

title **LAST OASIS – Facing Water Scarcity**

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Miracle Last?” that is reviewed on this site

category World water issues

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A Worldwatch / Norton book
<http://worldwatch.org/>
<http://www.wwnorton.com/>

who will be interested in this book?

Anyone interested in world water issues. Postel presents both the problems and some solutions being implemented.

why read this book?

A good introduction to water issues around the world. However if a reader was to read only one such book, Marq de Villiers “Water – The Fate of Our Most precious Resource” may be the choice (reviewed elsewhere on this site). It builds on what Postel presents here (dated 1992) and his 2nd edition in 2003 is the most current overview.

There are detailed chapter notes.

review / outline by Lance Brown, vistadelsol@telus.net

Overview

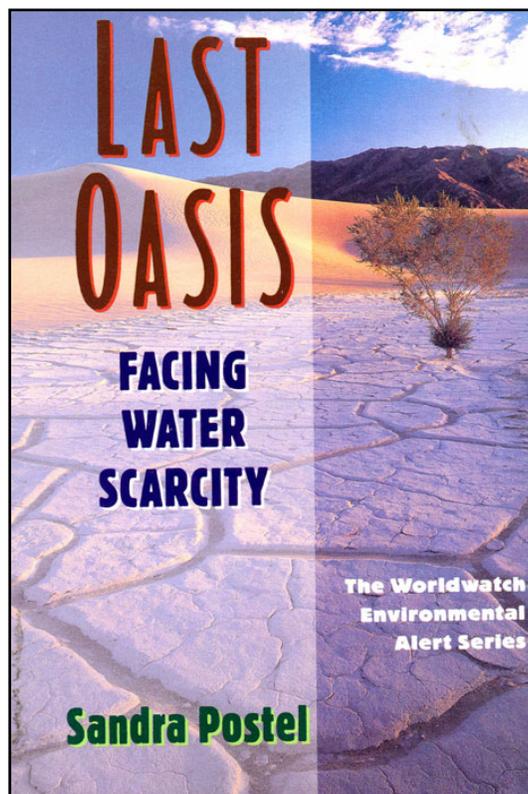
For anyone wanting an introduction to water issues around the world, this book presents the situation as seen in 1992. The title refers to the fact that with so much of earth’s water having been developed, the “last oasis” is the water available from conservation and improved efficiency of present uses, domestic, agricultural, and industrial. Although a “sounding the alarm” book, Postel includes many solutions being used throughout the world.

A few thoughts presented:

Falling freely from the sky, water has deluded us into believing it is abundant, inexhaustible, and immune to harm.

Conservation, once a response to drought, is being viewed as a cost effective way to balance demand with supply (i.e., managing demand rather than supply).

Water must be considered to be more than just a “resource” – it is the basis of life.



Fourteen Chapters with Points of Interest

1. An Illusion of Plenty

- masking scarcity is a principal aim of water development but there are ecological implications
- drought gets headlines but water consumption is a greater threat
- policies, laws, and practices don't promote sustainability: efficiency, equity, and ecological integrity
- conservation + efficiency = our "last oasis"

PART 1 Trouble on Tap

2. Signs of Scarcity

- population increases leading to water problems in many parts of the world
- declining water tables due to high extraction rates
- "water is only a renewable resource if we respect the ecological processes that maintain and give stability to the water cycle"

3. Engineering's Promise

- have been mostly supply-side solutions to meet rising water demand
- per capita water use worldwide is 50% higher than in 1950
- worldwide dam construction has reduced from 1951-77 (360/year) to 1992 (170/year)
- now 7,500 desalination plants at 4.8 billion cubic metres water/year

4. Bread and Water

- most of human history world irrigated area grew faster than population – amount of food/person increased
- peaked in 1980 at 48 ha/ 1,000 people; by 1990 had fallen to 44 ha
- increasing cost / ha of irrigation due to cost of water supply
- salt accumulation is lowering irrigated area

5. Paradise Lost

- Aral Sea 'disaster' arose from the desire of getting more economical value from diverting the inflow for irrigation (the Sea uses such as fishing, etc are now ended – the unintended consequence)
- proposal to channel one of world's largest wetlands (Sudd wetland in Africa – 9.2 million ha) to reduce the evaporation "losses" of 3.4 billion cubic metres that would favour Sudan and Egypt water needs
- treat to Everglades due to disruption of seasonal water flows and from pollution
- issue of selenium in drainage water poisonous to wildlife
- issue of private property (water) rights versus the environmental impacts/losses

6. Hydropolitics

- multinational watersheds and water security
- about 40% of world's population live in river basins whose watersheds are shared by more than two countries – power of upstream nations
- Syria / Jordan / Israel have conflicts over the Jordan River
- Egypt / Sudan / Ethiopia have conflicts over the Nile River
- Iraq / Syria / Turkey have conflicts over the Tigris-Euphrates Rivers
- Bangladesh / India have conflicts over the Ganges River

7. A World Heating Up

- climate change / global warming effect on the hydrological cycle
- changing spring freshet flows; more intense rainfall
- difficulties in predicting or planning for future water needs

PART 2 Living Within Water's Limits

8. Thrifty Irrigation

- 2/3 of all fresh water use is for irrigation
- largest pool in the "last oasis" is water savings from irrigation
- most world irrigation is by flooding or channeling onto crop land
- water use efficiency occurs only where water is scarce
- efficient equipment and soil moisture monitoring used in N.W. Texas and Israel
- water management improvements being made where some local control / benefits

9. Small-Scale Solutions

- contouring fields; terracing to capture rainfall
- runoff collection and diversion to crop land
- self-help water user groups

10. Wastewater No More

- treat wastewater as a resource rather than a nuisance
- 500,000 ha in 15 countries irrigated with municipal wastewater
- in Israel 70% of wastewater is reused as irrigation on 19,000 ha
- keep industrial wastewater from domestic wastewater
- barriers to use are psychological not technical

11. Industrial Recycling

- in industrial countries about 50 – 80% of total demand
- most not consumed – used for cooling, processing
- good recycling possibilities – often done due to pollution control laws
- water use reductions of 30 – 90% documented
- "closing the industrial water and wastewater cycle is not only technically possible, it increasing makes good economic and environmental sense"

12. Conserving in Cities

- Mexico City land subsiding due to high ground water extraction
- world domestic water use is less than 1/10th of the total use but is concentrated in small geographic areas and in many cases is expanding rapidly
- conservation, once a response to drought, is being viewed as a cost effective way to balance demand with supply (i.e., managing demand rather than supply)
- in some cases the high cost of wastewater treatment motivates conservation of use
- water pricing – use drops 3 – 7% with a 10% water price increase
- metering can reduce water use by 10 – 15%
- xeriscaping for water reduction in hot climates
- many domestic supply systems have high line losses

PART 3 Toward Water Security

13. Pricing, Markets, and Regulations

- to ensure the gains previously discussed, 1) water pricing, allocation, managed; 2) protection of functions water performs (habitat, species, recreation); 3) stability of water cycle by regulating specific parcels of the earth
- agriculture use is largest resource in the "last oasis"
- problems with government subsidized water supply systems where water is cheap
- California Central Valley Project has had irrigators only pay 4% of cost of \$950 million

- low energy costs “subsidize” ground water pumping, possibly impacting aquifer levels
- domestic users paying to reduce irrigation supply losses then get the water
- most water laws are biased toward the right to use water against the public interest in “instream” values – if water is scarce this can cause ecological damage

14. A Water Ethic

- right to use water comes with responsibilities to preserve and protect
- water must be considered to be more than just a “resource” – it is the basis of life
- water ethic to be part of a development code

[other review](#) **Amazon.ca**

As we approach the twenty-first century, we are entering a new era-an era of water scarcity. We have taken for granted seemingly endless supplies of water flowing from reservoirs wells, and diversion projects; access to water has been key to food security, industrialization, and the growth of cities. In this book from the Worldwatch Institute, Sandra Postel explains that decades of profligacy and mismanagement of the world's water resources have produced signs of shortages and environmental destruction. She writes with authority and clarity of the limits-ecological, economic, and political-of this vital natural resource. She explores the potential for conflict over water between nations, and between urban and rural residents. And she offers a sensible way out of such struggles. Last Oasis makes clear that the technologies and know-how exist to increase the productivity of every liter of water. But citizens must first understand the issues and insist on policies, laws, and institutions that promote the sustainable use of water.