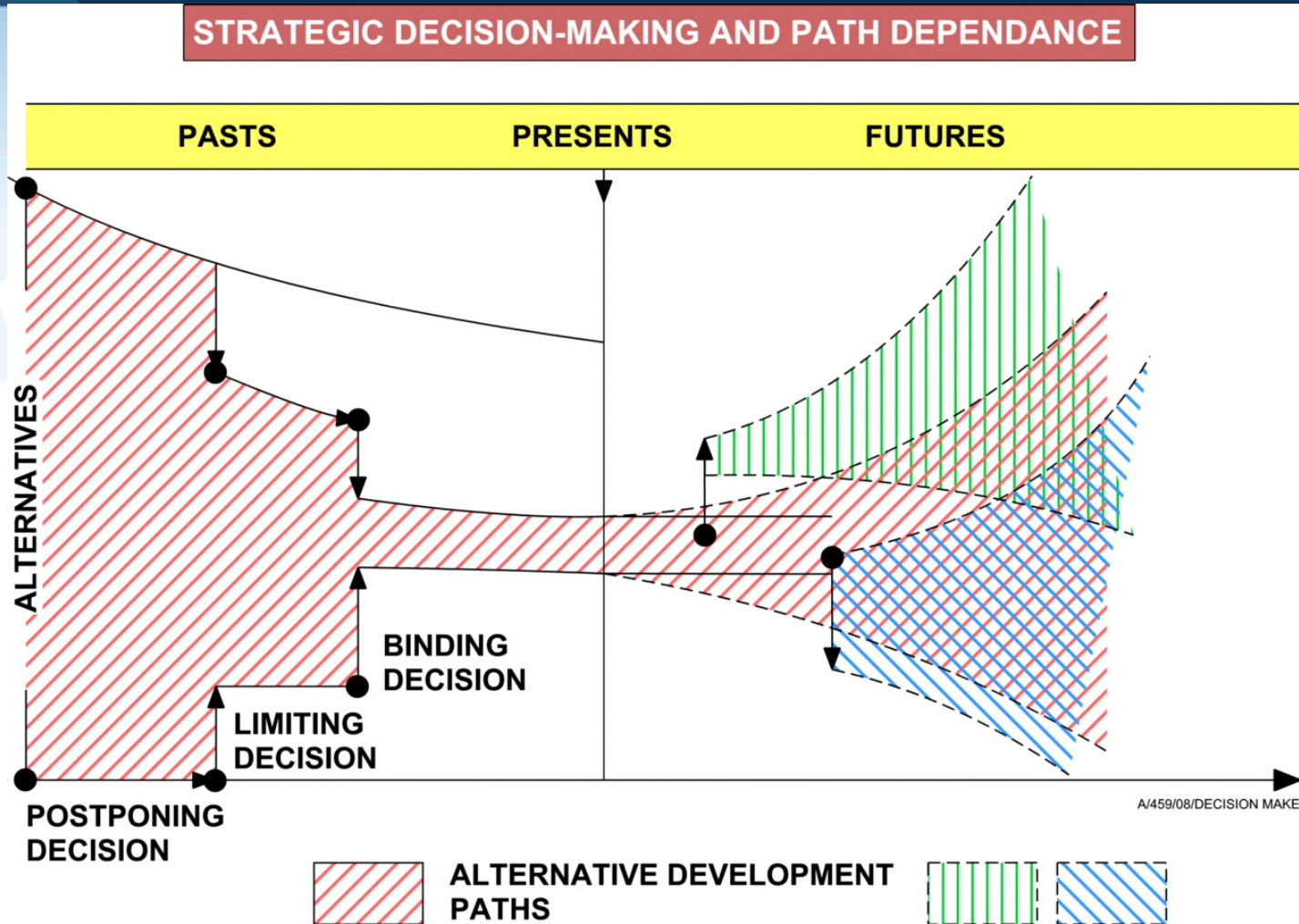
- 1. History and futures**
- 2. Relevance of the pasts**
- 3. Issues**
- 4. Reflections**
- 5. Selected Sources**

**A. Pacey 1977.**

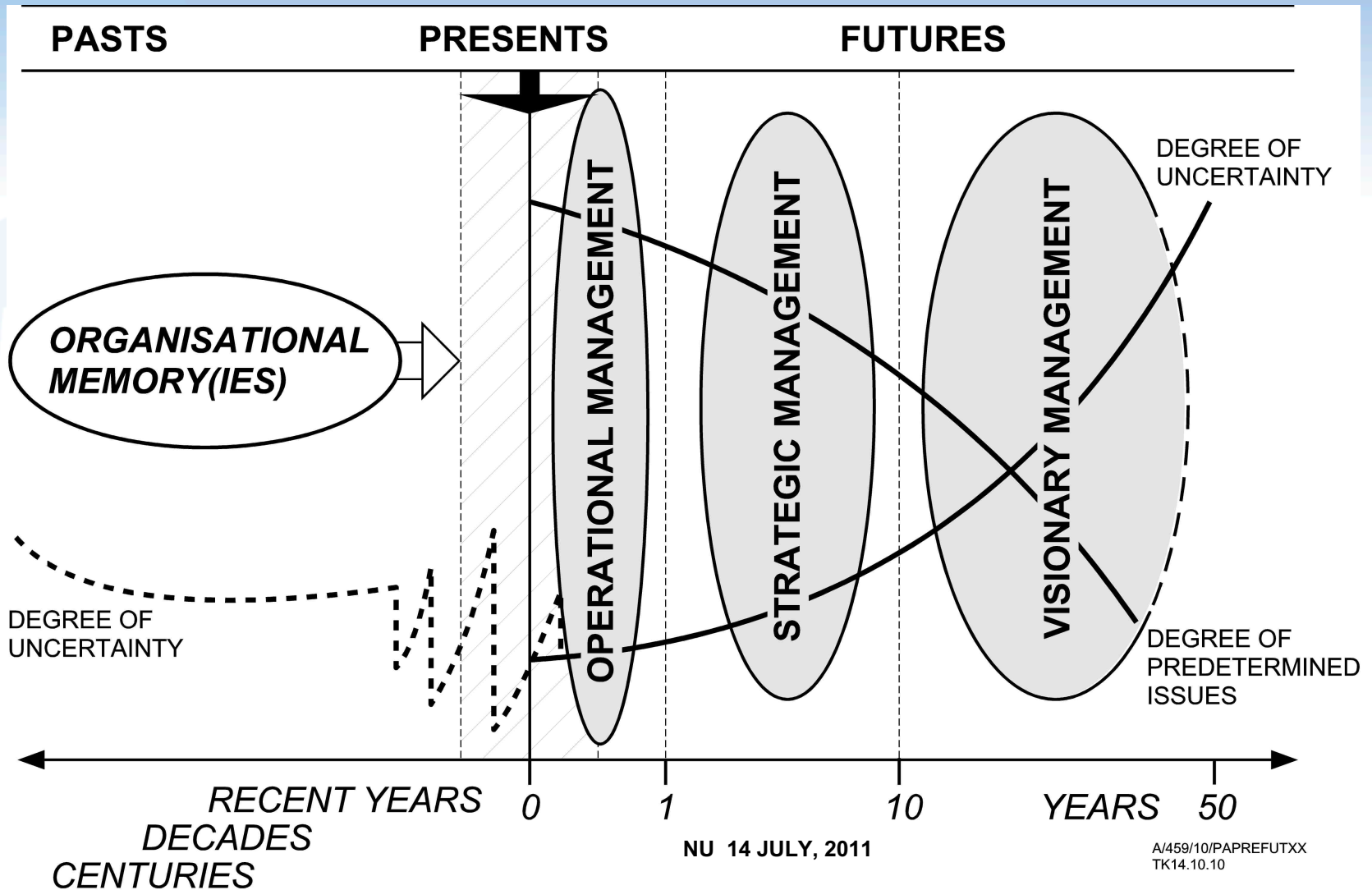
*Technical, social and economic appropriateness of technology*

# 1. History and futures

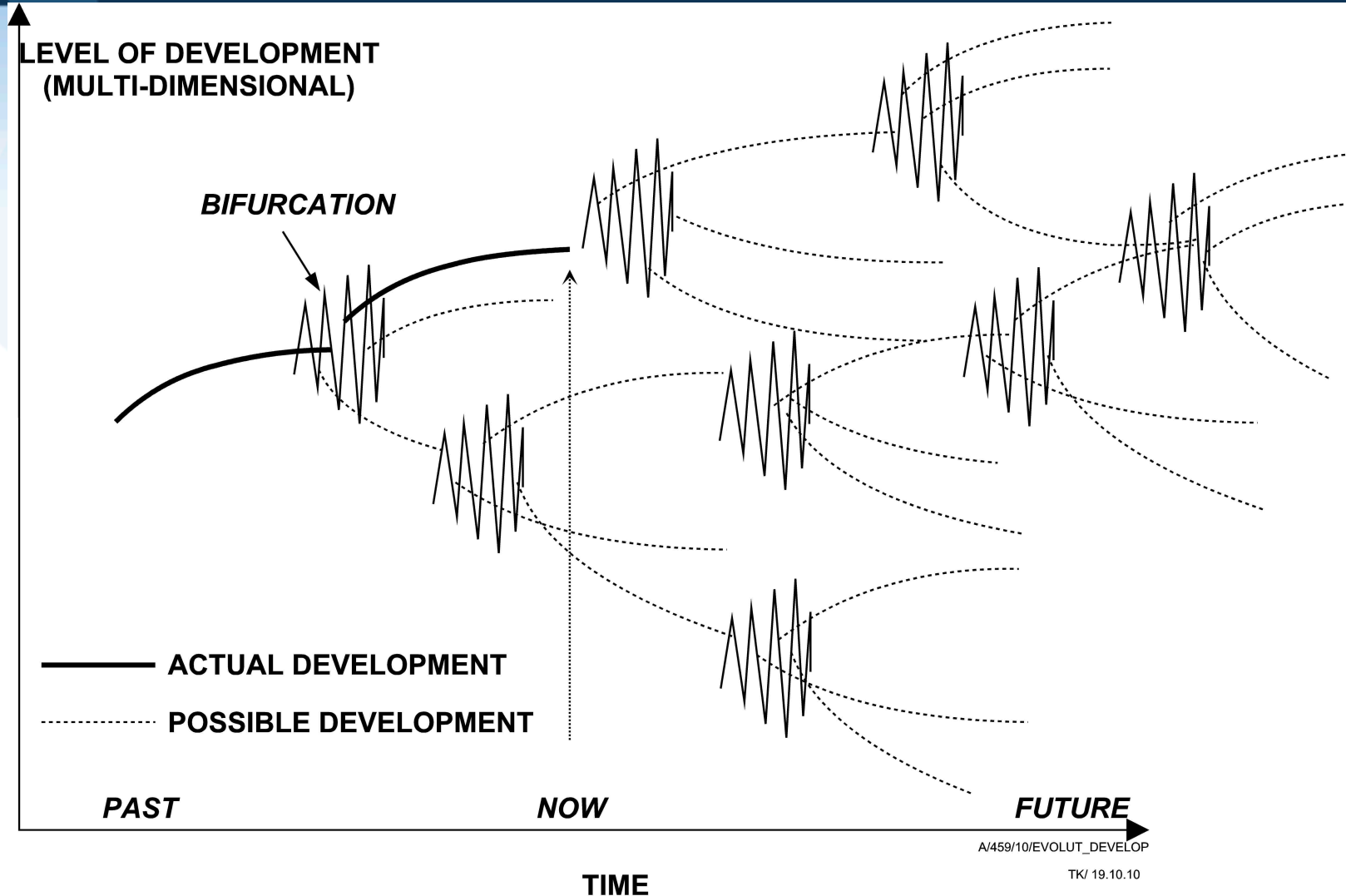
## Strategic decisions (Kaivo-oja et 2004)



# $\underline{P_s} + \underline{P_s} + \underline{F_s}$ (Kaivo-oja et 2004)



# Bifurcative nature of Technological Development (Malaska, modified)

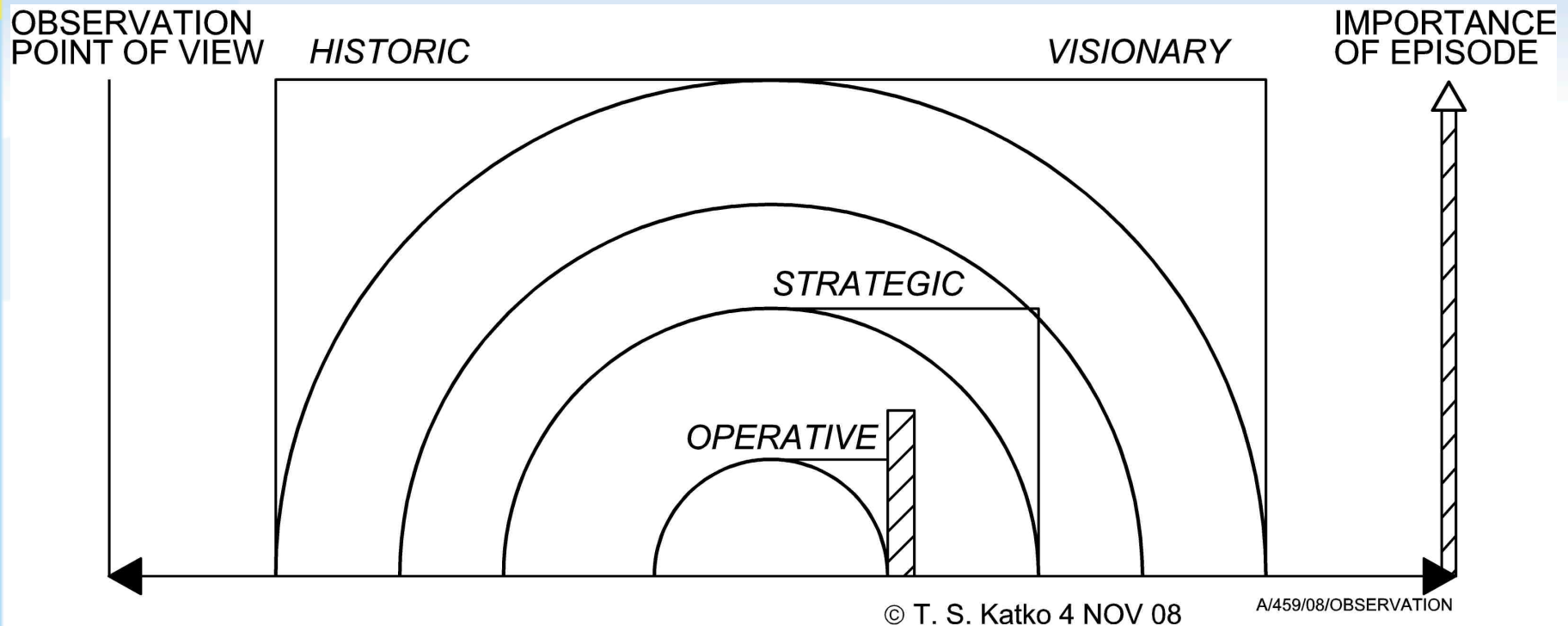




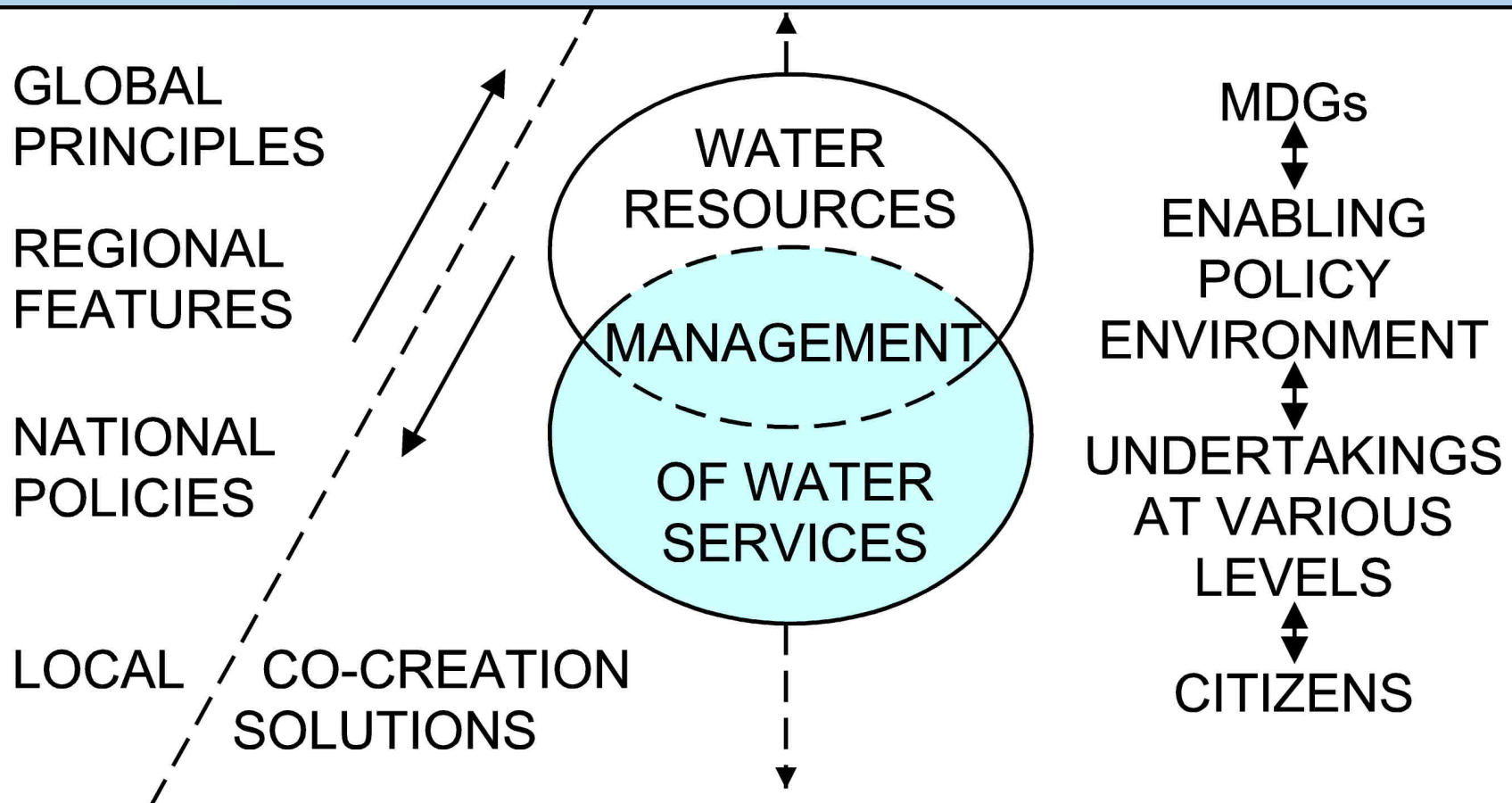
## 2. Relevance of the pasts for the futures



# Observation point of view



# Water Resources vs. Services (Juuti et al 2008)







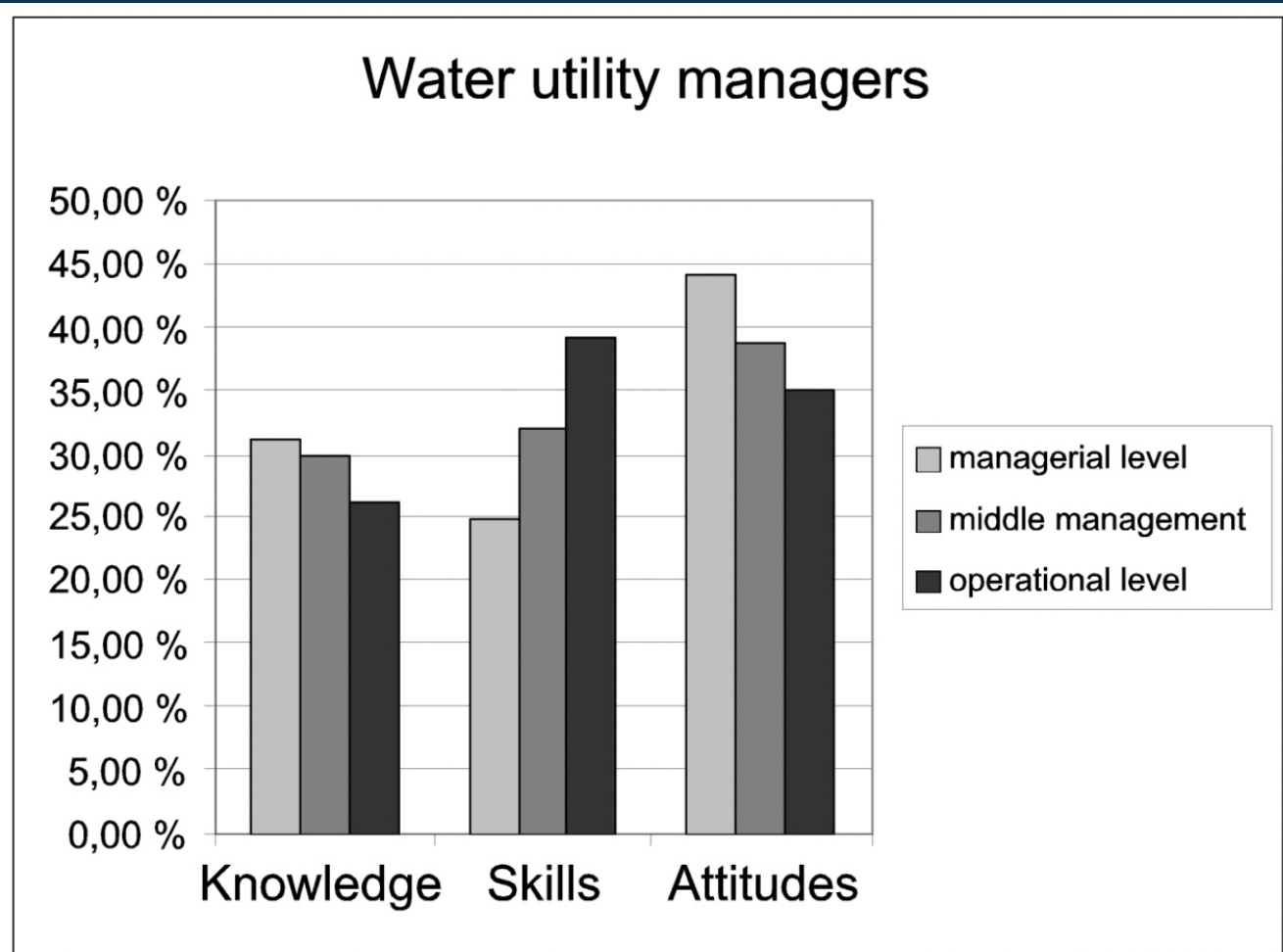
1.2 billion people drink dirty water every day



Millions of women have to do it with an audience



# Knowledge, skills and attitudes (Katko 2007)



### **3. Issues on Water Services**

- **Insdiversity (biodiversity)**
  - **Role of local government**
  - **Management at the lowest possible level**
  - **Water as a multiple good and resource**
  - **Aging infrastructure and workforce in the North**
  - **Lack of HRD especially in the South**
  - **Sanitation / water pollution control not to be forgotten**
  - **Analogical questions in the South and North**
- 
- **Inter- and transdisciplinarity: social relevance vs. Impact factors, ranking etc.**
  - **Biased publishing policy**



## 4. Reflections...

1. Long-term impacts of decisions; interesting lessons:  
more holistic views
  - Many western countries: Pivotal role of the public sector  
in water management

2. Water services vs. water resources: many links
3. Sanitation / Water pollution control a lot to be done
4. Long-term thinking: history and futures

**“Those who cannot remember the past are condemned to repeat it”  
George Santayana (1863–1952)**

**Thank you! [www.cadwes.org](http://www.cadwes.org)**

## 5. Selected sources

- Juuti P. and Katko T. (Eds.) 2005. Water, Time and European cities. History matters for the futures. [www.WaterTime.net](http://www.WaterTime.net)
- Juuti P.S., Katko T.S. & Vuorinen H.S. (Eds.) 2007. Environmental History of Water - Global views on community water supply and sanitation. IWA Publishing. 629 p.
- Juuti P., Katko T. & Rajala R. 2008. Water: a Matter of Life -Long-term strategic thinking in water services. 193 p. [tampub.uta.fi/tulos.php?tiedot=214](http://tampub.uta.fi/tulos.php?tiedot=214)
- Kaivo-oja J.Y., Katko T.S. and Seppälä O.T. 2004. Seeking convergence between history and futures research. *Futures, Journal of policy, planning and futures studies*. Vol. 36, p. 527-547.
- Katko T. & Juuti S. 2007. Watering the city of Tampere from the mid-1800s to the 21st century. Tampere Water & International Water History Association. 77 p.
- Katko T.S\*, Juuti P.S. & Pietilä P.E. 2006. Key long-term decisions and principles in water services management in Finland, 1860-2003. *Boreal Environment Research*. Vol 11, no. 5. pp. 389-400. <http://www.borenv.net/BER/pdfs/ber11/ber11-389.pdf>
- Pacey A, 1977. Technology is not enough: the provision and maintenance of appropriate water supplies. *Aqua*. Vol. 1, No. 1/1977. pp. 1-58.