
Bibliography

“Water Security”

Introduction

Following is a selection of major peer-reviewed contributions that deal with water governance issues. It gives a specific insight into the concept of hydro-hegemony. A brief comment introduces each reference to facilitate users' reading.

Water security could be broadly defined as a **water system that provides enough water, in terms of quantity and quality, to human or non-human users**. Water security is ensured if users are safe from water access and water-related risks.

This notion appears central in water governance narratives and is often linked to notions such as the water nexus and integrated water resource management (IWRM). The idea of water security initially came from practitioners, and later on academics took interest on it. The notion was already used to a great extent in 1990's, but since 2004-2005 water security became a key notion to water governance and related publications rose sharply.

Bakker K., Morinville C. 2013. The governance dimensions of water security: a review. Philosophical Transactions of the Royal Society A, 371(2002), 1-18.

While water governance and water security both seek for sustainability, there are still a very few papers that consider these two concept together. Bakker and Morinville contribute to fill this gap by combining water governance and water security perspectives. This clear review addresses and links with water security key concepts such as IWRM, adaptive governance, polycentric governance, social learning, multi-level governance and social power.

Bogardi J. J. et al. 2012. Water security for a planet under pressure: interconnected challenges of a changing world call for sustainable solutions. Current Opinion in Environmental Sustainability, 4(1), 35-43.

Bogardi et al start from the statement that water is a “global water system” which connects many socio-ecological systems. They argue that water (in)security have to be understood at this global water system level and that solutions need to wear the same global system design. Thus relevance and efficiency of science and policies would come from innovative and intersectoral approaches.

Cook, C., & Bakker, K. 2012. Water security: debating an emerging paradigm. Global Environmental Change, 22(1), 94-102.

This paper surveys the concept of water security. It provides with a broad appraisal of the concept by considering approaches from different disciplines and among policy debates. They show the exponential apparition of the concept since 2000. Finally, Cook & Bakker argue that encompassing approaches of water security may have strong potentialities for usefully reshaping water governance.

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Garrick, D., & Hall, J.M. 2014. Water security and society: risks, metrics, and pathway. *Annual Review of Environment and Resources*, 39: 611-639.

This paper deals with the issue of making water security concrete for science and policy making. It adopts a risk perspective of water security and surveys metrics approaches of this perspective. The survey includes a wide range of water security indicators and provides with clear and systematic comparisons. Then indicators are discussed in their operational dimension for policy making through the concept of water security pathways. Singapore and Murray-darling case studies are provided for purposes of illustration.

Global Water Partnership, 2000, Towards Water Security: A Framework for Action, Stockholm, Global Water Partnership.

This report gives the first widely used and discussed definition of water security, which is anthropocentric approach. Nowadays this definition has been deeply amended. Actually, it is more and more stated that an anthropocentric approach is not sufficient to attain sustainability. As an illustration one of the major change on water security definition is that water security also concerns biodiversity and not only human vulnerability.

Grey, D., & Sadoff, C. W. 2007. Sink or swim? Water security for growth and development. *Water Policy*, 9(6),545-571.

Grey and Sadoff grasp the question of how to achieve water security. They give inputs by carrying out an international comparison of water security and governance. The analysis highlights costs and constraints of achieving water security, regarding to the initial characteristics of a country. Finally, authors discuss a "S-curve" relationship between water security and growth.

Lautze, J., & Manthrilake, H. 2012. Water security: old concepts, new package, what value? *Natural Resources Forum*, 36(2): 76-87.

The starting point of the paper is that while water security remains a blurred concept and lack of quantification attempts it becomes more and more central within water debates. Authors grasp the quantification challenge and propose an index of water security. The index stands on five non-controversial dimensions of water security and is designed for the country level. Finally, an application to 46 Asian-pacific countries highlights the great diversity of water security challenges.

Vörösmarty, C. J. et al. 2010. Global threats to human water security and river biodiversity. *Nature*, 467(7315), 555-561.

This paper presents the first worldwide natural science's assessment of water security that includes spatial analysis. It gives insight on both human and biodiversity systems by considering stressors on water security as well as downstream impacts. Main results shows that 80% of the human being are highly threatened by water security. The paper sums metrics and very persuasive maps for those who want a global overview of water security.

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World Water Forum, 2000, Ministerial Declaration on Water Security in the 21st Century, The Hague.

This is the first global event and declaration on water security. It states that water security have to cover 7 main challenges : meeting basic need (1), securing the food supply (2), protecting ecosystems (3), sharing water resources (4), managing risks (5), valuing water (6), governing water wisely (7).

Special issues

Philosophical Transactions of the Royal Society, 2013. Special issue on Water security, risk and society. 371(2002).

In this special issue, Editors gathers several well known specialist of water management such K. Bakker, M. Falkenmark, C. Vörösmarty and so on. Contributions are various, Editors intend to cross water with other challenging issues: global change, vulnerability, agriculture, land use or technology. Besides, methodology, governance and management tools concerns take part of the special issue.

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