

Book Review

Science Diplomacy and Transboundary Water Management: The Orontes River Case

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The Orontes River Basin, which extends to territories in Lebanon, Syria and Turkey, has always been a critical locus for interstate relations in the Levant. With the onset of the Syrian conflict it even gained greater significance. While there are bilateral agreements on different facets of water such as quantity sharing, quality improvement, it is apparent that the absence of a basin-wide consensus on water sharing brings serious risks not only for the countries concerned, but also for the river itself. The book is aptly titled, reflecting the intersection of “science diplomacy” and “transboundary water management”. The book’s main theme revolves around key questions such as: How to limit the climate change effects on the riparian countries? How to deal with poor hydraulic resources in the region? How to improve access to sufficient quantities of good quality water for vulnerable populations? How to improve water demand? In dealing with all these, the book takes a fresh approach to the Orontes river basin with chapters devoted to ICT-based tools and decision-support systems, as well as on different riparian perspectives on hydro-diplomacy.

Throughout the book, the authors highlight the need for a more advanced cooperative framework that can contribute to increased welfare and a shared vision of peace and regional development. It should be noted that the book is published by UNESCO, which is a highly respected global forum for education, science and research. The book consists of three parts. The first part mainly focuses on the hydro-diplomatic approaches of the three riparians of the Orontes River Basin: Lebanon, Syria, and Turkey.

The chapter written by Comair and Scoullos proposes a broad historical overview of the basin. This part successfully engages the reader in the *longue durée* of the Orontes. Starting the discussion from the times of the Egyptian New Kingdom in the 15. century BC, the authors manage to set the scene for discussing more current issues like the 1994 Agreement between Lebanon and Syria. The neutral approach to the contemporary conflict over the Orontes is greatly appreciated. Another noteworthy contribution of this chapter has been the utilization tables for better visualization of comparisons between different conventions (e.g. The 1997 UN Water Convention), and agreements (e.g. the Ankara Treaty of 1921, the 1994 Agreement between Lebanon and Syria).

Kibaroglu and Sumer provide a Turkish perspective on the River Orontes. Their downstream perspective helps the reader perceive the diverging views among the riparians. Before focusing on the Turkish point of view on the Orontes *per se*, Kibaroglu and Sumer list the basic principles of Turkish foreign policy vis-à-vis its transboundary waters. The chapter's analysis of riparian relations at bilateral level is a factual imperative as there are no tri-partite negotiations among countries of Orontes. The authors of the chapter also briefly discuss the roles of Lebanon and Turkey for post-conflict rehabilitation process in Syria. The significance of the "Friendship Dam" in Syrian-Turkish relations is indirectly highlighted through a discussion under a separate section. The chapter briefly underlines the lack of a gender-sensitive policy-making in the water management policies.

Nouar Shamout adopts a Syrian perspective, but has a very comprehensive coverage supported by a great number of figures and tables which makes the chapter a robust contribution to the book. As a matter of fact, it stands as the longest chapter of this edited volume. A point of strength in the chapter is that the Syrian point of view was analyzed in comparison with Turkish and particularly Lebanese arguments. However, the chapter ends in a somewhat abrupt fashion. Thus, a section for concluding remarks could have been highly useful in wrapping up the long list of ideas discussed in this chapter.

The next chapter's discussion, by Sarah McLaughlin, is a theoretical one which evolves around the question of "[c]an a regional tier of governance provide a mechanism to improve the stability of the hydro-politics in the Orontes River Basin?" Following a thorough overview of prior theoretical developments, McLaughlin contends that an additional regional tier of governance may help states to better comply with regional agreements and even global rules. But the question remains how a supranational regional mechanism -like the one European countries had managed to do in the form of the EU - can be established in this very unstable part of the world.

McLaughlin cautiously underlines the importance of regional specificities which necessitate tailor-cut solutions than reaching hasty conclusions.

The second part takes rather a technical perspective and particularly deals with the new technological tools applicable for water management in the Orontes River Basin. It mainly builds upon the results of an ICT project funded under Italian Development Cooperation (Ministry of Foreign Affairs and International Cooperation) through the University of Insubria (Italy).

Georges Comair, David Eaton, and Daene McKinney provide a very detailed analysis of the hydrology and water use in the Orontes Basin. Building their conclusion upon technical findings is one of the main strengths of this chapter. Another novel element is taking explicit note of the level of evapotranspiration in the Basin, something which had hitherto been largely ignored. Also, authors' timely warning that the Orontes River Basin can soon become a "category one" region implying a higher risk of water conflicts is a notable addition to contemporary discussions over the region.

Information and Communication Technology (ICT) is a relatively new approach for supporting water management. Based on an ICT project, and focusing on the Lebanese part of the Orontes Basin, Simone Sala, Giovanni Formentin and Andrea Porro's chapter

is a relevant contribution to this growing literature. Beside activating a dynamic exchange of data among Lebanese institutions, the project seemed to contribute to raising awareness in terms of sustainability of the water management in Lebanon and beyond. While Sala et al.'s contribution is a pioneering study in terms of the Orontes Basin as a whole, the authors are aware of the limitations of their research for lack of some necessary hydrogeological data. Therefore, rather than being a full-scale exhaustive study, this chapter's main role lies in its creation of an impetus towards the foundation of a database on which to build a more integrated information system, hopefully covering all three basin countries.

The last chapter in the Second Part which was written by Bianca Dendena and Stefano Bocchi mainly deals with the challenges that Lebanese part of the Orontes Basin faces. Based on the preliminary findings of the ICT project, this chapter takes the issue of agriculture as one of the most serious water related challenges in Lebanese section of the Orontes Basin, and develops a number of recommendations for sustainable agricultural practices in the area. The chapter also lists the research topics for further research which would enhance the sustainability of agriculture, and thus, water efficiency. Dendena and Bocchi's synoptic summary stands out for their presentation of findings and recommendations in a very readable format, which makes their contribution relevant to decision-makers as well.

The third part, basically a single chapter by Ballabio, proposes a framework for further research. Two key elements for Ballabio are to embrace a multistakeholder approach and to minimize uncertainty through data. Ballabio carefully lists the factors that should be taken into account for water co-operation in the basin. What is interesting about Ballabio's chapter is that she discusses the challenges in the basin in connection with earlier scientific projects. The opportunity to draw important lessons from previous studies is generally lost in the rapidly changing political, legal and economic dynamics of the set of relations among basin countries.

"Science Diplomacy and transboundary water management: The Orontes River case" is notable for the book's innovative approach which combines the "political" with the "technical". Carrying the UNESCO badge, this study may be seen as a relevant contribution at a time when this region is faced with scarcer water resources, and unstable interstate politics.

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