Mastering complexity - governance of water resources for long-term water security and climate change adaptation or why we make the decisions we make

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What is the key societal challenge to be faced by current generations? Despite the relevance of pervasive inequality at different levels, it will be argued that climate change adaptation (CCA) is likely to be our key generational challenge. Energy is to climate change mitigation what water is to adaptation. The United Nations 2030 Agenda for Sustainable Development offers a unique opportunity to make significant progress in enhancing resilience and increasing adaptability. However, it is often argued that either financial constraints or technological lock-ins may prevent us from designing and implementing the necessary measures to address societal challenges around water resources management, disaster risk reduction (DRR) and CCA, mainly (but not only) in less developed countries. Yet, is it actually a lack of financial resources or adequate technologies that poses inexorable drawbacks?

On the basis of scientific work and applied work experience in 80+ countries (mostly in Central and South Asia, Latin America and the Caribbean, Mediterranean and North Africa, and the European Union), the author argues that any water crisis is a governance crisis. Water governance is often presented as the imperative need to progress in terms of integrity, transparency, accountability, and meaningful stakeholder engagement. In a more sophisticated fashion, though, sometimes it is argued that we also need to overcome intricate institutional lock-ins. Albeit critical, all those elements would still deliver a shortsighted view of water governance. As a matter of fact, what is actually need is mastering complexity, thus integrating more holistic approaches to the assessment of drivers of aquatic ecosystem change, fostering sectoral policy coordination, creating the

enabling conditions for the uptake of disruptive innovation (on technological grounds but also on social and financial ones), redesigning economic incentives, significantly enhancing our knowledge base, etc.

A reflection on what can be perceived as disruptive innovation in water resources management will be shared, including references to determined attempts to diversify water supply sources (via reclaimed water reuse and desalination). The role of economic policy instruments, as in Lago et al. (2015) will be emphasised.

References – Lago, M., Mysiak, J., Gómez, C. M., Delacámara, G., & Maziotis, A. (Eds.). (2015). Use of Economic Instruments in Water Policy: Insights from International Experience (Vol. 14). Springer.