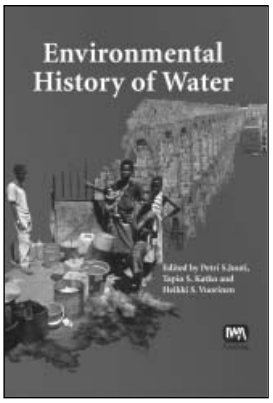
Reviews and resources



Environmental History of Water: Global views on community water supply and sanitation
Edited by: Petri S. Juuti, Tapio S. Katko and Heikki S. Vuorinen
2007, IWA, 640 pages, hardback, ISBN 1843391104, price: £109.25/US$218.50/€163.88, IWA members price: £82.00/US$164.00/€123.00

Water and sanitation practitioners and researchers have much to learn from the past. Unfortunately, lacking information on past approaches and initiatives, we all too often fail to learn and so are condemned to repeat the mistakes of those who went before us. This being the case, any attempt to identify and present the lessons of the past is to be welcomed. The book *Environmental History of Water: Global views on community water supply and sanitation* is one attempt to present the lessons of history and draw conclusions. After a general introduction by the editors, it is divided into three parts, dealing with 'early systems and innovations', the 'period of slow development' and 'modern urban infrastructure'. The first part includes information on water supply and sanitation systems used by early civilizations, particularly the Romans, and brings the story up to the beginning of the 19th century, including information on medieval systems on the way. Perhaps inevitably, there is a fair amount of conjecture in this part of the book.

The term 'period of slow development' is used to describe developments from about 1800 onwards. There is some duplication, brief identical references being made to Joseph Bramah, the developer of the first water closet, here and in the section on early systems. Despite this, the description of the development of the water closet is sketchy and the authors do not go into any detail on the interesting question of why the water closet won out over technologies such as the earth closet, which could be seen as the forerunner of today's ecological sanitation.

This part of the book and that on modern urban infrastructure contain information on the development of water supply and sanitation systems in a variety of countries, including European colonies such as South Africa, Kenya and Senegal. These chapters vary in length and interest. The chapter on Philadelphia Water Infrastructure 1700–1910, for instance, is concerned almost exclusively with water pumping arrangements. The chapter on the development of water supplies for the settlement of Saint Louis in Senegal,

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on the other hand, gives a fairly detailed description of efforts to bring water to the town. It illustrates two key points, that providing an adequate water supply was and is not always easy and that colonial authorities often focused primarily on the needs of the European rather than the local population. Arguably, this pattern continues in many countries today as limited supplies serve the rich while the poor have to make do with expensive water from vendors and inadequate standposts.

If you can get access to this book in a library and are prepared to work through it, there are some interesting chapters. However, its price – over £100 for those who are not IWA members – is high and those interested in finding out more about the history of water supply and sanitation would be better advised to look for books and articles dealing with specific aspects of history, for instance John Graham-Leigh's excellent little book *London's Water Wars* on the development of piped water supply systems in London.

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Water from Sand Rivers: Guidelines for abstraction
Stephen W. Hussey
2007, Water, Engineering and Development Centre, Loughborough University, UK, £24.95
212pp, ISBN: 978 1 84380 126 9

One of the targets of the United Nations' Millennium Development Goals is to halve the proportion of people without sustainable access to safe drinking water and basic sanitation. With the 2015 target date fast approaching, the promotion and facilitation of low-cost, sustainable solutions to clean water supply in rural areas must be viewed as a vital aid to achieving this target.

A new publication from WEDC, *Water from Sand Rivers: Guidelines for abstraction*, provides just such promotion of a low-cost, sustainable water supply technology. The author, Stephen Hussey, is Director of the Dabane Trust, a non-governmental organization (NGO) based in Zimbabwe that has been developing and promoting 'sand-abstraction' forms of basic water supply for household, irrigation and livestock use in rural communities since 1990. The book has been produced in association with the Dabane Trust and the UK-based Water Extraction Technology Trust (WETT).

This book describes a particular method of deriving a groundwater supply from the unconsolidated sediments of dry river beds in arid and semi-arid areas. As the author highlights, the method is somewhat confusingly known as 'sand-abstraction' although it is better described as 'water abstraction from sand'. Although this is not a new method of obtaining water, the author suggests that

greater quantities of water can be abstracted with the improved technology now available.

In its own words the book is a 'how to' manual of low-cost water supply in arid and semi-arid areas by means of sand-abstraction. It begins with a description of what sand rivers are and their potential as a source of water supply. The environments and processes described in these chapters are likely to be familiar to physical geographers, geologists and hydrogeologists, but the text and illustrations provide a good grounding for those without such background. The following chapters describe how to identify suitable abstraction sites within sand rivers, the methods by which water can be abstracted, the range of technology employed, how to select the most appropriate technology and, equally importantly, the social issues associated with such water supply schemes. It goes on to present some case studies from Zimbabwe where this form of water supply has been used successfully.

Although the installation technology and infrastructure options are reasonably well documented elsewhere in the literature, this book presents these aspects in the specific context of sand abstraction, allowing the manager or field technician to make informed decisions about the most suitable installation method and most suitable materials and equipment. The illustrations and comparison tables throughout the book explain concepts, technology and choices in a clear and simple manner. However, it is a shame that the reproduction quality of the photographs is rather poor to the extent that their illustrative value has been lost in some cases.

The book emphasizes the sustainability of the sand abstraction method and this may be true of the low-tech methods and infrastructure used. What ultimately governs the sustainability of the method is the availability and persistence of water within the riverbeds and the volume utilized compared with the volume stored. This will be very much dependent upon local conditions.

There is a good, in-depth description of alternative types of low-cost pump technology and the suitability of these in different environments. Furthermore, possibly one of the unique aspects of the book is the welcome addition of a relatively thorough consideration of the social aspects of rural water supply alongside the technical issues.

Overall, the book is well structured and clearly written and illustrated. It should provide an invaluable aid to project managers and field technicians working on providing rural water supply systems in arid and semi-arid environments.

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